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**East Zone Connectivity and Restoration  
Phase 1 Project**

**U.S. Forest Service Tahoe National Forest  
Initial Study/Negative Declaration**

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**June 2022**



**State of California  
Department of Parks and Recreation,  
Off-Highway Motor Vehicle Recreation Division**

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East Zone Connectivity and Restoration Phase 1 Project  
U.S. Forest Service Tahoe National Forest  
Initial Study/Negative Declaration

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June 2022



**Prepared for:**

State of California, Department of Parks and Recreation  
Off-Highway Motor Vehicle Recreation Division

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## NEGATIVE DECLARATION

**Project:** East Zone Connectivity and Restoration Phase 1 Project

**Project Sponsor:** Tahoe National Forest, Truckee Ranger District

**Lead Agency:** California Department of Parks and Recreation (CDPR), Off-Highway Motor Vehicle Recreation (OHMVR) Division

**Availability of Documents:** The Initial Study for this Negative Declaration is available for review at:

Tahoe National Forest  
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CDPR, OHMVR Division CEQA Notices:  
[https://ohv.parks.ca.gov/?page\\_id=26379](https://ohv.parks.ca.gov/?page_id=26379)

### PROJECT DESCRIPTION

The OHMVR Division proposes to award grant funds to the Tahoe National Forest to construct 20 miles of motorized single-track trail, develop 3 new staging areas, decommission 8 miles of unauthorized routes, treat approximately 30 acres of invasive weed infestations, and restore a 106-acre meadow and associated creek on the east, south, and west sides of the Boca Reservoir.

### PROPOSED FINDING

The OHMVR Division has reviewed the Initial Study and determined there is no substantial evidence that the project may have a significant effect on the environment. No changes to the project plans or best management practices incorporated in the project are required. Pursuant to California Environmental Quality Act (CEQA) Guidelines sections 15064(f)(3) and 15070(a), a Negative Declaration has been prepared for consideration as the appropriate CEQA document for the project.

### BASIS OF FINDING

Based on the environmental evaluation presented in the attached Initial Study, the project would not cause significant adverse effects related to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, energy, geology/soils, greenhouse gas emissions, hazards/hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation/traffic, tribal cultural resources, utilities/service systems, and wildfire. In addition, substantial adverse effects on humans, either direct or indirect, would not occur. The project does not affect any important examples of the major periods of California prehistory or history. Nor would the project substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. The project does not have impacts that are individually limited, but cumulatively considerable.

**RECORD OF PROCEEDINGS AND CUSTODIAN OF DOCUMENTS**

The record, upon which all findings and determinations related to the approval of the project are based, includes the following:

1. The Negative Declaration and all documents referenced in or relied upon by the Negative Declaration.
2. All information (including written evidence and testimony) provided by OHMVR Division staff to the decision maker(s) relating to the Negative Declaration, the approvals, and the project.
3. All information (including written evidence and testimony) presented to the OHMVR Division by the environmental consultant who prepared the Negative Declaration or incorporated into reports presented to the OHMVR Division.
4. All information (including written evidence and testimony) presented to the OHMVR Division from other public agencies and members of the public related to the project or the Negative Declaration.
5. All applications, letters, testimony, and presentations relating to the project.
6. All other documents composing the record pursuant to Public Resources Code section 21167.6(e).

The OHMVR Division is the custodian of the documents and other materials that constitute the record of the proceedings upon which the OHMVR Division's decisions are based. The contact for this material is:

Jon O'Brien, Environmental Program Manager  
CDPR, OHMVR Division  
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Sacramento, CA 94296-0001  
Phone: (916) 204-0871  
Email: [Jon.obrien@parks.ca.gov](mailto:Jon.obrien@parks.ca.gov)

Pursuant to section 21082.1 of CEQA, the OHMVR Division has independently reviewed and analyzed the IS/ND for the proposed project and finds these documents reflect the independent judgment of the OHMVR Division.

## East Zone Connectivity and Restoration Phase 1 Project Initial Study

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## Chapter 1 INTRODUCTION

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### 1.1 INTRODUCTION AND REGULATORY GUIDANCE

The California Department of Parks and Recreation, Off-highway Motor Vehicle Recreation (OHMVR) Division proposes to award grant funds to the U.S. Forest Service (Forest Service or USFS) Tahoe National Forest, Truckee Ranger District, for the East Zone Connectivity and Restoration Phase 1 Project. The proposed project would construct new motorized single-track trail and staging areas, decommission unauthorized routes, treat weed infestations, and implement meadow restoration activities on national forest land near Boca Reservoir in Nevada County, California.

The California Environmental Quality Act (CEQA; Public Resources Code § 21000 et seq.) and the CEQA Guidelines (14 CCR §15000 et seq.) establish the OHMVR Division as the lead agency. The lead agency is defined in CEQA Guidelines Section 15367 as “the public agency which has the principal responsibility for carrying out or approving a project.” The lead agency decides whether an Environmental Impact Report (EIR) or Negative Declaration is required for the project and is responsible for preparing the appropriate environmental review document.

According to CEQA Guidelines Section 15070, a public agency shall prepare a proposed Negative Declaration or a Mitigated Negative Declaration when:

1. The Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
2. The Initial Study identifies potentially significant effects, but:
  - a. Revisions in the project plans made before a proposed Negative Declaration and Initial Study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
  - b. There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Pursuant to Section 15070, the OHMVR Division has determined a Negative Declaration is the appropriate environmental review document for the East Zone Connectivity and Restoration Phase 1 Project.

### 1.2 LEAD AGENCY CONTACT INFORMATION

The OHMVR Division is providing funding for the project and is the CEQA lead agency. The contact person for the lead agency regarding the project is:

Jon O'Brien, Environmental Program Manager  
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### 1.3 DOCUMENT PURPOSE AND ORGANIZATION

This document is a CEQA Initial Study for the proposed East Zone Connectivity and Restoration Phase 1 Project. The purpose of this Initial Study is to evaluate the potential environmental effects of implementing the East Zone Connectivity and Restoration Phase 1 Project. This document is organized as follows to meet the requirements of CEQA:

- Chapter 1 – Introduction. This chapter introduces the project and describes the purpose and organization of this document.
- Chapter 2 – Project Description. This chapter describes the project objectives and characteristics including the standard practices or best management practices that would be implemented by the Forest Service as part of the project. It also identifies the required permits and approvals.
- Chapter 3 – Environmental Checklist and Responses. This chapter presents project setting information and responses to the CEQA-based environmental checklist questions for each resource topic for the impacts associated with the proposed project.
- Chapter 4 – References and Report Preparation. This chapter identifies all printed references and personal communications cited in this report and provides a list of those involved in the preparation of this document.



## Chapter 2 PROJECT DESCRIPTION

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### 2.1 PROJECT LOCATION AND SITE DESCRIPTION

The East Zone Connectivity and Restoration Phase 1 Project (proposed project) is located in the Truckee Ranger District of the Tahoe National Forest near the Boca Reservoir, six miles northeast of downtown Truckee in Nevada County, California. The project area is accessed from Interstate 80 at Hirschdale Road via Stampede Meadows Road and Boca Road (Figure 1).

The project area includes two Forest Service off-highway vehicle (OHV) access campgrounds at the Boca Rest Campground and the Boca Springs Campground, as well as two non-OHV access Forest Service campgrounds at the Boca Campground and the Logger Campground.

The project area is situated on the western side of the Sierra Nevada Mountain Range and thus the terrain in the area is mountainous. Elevation in the project area ranges from approximately 5,500 feet near the Boca Reservoir to approximately 6,600 feet on the ridgeline in the eastern part of the project area. Several ephemeral streams are present in the area that drain into the Boca Reservoir, which releases to the Little Truckee River. Dominant vegetation types in the project area include Jeffrey pine forest and big sagebrush. Photographs of the project site are shown in Figure 2.

### 2.2 PROJECT BACKGROUND

The Forest Service approved the East Zone Connectivity and Restoration Project in March 2021 (USDA 2021) to improve motorized recreation areas on the Tahoe National Forest Truckee Ranger District and the Humboldt-Toiyabe National Forest Carson Ranger District. The project targets multiple areas exhibiting high levels of motorized recreation use and includes changes in seasonal closure dates on 64 miles of motorized routes; development of 71 miles of new motorized routes; realignment of 1.4 miles of route; changes in route designations affecting roughly 45 miles of road; decommissioning 41 miles of unsustainable, unauthorized, user created road and trail segments; development or improvement of 11 staging areas; route and staging location management; implementation of watershed protection measures; and invasive plant treatment on 40 acres. These actions were evaluated in an Environmental Assessment prepared for the project pursuant to the National Environmental Policy Act (NEPA; USDA 2020). The Forest Service project need, description of the project, and map showing all project activity locations as identified in the Chapters 1 and 2 of the NEPA document are presented in Appendix A.

The Forest Service intends to implement this project in several phases. Phase 1 involves implementing the improvements planned for areas around the Boca Reservoir in the Tahoe National Forest, including the southern Verdi Ridge and Boca Hill. This area contains some popular designated motorcycle trail and OHV use areas; however, inadequate trail connectivity limits loop riding while current available trail access is failing to meet the growing demand as evidenced by increased mileage of unauthorized user created trails. Resource specialists have documented erosion and sedimentation, impacts to natural and cultural resources, poor trail drainage, fragmented trails, and public safety concerns.

Tahoe National Forest began restoration activities at the Boca meadow in 2021 using funds from the National Fish and Wildlife Foundation. The work included obliterating an unauthorized route and restoring the lower portion of the stream channel as it enters the meadow to its proper configuration for hydrologic function. Phase 1 restoration activities on the upper portion of the

stream channel remain incomplete, and none of the planned development activities have commenced. Phase 1 activities will continue into the next two years. The Forest Service will determine the scale and timing of subsequent phases based on the progress of Phase 1. The Forest Service may apply for OHV grant funds for subsequent phases.

## 2.3 PROJECT OBJECTIVES

Tahoe National Forest proposes this project to reduce impacts to natural and cultural resources; to maintain or enhance the quantity, quality, and diversity of recreation opportunities on motorized trails; to better manage and reduce road and trail maintenance needs; and to improve overall access to, connectivity on, and public enjoyment of the National Forest Recreational Trails System in the project areas. Actions are needed due to increased demand for trail riding opportunities, erosion and sedimentation, impacts to natural and cultural resources, ongoing trail maintenance requirements, poor trail drainage, fragmented trails, and public safety concerns. Actions are needed to implement a long-term approach to the successful management of National Forest system trails while simultaneously meeting Forest Service responsibilities to protect and preserve public resources as well as promote safe and sustainable recreational opportunities on public lands. The Forest Service needs and objectives for this project are defined in the NEPA Environmental Assessment Chapter 1 (see Appendix A).

## 2.4 PROJECT CHARACTERISTICS

The Tahoe National Forest Truckee Ranger District has submitted a grant application to the OHMVR Division to support Phase 1 of the East Zone Connectivity and Restoration Project. Phase 1 includes constructing 20 miles of motorized single-track trail, developing three new staging areas, decommissioning 8 miles of unauthorized routes, treating approximately 30 acres of invasive weed infestations, and restoring a 106-acre meadow and associated creek. Each project component is described in more detail below.

### 2.4.1 New Trail Development

The Phase 1 project includes construction of 20 miles of 24- to 30-inch-wide motorized single-track trail, including an East Boca Reservoir loop and a connector trail to the top of Boca Hill to meet with the existing Lloyds (17E11) motorcycle trail. An example of a single-track trail is shown in Figure 2, Photo 1. New trail route locations are shown in Figure 3. New trail construction includes:

- A loop on the east side of Boca Reservoir totaling approximately 14 miles.
- A connection from below Boca Dam to the top of Boca Hill totaling approximately 3.5 miles.
- Access from the Boca Springs Campground to the new loop totaling approximately 0.75 miles.
- Access from Forest Service Road (FS Road) 72-1 to the new loop totaling approximately 0.7 miles.
- Access from the proposed staging area below Boca Dam to the new loop totaling approximately 0.65 miles.

- Access from the proposed staging area at the southern terminus of FS Road 72 to the new loop totaling approximately 0.35 miles.

The new trails would have 3-foot-wide vegetation clearing limits on both sides of the trails and a 10-foot height clearance. New trail development is not expected to require tree removal.

Trail development includes posting and placement of route finding and intersection signage. A gate would be installed to manage seasonal access to the southern end of the FS Road 72 system and the new loop trail in order to address road maintenance, erosion, and sedimentation concerns.

### 2.4.2 New Staging Areas

The Phase 1 project includes development of three new trailhead/staging areas with vault toilets, map kiosks, trail use regulations, and informational signage. Each staging area would be sized to provide adequate parking, maneuvering, and the loading and unloading of people and recreational equipment. The new staging areas would have an aggregate base but would not be paved. Parking would be provided for passenger vehicles on the edges and trailers in the middle. The new staging areas are as follows:

- Weasel Trailhead. Located on the north end of Boca Reservoir near the Boca Rest Campground on the north side of FS Road 72 off Boca Stampede Road. The half-acre staging area would provide motorized recreation access to the Verdi Ridge, the FS Road 72 system, and the northern portion of the new loop trail. This site is an unvegetated dirt area already used as a de facto staging area. Construction of this staging area may include removal of a few small Jeffrey pines. See Figure 2, Photo 2 for a view of this staging area.
- Bullseye Trailhead. Located at the south end of Boca Reservoir on the south side of W Hinton Road (FS Road 894-2) where the Boca Shooting Range is accessed. The 1.5-acre staging area would provide motorized recreation access to the southern portion of the new loop trail. This site is a disturbed area formerly quarried to increase the height and width of the Boca Dam. The area is barren and rocky and mostly devoid of vegetation. No trees or woody vegetation would be removed to construct this staging area. See Figure 2, Photo 3 for a view of this staging area.
- Boca Dam Trailhead. Located south of the Boca Reservoir near the Boca Reservoir dam on the west side of Boca Stampede Road southwest of the dam keeper's house. The 0.4-acre staging area would provide motorized recreation access to the southern portion of the new loop trail and the connector trail to the top of Boca Hill. The site is unvegetated except for a few Jeffrey pines and would probably not require tree removal. See Figure 2, Photo 4 for a view of this staging area.

### 2.4.3 Route Decommissioning

The Phase 1 project would obliterate and restore eight miles of unauthorized, unsustainable routes (Figure 4). Road restoration is accomplished by ripping the road using claw blades of a dozer, mulching with straw, placement of barriers and signs, and re-seeding the restored area. The routes to be decommissioned are generally wider than the proposed new single-track trails. See Figure 2, Photo 5 for view of an example decommissioned road.

Signage is planned to educate the public on restoration goals during project implementation including the importance of hydrologic integrity to the health and function of local ecosystems

and the greater Truckee River watershed. Signage would also be utilized post implementation to direct users to designated routes which are designed for sustainable, long-term OHV use. Where appropriate, barrier materials (wood or other fencing materials) would be used to block future access to restored routes and other sensitive areas previously impacted by OHV use.

#### **2.4.4 Weed Treatment**

The Phase 1 project would include chemical (Aminopyralid) and mechanical treatment of approximately 30 acres of documented invasive plant infestations along proposed new trail alignments to avoid their potential spread. Invasive plant treatments would be implemented primarily in the southern portion of the new loop. Weed treatment would focus on three priority invasive plant species: musk thistle (*Carduus nutans*), spotted knapweed (*Centaurea stoebe* ssp. *Micranthos*), and Canada thistle (*Cirsium arvense*). Herbicide would be spot sprayed using a backpack spray. A maximum of one initial and one follow-up herbicide treatment would be allowed annually. Herbicide application would be conducted by a licensed applicator and would be in accordance with all label instructions, state and federal regulations, and Forest Service direction.

#### **2.4.5 Meadow Restoration and Creek Repair**

The Phase 1 project includes restoring hydrological function of a 106-acre meadow at East Boca Canyon that has been impacted by OHV use and repair of 2,000 feet of East Boca Springs Creek impacted by OHV use (Figure 4). East Boca Springs Creek is a rocky ephemeral channel that has been incised and narrowed by OHV recreationists driving in the creek bed. This has caused water to flow along the narrow channel to the Boca Reservoir, rather than fanning out across the East Boca Canyon meadow as was the natural drainage pattern of the area. Restoration work includes creating openings at periodic locations along the creek channel for water to flow over a wider area of the landscape, recontouring the upper portion of the meadow to restore water flow across the entire meadow and closing and restoring the existing OHV road that goes through the meadow. Ground disturbance for the restoration work would be limited to approximately 2 acres in the upper meadow near the creek and along the existing road. See Figure 2, Photo 6, Photo 7, and Photo 8 for views of the meadow restoration area. Specific actions include the following:

- Removing road fill
- Re-contouring roadbeds to match existing surfaces and allow overland flow to be reconnected to the meadow
- Reconnecting drainage paths and rebuilding the alluvial fan
- Using off-haul from the Canyon 3 Valley Fan Stampede Meadows site to fill incised road segments and stream channels
- Spreading native seeds and mulch on disturbed areas
- Installing gates or other structural protection to block future OHV access

#### **2.4.6 Monitoring**

During implementation, resource specialists would assist in monitoring project activities to ensure adherence to resource protection measures, as outlined in the EZ Connectivity and Restoration Project EA (USDA 2020) and described in section 2.6 below. Post implementation, regular monitoring patrols would be utilized to mitigate the potential for additional impacts to the

newly restored areas. Monitoring would include pre- and post-implementation photo point analysis, existing cultural site monitoring and analysis, soil moisture content monitoring and evaluation, avian surveys, and desk top analysis of GIS data, Lidar derived habitat vegetation data, and Google Earth Engine NDVI analysis.

## 2.5 CONSTRUCTION SCHEDULE AND EQUIPMENT

### 2.5.1 Project Timeline

Tahoe National Forest proposes commencing project construction activities in 2022 and completing activities in 2024 as shown in Table 2-1. There is no general schedule of route decommissioning and restoration activities. Planned implementation of decommissioning and restoration would be dictated by site and environmental conditions, resource availability, and district priorities.

**Table 2-1. Construction Schedule**

Year	Task	Activities
2022	Evaluation of current final new trail alignments	<ul style="list-style-type: none"> <li>• Rough cut of sections of trail located in lower elevation terrain</li> <li>• Negotiation of contracts for construction of trail in the more difficult areas of the project</li> <li>• Delineate plans for new staging areas</li> <li>• Finalize cooperative agreements for purchase, construction, and installation of vault toilets.</li> <li>• Invasive plant treatment and monitoring</li> </ul>
2023	Finish trail construction in lower elevation terrain	<ul style="list-style-type: none"> <li>• Initiate contracted trail construction</li> <li>• Begin construction of remaining new trail not under contract for development</li> <li>• Begin staging area improvement and install one vault toilet facility</li> <li>• Install gate</li> <li>• Arrange for fabrication of staging area signage</li> <li>• Purchase trail route barrier materials</li> <li>• Invasive plant treatment and monitoring</li> </ul>
2024	Finish contracted trail construction	<ul style="list-style-type: none"> <li>• Finish remaining non-contracted trail construction</li> <li>• Complete staging area improvements and install two remaining vault toilet facilities</li> <li>• Construct and install staging area kiosks and informational signage</li> <li>• Install Carsonite markers and decals on trails and at junctions and intersections</li> <li>• Complete finish work including fine tuning, finish tread, and line of sight clearing</li> <li>• Install designated trail route barrier materials</li> <li>• Invasive plant treatment and monitoring</li> </ul>

### 2.5.2 Construction Methods and Equipment

New trail construction and route decommissioning includes four steps: (1) constructing new trail; (2) constructing new alignments; (3) obliterating decommissioned trail; and (4) diverting riders to the newly aligned route segments and discouraging use of the replaced segments by de-

compacting soil, installing drainage features, reconnecting altered hydrology, and placing native material on the old segments. Construction would involve cutting vegetation and using barriers and signing to encourage use of new or re-routed segments and discourage use of the old, unsustainable segments. Approximately 750-1000 feet of new trail would be constructed per day, although that number would potentially increase in terrain with low gradients and relatively little vegetation and decrease in terrain with steeper gradients and additional vegetation or other terrain obstacles. A small trail dozer, excavator, or mini excavator would be used to conduct the work. Forest Service trail staff and volunteer hand crews would also assist with the trail construction work. In less accessible areas, supplies could be brought in with ATVs. Additions and changes to motorized trails and roads would be displayed on the Motor Vehicle Use Map (MVUM), the legal document displaying designated motorized trails and roads.

Equipment would be staged on site during construction of the staging areas. For trail development, equipment would be staged both at a campsite at Boca Springs Campground and, some days, on site. For restoration work, a mini excavator would typically be brought out and returned to the Truckee Ranger District office each day – larger equipment would often be staged on site until a specific task is completed.

Construction and trail crews would generally work a four, ten-hour days schedule from 7:00 a.m. to 5:30 p.m. Monday through Thursday.

## 2.6 CONSTRUCTION STANDARDS AND MANAGEMENT REQUIREMENTS INCORPORATED INTO PROJECT

Trail construction standards, including Best Management Practices (BMPs) for trail construction as identified in Forest Service Trails Handbook (FSH 2309.18) and Specifications for Construction and Maintenance of Trails (EM-7720-103), and management requirements to protect public resources would be incorporated into trail design and construction. Trail construction standards address general standards (e.g., grade pitch, bench width, clearance), guidelines for preventing resource damage, creek and drainage crossings, switchbacks and rolling turns, rolling dips/grade reversals, and bermed turns. Forest Service management requirements applied to the project address aquatic wildlife, botanical resources, cultural resources, fire and fuels, herbicide treatment, invasive plants, recreation and visual resources, terrestrial wildlife, and watershed and aquatic resources. Management requirements are provided in Table 2-2. The implementation strategy, trail construction standards, and management requirements are presented in the EA Chapter 2 Proposed Action and Alternatives (pp. 14-21) attached in Appendix A.

**Table 2-2. Management Requirements**

Subject	Management Requirement*
Aesthetics and Recreation	<p><b>R1:</b> Construct trail tread by hand, or with small, mechanized trail equipment, or a combination of the two. Construct trail tread at a width no greater than 36 inches, most commonly ranging from 18 to 24 inches.</p> <p><b>R2:</b> Incorporate rolling dips and/or reverse grades into the construction of the trail segments averaging around 100-foot spacing to ensure long-term drainage control.</p> <p><b>R3:</b> At drainage crossings, move the spoils from trail construction away from the drainage to prevent entry into the waterway.</p> <p><b>R4:</b> Minimize cut and fill slopes and cover with slash and forest duff to hide contrast of exposed soil.</p>

Subject	Management Requirement*
	<p><b>R5:</b> At trailheads and near narrow precipitous segments, increase monitoring of use and install safety signage to educate and inform users.</p> <p><b>R6:</b> Utilize native timber and rock materials when additional trail building materials are needed or use materials that match the color and texture of native materials.</p>
Aquatic Wildlife	<p><b>AW1: Barriers.</b> Ensure that materials used at stream crossings do not create barriers to upstream or downstream passage for aquatic-dependent species.</p> <p><b>AW2: Riparian.</b> Where possible retain as much riparian vegetation canopy so that activities will not adversely affect water temperatures required for local species.</p> <p><b>AW3: Hazardous spills.</b> Any hazardous spill event into the water shall be immediately contained and reported to the Forest Service dispatch, Forest Service Hydrologist, and Lahontan Regional Water Quality Control Board.</p> <p><b>AW4: Survey</b></p> <ul style="list-style-type: none"> <li>• Survey any proposed water drafting locations for sensitive aquatic species within one week prior to potential use. Use drafting devices with 2-mm or less screening and place hose intake into bucket in the deepest part of the pool. Use a low velocity water pump and do not pump ponds to low levels beyond which they cannot recover quickly (approximately one hour).</li> <li>• Survey for sensitive aquatic species, any areas where equipment may travel through stream habitat for OHV trail work within one week prior to potential disturbance.</li> </ul> <p><b>AW5: Sightings.</b> If a sensitive or listed aquatic species is sighted within the project area, all work within 100 feet of aquatic habitat will cease immediately. Inform a Forest Service aquatic biologist of the sighting so that an appropriate course of action can be determined.</p> <p><b>AW6: Tightly woven fiber netting</b> or similar material shall not be used for erosion control or other purposes within aquatic habitats to ensure aquatic wildlife do not get trapped, injured or killed. Plastic mono-filament netting or similar material shall not be used at any of these projects.</p> <p><b>AW7: Drafting in fish-bearing streams.</b> The water drafting rate should not exceed 350 gallons per minute (gpm) for streamflow greater than or equal to 4 cubic feet per second (cfs) nor exceed 20 percent of surface flows for streamflow less than 4 cfs. For non-fish-bearing streams, the drafting rate should not exceed 350 gpm for streamflow greater than or equal to 2 cfs, nor exceed 50 percent of surface flows. Water drafting should cease when bypass surface flows drop below 1.5 cfs on fish-bearing streams and 10 gpm on non-fish-bearing streams (USFS Region Five BMP 2.5).</p> <p><b>AW8: Herbicide Use.</b> Use of herbicide to treat invasive plants will be excluded from any areas where infestations overlap with potentially suitable Sierra Nevada yellow-legged frog habitat.</p> <p>See BMPs under Geology/Soils and Hydrology/Water Quality for additional measures protecting aquatic resources.</p>
Terrestrial Wildlife	<p><b>TW1: California spotted owl.</b> To protect nesting California spotted owl, no mechanized trail construction or chainsaw use will occur between March 1 and August 15 in Protected Activity Centers (PACs), unless surveys determine</p>

Subject	Management Requirement*
	<p>they are not nesting. Construction of new trail will remain outside a ½ mile buffer to be placed around all known current and historic nest locations.</p> <p><b>TW2: Northern goshawk.</b> To protect nesting northern goshawk, no mechanized trail construction or chainsaw use will occur between February 15 and September 15 in Protected Activity Centers (PACs), unless surveys determine they are not nesting. Construction of new trail will remain outside a ½ mile buffer to be placed around all known current and historic nest locations.</p> <p><b>TW3: Bats.</b> Report any bat roosts identified during project layout or trail construction to a wildlife biologist. Limit trail construction within 500 feet of identified roosts whenever possible.</p> <p><b>TW4: Large trees and logs.</b> Locate trails to avoid cutting large trees, trees with evidence of wildlife use (e.g., cavities, nests, etc.), large snags, and large downed logs.</p> <p><b>TW5: TES Species.</b> If any TES species (Federally threatened, endangered, proposed, or Forest Service sensitive species) previously unknown in the project area are detected or found nesting/roosting within 0.25 miles of project activities, appropriate mitigation measures would be implemented based on input from the aquatic biologist, botanist, and/or wildlife biologist. Measures can include, but are not limited to, flagging and avoiding a plant site, implementing a species specific limited operating period (LOP), or designating a protected activity center.</p> <p><b>TW6: Raptor Nests.</b> If any active raptor nest is identified within the boundaries of, or directly adjacent to the project area (within 100 meters) during implementation, a buffer would be placed around the active nest and at the discretion of the District Biologist a species specific LOP may be put into place for the buffer zone.</p> <p><b>TW7: Carnivore Nests and Denning Structures.</b> If any large stick nests or signs of active denning are observed or detected within or adjacent to the project area (within 100 meters), work will cease in the immediate area and the occurrence will be reported to the wildlife biologist to determine any potential need for further review and/or mitigation measures.</p>
Botanical Resources	<p><b>BR1: Plumas ivesia (<i>Ivesia sericoleuca</i>).</b> There are known occurrences of Plumas ivesia in the project area. These areas will be identified on project maps, flagged in the field, and provided to contractors/staff.</p> <p><b>a)</b> Avoid ground disturbing activities including but not limited to route construction, route decommission, temporary and permanent staging areas.</p> <p><b>b)</b> Herbicide applications will not occur within 100ft of occurrences</p> <p><b>c)</b> Use boulders or additional barrier construction where decommissioned routes intersect occurrences in order to minimize ground disturbance. Coordinate with Forest Service Botanist two weeks prior to implementation.</p> <p><b>BR2: Preconstruction surveys for botanical resources.</b> Prior to implementation, conduct surveys for threatened, endangered, proposed, candidate, sensitive, and Watch list botanical species in areas of proposed ground disturbance.</p> <p><b>BR3: Undetected botanical resources.</b> Any additional TES or Tahoe National Forest (TNF) Watch list botanical species or other botanical resources discovered prior to or during implementation should be flagged and avoided completely until it can be assessed for impacts by District Botanist.</p>



Subject	Management Requirement*
Cultural Resources	<p><b>CR1: Additional Survey.</b> Additional surveys for cultural resources may be required for areas outside of the current area of potential effect (i.e., staging areas or trail route adjustments).</p> <p><b>CR2: Non-System Road or Trail Work within Sites.</b> Obliteration of non-system roads or trails within cultural resource sites may be conducted only with approval from a cultural resource specialist.</p> <p><b>CR3: Additional Survey.</b> Prior to implementation, additional surveys for cultural resources may be required for areas of proposed ground disturbance outside of the current area of potential effect (such as route decommissioning).</p>
Watershed, Soils, and Aquatic Resources	<p><b>WSA1: Shallow stream fords.</b> When constructing shallow stream fords, locate in shallower portions of the stream, the approaches should climb a short distance above the typical high-water line so water is not channeled down the tread. Avoid locations where the stream turns, because the water will undercut approaches on the outside of a turn. The tread in the ford should be level, ideally made of native rock or medium sized gravel that provides solid footing. The objective is to even out the water flow through the ford so the gravel-sized material is not washed away, leaving only cobble or boulders.</p> <p><b>WSA2: Trail approaches to watercourse crossings.</b> Design watercourse crossings to avoid diversion of flow down the trail should the crossing fail.</p> <ul style="list-style-type: none"> <li>• Where possible, make crossing approaches short and level, or reverse the grade if possible.</li> <li>• Install cross drainage (cut-off water breaks) at crossings to prevent water and sediment from being channeled directly into watercourses.</li> <li>• Locate cut-off water breaks as close to the crossing as possible without being hydrologically connected to the watercourse.</li> <li>• Armor steep crossing approaches with stable aggregate or trail-hardening materials.</li> <li>• Where possible (for example, at bridges or arch culverts), reverse the grade of the crossing approaches so runoff drains away from the watercourse.</li> </ul> <p><b>WSA3: Road/Trail decommissioning.</b> Administratively close decommissioned trail sections to continued use.</p> <ul style="list-style-type: none"> <li>• Block access to and obscure the first 100 to 300 feet of the old trail at intersections with the new reroutes and place woody debris (no greater than 12 inches in height) on them to discourage any further use. Utilize regrading, bouldering, and covering regraded area with slash and forest duff as necessary.</li> <li>• Install drainage structures so water does not concentrate on decommissioned routes. Mulch and or re-vegetate denuded areas with native materials and plants.</li> <li>• Scarify top 2 to 4 inches of soil to promote water infiltration and return of vegetation. Maintain at least 70 percent effective soil cover prior to winter precipitation. If soil cover cannot be recruited on site, use biodegradable geotextile netting or a thick cover of weed free straw.</li> </ul>

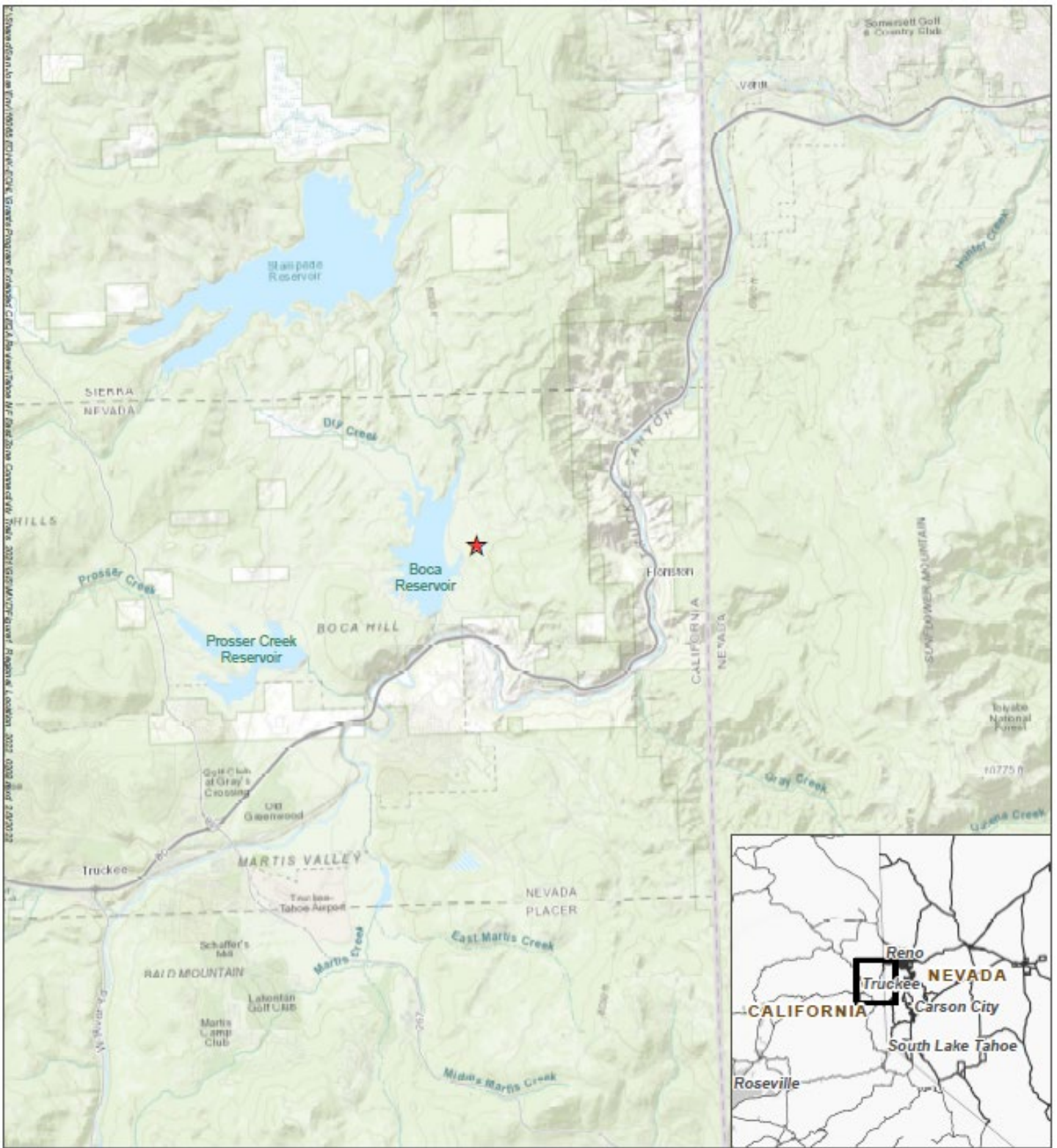
Subject	Management Requirement*
	<p><b>WSA4: Trail drainage.</b> Look for small draws to locate grade reversals. The trail should climb gently for a few feet on each side of the draw. Construct a trail grade that is less than half of the side-slope grade. For example, on a hill with 6-percent side-slope, trail grade should be no more than 3 percent.</p> <p><b>WSA5: Region 5 BMPs and Trail Construction, Reconstruction and Maintenance standards.</b> Follow the Trail Construction Standards described in the TNF Trail Design Standards document and BMPs listed in the Region 5 Soil and Water Conservation Handbook, chapter 10, sections 4.7.1 to 4.7.8. Follow BMP 2.13 to effectively limit and mitigate erosion and sedimentation from any ground-disturbing activities. Develop an erosion control plan to include mitigation measures, requirements to meet BMPs, specifications and any federal or state permit requirements.</p> <p><b>WSA6: Stream Channel Crossings.</b> The proposed crossings will be designed to slightly modify the existing channel without significantly changing capacity or channel form, without adding fill or excavating (dredge). The proposed design will be constructed to maintain flow capacity and only minor changes, rearranging in channel rock for ingress and egress are proposed.</p> <p><b>WSA7: Storm Precipitation Action Plan.</b> Stop operations during periods of inclement weather (runoff producing rainfall or wet soil conditions) that create erosion or soil deformation (rutting) and implement temporary erosion control measures as needed until the site is dry enough to resume work. Provide erosion control measures on completed sections of trail or decommissioned sections of trail.</p> <p><b>WSA8: Construction Dry Periods.</b> Dry period construction leads to increased pulverization of soils and an associated increase in the potential for air or water transport, as soils tend to be less cohesive when overly dry. Adequate water must be both made available for, and applied to, dry at-risk soils during construction to increase cohesion thereby minimizing these potential impacts.</p> <p><b>WSA9: Refueling and Maintenance of Equipment.</b> Refueling and maintenance of equipment should be carried out in areas removed from drainages and riparian vegetation and outside of the stream environment zone (SEZ).</p> <p>[See Herbicide Treatment BMPs for additional measures protecting water quality.]</p>
Herbicide Treatment	<p><b>HT1: Spray Application</b></p> <p>a) Only ground-based equipment will be used to apply herbicides.</p> <p>b) All application of herbicides will cease when weather conditions exceed those on the label.</p> <p>c) Application of herbicides will not be performed when the National Weather Service forecasts a greater than 70 percent probability of measurable precipitation (i.e., precipitation greater than 0.1 inch) within the next 24-hour period.</p> <p>d) Application of herbicide will cease when wind speed exceeds 10 miles per hour.</p> <p>e) Spray nozzles will produce a relatively large droplet size (e.g., 500 to 800 microns) which are less prone to drift.</p>

Subject	Management Requirement*
	<p>f) Application of herbicide will be sprayed until targeted plants are wet and not dripping to help prevent leaching.</p> <p><b>HT2:</b> Herbicides will be applied and mixed by trained and/or certified applicators in accordance with label instructions and applicable federal and state pesticide laws.</p> <p><b>HT3:</b> Personal protective equipment will be used in accordance with the product label and California Department of Pesticide Regulation requirements.</p> <p><b>HT4:</b> Application of herbicides within 20 feet of riparian vegetation or surface water must be approved by the hydrologist/natural resource specialist. Herbicide may not be applied directly to any surface water.</p> <p><b>HT5:</b> Chemicals will be stored in designated storage facilities consistent with the Forest Service Manual (FSM) 2109.14, Chapter 40. Unused herbicides will be disposed of in accordance with the product label and FSM 2109.14, Chapter 40. If the product label and FSM differ, the more restrictive storage and disposal guidelines will be followed.</p> <p><b>HT6:</b> Herbicide mixing will not occur within 150 feet of surface waters, except at existing facilities.</p> <p><b>HT7:</b> A spill kit will be onsite at all times during herbicide application consistent with FSM 2109.14, Chapter 60.</p> <p><b>HT8:</b> Adjuvants may be added, but only non-NPE (nonylphenol [NP] and nonylphenol ethoxylate) surfactants will be used.</p>
Invasive Plants	<p><b>IP1: Avoidance areas.</b></p> <p>a) Invasive plant infestations that have not been treated prior to implementation will be avoided with a 50-foot buffer.</p> <p>b) Avoidance areas will be flagged in the field, identified on project maps, and provided to contractors/staff.</p> <p>c) Coordination with the natural resource specialist will occur at least 60 days before implementation of planned treatments.</p> <p><b>IP2: Equipment Cleaning.</b> All equipment and vehicles (Forest Service and contracted) operating off-road must be free of invasive plant material before moving into the project area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter treatment units.</p> <p><b>IP3: Weed-free construction materials.</b> All gravel, aggregate, fill, mulch, topsoil, erosion control materials and other construction materials are required to be weed-free. When possible, use onsite materials, unless contaminated with invasive species. Otherwise, obtain weed-free materials from sources that have been certified as weed-free.</p> <p><b>IP4: Project-related disturbance.</b> Minimize the amount of ground and vegetation disturbance. As necessary, reestablish vegetation on disturbed bare ground to reduce invasive species establishment; revegetation is especially important in staging areas.</p> <p><b>IP5: Revegetation.</b> Seed and plant mixes must be approved the District Botanist. Neither invasive species nor persistent non-natives will be used in revegetation. Seed lots will be tested for weed seed and test results will be provided to District Botanist. Seed and plant material should be collected from</p>

Subject	Management Requirement*
	<p>as close to the project area as possible, preferably from within the same watershed or at similar elevation.</p> <p><b>IP6: Early Detection.</b> Any additional infestations discovered prior to or during project implementation should be flagged and avoided. Report new infestations to District Botanist.</p> <p><b>IP7: Post Project Monitoring.</b> For projects involving ground disturbance or use of imported materials, notify the District Botanist after the project is completed, so that the project area can be monitored for invasive plants subsequent to project implementation (as funding allows).</p> <p><b>IP8: Survey.</b> Prior to implementation, conduct surveys for invasive plants in areas proposed for ground disturbance. Additional surveys for invasive plants are needed if trail adjustments are outside of a 50-foot buffer from the originally proposed route.</p>
Fire & Fuels / Wildfire Hazard	<p><b>FF1: Leave access</b> for fire suppression resources along roads and trails.</p> <p><b>FF2: Excess cut woody material.</b> Scatter, chip, or remove</p>
Notes:	<p>*Not all measures may be applicable to the project proposed for OHV Grants Program funding.</p> <p>Source: USDA 2020</p>

## 2.7 REQUIRED PERMITS AND APPROVALS

The proposed project occurs on Forest Service land and has been approved by the Forest Service in a Decision Notice (USFS 2021). No other permits or approvals are required for this project.



Source: ES&P 2021; MIG 2022

★ Project Location

**Figure 1 Regional Location**

*East Zone Connectivity and Restoration Phase 1 Project*





**Photo 1. Example of an existing single track trail in the TNF, near Prosser Campground road.**



**Photo 2. Weasel staging area looking west from Forest Service Road 72.**

**Figure 2 Photographs of Project Area and Proposed Elements**  
*East Zone Connectivity and Restoration Phase 1 Project*





**Photo 3. Bullseye staging area looking west from W Hinton Road.**



**Photo 4. Boca Dam staging area looking northwest towards Boca Dam.**

**Figure 2 Photographs of Project Area and Proposed Elements**

*East Zone Connectivity and Restoration Phase 1 Project*





**Photo 5. Example of a decommissioned road south of the Boca Reservoir.**



**Photo 6. East Boca Springs Creek on northern side of meadow restoration area.**

## **Figure 2 Photographs of Project Area and Proposed Elements**

*East Zone Connectivity and Restoration Phase 1 Project*





**Photo 7. Looking southwest from northern side of meadow to be restored.**



**Photo 8. Road blocked with tree branches near the southern side of the meadow restoration area.**

## **Figure 2 Photographs of Project Area and Proposed Elements**

*East Zone Connectivity and Restoration Phase 1 Project*



**USDA**  
United States Department of Agriculture

### East Zone Connectivity & Restoration Project Proposed Phase 1 Development

**Legend**

- New\_Trail
- Staging\_Areas
- Gate\_Location
- Forest Boundary

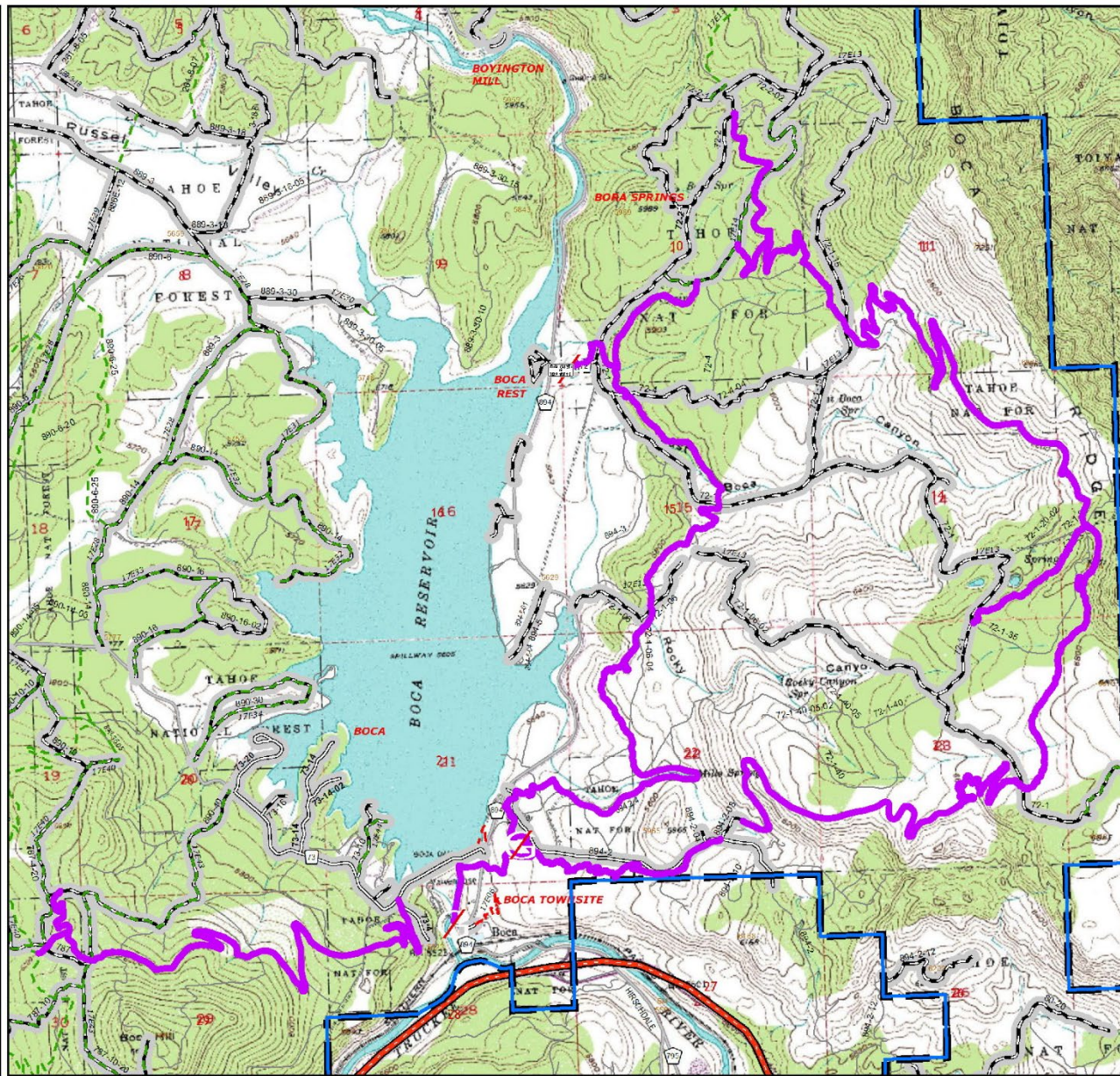
**CA\_MajorRoads**  
**SIGNT1**

- Interstate and US Highway
- State Highway

N

0 0.35 0.7  
Miles  
Vicinity Map

Forest Service  
Tahoe National Forest  
Truckee Ranger District


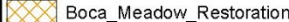



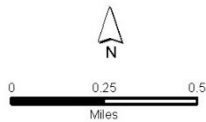
**Figure 3 New Trail and Staging Area Development**  
East Zone Connectivity and Restoration Phase 1 Project



# East Zone Connectivity & Restoration Project Proposed Phase 1 Restoration Activities

## Legend

-  Route\_Decommission
-  Boca\_Meadow\_Restoration
-  Forest Boundary



### Vicinity Map



Map produced by TNF GIS staff, Date: 2/9/2021

Document Path: I:\FS\WFS\Tahoe\Program\2300\Recreation\GIS\TKRD\Workspace\JohnBrokaw\2020\OHV\_2020\_BaseData.mxd

**Figure 4 Decommissioned Trails and Restoration Area**  
East Zone Connectivity and Restoration Phase 1 Project

## Chapter 3 ENVIRONMENTAL CHECKLIST AND RESPONSES

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### PROJECT INFORMATION

1. **Project Title:** East Zone Connectivity and Restoration Phase 1 Project
2. **Lead Agency Name and Address:** CDPR, OHMVR Division  
P.O. Box 942896  
Sacramento, CA 94296-0001
3. **Contact Person and Phone Number:** Jon O'Brien, Environmental Program Manager  
[J.O'Brien@parks.ca.gov](mailto:J.O'Brien@parks.ca.gov) (916) 204-0871
4. **Project Location:** Tahoe National Forest, near Boca Reservoir, Nevada County
5. **Project Assessor's Parcel Number:** not applicable
6. **Project Sponsor's Name and Address:** Kaitlin Mansfield, Trails and Recreation Specialist  
Tahoe National Forest  
10811 Stockrest Springs Road  
Truckee, CA 96161
7. **General Plan Designation:** As a National Forest the property is owned by the federal government and therefore any general plan designations assigned by the local land use authority do not apply.
8. **Zoning:** not applicable
9. **Description of the Project:** The Tahoe National Forest Truckee Ranger District is proposing to construct 20 miles of motorized single-track trail, develop three new staging areas, decommission 8 miles of unauthorized routes, treat approximately 30 acres of invasive weed infestations, and restore a 106-acre meadow and associated creek. The Tahoe National Forest applied for grant funding for the project through the OHMVR Division Grants and Cooperative Agreements Program (OHV Grants Program) during the 2021 (G21) grants cycle.
10. **Surrounding Land Uses and Setting:** The proposed project is located within approximately 4,000 acres in the Truckee Ranger District on the east, south and west sides of the Boca Reservoir. The project area is approximately 0.2 miles north of Interstate 80 at its closest point, and approximately 6 miles northeast of Truckee, in Nevada County, California.
11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?** Katie Metraux, Environmental Compliance Associate at the OHMVR Division, sent a tribal consultation letter on February 8, 2022, to tribal contacts per CEQA requirements. The United Auburn Indian Community (UAIC) responded to the consultation with a request for more information, which was provided. UAIC did not make further requests for consultation. The USFS consulted with tribes per NEPA requirements in 2021, and the consultation was determined to be complete.
12. **Other Public Agencies Whose Approval is Required:** None

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry Resources	<input type="checkbox"/>	Air Quality
<input type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Energy
<input type="checkbox"/>	Geology/Soils	<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards and Hazardous Materials
<input type="checkbox"/>	Hydrology/Water Quality	<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources
<input type="checkbox"/>	Noise	<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services
<input type="checkbox"/>	Recreation	<input type="checkbox"/>	Transportation	<input type="checkbox"/>	Tribal Cultural Resources
<input type="checkbox"/>	Utilities/Service Systems	<input type="checkbox"/>	Wildfire	<input type="checkbox"/>	Mandatory Findings of Significance
<input checked="" type="checkbox"/>	None				

**DETERMINATION:** (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

*Katie Metraux*

Off-Highway Motor Vehicle Recreation Division

06/30/2022

Date



**EVALUATION OF ENVIRONMENTAL IMPACTS**

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in 5. below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are “Less Than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. Explanation(s) of each issue should identify:
  - a) The criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question; and
  - b) The mitigation measures, if any, prescribed to reduce the impact below the level of significance.

**3.1 AESTHETICS**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.1.1 Environmental Setting**

The East Zone Connectivity and Restoration Phase 1 Project is located within approximately 4,000 acres in the Truckee Ranger District of the Tahoe National Forest along the east and south sides of the Boca Reservoir (Figure 3 and Figure 4). The project area is on the western side of the Sierra Nevada Mountain Range in mountainous terrain. Elevation in the project area ranges from approximately 5,500 feet near the Boca Reservoir to approximately 6,600 feet on the ridgeline in the eastern part of the project area. The Truckee River is located south of the project area, and several ephemeral streams are present in the area that drain into the River or the Boca Reservoir. Dominant vegetation types in the project area include Jeffrey pine forest and big sagebrush. Photographs of the project area are included in Figure 2.

**3.1.2 Discussion**

*Would the proposed project:*

**a. Have a substantial adverse effect on a scenic vista?**

**Less Than Significant Impact.** The project area contains scenic vistas of the Boca Reservoir, the Truckee River, meadows, forests, and mountains surrounding the site. The proposed project includes new trails and trail decommissioning in an area that already has Forest Service roads and OHV trails. In addition, proposed restoration activities may improve scenic views in areas where they are proposed, such as the meadow and creek restoration area. Project components would be small scale (vertical profile and surface area), lightly and sustainably placed upon the landscape, and minimally evident since they consist of restoration, new trail development, or staging area improvements. Views of proposed actions would primarily be in the immediate foreground by users recreating on existing trails or the trail features being proposed. Some of



the proposed actions could be visible for very short periods of time from highly used travel ways in immediate foreground views but would be minimally evident to nonexistent in middle ground and background views (USDA 2020; p. 47). Therefore, the proposed project would not adversely impact scenic vistas in the project area.

**b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

**No Impact.** There are no designated state scenic highways in the project area. Interstate 80, approximately 0.2 mile south of the project site at the closest point, is eligible for listing as a state scenic highway (Caltrans 2021). The project site is not expected to be visible from Interstate 80 due to the Truckee River, railroad tracks, and tall pine trees between the highway and the closest project feature (a proposed new trail). Therefore, the project would not damage scenic resources within a state scenic highway.

**c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point)? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

**Less Than Significant Impact.** Although visual effects would vary by the location of each project component, none of the visual effects would be significant, and all of the visual effects would be compliant with the Forest Plan Visual Quality Objectives (USDA 2020, p. 47). Project components would be very small, lightly and sustainably placed upon the landscape, and minimally evident (since they consist of trail and road development or improvements). Trail building materials would be utilized from on site or would be chosen to blend into the natural surroundings, and the trail alignment would be placed to take advantage of the natural terrain (see management requirement R6 in Appendix A).

The most negative visual effects would occur during project construction. Small trail building equipment, dozers and excavators, construction signage, and increased dust and noise would be evident in the immediate foreground but only for short periods of time (days to weeks at a time). Evidence of trail grading, cut and fill slopes, rock placing, and decommissioned old roads and trails may be visible in the short term (less than 5 years) and would sufficiently blend into natural surroundings in a few years. Any short-term negative impacts would be reduced by implementing recreation and visual resources management requirements (see R1 through R6 in Appendix A).

Overall, the actions of this project would result in minimal negative visual impacts and some positive visual impacts. Negative impacts from trail and staging area construction would be short-term, and longer-term visual effects from road decommissioning and restoration activities would be positive.

**d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

**No Impact.** The project would not create a new source of light or glare affecting day or nighttime views in the area as no exterior lighting, reflective surfaces, or nighttime construction is proposed.

### 3.2 AGRICULTURAL AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>

#### 3.2.1 Environmental Setting

The project site is located in the Tahoe National Forest on forested land. No farmland occurs in the area. The project area is not used for commercial timber, although selective timber harvest occurs in the project area as part of fuel reduction efforts to reduce wildfire risks (Brokaw 2021).

#### 3.2.2 Discussion

*Would the proposed project:*

- a. **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

**b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**No Impact** (Responses a – b). The project is located on Forest Service land in mountainous areas of the Tahoe National Forest with established recreational and resource management uses. There is no farmland within or near the project area. The project area does not contain any farmland, any lands under Williamson Act contracts, or any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as defined by the Farmland Mapping and Monitoring Program (CDOC 2016). The Farmland Mapping and Monitoring Program and Williamson Act do not apply to federal land.

**c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?****d. Result in the loss of forest land or conversion of forest land to non-forest use?**

**Less Than Significant Impact.** (Responses c – d). The proposed project includes the construction of 20 miles of new single-track trails that could convert small areas of forested land to a recreational use. However, the new trails are not expected to require tree removal, and the roads proposed for decommissioning are generally wider than the new trails to be constructed. The three proposed new staging areas are in existing disturbed sites and would require minimal tree removal or impacts to forest land. Proposed restoration activities would help protect natural resources and promote forest health. The proposed project would support existing recreational and resource management uses in the forest and the project would not cause the rezoning of forest land or convert forest land to a non-forest use in the larger project area. Therefore, the project would not conflict with zoning for, or cause rezoning of, forest land or timberland, and would not convert significant areas of forest land to a non-forest use. Potential impacts to forest land would be less than significant.

**e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

**Less Than Significant Impact.** The project would not involve other changes in the existing environment that could result in the conversion of Farmland to non-agricultural use or conversion of forest land to a non-forest use. There is no Farmland in the project area (see response to Questions a and b above), and the project would not convert forest land to a non-forest use (see response to Questions c and d above).

### 3.3 AIR QUALITY

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

#### 3.3.1 Environmental and Regulatory Setting

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality. Federal, state, and local governments manage air quality through the implementation of laws, ordinances, regulations, and standards. The federal National Ambient Air Quality Standards (NAAQS) have been established for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), fine particulate matter (particles 2.5 microns in diameter and smaller, or PM<sub>2.5</sub>), inhalable coarse particulate matter (particles 10 microns in diameter and smaller, or PM<sub>10</sub>), and sulfur dioxide (SO<sub>2</sub>). California Ambient Air Quality Standards (CAAQS) are more stringent than the national standards for the pollutants listed above and include the following additional pollutants: hydrogen sulfide (H<sub>2</sub>S), sulfates (SO<sub>x</sub>), and vinyl chloride.

#### Mountain Counties Air Basin (MCAB)

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The project area is located near Truckee in Placer County within the MCAB. The MCAB lies along the northern Sierra Nevada Mountains close to or contiguous with the Nevada border and covers roughly 11,000 square miles. Elevations range from a few hundred feet at the Sacramento County boundary to more than 10,000 feet above sea level at the Sierra Crest. CARB officially recognizes the MCAB as an area impacted by ozone transport from upwind air basins (17 CCR §70500).

#### Northern Sierra Air Quality Management District (AQMD)

The Northern Sierra AQMD is a special district created by state law to enforce local, state, and federal air pollution regulations and has jurisdiction over Nevada, Plumas, and Sierra Counties. Currently, the Northern Sierra AQMD has 9 regulations containing over 140 rules designated to control and limit emissions from sources of air pollutants and administer state and federal air pollution control requirements (Northern Sierra AQMD 2021). Nevada County is in non-attainment of state and federal ambient air quality standards for ozone, and for state ambient air

quality standards for PM<sub>10</sub> (EPA 2021; CARB 2019a; CARB 2019b). It is unclassified for CO, H<sub>2</sub>S, and visibility reducing particulates. The Northern Sierra AQMD established significance thresholds, shown in Table 3-1, to determine if a project would have air quality impacts under CEQA. The significance thresholds are tiered so that levels with higher allowable amounts of pollutants require more extensive mitigation. Projects that exceed the Level B Threshold have significant air quality impacts (Northern Sierra AQMD 2016).

**Table 3-1. Northern Sierra AQMD Thresholds of Significance**

Threshold	ROG (lbs./day)	NO <sub>x</sub> (lbs./day)	PM <sub>10</sub> (lbs./day)
Level A Threshold	<24	<24	<79
Level B Threshold	24–136	24–136	79-136
Level C Threshold	>136	>136	>136

Source: Northern Sierra AQMD 2016

### 3.3.2 Discussion

*Would the proposed project:*

**a. Conflict with or obstruct implementation of the applicable air quality plan?**

**No Impact.** The Northern Sierra AQMD is responsible for maintaining air quality and regulating emissions of criteria pollutants and toxic air contaminants (TACs) within the project vicinity. Northern Sierra AQMD carries out its responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards. The *Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) Revision for Western Nevada County 8-Hour Ozone Nonattainment Area* was adopted by Northern Sierra AQMD in 2018 and requires RACT for stationary sources in the county (Northern Sierra AQMD 2018). The proposed project would not conflict with or obstruct implementation of the regional and federal ozone or particulate matter attainment plans. The project would not increase urban growth, introduce new stationary sources of air pollutants, or result in new land uses within the Northern Sierra AQMD. Therefore, the project does not conflict with or obstruct an applicable air quality plan.

**b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?**

**Less than Significant Impact.** Trail construction and restoration would occur seasonally over approximately 36 months with minimal and intermittent equipment operation consisting of three trucks and a mini excavator. In addition, there will be a trail dozer which is expected to be used for two months and a compaction roller which is expected to be used for a maximum of five days. Trail construction would be completed by two heavy equipment operators, three trail workers, and one maintenance worker, with any remaining trail construction completed by the hot shot crew and volunteer group. The project would follow BMPs for trail construction and maintenance including minimizing cutting and allowing new trails time to settle during the winter season before use (USDA 2020; see Trail Construction Standards in Appendix A).

The project's potential construction emissions were modeled using the Sacramento Air Quality Management District's (SMAQMD) Road Construction Emissions Model (RCEM), Version 9.0.0. The RCEM is a model used to estimate emissions from linear construction projects. The

emissions modeling reflects the construction activities, duration, and equipment usage contained in the project description. The maximum emissions for the project are estimated at 9.14 lbs./day reactive organic compounds (ROG), 28.29 lbs./day NO<sub>x</sub>, and 4.47 lbs./day total PM<sub>10</sub>, (i.e., exhaust and fugitive dust emissions). See Appendix B for detailed construction emissions assumptions.

The project's ROG and PM<sub>10</sub> emissions would not exceed the district's Level A threshold of significance. NO<sub>x</sub> emissions would exceed the Level A threshold but would not exceed the District's Level B threshold of significance (see Table 3-1).<sup>1</sup> Project construction activities, therefore, would not result in a cumulatively considerable net increase in non-attainment criteria air pollutants that exceeds Northern Sierra AQMD CEQA significance thresholds. This impact would be less than significant.

**c. Expose sensitive receptors to substantial pollutant concentrations?**

**Less than Significant Impact.** A sensitive receptor is defined by CARB as people who have a heightened risk of negative health outcomes due to exposure to air pollution. These include children, the elderly, and asthmatics. Sensitive receptor locations are where sensitive receptors may congregate, which may include hospitals, schools, and day care centers (CARB 2021). There are no sensitive receptors in close proximity to work areas. The nearest residences are located approximately 0.5 miles south of the project site, the nearest hospital is located approximately 7 miles southwest of the project site, and the nearest school is located approximately 5 miles southwest the project site. In addition, there is no known naturally occurring asbestos in the project area. For these reasons, the proposed project would not expose sensitive receptors to substantial pollutant concentrations.

**d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

**No Impact.** While the project will produce odors associated with construction, such as diesel fuel, motor oil, and exhaust, the odors would be temporary and intermittent and would not affect a substantial number of people due to the remoteness of the proposed work areas.

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<sup>1</sup> For a project above the Level A thresholds, the Northern Sierra AQMD recommends the incorporation of mitigation measures to reduce potential project construction emissions, including prohibiting burning of vegetative materials, use of grid power instead of diesel generators, temporary traffic control to improve traffic flow, and scheduling construction activities to occur during off-peak hours. These measures are not relevant to the proposed project because it does not involve vegetation burning, the use of diesel generators, or substantial construction traffic or activities that could impede traffic flow.

### 3.4 BIOLOGICAL RESOURCES

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

#### 3.4.1 Regulatory Setting

##### Federal Regulations

**Federal Endangered Species Act.** The Federal Endangered Species Act (FESA) establishes a broad public and federal interest in identifying, protecting, and providing for the recovery of threatened or endangered species. The Secretary of the Interior and the Secretary of Commerce are designated in FESA as responsible for identifying endangered and threatened species and their critical habitat, carrying out programs for the conservation of these species, and rendering opinions regarding the impact of proposed federal actions on listed species. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) are charged with implementing and enforcing FESA. USFWS has authority over terrestrial and continental aquatic species, and NMFS has authority over species that spend all or part of their life cycle at sea, such as salmonids.

Section 9 of FESA prohibits the unlawful “take” of any listed fish or wildlife species. Take, as defined by FESA, means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such action.” USFWS regulations define harm to mean “an act which actually kills or injures wildlife.” Such an act may include “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR § 17.3). Take can be permitted under FESA pursuant to sections 7 and 10. Section 7 provides a process for take permits for federal projects or projects subject to a federal permit, and Section 10 provides a process for incidental take permits for projects without a federal nexus. FESA does not extend the take prohibition to federally listed plants on private land, other than prohibiting the removal, damage, or destruction of such species in violation of state law.

**U.S. Migratory Bird Treaty Act.** The Migratory Bird Treaty Act (MBTA; (16 U.S.C. §§703–712) prohibits take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS. Under the MBTA, absent a permit, it is illegal to disturb an active nest of a protected migratory bird species, since this could result in killing a bird, destroying a nest, or destroying an egg. The USFWS oversees implementation of the MBTA.

**Bald and Golden Eagle Protection Act.** The Bald and Golden Eagle Protection Act (the Act; 16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald or golden eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” “Disturb” means: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.” In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

**Clean Water Act.** The Clean Water Act (CWA) is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the U.S. Environmental Protection Agency (EPA); however, the EPA depends on other agencies, such as the individual states and the United States Army Corps of Engineers (USACE), to assist in implementing the CWA. The objective of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Sections 404 and 401 of the CWA apply to activities that would impact waters of the U.S., which include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high-water marks. Wetlands are defined as those areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3(b)).



## State Regulations

**California Endangered Species Act.** The California Endangered Species Act (CESA; California Fish and Game Code 2050 et seq.) generally parallels the FESA. It establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. Section 2080 of the California Fish and Game Code prohibits the take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or by the regulations. “Take” is defined in Section 86 of the California Fish and Game Code as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” This definition differs from the definition of “take” under FESA. CESA is administered by California Department of Fish and Wildlife (CDFW). CESA allows for take incidental to otherwise lawful projects but mandates that State lead agencies consult with CDFW to ensure that a project would not jeopardize the continued existence of threatened or endangered species.

**California Species of Special Concern and California Fully Protected Species.** California species of special concern (CSSC) are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

Four sections of the California Fish and Game Code list 37 fully protected species (California Fish and Game Code §§ 3511, 4700, 5050, and 5515). Most of the species on these lists have subsequently been listed under CESA and/or FESA. Fully protected species may generally not be taken or possessed except for scientific research. Incidental take of species that are designated as fully protected may be authorized via development of a natural community conservation plan (NCCP; California Fish and Game Code § 2800 et seq.).

**Nesting Birds.** Nesting birds, including raptors, are protected under California Fish and Game Code Section 3503, which reads, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” In addition, under California Fish and Game Code Section 3503.5, “it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto”. Passerines and non-passerine land birds are further protected under California Fish and Game Code 3513. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by CDFW.

**Non-Game Mammals.** Sections 4150-4155 of the California Fish and Game Code protects non-game mammals, including bats. Section 4150 states “A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission”. The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. Bats are classified as a non-game mammal and are protected under California Fish and Game Code.

**California Native Plant Protection Act.** The California Native Plant Protection Act (CNPPA) of 1977 preserves, protects, and enhances endangered and rare plants in California by specifically prohibiting the importation, take, possession, or sale of any native plant designated by the California Fish and Game Commission as rare or endangered, except under specific circumstances identified in the CNPPA. Various activities are exempt from the CNPPA, although take as a result of these activities may require other authorization from CDFW. Section 1911 of the CNPPA dictates that all state departments and agencies shall utilize their authority in furtherance of the purposes of the CNPPA by carrying out programs for the conservation of endangered or rare native plants. Notwithstanding that provision, CNPPA Section 1913 directs that the performance by a public agency of its obligation to provide service to the public shall not be restricted because of the presence of rare or endangered plants.

**California Native Plant Society Inventory.** The California Native Plant Society (CNPS) has prepared and regularly updates an “Inventory of Rare and Endangered Vascular Plants of California.” These rankings are incorporated into the California Natural Diversity Database (CNDDDB) as California Rare Plant Rank (CRPR) in collaboration with CDFW. In general, the CDFW qualifies plant species on CRPR List 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere) or List 2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere) for heightened protection under CEQA. Species on CRPR List 3 (Plants About Which We Need More Information – A Review List) or List 4 (Plants of Limited Distribution – A Watch List) may, but generally do not, qualify for such protection under CEQA.

### 3.4.2 Environmental Setting

The project area is in a large, mostly forested area in the Tahoe National Forest. The following habitat types occur in or adjacent to the Phase 1 project area: early seral coniferous forest, mid seral coniferous forest, late seral open canopy coniferous forest, and late seral closed canopy coniferous forest (Brokaw 2022).

The project area provides habitat for a variety of wildlife species including invertebrates, amphibians, reptiles, birds, and small and large mammals. The Tahoe National Forest uses management indicator species (MIS) to track wildlife population and habitat trends at the bioregional scale and to track project-level impacts on wildlife habitat. According to the Tahoe National Forest (Brokaw 2022), MIS in the Phase 1 project area include Pacific chorus frog (*Pseudacris regilla*), sooty grouse (*Dendragapus obscurus*), mountain quail (*Oreortyx pictus*), California spotted owl (*Strix occidentalis occidentalis*), northern goshawk (*Accipiter gentilis*), hairy woodpecker (*Picoides villosus*), Williamson’s sapsucker (*Sphyrapicus thyroideus*), northern flying squirrel (*Glaucomys sabrinus*), and Pacific marten (*Martes caurina*).

### Special-Status Species

Special-status species are those plants and animals that are legally protected or otherwise recognized as vulnerable to habitat loss or population decline by federal, state, or local resource conservation agencies and organizations. In this analysis, special-status species include:

- Species listed, proposed for listing, or candidates for listing as threatened or endangered under FESA (50 CFR §17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [proposed species]).
- Species listed, proposed for listing, or candidates for listing by the state of California as threatened or endangered under the California Endangered Species Act (CESA; 14 CCR 670.5).

- Species listed as sensitive by the Forest Service.
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines §15380).
- Plants listed as rare under the California Native Plant Protection Act (NPPA; California Fish and Game Code §1900 et seq.).
- Animal species listed as CSSC by CDFW; animal species listed as California Fully Protected (California Fish and Game Code §§3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]); and plants considered by CNPS and CDFW to be “rare, threatened, or endangered in California” (California Rare Plant Rank [CRPR]1A, 1B, 2, 3, and 4).

MIG performed a review of available information on special-status species documented from the project region to evaluate the potential for them to occur at the project site based on the presence or absence of suitable habitat or detection in the vicinity of the study area. Review of information included: 1) a search of the CNDDDB and CNPS Rare Plant Inventory records of species occurring within the U.S. Geological Survey (USGS) Truckee 7.5-minute quadrangle (where the proposed project is located) and eight surrounding quads; 2) review of the USFWS list of federal endangered and threatened species using the USFWS Information for Planning and Consultation (IPaC) online tool; 3) citizen science observations from iNaturalist and eBird; and 4) review of available Tahoe National Forest Truckee Ranger District biological assessments and evaluations concerning botanical and wildlife resources (Patterson 2020; Brokaw and Rawlinson 2020a, 2020b, and 2020c).

Appendix C tables list the special-status plant and animal species that occur in the general region of the project, along with their protection status, geographic distribution, habitat, and basis for determining which species had the potential to occur at the project site. The potential for species occurrence was evaluated based on the habitat requirements of each species relative to the habitat conditions documented in the project area. Species were considered to have no or low potential to occur in the project area due to one or more of the following reasons: 1) no recent documented occurrences within five miles of the project area or the species is known to be extirpated from the project area; 2) no suitable habitat present; and 3) the project area is outside of the expected range of the species. Such species were eliminated from consideration and are not discussed further. Of note, additional CNDDDB-tracked taxa that do not have special-status protections are included in the tables for informational purposes but are excluded from this analysis.

Special-status species with the potential to occur on the project site are described in more detail in the section below.

### **Special-Status Plant Species with Potential to Occur in the Project Area**

Known populations of *Plumas ivesia* (*Ivesia sericoleuca*) occur in the project area (Patterson 2020). In addition, there are known occurrences of cut-leaf checkerbloom (*Sidalcea multifida*) in the project area according to the CNDDDB. These two species and their occurrence in the project area are described in more detail below. No other special-status plants are expected to occur in the project area due to a lack of suitable habitat and nearby known occurrences.

**Plumas ivesia.** *Plumas ivesia* is a CRPR 1B.2 plant and is listed as Sensitive by the Forest Service. It is a perennial forb in the Rosaceae (rose) family. It is endemic to California and occurs in Lassen, Nevada, Placer, Plumas, and Sierra counties in the Sierra Nevada range north of Lake Tahoe. It is found in Great Basin scrub, lower montane coniferous forest,

meadows and seeps, and vernal pools usually on volcanic soils in vernal mesic areas. The elevation range is 5,740 to 9,185 feet. The blooming period is from May to September. It is threatened by development, grazing, and vehicles, and potentially threatened by recreational activities, timber harvest, fire suppression, road construction and maintenance, hydrological alterations, and erosion (CNPS 2021). In the project area, there are three known occurrences on the southeast side of the Boca Reservoir.

**Cut-leaf checkerbloom.** Cut-leaf checkerbloom is a CRPR 2B.3 plant. It is a perennial herb in the Malvaceae (mallow) family. It occurs in California, Oregon, and Nevada; within California it occurs in the southern and eastern Sierras. It is found in Great Basin scrub, lower montane coniferous forest, meadows and seeps, and pinyon and juniper woodland. The elevation range is 4,300 to 7,220 feet. The blooming period is from May to October. It is threatened by vehicles, development, trampling, and grazing (CNPS 2021). In the project area, occurrences have been recorded near the Stampede Meadows Road (County Highway 894), Little Truckee River, and Boca Reservoir, but the species was not found within the Phase 1 Project footprint during floristic surveys conducted for the project's NEPA analysis.

### **Special-Status Aquatic Wildlife with Potential to Occur in the Project Area**

Six special-status aquatic wildlife species have suitable habitat and/or recorded occurrences within the project area. Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*), Lahontan Lake tui chub (*Siphatales bicolor pectinifer*), and Sierra Nevada yellow-legged frog (*Rana sierrae*) were assessed in the East Zone Connectivity and Restoration Project EA (USDA 2020). An additional three aquatic wildlife species were identified from the CNDDDB database search that have potential to occur, including: Lahontan mountain sucker (*Catostomus lahontan*), cui-ui (*Chasmistes cujus*), and mountain whitefish (*Prosopium williamsoni*). These species and their potential occurrence in the project area are described below. Information for species descriptions and occurrences primarily comes from CNDDDB (2022).

**Cui-ui.** Cui-ui is federally listed as endangered. It occurs in Pyramid Lake and the lower Truckee River; it is extirpated from Winnemucca Lake in northwestern Nevada. This species spends most of the year in open waters of large lakes, feeding on plankton and spawning in tributary streams (CNDDDB 2022). This species has a moderate potential to occur in the project area due to the presence of some suitable habitat, although it has not been previously recorded in the project area.

**Lahontan cutthroat trout.** Lahontan cutthroat trout is federally listed as threatened. It historically occurred in all accessible cold waters of the Lahontan Basin in a wide variety of water temperatures and conditions. This species cannot tolerate the presence of other salmonids. It requires gravel riffles in streams for spawning (CNDDDB 2022). This species has a moderate potential to occur in the project area due to the presence of some suitable habitat, although it has not been previously recorded in the project area.

**Lahontan Lake tui chub.** Lahontan Lake tui chub is designated as a CSSC. It is found in Lake Tahoe and Pyramid Lake, Nevada, which are connected to each other by the Truckee River, and in nearby Walker Lake, Nevada. Plankton-feeding populations of chubs in Stampede, Boca, and Prosser reservoirs on the Truckee and Little Truckee rivers may also be Lahontan Lake tui chubs because they have a superior oblique mouth and fine gill rakers and are never found in tributary streams (CDFG 2010). They are found in springs, ponds, lakes, large sluggish streams, and in the shelter of small swiftwater streams. Habitat is characterized by slow water and abundant aquatic vegetation (CalFish 2022). There is suitable habitat for this species in the

Boca Reservoir, and it may be present there. Therefore, it has a high potential to occur in the project area.

**Lahontan mountain sucker.** Lahontan mountain sucker is designated as a CSSC. This species occurs in the Walker, Carson, Truckee and Susan river drainages of the Lahontan basin in the eastern Sierra Nevada, but not in the Eagle Lake basin. It's also found in the North Fork Feather River drainage, mainly in Red Clover Creek. It's found in shallow (< 2 meters), clear, low-gradient streams; associated with diverse substrates from sand to boulders, in areas with dense cover. This species has been found in streams at elevations up to 2800 meters and at temperatures of 1-25 degrees Celsius (CNDDDB 2022). Within the project area, this species is known from the Truckee River, Little Truckee River, and tributaries (CNDDDB 2022). Therefore, it is expected to occur in the project area.

**Mountain whitefish.** Mountain whitefish is designated as a CSSC. It occurs in Western North America, from California to Alaska. Mountain whitefish inhabit clear, cold streams and rivers, and occasionally lakes (CNDDDB 2022). This species has a high potential to occur in the project area because it occurs nearby in the Truckee River (CNDDDB 2022).

**Sierra Nevada yellow-legged frog.** Sierra Nevada yellow-legged frog is federally-listed as endangered, state-listed as threatened, and is listed as Sensitive by the Forest Service. It ranges from the Diamond Mountains northeast of the Sierra Nevada in Plumas County south through the Sierra Nevada to Matlock Lake just east of Kearsarge Pass, Inyo County. The species uses streams with high gradients and numerous pools, rapids, and small waterfalls, as well as streams with low gradients and slow flows, marshy edges, and sod banks. Most of these frogs are now found on National Forest and National Park lands (USFWS 2016). This species has a moderate potential to occur in the project area due to the presence of suitable habitat, although Sierra Nevada yellow-legged frogs have not been previously recorded in the project area.

### Special-Status Terrestrial Wildlife with Potential to Occur in the Project Area

Thirteen special-status terrestrial wildlife species have suitable habitat and/or recorded occurrences within the project area. Western bumblebee (*Bombus occidentalis*), northern goshawk (*Accipiter gentilis*), white-headed woodpecker (*Dryobates albolarvatus*), bald eagle (*Haliaeetus leucocephalis*), mountain quail, California spotted owl, pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), spotted bat (*Euderma maculatum*), fringed myotis (*Myotis thysanodes*), and Pacific marten were reported by the Forest Service to have potential to occur (USDA 2020). Two additional terrestrial wildlife species, fisher (*Pekania pennanti*) and American badger (*Taxidea taxus*) have potential to occur based on a CNDDDB database search. These species and their potential occurrence in the project area are described below.

**Western bumblebee.** Western bumblebee is listed as Sensitive by the Forest Service. This species is widely distributed in the western United States and Canada but has experienced a decline in range and population sizes, which led to its proposed State Endangered listing.<sup>2</sup> This species is generally found in wide range of habitats, from urban to natural, and requires nectar and pollen throughout most of year excepting winter months. This species was previously recorded in the project area south of the Boca Reservoir in 1958 (CNDDDB 2022). Due to the

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<sup>2</sup> The status of the western bumble bee under CESA is pending further Fish & Game Commission action given recent litigation regarding the listing of invertebrates under CESA (*Almond Alliance of California vs. Fish & Game Commission*, 3<sup>rd</sup> Appellate District, May 31, 2022).

wide range of habitats this species has been observed in, suitable habitat is considered present within the project area. Therefore, it has a high potential to occur.

**Northern goshawk.** Northern goshawk is designated as a CSSC and is listed as Sensitive by the Forest Service. This species is generally found in the northern hemisphere, including North America and Eurasia (CNDDDB 2022, NatureServe 2021). Northern goshawks typically occur within coniferous forests, and often nest near water sources (CNDDDB 2022, NatureServe 2021). Northern goshawks prefer old growth forests for nesting. As the project site contains coniferous forests and water sources, suitable habitat is considered present within the project area. Northern goshawks are year-round residents of the Tahoe National Forest, and suitable nesting habitat is mapped in Protected Activity Centers (PACs) within the Forest. There are no recently occupied PACs in the project area (Brokaw and Rawlinson 2020b). The nearest CNDDDB occurrence is approximately 4.3 miles from the project area near Prosser Creek (CNDDDB 2022). This species has a moderate potential to nest and forage in the project area.

**White-headed woodpecker.** White-headed woodpecker is listed as Sensitive by the Forest Service. This species inhabits forested areas all around the northern hemisphere, including both North America and Eurasia. White-headed woodpecker inhabits dry conifer forests and nests in recently burned and unburned forests with a combination of open and closed canopies. This species is associated with fire, typically occupying recently burned areas, and areas dominated by pine trees. White-headed woodpeckers forage on pine seeds, pine sap, and insects. This species is common throughout the project area and the Tahoe National Forest more generally (Brokaw and Rawlinson 2020b). There is suitable pine forest habitat for this species in the project area. Therefore, it has a high potential to nest and forage in the project area.

**Bald eagle.** Bald eagle is state-listed as endangered, a CSSC, and is also listed as Sensitive by the Forest Service. Bald eagles are also protected by the Bald and Golden Eagle Protection Act (see Regulatory Setting above). Bald eagles are year-round residents in northern California, and winter throughout the rest of the state. This species occurs near the ocean shore, lake margins, and rivers both during nesting and wintering seasons. Most nests are within one mile of water. This species nests in large, old-growth, or dominant live trees with open branches, especially ponderosa pine. Bald eagles roost communally in winter (CNDDDB 2022). There is suitable habitat for this species in the project area. Twelve breeding territories have been identified within the Tahoe National Forest boundary, including one in the project area at the Boca Reservoir (Brokaw and Rawlinson 2020b). Thus, bald eagle is expected to occur in the project area.

**Mountain quail.** Mountain quail is listed as Sensitive by the Forest Service. Mountain quail inhabits mountainous, general brushy habitats across the American west, from British Columbia to northern Mexico. It can be found up to 9,800 ft (3,000 m) above sea level and is considered non-migratory though it is protected under the Migratory Bird Treaty Act. Some populations may migrate altitudinally depending on local conditions. Mountain quail move around primarily on the ground, foraging in brushy habitat throughout the year. Large family groups congregate together in the post breeding season (Brokaw and Rawlinson 2020b). This species is known to occur in Humboldt-Toiyabe NF to the northeast of the project area (Brokaw and Rawlinson 2020b). It has a moderate potential to occur in the project area based on the presence of some suitable habitat.

**California spotted owl.** California spotted owl is designated as a CSSC and is currently designated as Sensitive by the Forest Service. California spotted owls are distributed primarily in California (Southern Cascades south, to the western Sierra Nevada and Central Valley, and continue south to the Mexican border) of the United States, with some populations in western

Mexico (Baja California; CNDDDB 2022, NatureServe 2021). This species is generally found in old growth forests but can occasionally be found in younger forests with larger trees (CNDDDB 2022, NatureServe 2021). As the project area and vicinity contains some large trees, suitable habitat is considered present within the project area. Spotted owls are known to occur in the Tahoe National Forest, and suitable nesting habitat is mapped in PACs within the Forest. There are no PACs in the project area (Brokaw and Rawlinson 2020b). This species has a moderate potential to nest and forage in the project area.

**Pallid bat.** Pallid bat is designated as a CSSC. Throughout California, the pallid bat is usually found in low to middle elevation habitats below 6000 feet; however, the species has been found up to 10,000 feet in the Sierra Nevada Mountains (Brokaw and Rawlinson 2020b). This species is found in chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean Desert scrub, riparian woodland, Sonoran Desert scrub, upper montane coniferous forest, and valley and foothill grassland habitats. It prefers deserts, grasslands, shrublands, woodlands and forests. Pallid bats are most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. This species is very sensitive to disturbance of roosting sites. Pallid bat was previously detected in the Sierraville Ranger District of the Tahoe National Forest in 1999 (Brokaw and Rawlinson 2020b). There is suitable habitat for this species in the project area. Pallid bat has a moderate potential to occur in the project area.

**Townsend's big-eared bat.** Townsend's big-eared bat is designated as a CSSC. In California, the range of Townsend's big-eared bat is nearly statewide except the highest peaks of the Sierra Nevada Mountains. It is found in broadleaved upland forest, chaparral, chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, meadow and seep, Mojavean Desert scrub, riparian forest, riparian woodland, Sonoran Desert scrub, Sonoran thorn woodland, upper montane coniferous forest, and valley and foothill grassland habitats (CNDDDB 2022). This species is most common in mesic sites. It most commonly roosts in natural and manmade caves (such as mines), but has also been found roosting in abandoned buildings, under bridges, and in tree cavities in coastal California (Brokaw and Rawlinson 2020b). This species is limited by the availability of suitable roosting sites and is extremely sensitive to human disturbance. In the Tahoe National Forest, the only documented maternal colony of Townsend's big-eared bats occurs near the town of Sierra City, approximately 46 miles to the north of the project area (Brokaw and Rawlinson 2020b). There is some suitable habitat for this species in the project area. Townsend's big-eared bat has a moderate potential to occur in the project area.

**Spotted bat.** Spotted bat is designated as a CSSC and is listed as Sensitive by the Forest Service. Spotted bat is found generally in the western United States from British Columbia to New Mexico (Brokaw and Rawlinson 2020b). This species occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. It feeds over water and along washes, almost entirely on moths. Spotted bats need rock crevices in cliffs or caves for roosting (Brokaw and Rawlinson 2020b). There is suitable habitat for this species in the project area, although it hasn't been previously recorded there (CNDDDB 2022). Spotted bat has a moderate potential to occur in the project area.

**Fringed myotis.** Fringed myotis is listed as Sensitive by the Forest Service. In California, fringed myotis is distributed statewide except the Central Valley and the Colorado and Mojave Deserts (Brokaw and Rawlinson 2020b). It is found in a wide variety of habitats; optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. This species uses caves, mines, buildings or crevices for maternity colonies and roosts (CNDDDB 2022). Fringed myotis are known to occur in the Tahoe National Forest and have been detected in Carman Valley,

Antelope Valley, and three miles southwest of Downieville, California (Brokaw and Rawlinson 2020b). Surveys have not been conducted within the project area. There is suitable habitat for this species in the project area. Fringed myotis has a moderate potential to occur in the project area.

**Pacific marten.** Pacific marten is currently listed as Sensitive by the Forest Service and is generally found in forested areas of the Sierra Nevada and Cascade Mountains of California. Pacific martens will typically nest and den in old-growth conifer forests; however, this species has been known to nest in a variety of differently-aged stands if snags or other cavities are present (CNDDDB 2022). Winter surveys for forest carnivores have confirmed marten presence within the Tahoe National Forest, generally spanning the Pacific Crest to the northeast and east of the project area (Brokaw and Rawlinson 2020b). Due to the overall preference of this species for old-growth forests, habitat for this species is marginally present in the project area. Pacific marten has a moderate potential to occur in the project area.

**Fisher.** Fisher is designated as a CSSC and is listed as Sensitive by the Forest Service. The fisher's range includes the northern United States to Canada; however, many populations of these species are known to be extirpated in the southern portion of its range (CNDDDB 2022, NatureServe 2021). This species is generally found in older growth forests that provide cover for dens but may occur in habitats with intermediate to large trees (CNDDDB 2022, NatureServe 2021). The closest recorded occurrence is about 7.7 miles northwest of the project area, west of the Stampede Reservoir (CNDDDB 2022). Due to the overall preference of this species for old-growth forests, habitat for this species is marginally present. Fisher has a moderate potential to occur in the project area.

**American badger.** American badger is designated as a CSSC. American badger occurs throughout California, the western United States, and Canada. This species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils for digging burrows. It needs sufficient food, friable soils, and open, uncultivated ground. American badger preys on burrowing rodents (CNDDDB 2022). The closest recorded occurrence of this species is about 5.4 miles north of the project area near the Stampede Reservoir (CNDDDB 2022). There is some suitable habitat for this species in the project area. American badger has a moderate potential to occur in the project area.

### **Nesting Birds**

Nesting birds may occur in trees and other vegetation and shallow scrapes on bare ground in the project area. Trees and other vegetation in the project area provide nesting habitat for a variety of bird species. According to eBird, 191 species of birds have been observed in the vicinity of the Boca Reservoir (Cornell Lab of Ornithology 2022). Commonly observed species include Canada goose (*Branta canadensis*), American widgeon (*Mareca americana*), bufflehead (*Bucephala albeola*), common goldeneye (*Bucephala clangula*), common merganser (*Mergus merganser*), ruddy duck (*Oxyura jamaicensis*), American coot (*Fulica americana*), eared grebe (*Podiceps nigricollis*), rock pigeon (*Columba livia*), mountain chickadee (*Poecile gambile*), and many others. All native birds and their nests are protected by the MBTA.

### **Roosting Bats**

Bats tend to forage and roost near freshwater sources. Cavities within trees, or trees with exfoliating bark, and natural or manmade caves (i.e., mines) in the project area may provide suitable day and maternity roost habitat for many species of bats.



Roost sites play a critical role in mating, hibernation, rearing young, conserving energy, and protection from adverse weather and predators. Selection of roost sites is influenced by the distribution and abundance of food resources, risks of predation, and the physical attributes of the roost itself. Roost selection is paramount to the success of a species, and roost habitat removal could adversely impact the survivorship of a species (Kunz 1982).

Depending upon species, maternity roosts can host from a few to thousands of reproductive female bats that congregate during spring and summer months to give birth and nurse their young. In California, maternity roosts may remain active from April through August. As a potentially uncommon and limited resource, maternity roosts may be the limiting resource for a local population of bats, and thus may be essential to the survival of a local bat population. Maternity roosts tend to have sensitivity to disturbance, with documented instances of abandonment even during the presence of flightless young. As bats have a low reproductive rate of typically one pup per year, negative impacts to maternity roosts can have profound impacts on a local population of bats (Szewczak 2013).

### **Sensitive Habitats and Jurisdictional Features**

The project area includes the Boca Reservoir, the Little Truckee River, and several ephemeral streams, some with associated emergent freshwater wetlands, wet meadow, and/or riparian habitat (NWI 2022 and Brokaw 2021). These aquatic features are waters of the United States under the CWA and under the jurisdiction of the USACE (Section 404 of the CWA) and the RWQCB (Section 401 of the CWA). They are also waters of the State under the Porter-Cologne Act. Wetlands and riparian habitat are considered to be sensitive habitats by CDFW and the USFWS. The Phase 1 project site does not include waters, wetlands, or wet meadows.

Habitats that support special-status species are also considered sensitive by the resource agencies. Three habitat types in the project area potentially support special-status plants: barren habitat, wet habitat, and meadow edge and low sagebrush habitat (Patterson 2020). Old growth forest suitable for California spotted owl, northern goshawk, Pacific marten, and/or fisher is also considered sensitive, as is maternity roosting habitat for special-status bats.

### **Wildlife Corridors and Nursery Sites**

Wildlife corridors are segments of land that provide a link between different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller, they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

The project area is in the Tahoe National Forest, a large open space area that connects to other large open space areas (National Forests and National Parks). As such, there are ample movement opportunities for a variety of terrestrial wildlife species within and through the project area. The Boca Reservoir and Little Truckee River could provide movement opportunities for aquatic wildlife, though movement is limited by the Boca Dam. Ephemeral streams in the project area are usually dry and thus do not generally provide movement corridors for aquatic species.

The Boca Reservoir and/or the Little Truckee River is likely a nursery site for several species of fish and other aquatic species, and trees and other vegetation in the project area provide nursery sites (nesting, maternity roosting, or denning habitat) for a variety of bird, bat, and other small mammal species. Suitable fawning habitat for deer is also present in the project area.

### 3.4.3 Discussion

*Would the proposed project:*

- a. **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

#### **Less than Significant Impact.**

Special-status Plant Species. The East Zone Connectivity and Restoration Phase 1 Project has potential for direct and indirect negative effects on three sub-occurrences of *Plumas ivesia* (USDA 2020; pp. 31-34). Ground disturbing activities, including trail construction and decommission, have the potential to trample, uproot plants, and application of aminopyralid has the potential to kill individual plants. The project could also result in alterations to *Plumas ivesia*'s suitable habitat by increasing its vulnerability to invasive species (i.e., cheatgrass) such that it would not support individuals. However, Forest Service management requirements incorporated into the project buffer all occurrences of *Plumas ivesia* by 100 feet ensuring they are completely avoided (see BR1 listed in Appendix A). Management requirements used for herbicide application would prevent adverse impacts to *Plumas ivesia* from herbicides (see HT1 through HT8 in Appendix A), and invasive plants would be controlled in the project area as part of the project (see IP1 through IP8 in Appendix A). Potential impacts to *Plumas ivesia* would be less than significant with implementation of these management requirements.

No other special-status plants, including cut leaf checkerbloom, would be adversely impacted by the project. The project could have slight to moderate negative effects on habitat types that could support unknown populations of special-status plants, including barren habitat, wet habitats, and low sagebrush (USDA 2020; pp. 33-34). However, the project would impact small areas of these habitats overall, the project has been designed to minimize impacts to wet habitats, and road decommissioning and restoration would benefit these habitats in the long term. For these reasons, potential impacts to special-status plant habitats would be less than significant.

Special-Status Aquatic Wildlife. Proposed project activities are not expected to significantly affect Lahontan cutthroat trout and Lahontan Lake tui chub by increasing risk of injury, harassment, or mortality or by decreasing the quality of suitable habitat in the area (USDA 2020; pp. 30-31). Neither species is present in the project area based on past surveys. Impacts such as temporary increased sedimentation are expected to be short term and limited. Suitable habitat connected to the project area may be directly and/or indirectly affected by any increase in sedimentation that would occur as a result of newly rerouted and constructed trail use; however, these effects are expected to be insignificant.

Potential impacts to Lahontan mountain sucker, cui-ui, and mountain whitefish would be similar to those discussed for Lahontan cutthroat trout and Lahontan Lake tui chub and are expected to be less than significant. Trail stream crossings have been designed to minimize impacts to aquatic species, and the proposed restoration activities are expected to improve water quality and aquatic habitat in the project area in the long term. Forest Service management requirements have been incorporated into the project to protect aquatic wildlife (see AW1 through AW8 in Appendix A) and to protect water quality and reduce erosion (see WSA1 through WSA9 in Appendix A). With these requirements incorporated into the project, potential impacts to special-status fish are expected to be less than significant.

The project is unlikely to have an effect on Sierra Nevada yellow-legged frog. The activities proposed for the project are routine in practice, have been implemented in the past under

similar conditions, and would directly overlap with a very small portion of suitable Sierra Nevada yellow-legged frog habitat. Further, the project would employ standard practices (standards and guidelines and BMPs) and resource protection measures, and the project actions have known possible effects (USDA 2020; pp. 25-29). Potential impacts to the streams, including sedimentation, would be short-term and negligible due to application of standards and guidelines, management requirements, and BMPs (see Appendix A). Lakes or ponds would not be impacted by the proposed project. The scope and magnitude of effects to aquatic habitat from proposed activities are low. Implementation of the project is expected to improve hydrologic function and trail sustainability as new trail construction and road/trail re-route and restoration would facilitate improved water drainage and reduce potential for future erosion. Therefore, potential impacts to Sierra Nevada yellow-legged frog would be less than significant.

Special-status Terrestrial Wildlife. Special-status terrestrial wildlife species including western bumblebee, bald eagle, California spotted owl, northern goshawk, Pacific marten, pallid bat, Townsend's big-eared bat, fringed myotis, and spotted bat would not be significantly impacted (USDA 2020; pp. 48-53). These species have limited suitable habitat in the project area and have not been recorded in the project area. Potential impacts to the species' habitat are expected to be minimal and/or the project would have beneficial impacts on the species' habitat over the long term. Management requirements incorporated in the project to protect nesting, roosting, and denning sites would also avoid significant impacts to these species (see TW1 through TW7 in Appendix A).

Potential impacts to American badger and fisher are expected to be similar as those addressed in the EA and less than significant for the same reasons discussed above.

Nesting Birds and Roosting Bats. Potential project-related impacts to nesting birds and roosting bats are expected to be less than significant. The project could have direct impacts to nesting birds or roosting bats during construction if removal of trees and other vegetation results in destruction of nests or roosting sites. In addition, indirect impacts from construction noise and disturbance could cause nest or roost abandonment. The USFS and USFWS have entered into a Memorandum of Understanding addressing a collaborative approach to migratory bird management in cooperation with state agencies (USDA & USFWS 2008). The MOU obligates USFS to address migratory bird conservation during planning and project NEPA analysis and implementation. Further, management requirements incorporated in the project would prevent significant impacts to nesting birds and roosting bats. Specifically, TW3 limits trail construction within 500 feet of identified bat roosts, TW4 protects large trees and logs with evidence of wildlife use, TW5 protects special-status bird and bat species, and TW6 protects raptor nests (see Table 2-2).

The Forest Service Migratory Land Bird Conservation Report (Brokaw and Rawlinson 2020c) found that there would be no significant change to either the quantity or quality of habitat available to migratory bird species or populations as a result of the project. The report also found that some individual birds could be temporarily affected as a result of activities during implementation; however, those effects were not likely to lead to a trend toward federal listing or a loss of viability for any migratory bird species within the project trail alignment area or locations proposed for restoration activities.

Forest Service Management Indicator Species (MIS). Forest Service MIS in the project area are described in the Existing Setting above. The Forest Service Project Management Indicator Species Report (Brokaw and Rawlinson 2020a) found that the East Zone Connectivity and Restoration Project would not impact either the quality or quantity of habitat available to selected MIS on the Tahoe National Forest. The project would not directly or indirectly affect the habitat of any terrestrial or aquatic MIS.

**b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

**Less Than Significant Impact.** As described in the Existing Setting above, there is riparian habitat as well as other aquatic habitat in the project area. The proposed Phase 1 project does not include crossings of any perennial stream corridors. Although there are two ephemeral drainages (Rocky Canyon and east Boca Spring canyon) in the project area, the drainages would be dry during the majority of the seasonal use period, and construction at these locations would take place when the drainages have no running water. Crossings have been located to mitigate the potential of sediment production and/or delivery and include low gradient entrance and exit alignments, rock/gravel surface, and no change to the existing stream channel course. Management requirements have been incorporated into the project to protect water quality and reduce erosion (see WSA1 through WSA9 in Appendix A). In addition, proposed road decommissioning and restoration activities are expected to improve aquatic habitats in the project area over the long term. Route decommissioning and restoration would reconnect flow paths and provide hydrologic connectivity to meadows and riparian features that have been identified as at risk due to rutting or other impacts associated with the routes. No action in these locations would result in the continued degradation of these sensitive habitats.

Potential impacts to special-status plant habitat and bat roosting habitat are discussed under Threshold a, above, and are expected to be less than significant.

The proposed project is not expected to impact sensitive old growth forest. There are no records of species associated with old growth forest in the project area (California spotted owl, Northern goshawk, Pacific marten, or fisher), and there are no PACs for California spotted owl or Northern goshawk in the project area.

**c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**Less Than Significant Impact.** As described in the Existing Setting above, state and federally protected wetlands and other waters occur in the project area. The proposed project would not impact wetlands or perennial streams, but it would include trail crossings of ephemeral streams. The proposed trail would be unpaved, and trail construction would not require any dredged or fill materials or discharge of materials. The USACE determined there would be no impacts to streams, waterbodies, or hydrologic features that could be considered Waters of the U.S., and thus no permits would be required under CWA section 404 (Brokaw 2022). Potential project-related impacts to ephemeral streams and other jurisdictional features would be less than significant. The project would ultimately benefit aquatic habitat over the long term; see response to Question b above for more information.

**d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**Less Than Significant Impact.** As described in the Existing Setting above, the project area is in a large open space area, and there are abundant wildlife movement opportunities and nursery sites in the project area. However, the project is not expected to interfere with wildlife movement or impede the use of native wildlife nursery sites. The proposed new trails and staging areas would be at ground level and would not include new fencing, paved roads for

street-legal vehicles, or other significant barriers to wildlife movement. OHV recreation is an existing use in the project area, and the new trails are not expected to increase impacts to wildlife movement or nursery sites from OHV use compared to existing conditions. Proposed road decommissioning and restoration activities are expected to have a beneficial impact on wildlife movement and nursery sites in the project area in the long term. Management requirements have been incorporated into the project to protect wildlife habitat and movement during construction (see Appendix A). With incorporation of these measures, all potential project-related impacts to wildlife movement and nursery sites would be less than significant.

**e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**No Impact.** The project site is on federal land, and no local policies or ordinances apply to the project area. Therefore, the project does not conflict with any local policies or ordinances protecting biological resources.

**f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**No Impact.** There are no adopted habitat conservation plans, natural community conservation plans, or other approved local habitat related plans in affect in the project area.



### 3.5 CULTURAL RESOURCES

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>

#### 3.5.1 Environmental Setting

The Tahoe National Forest prepared a cultural resources inventory for the East Zone Connectivity and Restoration project R2018051700080. Surveys of the trail areas were conducted in 2018, 2019, and 2020 by archaeological technicians. Of the 26 documented sites, 5 sites were determined to be in the project area affected by trail constructed, trail decommissioning, and restoration activities (Long 2018; Cook-Fisher 2020). The three proposed staging area locations were subsequently surveyed in 2021 (Smith 2021).

All three staging areas have been previously surveyed. However, field review to confirm disturbance conditions and resurvey of all three areas was completed by Carrie Smith, TNF Heritage Program Manager on October 15, 2021 (Smith 2021). There are no cultural resources or historic properties located at or adjacent to the Weasel and Bullseye trailhead staging areas. However, the Boca Dam staging area is located within the boundaries of the Boca Townsite. The trailhead improvements are located within an existing denuded informal and unmanaged parking areas used by the public and rafting permittees (Smith 2021).

#### 3.5.2 Discussion

*Would the proposed project:*

- a. **Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?**
- b. **Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**

**Less than Significant Impact** (Responses a – b). The project has been designed to avoid adverse effects to cultural resources identified in the project area (Long 2018, Smith 2021). The Forest Service would manage recorded cultural resource sites in accordance with the provisions of the First Amendment to the Regional Programmatic Agreement 2018, Appendix E: Standard Protection Measures. If any previously unknown cultural resources are discovered during project implementation, operations would cease until analysis is conducted and protection measures are implemented as needed consistent with the Cultural Resources Programmatic Agreement (Also see management requirements CR1 through CR3 in Appendix A).

**c. Disturb any human remains, including those interred outside of formal cemeteries?**

**Less than Significant Impact.** Although not expected, if human remains were inadvertently discovered, the Tahoe National Forest would follow the procedures as outlined in California Health and Safety Code section 7050.5 per the Forest Service Region 5 Programmatic Agreement with the California State Historic Preservation Officer (USDA et al. 2013). All project activities at the find site must come to a complete stop and no further excavation or disturbance of the area or vicinity would occur. The county coroner must be contacted immediately, and if the coroner determines or has reason to believe that the remains are Native American, the coroner will contact the Native American Heritage Commission (NAHC) within 24 hours of making this determination. Whenever the NAHC receives notification of a discovery of Native American human remains from a county coroner, the NAHC follows the procedures as outlined in Public Resources Code section 5097.98.

Per the Programmatic Agreement, if the remains are determined to be Native American or if Native American (Indian) cultural items pursuant to Native American Graves Protection and Repatriation Act (NAGPRA) are uncovered, the provisions of NAGPRA and its regulations at 43 CFR 10 and Archaeological Resources Protection Act at 43 CFR 7 would be followed on federal lands.

The CEQA Guidelines (14 CCR §15064.5(e)) reference the appropriate state law (PRC §5097.98) that applies when human remains are accidentally discovered. This language states:

In the event that human remains are accidentally discovered, the project must come to a complete stop and no further excavation or disturbance of the area or vicinity will occur. The county coroner is to be called immediately to determine that the remains are of Native American ancestry. If the coroner confirms that the remains are Native American, within 24 hours of the discovery the coroner is to contact the [NAHC]. The NAHC will identify the person(s) believed to be the Most Likely Descendent (MLD), and the MLD will decide, along with the property owner, to appropriate treatment or disposal of the human remains and associated grave goods as provided in PRC §5097.98. If the NAHC cannot identify the MLD, the MLD fails to make a recommendation, or the property owner rejects the MLD's recommendations, the property owner can rebury the remains and associated burial goods in an area not subject to ground disturbance (14 CCR §15064.5).

Existing state Public Resources Code and Health and Safety Code ensures that the NAHC would be notified upon discovery of Native American human remains and that proper treatment measures would be implemented. Therefore, with these protective state laws in place, the potential project impact on human remains is less than significant.

**3.6 ENERGY**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.6.1 Environmental Setting**

Energy consumption is closely tied to the issues of air quality and greenhouse gas (GHG) emissions, as the burning of fossil fuels and natural gas for energy has a negative impact on both, and petroleum and natural gas currently supply most of the energy consumed in California.

In general, California’s per capita energy consumption is relatively low, in part due to mild weather that reduces energy demand for heating and cooling, and in part due to the government’s proactive energy-efficiency programs and standards. According to the California Energy Commission, Californians consumed about 279,510 gigawatt hours (GWh) of electricity and 12,331 million therms of natural gas in 2020 (CEC 2021a and 2021b). The CEC estimates that by 2030, California’s electricity consumption will reach between 326,026 GWh and 354,209 GWh with an annual growth rate of 0.99 to 1.59 percent (CEC 2017), and natural gas consumption is expected to reach between 13,207 million and 14,190 million BTU with an annual growth rate of 0.25 to 0.77 percent (CEC 2017).

In 2019, total electricity use in Nevada County was 712 million kilowatt hours (kWh), including 449 million kWh of consumption for non-residential land uses (CEC 2021a). Natural gas consumption was 21 million therms in 2019, including 6 million therms from non-residential uses (CEC 2021b). There were an estimated 39 million gallons of gasoline and 8 million gallons of diesel sold in Nevada County in 2019 (CEC 2021c).

Energy conservation refers to efforts made to reduce energy consumption to preserve resources for the future and reduce pollution. It may involve diversifying energy sources to include renewable energy, such as solar power, wind power, wave power, geothermal power, and tidal power, as well as the adoption of technologies that improve energy efficiency and adoption of green building practices. Energy conservation can be achieved through increases in efficiency in conjunction with decreased energy consumption and/or reduced consumption from conventional energy sources.

**3.6.2 Regulatory Setting**

Since increased energy efficiency is so closely tied to the state’s efforts to reduce GHG emissions and address global climate change, the regulations, policies, and action plans aimed at reducing GHG emissions also promote increased energy efficiency and the transition to renewable energy sources. The U.S. EPA and the state address climate change through

numerous pieces of legislation, regulations, planning, policymaking, education, and implementation programs aimed at reducing energy consumption and the production of GHG.

The proposed project, which consists of trail construction and restoration, would not involve the development of facilities that include energy intensive equipment or operations. While there are numerous regulations that govern GHG emissions reductions through increased energy efficiency, the following regulatory setting description focuses only on regulations that: 1) provide the appropriate context for the proposed project's potential energy usage; and 2) may directly or indirectly govern or influence the amount of energy used to develop and operate the proposed improvements. See the Environmental and Regulatory Setting discussion in Section 3.8, Greenhouse Gas Emissions, for a description of the key regulations related to global climate change, energy efficiency, and GHG emission reductions.

### **CARB Low Carbon Fuel Standard Regulation (LCFSR)**

CARB initially approved the LCFS regulation in 2009, identifying it as one of the nine discrete early action measures in its original 2008 Scoping Plan to reduce California's GHG emissions. Originally, the LCFS regulation required at least a 10% percent reduction in the carbon intensity of California's transportation fuels by 2020 (compared to a 2010 baseline). On September 27, 2018, CARB approved changes to the LCFS regulation that require a 20% reduction in carbon intensity by 2030. These regulatory changes exceed the assumption in CARB's 2017 Climate Change Scoping Plan, which targeted an 18% reduction in transportation fuel carbon intensity by 2030 as one of the primary measures for achieving the state's GHG 2030 target.

#### **3.6.3 Discussion**

*Would the project:*

- a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

**No Impact.** The proposed project consists of staging area development, trail construction, road decommissioning, and restoration. Construction activities would require the use of construction equipment and generate construction-related vehicle trips that would combust fuel, primarily diesel and gasoline. This use of energy is necessary to provide trail access and connectivity, and to prevent the use of unauthorized trails that have been used since demand has exceeded the amount of trails available. It is not wasteful, inefficient, or unnecessary, and no impact would occur.

- b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

**No Impact.** As the project is taking place on federal land, the staging area and trail development, road decommissioning, and restoration activities would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. There are no plans for renewable energy or energy efficiency applicable to the project or its location. No impact would occur.

### 3.7 GEOLOGY AND SOILS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

#### 3.7.1 Environmental Setting

##### Regional Geology

The project site is located along the western slope of the Sierra Nevada Geomorphic Province. The Sierra Nevada Geomorphic Province is a tilted fault block nearly 400 miles long. Its east face is a high, rugged multiple scarp, in contrast with the gentle western slope, which disappears under sediments of the Great Valley. Deep river canyons are cut into the western slope. Their upper courses, especially in massive granites of the higher Sierra Nevada, are



modified by glacial sculpturing, forming such scenic features as the Yosemite Valley. The high crest culminates in Mount Whitney, with an elevation of 14,495 feet above sea level near the eastern scarp. The metamorphic bedrock contains gold-bearing veins in the northwest trending Mother Lode. The northern Sierra Nevada boundary is marked where bedrock disappears under the Cenozoic volcanic cover of the Cascade Range (CGS 2002).

### Local Geology, Soils and Topography

The project site is located in the USGS Boca 7.5-minute quadrangle. The project site is underlain by the following geologic units:

- Q- Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated (areas close to the Boca Reservoir).
- Qv- Quaternary volcanic flow rocks; minor pyroclastic (volcanic) deposits (areas south and southeast of the Boca Reservoir).
- Tv- Tertiary volcanic flow rocks; minor pyroclastic deposits (areas north and northeast of the Boca Reservoir).

There are many soil types in the project area, but most are either lacustrine (lake) or volcanic in origin, with a texture of cobbly sandy loam, gravelly sandy loam, or sandy loam (NRCS 2021).

### 3.7.2 Discussion

*Would the proposed project:*

- a. **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
  - i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?**
  - ii) **Strong seismic ground shaking?**
  - iii) **Seismic-related ground failure, including liquefaction?**
  - iv) **Landslides?**

**No Impact** (Responses a[i] – a[iv]). Although California is a seismically active region, the project site is not in an area with significant seismic hazards. There are no Alquist-Priolo Earthquake Fault Zones in the project area. The closest fault to the project site is the West Tahoe Fault, located approximately 29 miles south of the site (CDOC 2021). The project site is not within an area of strong seismic ground shaking (CGS and USGS 2016). The project site is not within a seismic hazard zone for seismic-related ground failure, including liquefaction, or for landslides (CDOC 2021). The proposed project is the development of new trails and staging areas and restoration of decommissioned trail routes. The project does not include structures for human habitation that could be affected by seismic hazards. Therefore, the project would not directly or indirectly cause substantial adverse effects involving seismic hazards. Project activities would not have the potential to exacerbate existing geologic conditions such as seismic-related ground failure, liquefaction, or landslides, or be likely to adversely affect existing geological conditions

because the proposed project does not involve new major structures or earthmoving and the site does not contain geologic hazards.

**b. Result in substantial soil erosion or the loss of topsoil?**

**Less Than Significant Impact.** The proposed project would not result in substantial soil erosion or loss of topsoil. Construction of the proposed new trails and staging areas would result in temporary soil disturbance on and adjacent to the work sites. However, management requirements incorporated in the project include a site-specific erosion control plan that would be implemented during construction to minimize erosion and loss of topsoil (see WSA5 in Appendix A). In addition, one of the purposes of the project is to reduce erosion and sediment production through road decommissioning and restoration activities. Therefore, the project is expected to reduce erosion and sedimentation in the project area over the long term.

**c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

**No Impact.** As stated in response to Question a above, the project site is not in a seismic or geologic hazard area subject to landslides or liquefaction (CDOC 2021). Lateral spreading involves the lateral movement of a liquefied soil layer (and overlying layers) toward a free face and caused by seismic shaking. Therefore, as the project area is not in a liquefaction hazard area, the risk of lateral spreading is also low.

Subsidence is the sinking of the Earth's surface in response to geologic or man-induced causes. Subsidence is primarily caused by groundwater extraction, aquifer-system compaction, drainage of organic soils, underground mining, hydro-compaction (i.e., shallow soil subsidence from adding water), natural compaction, sinkholes, and thawing permafrost (NOAA 2021). None of these causes of subsidence apply to the project area, and the project is not expected to result in on- or off-site subsidence. The proposed development of trails and a staging area is surficial in nature and does not have the potential to become unstable resulting in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Project activities would not exacerbate geologic unit or soil stability conditions.

**d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

**No Impact.** Expansive soil or clay is considered to be one of the more problematic soils and it causes damage to various structures because of its swelling and shrinking potential when it comes into contact with water (Patel 2019). Soils mapped at the project site are generally cobbly sandy loam, gravelly sandy loam, or sandy loam (NRCS 2021) and does not have a high clay content typical of expansive soil. The proposed project is the development of new trails and staging areas for OHV recreation and restoration of decommissioned trail routes. The project is surficial in nature and does not have the potential to become unstable due to expansion, creating a substantial risk to life or property. Project activities would not exacerbate expansive soil conditions.

**e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

**No Impact.** The proposed project includes the installation of double vault toilets at the proposed staging areas that would be periodically emptied by a service truck. The project does not propose the installation of septic tanks or alternative wastewater disposal systems.

**f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**No Impact.** The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Fossils form in certain sedimentary rocks, such as limestone, shales, or sandstones (AGI 2021). The project area is underlain by lacustrine and volcanic rock (CDOC 2015), and no fossils have been mapped in the project area (Macrostat 2021). In addition, the proposed project would not require extensive excavation or grading to construct. Therefore, the proposed project is not expected to impact paleontological resources. No unique geologic features are present in the project area.

### 3.8 GREENHOUSE GAS EMISSIONS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

#### 3.8.1 Regulatory and Environmental Setting

Gases that trap heat in the atmosphere and affect regulation of the earth’s temperature are known as “greenhouse” gases (GHG). Many chemical compounds found in the earth’s atmosphere exhibit the GHG property. GHGs allow sunlight to enter the atmosphere freely. When sunlight strikes the earth’s surface, some of it is reflected back towards space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the earth’s atmosphere.

GHGs that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHGs are emitted to the atmosphere naturally by biological and geological processes, but GHG emissions from human activities contribute significantly to overall GHG concentrations in the atmosphere, and climate scientists have become increasingly concerned about the effects of these emissions on global climate change.

The effects of increased GHG concentrations in the atmosphere include climate change (increasing temperature and shifts in precipitation patterns and amounts), reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is carbon dioxide (CO<sub>2</sub>), which has a GWP of one. By comparison, methane (CH<sub>4</sub>) has a GWP of 25, which means that one molecule of CH<sub>4</sub> has 25 times the effect on global warming as one molecule of CO<sub>2</sub>. Multiplying the estimated emissions for non-CO<sub>2</sub> GHGs by their GWP determines their carbon dioxide equivalent (CO<sub>2</sub>e), which enables a project’s combined global warming potential to be expressed in terms of mass CO<sub>2</sub> emissions.

The California’s 2017 Climate Change Scoping Plan (2017 Scoping Plan Update; CARB 2017) identifies measures needed to achieve Senate Bill (SB) 32’s GHG reduction target of 40% below 1990 levels by 2030.

#### 3.8.2 Discussion

*Would the proposed project:*

**a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Less than Significant Impact.** As explained in Section 3.1.1, project emissions were estimated using the Sacramento Metropolitan AQMD's Road Construction Emissions Model. See Appendix B for detailed construction emissions assumptions. The Project was estimated to generate a maximum of approximately 2,135 MTCO<sub>2</sub>e/year and a total of 5,391.72 MTCO<sub>2</sub>e from all construction activities (over the 36-month construction period). Northern Sierra AQMD has not established GHG significance thresholds; however, neighboring Placer County APCD recommends a CEQA threshold of significance for GHG emissions of 10,000 MTCO<sub>2</sub>e/year (PCAPCD 2016). The proposed project would not result in GHG emissions that exceed 10,000 MTCO<sub>2</sub>e per year and, therefore, would not result in construction-related GHG emissions that have a significant impact on the environment.

**b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

**No Impact.** The project would not conflict with an applicable plan, policy, or regulation adopted for reducing GHG emissions. Construction vehicle and equipment GHG emissions are identified and planned for in CARB's GHG emissions inventory and Scoping Plan, which contains measures designed to achieve the state's GHG reduction goals outlined in SB32. Moreover, the project would not contain any stationary sources that are subject to state or federal GHG permitting or reporting regulations.



**3.9 HAZARDS AND HAZARDOUS MATERIALS**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>

**3.9.1 Environmental and Regulatory Setting**

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Chemical and physical properties such as toxicity, ignitability, corrosivity, and reactivity cause a substance to be considered hazardous. These properties are defined in the California Code of Regulations (CCR), Title 22, Sections 66261.20-66261.24. A “hazardous waste” is any hazardous material that is discarded, abandoned, or to be recycled. The criteria that render a material hazardous also make a waste product hazardous (California Health and Safety Code § 25117). According to this definition, fuels, motor oil, and lubricants in use at a typical construction site and airborne lead built up along roadways could be considered hazardous.

The project area is currently forest land with forest service roads and recreational trails. There are no known hazardous materials sites in the project area.

### 3.9.2 Discussion

*Would the proposed project:*

- a. **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**
- b. **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

**Less Than Significant Impact** (Responses a – b).

**Project Construction and Operation.** Project construction would involve the use of hazardous fuels and fluids in the short-term. However, all hazardous construction materials would be transported, used, and disposed of in accordance with applicable federal, state, and local regulations. After construction, the new trails and staging areas would not involve the routine transport, use, or disposal of hazardous materials over the long-term. The use of hazardous materials during the operational phase of the project would be limited to small quantities of cleaning fluids for the vault toilets that would not be stored or disposed of onsite and would be used in accordance with applicable regulations.

**Herbicide Use.** Aminopyralid is proposed for use in invasive plant management within the project area. A Human Health Risk Assessment for Herbicide Use was prepared for the East Zone Connectivity and Restoration Project that provides a detailed analysis of the potential risks of use of aminopyralid for invasive species control (Patterson 2020). The risk assessment is summarized in the East Zone Connectivity and Restoration EA (USDA 2020; pp. 35-36).

Herbicide would be applied in accordance with product label instructions, state and federal regulations, and Forest Service direction. Any potential worker or public exposure to herbicides would be greatly reduced if not eliminated through implementation of management requirements such as adherence to label instructions, use of personal protective equipment, and application by trained workers.

There exists a very limited potential of public exposure to herbicide from application as proposed in this project. All human health exposure scenarios related to the general public concerning aminopyralid resulted in a risk level below no observable adverse effect.

Potential risks from herbicide use to the public or the environment would be further avoided or minimized by the herbicide management requirements incorporated in the project (see HT1 through HT8 in Appendix A).

- c. **Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or hazardous waste within one-quarter mile of an existing or proposed school?**

**No Impact.** The project area is in the Tahoe National Forest, and there are no existing or proposed schools within one-quarter mile of the area.

- d. **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

**No Impact.** No hazardous material sites are known to occur on or near the project site. The project site is not included on any list compiled pursuant to Section 65962.5 of the California Government Code (CalEPA 2021). According to the State Water Resources Control Board Geotracker map, there is one former hazardous materials clean-up site in the project area east of the Boca Reservoir involving a diesel spill at the Donner Summit Rest Area that is a closed case (SWRCB 2021a). This spill location does not affect the project site. Therefore, the project would not create a hazard to the public or the environment due to hazardous materials sites.

- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

**No Impact.** The project site is not located within an airport land use plan area or within two miles of a public or public use airport. The closest airport is the Truckee Tahoe Airport, located approximately 5 miles southwest of the project footprint at the closest point.

- f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**No Impact.** The proposed project includes new trails, staging areas, and restoration activities. There are no currently adopted emergency response plans or emergency evacuation routes in the project area. The project would not impair implementation of or physically interfere with an emergency response plan or emergency evacuation plan.

- g. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires?**

**Less Than Significant Impact.** The project site is in a forested area where wildland fires may occur but is not located in a very high fire hazard severity zone (see section 3.20 Wildfire). The proposed project includes new trails, staging areas, and restoration activities and does not include structures for human habitation. The project does not propose new land uses or buildings that would introduce new fire hazards, ignition sources, or exacerbate existing wildland fire hazards. Building materials include aggregate base, signs, and double vault toilets, which are not highly flammable. The project also incorporates management requirements to reduce fire fuels and preserve fire suppression access (see FF1 and FF2 in Appendix A). Therefore, the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

### 3.10 HYDROLOGY AND WATER QUALITY

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial on- or offsite erosion or siltation;	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>

#### 3.10.1 Environmental and Regulatory Setting

The East Zone Connectivity and Restoration Phase 1 Project activities lie within the Boca Reservoir-Little Truckee River subwatershed, which ultimately drains into the Middle Truckee River. Within the project area, numerous springs and dry grass or meadow systems are found within the drainages mostly associated with fault and fracture systems in an otherwise arid landscape. Throughout the project area some existing and abandoned linear features now serve as conduits for concentrated runoff and experience vertical incision (Hutchinson and Falvey 2020).

The Water Quality Control Plan for the California Water Quality Control Board Lahontan Region (LRWQCB; LRWQCB 2000) defines the beneficial uses for the Truckee River drainages and the

Middle Truckee River to include the following: municipal and domestic water supplies, irrigation and water supply for agriculture, groundwater recharge, contact and non-contact recreation, commercial and sportfishing, cold freshwater fisheries and spawning habitat, wildlife habitat, and rare, threatened or endangered species habitat. The beneficial uses of the Truckee River drainage basin also include the migration of aquatic organisms.

The Middle Truckee River has been listed by the State of California as being “water quality limited” for sediment under Section 303(d) of the Clean Water Act, and a Total Maximum Daily Load (TMDL) was developed to reduce sediment loading. The Truckee River and all its tributaries have been listed as an impaired waterbody (303d) through the Clean Water Act for high amounts of sediment based on a study reporting heavy sediment levels in the main stem of the Middle Truckee River (Hutchinson and Falvey 2020).

The Management Agency Agreement (MAA) between the State Water Board and Forest Service requires the Forest Service to implement the practices and procedures described below (Hutchinson and Falvey 2020).

The Forest Service will identify, implement, maintain, and monitor [BMPs] to protect water quality. The strategy is to identify problem areas (related to sedimentation and erosion) on Tahoe National Forest lands and to track and report progress on TMDL targets for dirt road maintenance and legacy site restoration. Through this process, projects have been identified and prioritized for implementation to control sediment delivery from NFS lands for non-point sources.

The project would not require a CWA Section 404 permit or Section 401 Water Quality Certification (Brokaw 2022). Consistent with Environmental Protection Agency decision-making, National Pollutant Discharge Elimination System (NPDES) permitting is not required.

The following Riparian Conservation Objectives (RCO) identified within the 2004 Sierra Nevada Framework Amendment (SNFA) are applicable to the Forest Service actions on the proposed Phase 1 project and correspond to relevant water quality objectives found within the LRWQCB basin plan (Hutchinson and Falvey 2020):

- **RCO #1:** Ensure that identified beneficial uses for the water body are protected. Identify the specific beneficial uses for the project area, water quality goals from the Regional Basin Plan, and the manner in which the standards and guidelines will protect the beneficial uses.
- **RCO #2:** Maintain or restore: (1) the geomorphic and biological characteristics of special aquatic features, including lakes, bogs, fens, wetlands, vernal pools, springs; (2) streams, including instream flows; and (3) hydrologic connectivity both within and between watersheds to provide for the habitat needs of aquatic-dependent species.
- **RCO #5:** Preserve, restore, or enhance special aquatic features, such as meadows, lakes, ponds, bogs, fens, and wetlands, to provide the ecological conditions and processes needed to recover or enhance the viability of species that rely on these areas.
- **RCO #6:** Identify and implement restoration actions to maintain, restore or enhance water quality and maintain, restore, or enhance habitat for riparian and aquatic species.



### 3.10.2 Discussion

Would the proposed project:

**a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

**Less Than Significant Impact.** The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Potential short-term and long-term effects of the proposed project, as well as the project's compliance with applicable water quality standards and waste discharge requirements, are discussed below.

Sediment Transport. Project activities would cause temporary ground disturbance that could affect runoff and sediment delivery to streams in the project area. Trails and routes can transport sediments when not constructed to drain properly or if not maintained on a routine basis. Trails have a higher potential risk to increase soil erosion and subsequent sediment delivery to a water body compared with adjacent forested areas. The proposed project would improve existing hydrologic conditions by implementing watershed improvement actions along routes and trails where drainage issues exist and reduce potential water quality issues associated with increased recreation. Ongoing and future management of trails adjacent to waterways would reduce future impacts on water resources. Construction of new trail routes would be completed using trail standard measures incorporated in the project (see Appendix A) to provide proper drainage within the road prism and decommissioning of routes would result in drainage reconnection. Tahoe National Forest conducts ongoing surveys of trail conditions to assess maintenance needs using the Soil & Water Roads Condition Inventory (SWRCI) protocol, which rates trail segments as functional, at-risk, or impaired and aids in identifying problem areas.

Fuel Leaks and Spills. Trail building, route decommissioning, restoration, and staging area construction would include use of construction equipment, which could result in accidental release of fuels or fluids affecting surface and groundwater at the project site. However, the project includes management requirements to protect water quality such as an erosion control BMPs, approved fuel storage and fuel filling sites, and specific design features for surface drainage (see WSA1 through WSA9 in Appendix A).

Water Quality Impacts of Increased Recreation. The proposed project includes new trails and staging areas and decommissioning of poorly aligned and unauthorized routes. Providing centralized staging areas with parking and bathrooms would reduce existing impacts from dispersed recreational access where limited or no bathroom facilities exist and human waste is being introduced to the landscape.

Water Quality Objectives. The Phase 1 project incorporates measures that meet requirements of Riparian Conservation Objectives 1, 2, 5, and 6 (see section 3.10.1 above; SNFPA, ROD pp. 32-34) and includes specific measures needed to reduce the potential for cumulative watershed effects and provides measures to assure compliance with applicable water quality control plans.

The proposed restoration and trail decommissioning actions would aid in reducing soil transport and sediment delivery to waters of the state and would improve the hydrologic integrity of stream crossings on routes and through meadow areas that have been identified to be at risk due to rutting or other impacts associated with the routes. The project incorporates measures to maintain beneficial use of state waters and to attain applicable state water quality objectives and

includes monitoring to ensure the measures taken would be adequate to meet water quality objectives. As a result, there would be no irreversible or irretrievable water quality impacts from the proposed treatments and the requirements for the maintenance of water quality as established by the LRWQCB and the Clean Water Act would be met.

The proposed Phase 1 project is consistent with the TMDL MAA as a continuation of Forest Service effort to identify, implement, maintain, and monitor BMPs to protect water quality in the project area. The project is proposed in response to an identified problem related to sedimentation and erosion on the Tahoe National Forest lands and provides steps to promote sustainable recreation that would reduce impacts to the water quality and the hydrologic system that can result if recreation is unmanaged.

**b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

**No Impact.** The proposed project would not include new impervious surface area or utilize groundwater. All new trails and staging areas would be unpaved, although the staging areas would be covered with a previous aggregate base. No water would be supplied to the project. Therefore, the project would not decrease groundwater supplies or interfere with groundwater recharge.

**c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

- i) **Result in substantial erosion or siltation on- or off-site;**
- ii) **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**
- iii) **Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or**
- iv) **Impede or redirect flood flows?**

**Less Than Significant Impact.** (Responses c[i] – c[iv]). The proposed project would not include the alteration of the course of a stream or a river. The proposed project would improve existing hydrologic conditions by implementing watershed improvement actions along routes and trails where currently drainage issues exist and reduce potential water quality issues associated with increased recreation.

New trail development would not include crossings of any perennial stream corridors. Crossings at two ephemeral drainages (Rocky Canyon and east Boca Spring canyon) would be dry during construction activity and during the majority of the seasonal use period. Crossings have been located to avoid sediment production and/or delivery and include low gradient entrance and exit alignments, rock / gravel surface, and no change to existing stream channel course is expected. Trail construction standards and management requirements are incorporated in the project to minimize erosion and sedimentation at stream crossings (see Appendix A; USDA 2020, pp. 14-21).

Although the project could increase erosion or siltation temporarily during construction, the project is expected to decrease erosion and siltation in the long term. Many of the project activities are intended to reduce the potential for instream sedimentation through reroutes, route decommissioning, and restorative actions. BMPs incorporated in the project would avoid or minimize erosion and siltation during construction (see Appendix A; USDA 2020, pp. 14-21). Proposed road decommissioning and restoration activities are expected to reduce erosion and siltation in the project area over the long term. Repair of hydrologic features like meadow complexes and stream channel current would reduce future resource damage. The project is designed to promote natural recovery of disturbed areas by restoring the natural hydrologic function of the soil and reducing runoff and erosion. Therefore, the project would not result in substantial erosion or siltation on or off-site.

The proposed project would not include any new impervious surface areas. The new trails would be unpaved, and the new staging areas would be covered with a previous aggregate base. Therefore, the project is not expected to increase the rate or amount of surface runoff or result in flooding on- or off-site.

There are no existing or planned stormwater drainage systems in the project area, and the project is expected to reduce polluted runoff overall by decommissioning problematic roads (that cause erosion or sedimentation) and providing designated parking areas with restrooms in the project area.

The project would not impede or redirect flood flows. None of the proposed new trails are within a flood zone (FEMA 2010), and no buildings or structures that could impede or redirect flood flows are proposed.

**d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

**Less Than Significant Impact.** The project site is not in a flood hazard zone (FEMA 2010). In addition, the project is not near the coast, and thus is not at risk of inundation by tsunami.

The risk of inundation by seiche from the Boca Reservoir is considered to be low because the project area is not in an earthquake hazard zone, many project features are not adjacent to the reservoir, and the project includes new trails, route decommissioning, and restoration in an area that already has recreation and resource management uses. No houses or structures for human habitation are proposed, and the project would not exacerbate existing risks associated with inundation by seiche.

**e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

**Less Than Significant Impact.** The project would not conflict with the Water Quality Control Plan for the Lahontan Region (LRWQCB 2019) with the management requirements incorporated in the project for water quality protection (see WSA1 through WSA9). WSA5 specifically requires implementation of BMPs to address erosion and sedimentation associated with trail construction, reconstruction, and maintenance and specifications to meet federal and state permit requirements. No sustainable groundwater management plan applies to the project area (SWRCB 2021b). See responses to Questions a through c above regarding the potential impacts of the project on water quality and groundwater. All impacts were found to be less than significant.

**3.11 LAND USE AND PLANNING**

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.11.1 Environmental Setting**

The project area is currently occupied by primarily Jeffrey pine forest and big sagebrush crossed by several ephemeral streams and forest service roads. The primary existing land uses are natural resources management and recreation, including OHV recreation.

**3.11.2 Discussion**

*Would the proposed project:*

**a. Physically divide an established community?**

**No Impact.** The proposed project would not physically divide an established community. The project includes new trails, route decommissioning, and restoration activities to improve recreational opportunities and natural resource management in the project area. The project site is in the Tahoe National Forest and there are no established communities in the project area.

**b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?**

**No Impact.** The project would not violate any federal laws and regulations governing land use. The project area is managed as a national forest by the Forest Service in accordance with the Tahoe National Forest Land Resource Management Plan (1990 LRMP) as amended by the Sierra Nevada Forest Plan Record of Decision (2004 SNFP ROD). The proposed Phase 1 project addresses management of recreational trails as an existing use. The Forest Service determined this project is consistent with the applicable federal land use plans (USFS 2021).

The project maintains consistency with management direction as defined for the Tahoe National Forest in Management Area 32 (Stampede-Boca). The Forest Plans provide direction for maintaining water quality and quantity; protecting streams, lakes, wetlands, and riparian conservation areas; and to prevent excessive, cumulative watershed impacts. The proposed action follows Riparian Conservation Objectives and is consistent with the Aquatic Management Strategy for the Sierra Forests, as required by the SNFPA ROD.

The project is on national forest land and is not governed by state or local land use laws or regulations.

**3.12 MINERAL RESOURCES**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local -general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.12.1 Discussion**

*Would the proposed project:*

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**
- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

**No Impact** (Responses a – b). No important mineral resources would be removed from the project area, nor would the availability of any mineral resources be affected by the proposed project.



### 3.13 NOISE

<i>Would the project result in:</i>	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

#### 3.13.1 Environmental Setting

Noise can be defined as unwanted sound, with sound being a detectable vibratory disturbance. On a seasonal basis, sounds of vehicle engines are common in the project area and vicinity. The project site location is in Tahoe National Forest and is not located near sensitive receptors such as residences and schools.

#### 3.13.2 Discussion

*Would the proposed project result in:*

- a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?**

**Less than Significant Impact.** Noise levels would increase during staging area construction, route decommissioning, and restoration work due to the use of heavy equipment. However, there are no sensitive receptors in the vicinity of the project site that would be affected by heavy equipment noise. The nearest residences are 0.5 miles south of Boca Reservoir, opposite of Interstate 80, and the majority of nearby residences along with the nearest schools and hospital are over 5 miles away from the project site to the southwest. The nearby recreational trails are designed for OHV use, which produces its own noise and would not be impacted by any increases in ambient noise that could result from construction.

- b. Generation of excessive groundborne vibration or groundborne noise levels?**

**Less than Significant Impact.** Localized ground vibrations may occur during staging area construction, route decommissioning, and restoration work due to the use of heavy equipment.

However, there are no sensitive receptors or structures in the vicinity of the project site that would be affected by groundborne vibration or groundborne noise.

- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

**No Impact.** The project area is not within two miles of a public airport or private airport or airstrip. The nearest airport, Truckee Tahoe Airport, is approximately five miles southwest of the Project site.

**3.14 POPULATION AND HOUSING**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.14.1 Environmental Setting**

The project area is on public land in the Tahoe National Forest. There is no existing housing or permanent residents in the project area. The nearest populated area is the Town of Truckee, approximately 6 miles southwest of the project area.

**3.14.2 Discussion**

*Would the proposed project:*

- a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

**No Impact.** The proposed Phase 1 project could increase recreational use of the Boca reservoir region (USDA 2020; p. 58). The expected users include not only motorcyclists, but also mountain bikers looking for long distance trails, E-bikers, hikers, and equestrians looking for new opportunities. The increased use could come from local, regional, or statewide recreationists drawn to the project area. However, the project is not expected to attract new permanent residents to move to the project area. The project does not include new homes, businesses, roads, or other infrastructure. Therefore, the proposed project would not induce substantial population growth in the project area, either directly or indirectly.

- b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

**No Impact.** The project would not displace any housing or people as it does not involve the removal of existing housing.

**3.15 PUBLIC SERVICES**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.15.1 Discussion**

*Would the proposed project:*

- a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**
  - i) Fire protection?**
  - ii) Police protection?**
  - iii) Schools?**
  - iv) Parks?**
  - v) Other public facilities?**

**No Impact** (Responses a[i] – a[v]). Although the proposed project would likely increase recreational use of the project area, the project would not include new housing, businesses, roads, or infrastructure (see response to Question a in Section 3.14 Population and Housing). OHV recreation is an existing land use in the project area, and the demand for public services is expected to be similar to existing conditions after project completion. The project is not expected to increase risks to people or structures from wildfires (see response to Question h in Section 3.9 Hazards and Hazardous Materials). The project is not expected to increase crime or the need for police protection. The project site is on Forest Service land, and there are no permanent residents in the project area that require schools, parks, or other public facilities.

**3.16 RECREATION**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>

**3.16.1 Existing Setting**

Through the 1990’s and 2000’s recreational vehicle travel has substantially grown in popularity for individual and family outings. The increase in demand for recreational opportunities has outpaced the number and diversity of OHV routes available for public use (USDA 2020). Currently there are approximately 26 miles of designated single-track motorized trail on the Truckee Ranger District and growing mileage of unauthorized user created trails. Additionally, improvements in vehicle capabilities have led to users opening up old skid roads, haul routes, and other landscape features that were never intended for sustained recreational use. Increased motorized recreational use on the limited designated OHV system on the Truckee Ranger District has required increasing maintenance frequencies using specialized trail equipment (USDA 2020).

The project area contains designated motorized vehicle routes and or trails which do not connect to other motorized trails, thereby limiting loop riding opportunities and trail connectivity. Some of the existing roads and trails in the project area are illegal routes or have been found to be problematic (i.e., not designed for OHV use, prone to erosion or hydrological interruption, etc.). The existing routes do not provide connectivity (i.e., loop trails) and are inadequate to meet recreational demand in the project area. Under existing conditions, OHV enthusiasts, especially those on non-highway-legal vehicles, are required to frequently return to their staging location, load their vehicles, travel to the next staging location, and unload their vehicles again before returning to the trail. The lack of a sufficient number of well managed staging areas also creates barriers to public enjoyment of the Tahoe National Forest recreational roads and trails system.

**3.16.2 Discussion**

*Would the proposed project:*

- a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**Less Than Significant Impact.** The project area is in the Tahoe National Forest and does not contain neighborhood or regional parks, though existing recreational facilities such as camping areas and roads and trails for motorized and non-motorized recreation do exist in the project

area. Phase 1 development will significantly increase the miles of single-track trail available to OHV enthusiasts by 20 miles. Additionally, the new trail and the development of three new staging areas would improve user access and increase motorized loop riding opportunities. Although the project would increase the use of the project area (USDA 2020, p. 58), the increased use would not result in substantial physical deterioration of the recreational facilities but rather would be designed to address the existing and growing demand for OHV and non-motorized recreation in the project area.

Developing well aligned routes to connect existing fragmented motorized trails would provide longer, motorized trail rides and increase motorized loop opportunities. Decommissioning unauthorized and problematic trails and constructing new sustainable trail segments would improve the physical condition of recreational facilities in the project area compared to existing conditions. The proposed new trails and staging areas would increase the variety of motorized trails rated as Beginner to Most Difficult, would promote a constantly learning and challenging experience while fostering opportunities for families to recreate as a group. After construction, the new trails and staging areas would be periodically maintained as part of the Tahoe National Forest's regular maintenance program. Thus, the project would not significantly impact recreational facilities but would benefit them. The proposed Phase 1 project would help to maintain or enhance the quantity, quality, and diversity of recreation opportunities on motorized trails, better manage and reduce road and trail maintenance needs, and improve overall access to, connectivity on, and public enjoyment of the National Forest Recreational Trails System in the project area.

**b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

**Less Than Significant Impact.** The proposed project includes three new staging areas and new single-track trails for motorized and non-motorized recreation. The project also includes decommissioning of illegal and problematic routes (i.e., not designed for OHV use, prone to erosion or hydrological interruption, etc.) and other restoration activities to reduce sedimentation and improve water quality and natural hydrological function. Standard measures and management requirements are incorporated in the project to avoid or minimize adverse physical effects of the project (USDA 2020, pp. 14-21; see Appendix A).

Increased demand for OHV trail recreation on a limited trail system has led to the creation of unauthorized, user created road and trail segments with designs and alignments that threaten the integrity of the watershed and its many riparian corridors, including wetland / meadow complexes, as well as the Forest Service's ability to protect natural and cultural resources. The Phase 1 activities would develop new sustainable trail routes on an existing trail system and would remove unauthorized routes where they are redundant or causing extensive resource damage. Overall, the project is expected to reduce adverse physical effects on the environment such as water quality impacts and vegetation impacts from illegal or problematic OHV routes.



**3.17 TRANSPORTATION**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.17.1 Environmental Setting**

Regional access to the project area is provided by Interstate 80, a transcontinental highway that runs west-east from San Francisco, California to Teaneck, New Jersey. Local access is provided by Stampede Meadows Road and Boca Road, which runs along the east side of the Boca Reservoir (Figure 3).

**3.17.2 Discussion**

*Would the proposed project:*

**a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**

**No Impact.** The proposed project includes 20 miles of new single-track trails for motorized and non-motorized recreation, three new staging areas, 8 miles of trail route decommissioning, and habitat restoration near the Boca Reservoir in the Tahoe National Forest. The project is designed to improve trail connectivity for motorized and nonmotorized recreation and improve water quality and protection of natural resources in the project area. The project would not affect the existing local or regional circulation system, including transit, roadway, bicycle, and pedestrian facilities.

**b. Conflict or be inconsistent with CEQA Guidelines section 15064.3(b)?**

**Less Than Significant Impact.** Per CEQA Guidelines section 15064.3(a), vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. The Governor’s Office of Planning and Research (OPR) has established proposed thresholds that may be used by jurisdictions for the evaluation of VMT impacts for different land use types. At this time, there are no VMT thresholds applicable to recreational land use identified by OPR in its Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018). Further, the Forest Service does not have standards or guidelines regulating VMT on national forests.

Due to the nature of the project location and type of recreational use, the number of vehicle trips or VMT likely to occur as a result of the project cannot be readily quantified. The three new staging areas would formalize parking areas on open sites where informal parking presently occurs. New parking areas would remain unpaved and would not have defined parking stall capacities. The three proposed staging areas (two 0.5-acre and one 1.5-acre) would likely accommodate approximately 80 vehicles with trailers based on other staging area capacities at other Forest Service locations (i.e., Cabin Creek staging area of 1-2 acres would accommodate 40 vehicles with trailers).

Although it is expected that many of the visitors using the new project trailheads area already recreate at this project location, the availability of new trail and formalized parking with restrooms would likely increase the recreational use of the project area. The OPR Technical Advisory (2018, p. 12) acknowledges that absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer daily trips could be considered not to lead to a significant impact. Assuming that the staging areas have a combined capacity to accommodate 80 vehicles, the project would generate a maximum of 80 vehicle trips in any given day assuming no turnover in parking. Given that this project serves an established trail system and that the proposed staging areas would formalize parking at existing use areas, it is likely that a substantial portion of these vehicle trips are not new trips but occur from park visitors who already recreate at the project site. Therefore, it is reasonable to conclude that the project is unlikely to add more than 110 daily vehicle trips and the project would not have a significant VMT impact.

**c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**No Impact.** The proposed project would not include hazardous design features or incompatible uses. The project is designed to reduce risks to public safety by rerouting and improving roads and trails, promoting safer and more sustainably designed trails, dispersing current use across more area decreasing user density, and improving current watershed conditions. Advanced motorized dirt bikes coexist with mountain bikers, Class 1 E-bikers, equestrians, and hikers. Existing signage advises recreationists about trail difficulty and multiple trail uses to reduce the risk of accidents. Increased and improved signage, designed to promote responsible trail use and user etiquette, would improve safety for all user groups. Tahoe National Forest expects all uses to increase over time; however, public safety for trail users would improve due to increased opportunity, which disperses multiple users across more acreage and reduces relative density of users and use impacts, area by area. Trail guidelines used for building sustainable trails and preventing resource damage limit steep grades and fall-line alignments. New alignments and site-specific trail maintenance objectives would increase sight distances so that users would be able to see other groups from further away. Sustainable alignments use turns and switchbacks, slow user speeds, and reduce the likelihood of collisions. Treatments that improve trail conditions would improve safety for the public (USDA 2020, pp. 53-55).

**d. Result in inadequate emergency access?**

**No Impact.** Project related work would not affect existing traffic patterns or emergency access routes. The new staging areas would be designed to current Forest Service transportation standards and guidelines which allow access for larger vehicle types and or vehicles towing trailers; this would provide for reasonable access for emergency vehicles.

**3.18 TRIBAL CULTURAL RESOURCES**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
Cause a substantial adverse change in the significance of a tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.18.1 Environmental and Regulatory Setting**

Assembly Bill (AB) 52 created a formal CEQA role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
  - a) Included or determined to be eligible for inclusion in the California Register of Historical Resources
  - b) Included in a local register of historical resources as defined in PRC section 5020.1(k)
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC section 5024.1 (c). In applying the criteria set forth in PRC section 5024.1 (c) the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC section 21084.1, a unique archaeological resource as defined in PRC section 21083.2(g), or a “non-unique archaeological resource” as

defined in PRC section 21083.2(h) may also be a tribal cultural resource if it conforms with above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation. AB 52 states: "To expedite the requirements of this section, the Native American Heritage Commission shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated with the project area."

The OHMVR Division conducts tribal outreach pursuant to AB 52 with tribes that are traditionally and culturally affiliated with the geographic area of a project based upon a list generated by the NAHC. Consistent with the NAHC list, the OHMVR Division sent a consultation request notification for the East Zone Connectivity and Restoration Phase 1 Project to Chairperson Whitehouse, UAIC, on February 8, 2022. The UAIC acknowledged receipt of the letter on February 22, and on March 18 provided recommendations for avoiding, minimizing, and restoring cultural resources when conducting vegetation management in or near cultural sites. On March 23, UAIC requested additional information about the project, which the Forest Service provided on March 29. No further response has been received from UAIC.

### 3.18.2 Discussion:

*Would the project:*

Cause a substantial adverse change in the significance of a tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- a. **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?**
- b. **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.**

**No Impact** (Responses a – b). The project comprises development of new single-track motorized recreation trail and staging areas along with decommissioning unsustainable trail segments and restoration activities. The project activities would not change the existing land use of the area and would not substantially alter the landscape.

No tribal resource concerns were raised in response to the OHMVR Division tribal outreach efforts. The project would not affect known tribal cultural resources. Further, the Forest Service consulted with the Washoe tribe of California and Nevada as part of the NEPA review and federal approval process; no tribal concerns were identified (USDA 2020, pp.11, 65).

**3.19 UTILITIES AND SERVICE SYSTEMS**

<i>Would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
e) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.19.1 Discussion**

*Would the proposed project:*

- a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?**
- b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?**
- c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

**No Impact** (Responses a – c). The proposed project includes three new staging areas and new single-track trails for motorized and non-motorized recreation, as well as route decommissioning and habitat restoration near the Boca Reservoir in the Tahoe National Forest. The project would not include new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities. The new staging areas would not include

water, lighting, natural gas, or telecommunication facilities. The project would not require water supplies or wastewater treatment. Double vault toilets would be installed at the new staging areas that would be periodically serviced.

- d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**
- e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

**No Impact** (Responses d – e). The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair attainment of solid waste reduction goals. No dumpster or solid waste receptacle would be provided at the staging areas; therefore, the project is not expected to generate solid waste over the long term. Solid waste generated during the short-term construction period is expected to be minimal. The sites are relatively level and unvegetated, and grading would not generate excess soil for off-site disposal. The project would comply with all applicable federal, state, and local management and reduction statutes and regulations related to solid waste.



**3.20 WILDFIRE**

<i>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</i>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>

**3.20.1 Environmental Setting**

The project site is in a forested area that could experience wildfires. The site is on federal land (national forest) in a federal responsibility area (CAL Fire 2007) and not within in a state responsibility area. According to the Wildfire Hazard Potential map developed by the Forest Service Fire Modeling Institute, the project site is in an area of moderate to very high wildfire hazard (USFS 2014).

**3.20.2 Discussion**

*If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

**a. Substantially impair an adopted emergency response plan or emergency evacuation plan?**

**No Impact.** The project would not impair an adopted emergency response plan or emergency evacuation plan. Staging area entrances connect to Boca Road and Stampede Meadow Road within one mile of access to Interstate 80. There are no established emergency evacuation routes. The project would not impair an adopted emergency response plan or emergency evacuation plan.

**b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**

**Less Than Significant Impact.** Portions of the Phase 1 project area are located within a very high fire hazard severity zone. The project area contains slopes and mountainous terrain developed with OHV routes and other recreational facilities. New project development of 20 miles of single-track trail and 3 staging areas would not introduce new recreational land use to the project area, potential ignition sources, or change in topography that could exacerbate wildfire risks and thereby expose site visitors to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The proposed project does not include structures for human habitation, and building materials (e.g., pavement, signs, and vault toilet) are not highly flammable. The project area is relatively level, and there are no nearby slopes that could increase the risk of uncontrolled wildfire spread. The project area is also managed for fuel reduction to reduce wildfire hazards in the area.

- c. Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

**Less Than Significant Impact.** The project would not include the installation of roads, fuel breaks, emergency water sources, power lines or other utilities.

- d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

**Less Than Significant Impact.** The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Although the project area includes slopes and mountainous terrain, no buildings or structures for human habitation are proposed. There are no permanent residents in the project area, and the Tahoe National Forest would close any recreational trails and staging areas at risk due to post-fire slope instability or drainage changes as needed. The project would not change the recreational land use of the project area or exacerbate existing wildfire risks to people or structures.

**3.21 MANDATORY FINDINGS OF SIGNIFICANCE**

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means the incremental effects of a project are considerable when viewed in connection with the efforts of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

**3.21.1 Discussion**

- a. **Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

**Less Than Significant Impact.** As explained in response to Question a in Section 3.4 Biological Resources, the resource protection measures applied to this project as management requirements would ensure impacts on biological resources are less than significant (see Appendix A). With implementation of these measures, the project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.

As explained in response to Question a in Section 3.5 Cultural Resources, historical or archeological resources were identified in the project area in the cultural resources reports prepared for the project by the Tahoe National Forest (Long 2018; Cook-Fisher 2020; Smith 2021). Sites potentially occurring in the area of effect would be protected and no adverse impact would occur. If any previously unknown cultural resources are discovered during project implementation, operations would cease until analysis is conducted and protection measures are implemented as needed consistent with the *First Amendment to the Programmatic*

*Agreement Among the USDA Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests to the Pacific Southwest Region (Regional PA 2018).* Therefore, the project would not eliminate important examples of the major periods of California history or prehistory.

- b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means the incremental effects of a project are considerable when viewed in connection with the efforts of past projects, the effects of other current projects, and the effects of probable future projects)?**

**Less than Significant.** The project does not have impacts that are individually limited, but cumulatively considerable. The project is designed to mitigate issues of erosion and sedimentation impacting the Truckee River watershed, and address resource damage and safety concerns associated to this currently unmanaged parking/staging area. Standard measures and management requirements incorporated in the project would prevent significant impacts during project construction (USDA 2020, pp. 14-21; see Appendix A). As described in section 2.2, the proposed Phase 1 project is the first phase of a larger Forest Service project being undertaken in the Truckee Ranger District and Carson Ranger District. This Phase 1 project, combined with future phases would not create significant adverse environmental impacts. There are no other past, current, or probable future projects in the project area that could combine with the project to result in cumulatively considerable impacts.

- c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

**No Impact.** The project would not have environmental effects that would cause substantial adverse effects on humans, either directly or indirectly. The project meets existing recreational needs, reduces resource damage from unsustainable or unauthorized trail routes, and would restore hydrologic function of impaired meadow area. The project does not include structures for human habitation, hazardous materials, ongoing emissions, loud noises, or other features that could impact human beings. All potential project-related impacts would be less than significant with the standard measures and resource protections incorporated in the project as listed in Appendix A.

## Chapter 4 REFERENCES AND LIST OF PREPARERS

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# **Appendix A. U.S. Forest Service Project Need and Approved Action**

East Zone Connectivity and Restoration Project Environmental Assessment  
USDA Forest Service, Tahoe National Forest, Truckee Ranger District and  
Carson Ranger District, Placer County and Nevada County, CA

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# Chapter 1 Need for the Proposal

## Introduction

The Forest Service is proposing management actions to improve recreation opportunities for wheeled motorized vehicle users and restore watersheds on Tahoe National Forest (TNF) and Humboldt-Toiyabe National Forest (HTNF) System lands in and around Truckee, CA under the East Zone Connectivity and Restoration Project. These actions would: 1) Replace fixed wet weather seasonal closures in the Verdi Ridge area with a wet weather operating plan; 2) Construction of 71 miles of motorized single-track trail; 3) Re-route 1.7 miles of existing system roads and trails on the Tahoe National Forest and 0.3 miles of existing system road on the Humboldt-Toiyabe National Forest; 4) Make changes to the National Forest Transportation System (NFTS) including removal of 5.3 miles of roads, changes to 3 miles of road maintenance level designations, addition to the NFTS of 1.1 miles on the Tahoe National Forest and 0.1 mile on the Humboldt-Toiyabe National Forest of existing non-system roads. It also includes addition to the Tahoe National Forest NFTS of 0.5 miles of existing non-system trail, conversion of 0.7 miles existing system road to trail, and designation of 35.5 miles of existing trail from non-motorized to motorized, open to Class 1 E-bikes only; 5) Decommission 41 miles of existing user created roads and trails; 6) Develop and or improve managed recreation staging areas; 7) Barrier placement to delineate and manage routes and staging areas; 8) Construct one bridge; and 9) Treat three priority invasive plant species.

The Forest Service prepared this environmental assessment (EA) to determine whether implementation of the East Zone Connectivity and Restoration Project may significantly affect the quality of the human environment and thereby require the preparation of an environmental impact statement. By preparing this EA, agency policy and direction are being fulfilled to comply with the National Environmental Policy Act (NEPA). For more details of the proposed action, refer to the Proposed Action and Alternatives section of this document.

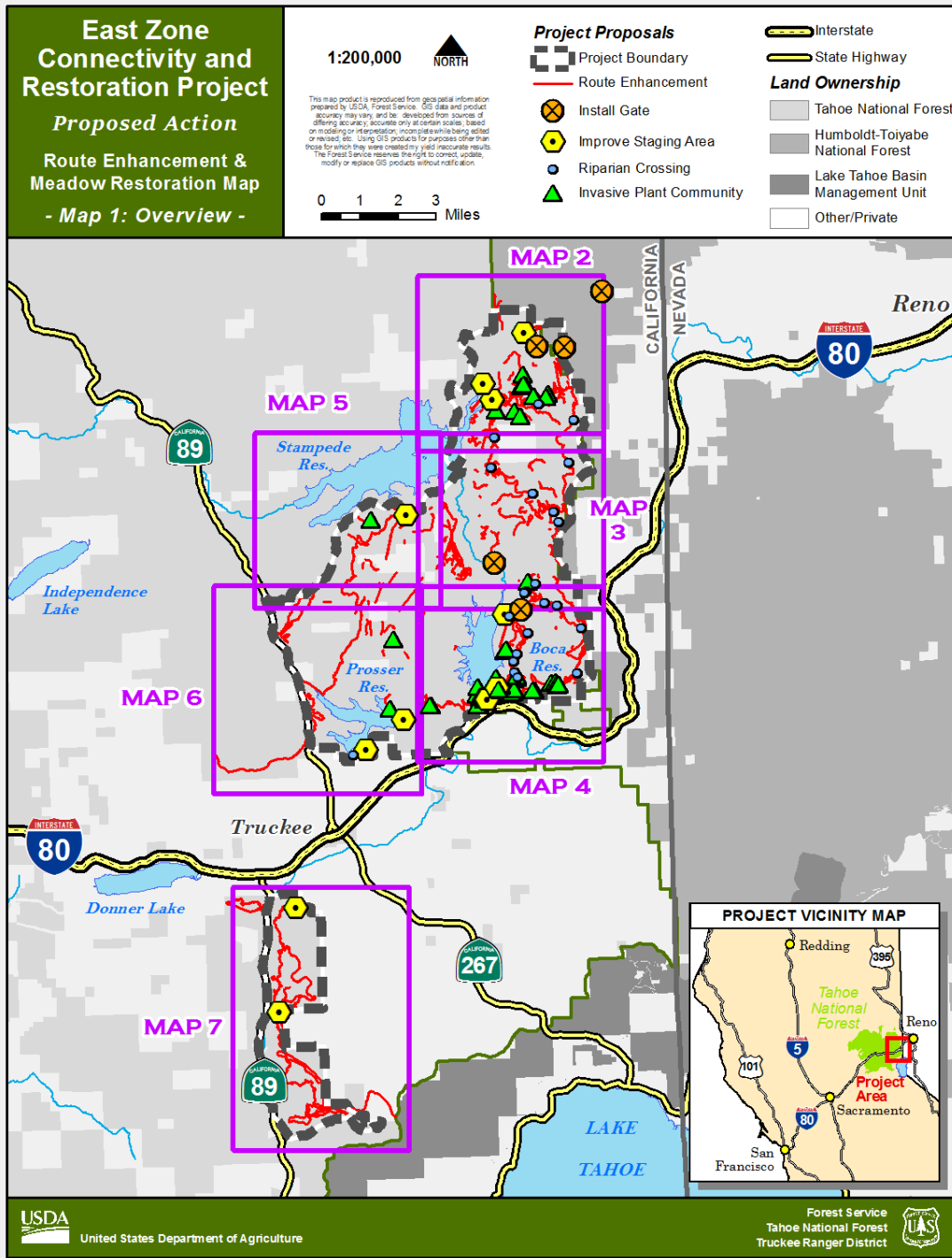
## Proposed Project Location

These actions are proposed to be implemented on Tahoe National Forest System lands within three areas which have been determined to exhibit high levels of motorized recreation use on the Truckee Ranger District: Verdi Ridge, Boca Hill and Prosser Reservoir, and the Hwy 89 south / 06 Road / Big Chief area connecting Truckee and Tahoe City. Actions are also proposed to be implemented on adjacent connected locations on Humboldt-Toiyabe National Forest System lands at the north end of the Verdi Ridge. An overview map of the East Zone Connectivity and Restoration Project is displayed in Figure 1. (Map 1)

## Need for the Proposal

The purpose of the East Zone Connectivity and Restoration Project is to reduce impacts to natural and cultural resources, to maintain or enhance the quantity, quality, and diversity of recreation opportunities on motorized trails, to better manage and reduce road and trail maintenance needs, and to improve overall access to, connectivity on, and public enjoyment of the National Forest Recreational Trails System in the project areas. Actions are needed due to increased demand for trail riding opportunities, erosion and sedimentation, impacts to natural and cultural resources, ongoing trail maintenance requirements, poor trail drainage, fragmented trails, and public safety concerns. Actions are needed to implement a long-term approach to the successful management of National Forest Trail systems while simultaneously meeting our responsibilities to protect and preserve public resources as well as promote safe and sustainable recreational opportunities on public lands.

Figure 1. Vicinity and Overview Map, Map 1



The Verdi Ridge project area, located on the east side of the Boca and Stampede reservoirs, attracts large numbers of motorized vehicle users originating on the TNF as well as crossing over from connected routes on the HTNF. There is a network of OHV legal road segments and OHV designated trail routes however there is no opportunity for designated motorized single-track recreation. Increased demand has led to the creation of unauthorized, user created road and trail segments with designs and alignments which threaten the integrity of the watershed and its many riparian corridors, including wetland / meadow complexes, as well as TNF's ability to protect natural and cultural resources. Evaluation and analysis of existing routes in the area has determined many of these road and trail segments to be unsustainable.

The Boca Hill and Prosser Reservoir project area contains popular designated motorcycle trails and OHV use areas including Lloyds trail (17E19), Russell Valley trail (17E20), and the Prosser Pits open riding area. Inadequate trail connectivity however, limits loop riding while current available trail access is failing to meet a growing demand for Class 1 E-bike riding opportunities. Additionally, some poorly aligned existing designated OHV routes, in particular the 16E11 on the south side of Prosser Reservoir, negatively impact meadow habitat by contributing to accelerated drainage, soil erosion, sedimentation, and damage to vegetation.

The Hwy 89 south / 06 road / Big Chief project area is one of the most heavily used recreation locations on the district owing to its proximity to the center of town. An inventory of existing trails in this area found over 20 miles of unauthorized user created single track motorcycle trail in use. Evaluation showed much of this illegal system to adversely impact natural and cultural resources including California spotted owl habitat, Northern goshawk habitat, hydrologic integrity, and known archaeological sites. A decision [Big Chief Trail Project, 12/19/2017] to obliterate these trail segments has been signed to mitigate these negative impacts but will result in a need to address the considerable demand for motorized single-track trail riding opportunity in the area. Tracking of recent use has also shown a steady increase in demand for Class 1 E-bike riding opportunities on single track routes in the area.

**Action is needed to mitigate negative impacts to natural and cultural resource concerns due to the effects of poorly aligned authorized routes and unsustainable, unauthorized user created roads and trails.**

Field assessments of current road and trail conditions in all three of the defined project areas have identified many poorly aligned route segments, while a lack in the availability of properly aligned and managed system routes has led to a significant increase in the number and length of unauthorized user created trails. Surveys were conducted by the Truckee Ranger District using the Soil and Water Roads Condition Inventory (SWRCI) protocol which rates road segments as functional, at-risk, or impaired and aids in identifying problem areas (USDA 2008). The segments proposed for decommissioning or re-route in Alternative I were identified as at-risk or impaired through SWRCI surveys. Both authorized and unauthorized roads and trails are causing resource damage. Routes were often created by adopting old roads, logging skid trails, historic fire lines, or other existing landscape features. Many of these alignments were not designed for heavy, long-term recreational use. Resource damage and hazardous conditions occur when motorized vehicles travel on these routes and are exacerbated when users ride or drive around rocks, ruts, puddles, and other obstacles creating new trails. Adverse environmental impacts, such as accelerated soil erosion, soil compaction, sediment in stream channels, damage to vegetation, disturbance to sensitive wildlife species, and degradation of cultural resource concerns are occurring.

Four invasive plant species are present within the project area. Invasive plants pose a serious threat to ecosystem function because of their ability to displace native species, reduce habitat suitability, alter nutrient and fire cycles, decrease the availability of forage for wildlife, degrade soil structure, and reduce overall biodiversity. These infestations represent a high spread risk of

spread along travel routes, especially in vulnerable highly disturbed areas and open community types, due to heavy recreation and dispersal mechanisms using clothing or mud on shoes, animals, vehicles and tire tread. Large infestations around Boca of spotted knapweed and Canada thistle cannot be feasibly treated using manual treatment methods. Rapid response is needed to contain and control known invasive plant species occurrences and prevent them from spreading further (USDA Forest Service, 2004, pp. 36 and 54-55).

Decommissioning of unauthorized routes is needed where they are redundant or causing extensive resource damage. Repair, maintenance, re-alignment, or decommissioning of existing system routes is needed to reduce future resource damage. Decommissioning and realignment activities are designed to promote natural recovery of the road surface by restoring the natural hydrologic function of the soil and reducing runoff and erosion. Action objectives seek consistency with desired conditions as defined by management direction laid out in the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD 2004) and the Tahoe National Forest Land and Resource Management Plan (LRMP 1990). These include Goals and Strategies (ROD pp. 32-33), Standards and Guidelines (ROD p. 59 and LRMP pp. V40-V41), and Management Area direction specific to the proposed project zones (LRMP pp. 164, 233, and 287).

**Action is needed in order to provide a well-defined, sustainable trail system allowing for effective recreation management of use areas after vegetation management treatments.**

The Verdi Ridge and 06 road / Big Chief project areas are currently in the process of planning and or implementation of significant vegetation management projects. Expected condition post management actions is forest habitat that is more open, healthy, and resilient to fire. These conditions have the potential to lead to an increase in unauthorized route creation. Heavy demand for motorized recreation opportunity is evidenced by the existing inventory of non-system user created trails. Many commenters on the Big Jack East vegetation management project (06 road area) expressed concern about the significant potential for additional unauthorized OHV use after the completion of the project. There is a need for a well-defined, sustainably designed, and adequately signed motorized trail system to both serve users as well as prevent future resource damage. A proactive planning approach is vital to creating a managed and sustainable recreation system in these two proposed project areas. Action objectives seek consistency with desired conditions as defined by management direction laid out in the Tahoe National Forest Land and Resource Management Plan (LRMP 1990). In particular, Management Area direction specific to proposed project zones (LRMP pp. 164, 210, and 366).

**Action is needed to increase the number, length, and diversity of motorized recreation opportunities, mitigate potential negative impacts associated to motorized recreation, and to define a sustainable National Forest Transportation System (NFTS).**

Public demand for motorized trails on the Truckee Ranger District (TKRD) has been steadily increasing. Nearly a decade ago, during planning for Tahoe National Forest's Motorized Travel Management (MTM) Project (USDA 2010), the public expressed interest in having more motorized single-track trail riding opportunities on Tahoe National Forest (TNF, MTM, FEIS, Appendix N). Similar interests were expressed during travel management planning for the Humboldt-Toiyabe National Forest in 2012 [Dog Valley Route Adjustment Project, 2012]. More recently, the Truckee area has seen a marked increase of interest in and demand for Class 1 E-bike riding opportunities. Currently there are only approximately 26 miles of designated single-track motorized trail on the TKRD. Tahoe National Forest holds annual Green Sticker open house workshops and public meetings to communicate with the motorized vehicle user community and to hear their requests for motorized trail riding recreation. TNF trails staff attend gatherings with local riding clubs to hear concerns, garner support, and enlist cooperation on volunteer

opportunities associated to motorized vehicle route maintenance, trail improvements, and motorized vehicle user education.

Recreation Opportunity Spectrum (ROS) framework guides land managers to provide a variety of opportunities for public use and enjoyment. Within the motorized spectrum, where feasible, managers strive to provide a range of legitimate motorized vehicle riding opportunities that are sustainable and resilient to degradation over time. Protecting resources (Cultural sites, TES species, water quality, and the potential spread of invasive plant communities) and providing for public safety are considered when designing and constructing a motorized trail system accessible to a variety of users. Increasing the variety of motorized trails rated as Beginner to Most Difficult are needed to promote a constantly learning and challenging experience while also fostering opportunities for families to recreate as a group. Action objectives seek consistency with desired conditions as defined by management direction laid out in the Tahoe National Forest Land and Resource Management Plan (LRMP 1990). These include Standards and Guidelines (LRMP P.19) and Management Area direction specific to proposed project zones (LRMP p. 164). All three of the designated project zones have a long history of motorized recreation use.

**Action is needed to increase loop riding opportunities, improve trail connectivity, and create sustainable developed recreation staging areas.**

Each of the project areas contain designated motorized vehicle routes and or trails which do not connect to other motorized trails, thereby limiting loop riding opportunities and trail connectivity. Developing well aligned routes to connect these existing fragmented motorized trails will provide longer, motorized trail rides and increase motorized loop opportunities. Under existing conditions, OHV enthusiasts, especially those on non-highway-legal vehicles, are required to frequently return to their staging location, load their vehicles, travel to the next staging location, and unload their vehicles again before returning to the trail. The lack of a sufficient number of well managed staging areas also creates barriers to public enjoyment of the TNF recreational roads and trails system. Action objectives seek consistency with desired conditions as defined by management direction laid out in the Tahoe National Forest Land and Resource Management Plan (LRMP 1990). These include Standards and Guidelines (LRMP P.19) and Management Area direction specific to proposed project zones (LRMP p. 210).

## Proposed Action

The Proposed Action, as described in the Preliminary Environmental Assessment, has been updated with corrections based on input from resource specialists and comments received during the 30 day comment period. The final Environmental assessment has been revised with updated data and map information. These corrections and refinements provide additional resource protections, address concerns raised by commenters, and have resulted in a more accurate and informed proposed action. Table 1 displays and compares the Proposed Action from the Preliminary EA with the updates identified for Alternative 1 (Proposed Action) in this final EA. Chapter 2 includes a detailed description of the proposal under Alternative 1 (Proposed Action).

The proposed actions described in Chapter 2 are consistent with management direction in the *Tahoe National Forest Land and Resource Management Plan* (LRMP) (USDA FS 1990) as amended by the *Sierra Nevada Forest Plan Amendment Record of Decision* (SNFPA ROD) (USDA FS 2004) as well as the 1986 *Toiyabe National Forest Land and Resource Management Plan* (As Amended).

The proposed actions will meet the Lahontan Regional Water Quality Board Basin Plan Objectives and will also be consistent with the TMDL Management Agency Agreement (MAA) between the State Water Board and Forest Service (USFS). The USFS continues to identify, implement, maintain, and monitor best management practices (BMPs) to protect water quality.

**Table 1. Updates to the Proposed Action, Trail Construction Standards, and Management Requirements**

<b>Proposed Action Preliminary EA</b>	<b>Alternative 1 (Proposed Action) Final EA</b>
Action 4 (5): Add approximately 115 acres of open riding area to the NFTS. Consideration of comments, LRWQCB, Commenter Index #114	Action 4 (5) has been removed from the proposed action.
Action 6: Staging Area Creation . Part B: Area Attributes. Consideration of comments, Truckee Donner Horsemen, Commenter Index #032	Action 6 (B) Staging locations will offer enough space for adequate parking and maneuvering, and the loading and unloading of people, recreational equipment, and horses
Action 8: Watershed Protection. Consideration of comments, LRWQCB, Commenter Index #114	Action 8: Additional Language - Construct bridges or undertake stream crossing protection and sediment reduction measures, such as rolling dips or decompaction (dependent on individual site evaluation), to restore natural hydrologic function and reduce erosion from existing, altered stream crossings, riparian zones, and or meadow corridors in the Verdi Ridge project area and in the Prosser Reservoir project area.
Action 9: Invasive Plant Treatment. Updated acreage supplied by TKRD Botanist.	Action 9: Treat approximately 40 acres for three priority invasive plant species.
<b>Trail Construction Standards Preliminary EA</b>	<b>Trail Construction Standards Final EA</b>
Creek or Ephemeral Drainage Crossings: Approach to crossings. Consideration of comments, LRWQCB, Commenter Index #114	Harden the approach to crossings with appropriately sized material and rolling dips, if applicable, to reduce sedimentation potential and minimize creek disturbance.
Creek or Ephemeral Drainage Crossings: Safety. Consideration of comments, Backcountry Horsemen of California, Commenter Index #035	If bridge is used, construct with design standards to allow for safe and sustainable equestrian access.
Switchbacks and Rolling Turns: Safety. Consideration of comments, Backcountry Horsemen of America, Commenter Index #103	Identify line of site issues and remove small diameter trees and or trim vegetation to limit blind turns and reduce the potential of surprise encounters
<b>Management Requirements Preliminary EA</b>	<b>Management Requirements Final EA</b>
Revisions made in consideration of comments and with input from resource specialists	Revisions to management requirements AW3, BR1, IP8, HT4, WSA3, and WSA5
Additions made in consideration of comments and with input from resource specialists.	Additions to management requirements for watershed, soils, and aquatic resources include WSA6 – WSA9

Mileages and acreages are approximate

## Public Involvement and Tribal Consultation

Public participation is important at numerous points during the analysis. The Forest Service seeks information, comments and assistance from federal, state and local agencies and individuals or organizations that may be interested in or affected by the proposed action.

## Proposal Development

Prior to scoping, the Forest Service met with motorized and non-motorized trail groups to identify core concerns and design parameters. The Forest Service first listed the East Zone Connectivity and Restoration Project in the published quarterly Tahoe National Forest Schedule of Proposed Actions (SOPA) in April 2020. The Forest distributes a hardcopy of the quarterly SOPA to about 80 individuals and entities. The quarterly SOPA is available online at [www.fs.fed.us/sopa](http://www.fs.fed.us/sopa) or on the TNF website at <http://www.fs.fed.us/r5/tahoe>. The Project was first published in the Humboldt-Toiyabe National Forest SOPA in October 2020.

The Forest Service conducts scoping according to the Council on Environmental Quality (CEQ) regulations (40 CFR 1501.7). In addition to other public involvement, scoping initiates an early

and open process for determining the scope of issues to be addressed in the EA and for identifying the issues related to a proposed action.

A 30-day scoping period for the East Zone Connectivity and Restoration Project, held from April 3, 2020, through May 3, 2020, was initiated when the Forest Service published a legal notice in Grass Valley's *The Union* newspaper and Truckee's *Sierra Sun* newspaper and distributed a scoping letter and map to more than 120 individuals, groups and Tribes disclosing information and seeking public comment on the Project. An additional 30-day scoping period for the East Zone Connectivity and Restoration Project, held from May 8, 2020, through June 7, 2020, was initiated when the Forest Service published a legal notice in Grass Valley's *The Union* newspaper and again distributed a scoping letter and map to more than 120 individuals, groups and Tribes disclosing information and seeking public comment on the project.

As a result of scoping, written timely comments were received from 54 individuals, organizations and Tribes. 43 of the 54 commenters were supportive of the proposed project. The comment letters were used to consider issues and refine the proposal described in scoping.

A 30-day comment period for the East Zone Connectivity and Restoration Project, held from September 4, 2020, through October 4, 2020, was initiated when the Forest Service published a legal notice in Grass Valley's *The Union* newspaper and distributed a notice of comment period letter and map to more than 120 individuals, groups and Tribes disclosing the Preliminary Environmental Assessment and seeking public comment on the project.

As a result, written timely comments were received from 114 individuals, organizations and Tribes. The comment letters were used to consider issues and refine the proposal described in the Preliminary Environmental Assessment.

The Forest Service consulted with the following individuals, federal, State, tribal, and local agencies during the development of this final EA:

- Consultation with the Washoe tribe of Nevada and California began on March 9, 2019 and has been ongoing through the planning process.
- The Lahontan Regional Water Quality Control Board.
- Multiple meetings, attended by the Forest Service, the Nevada County Woods Riders, The American Motorcycle Association (District 36), The Truckee Dirt Riders, the Reno Area Dirt Riders, The Truckee Trails Foundation, and many other motorized and non-motorized trail users have taken place before, during and after scoping to discuss potential routes, the proposed action, and project design elements.

The Forest reviewed the purpose and need, proposed action and comments in order to identify issues to be considered during the analysis. The scoping and comment period summaries in the project file helped to focus the resource analysis in the EA.

### **Alternatives considered, but not fully developed**

The Forest Service did not identify any issues in public comments that would lead to the development of additional alternatives. When there are no unresolved conflicts concerning alternative uses of available resources, the EA need only analyze the proposed action and proceed without consideration of additional alternatives. (36 CFR 220.7(b)(2)(i)). All comments received during the period of public comment were considered, as summarized in the Draft Decision Notice / Finding of no Significant Impact (DN / FONSI) Appendix A: Response to Comments.



## Chapter 2 Proposed Action and Alternatives

The proposed action and following alternatives were considered: Alternative 1, the proposed action and Alternative 2, no action.

### Alternative 1 – Proposed Action

To respond to the purpose and need described in Chapter 1, the Forest Service proposes:

1. **Seasonal Closure Change** - Remove fixed seasonal closure dates in order to manage for sustainable use on approximately 64 miles of authorized National Forest Travel System (NFTS) motorized vehicle routes accessed via the Boca Stampede road, Dog Valley road, and the 72 (Verdi Peak) road. Open and close these roads and trails to public wheeled motor vehicle travel based on monitored conditions of soil moisture and use suitability to be defined in a motorized trail system seasonal operating plan. The operating plan will be developed based on the methodology developed in the “Wet Weather Management of OHV Trails on National Forests in California” which was prepared for the USFS Pacific Southwest Region by Roger Poff. Criteria for suitability will be defined by conducting a study of local conditions at multiple points along each affected route. Data collection, including soil strength, soil moisture, and route conditions, will occur during the spring months when soils are generally saturated from snowmelt or rainfall. The operating plan will contain a decision tree where field data developed thresholds, existing soil conditions, and rainfall will be utilized to assist in determinations about road closures or opening. On affected routes, install 3 gates in addition to existing gates in order to manage route access based on developed soil moisture thresholds. (Maps 1, 2, 3 and 4)
2. **Route Construction** - Construct approximately 71 miles of new designated motorized single-track trail to be added to the National Forest Transportation System (NFTS) across the three proposed project areas. Approximately 49 miles of new trail would offer opportunity for motorized recreation and loop riding in the Verdi Ridge area. This includes approximately 1.5 miles of trail that crosses from the TNF onto the HTNF in five small segments (Maps 1-3). Approximately 3 miles of new trail would offer a motorized single-track route connection between the existing Lloyds (17E19) trail and the new proposed Verdi Ridge trail. Approximately 11 miles of new trail would meet demand for designated single-track motorized recreation opportunity in the 06 road / Big Chief area. Approximately 8 miles of new trail would offer increased loop riding opportunities, and connectivity between Russell Valley, Boca Hill, and the new proposed Verdi Ridge trail. (Maps 1-7)
3. **Route Realignment** - Reroute approximately 1.4 miles of existing system road and trail on the TNF in the Verdi Ridge project area along sections of the 72, 72-1, 72-2-5, and 270-8 roads, and in the Prosser Reservoir project area on the 16E11 trail (Maps 1, 2, 3 and 6). Reroute approximately .6 miles on the TNF 860-2 road where it connects with the HTNF 31074 road (Maps 1 and 2). Each of these road and trail segments currently sit on hydrologically unsustainable alignments.
4. **Changes to the National Forest Transportation System (NFTS)** –
  1. Remove from the NFTS by decommissioning approximately 5.3 miles of road on the 72-9, 72-1-6, 72-12-1, 860-1, 894-3, 270-6, 72-25-10, 270-6-8, and 270-8 roads. Some of these segments are currently shown on the MVUM as open for public wheeled motorized vehicle use. Under the proposed action, these decommissioned road segments would no longer be displayed on the MVUM (Refer to Maps 1-4).
  2. Change the maintenance level from ML 2 to ML 1 for approximately 3 miles of route segments on the 72-12, 72-22, 270-4, 270-6-4, 270-8-6, 270-8-5, and 860-5-5 roads

- (Maps 1-3). These roads are currently shown on the MVUM as open for public wheeled motorized vehicle use. Under the proposed action, they would no longer be displayed on the MVUM.
3. Add on the TNF, by adoption of currently unauthorized routes into the National Forest Transportation System (NFTS), approximately 1.1 miles of designated Maintenance Level ML 2 road (Maps 1-4). On the HTNF add, by adoption of a currently unauthorized route into the NFTS, approximately .1 miles of designated ML 2 road (Maps 1 and 2). These roads are currently not shown on the MVUM. Under the proposed action they would be displayed on the MVUM as open for public wheeled motorized vehicle use.
  4. Add, by adoption of a currently unauthorized route into the National Forest Transportation System (NFTS), approximately 0.5 miles of designated motorcycle trail (Maps 1 and 2). This route is currently not shown on the MVUM. Under the proposed action the route would be displayed on the MVUM as a class 3 motorized vehicle trail open to motorcycles only.
  5. Convert from current Maintenance Level ML 2 road to designated OHV trail approximately 0.7 miles on the 72-18 road (Maps 1 and 3). This road segment is currently shown on the MVUM as open for public wheeled motorized vehicle use. Under the proposed action the road segment would be displayed as a class 2 motorized vehicle trail open to ATV's and Motorcycles.
  6. Designate approximately 35.5 miles of existing non-motorized trails (16E05, 16E09, 16E30, 16E85, and 16E86 shown on maps 1 and 4-7) as open for Class 1 E-bike motorized vehicle use, adding them to the National Forest Transportation System (NFTS). Under the proposed action, these trails would be displayed on the MVUM as designated wheeled motorized vehicle trails open only to Class 1 E-bikes. These trails would remain open to existing non-motorized use. Potential environmental impacts and user conflicts were carefully considered in selecting existing trails to propose for Class 1 E-bike use. The proposed trails are currently managed for heavy mountain bike use; are not experiencing known significant recreation user group conflicts; and have no substantial existing resource impacts.
5. **Route Decommission** - Obliterate and restore approximately 41 miles of unsustainable, unauthorized, user created road and trail segments on the TNF located across the proposed project areas. (Maps 1-6) On the HTNF, obliterate and restore approximately .7 miles of user created road which connects onto the TNF. (Maps 1 and 2)
  6. **Staging Area Creation** - Develop or improve 11 managed recreation area staging locations within the three proposed project areas including 2 for the 06 road / Big Chief project area (Maps 1 and 7), 2 for the Boca Hill / Prosser Reservoir project area (Maps 1 and 6), and 7 for the Verdi Ridge project area. (Maps 1-5). These shall be defined as:
    - A - Strategically located to afford access to designated recreation Trails.
    - B - Offering enough space for adequate parking and maneuvering, and the loading and unloading of people, recreational equipment, and horses.
    - C - Containing bathroom Facilities.
    - D - Adequately signed with maps, information on available routes and other recreational activities, and interpretive information designed to mitigate against potential conflicts between multiple user groups.
  7. **Route and Staging Location Management** - Install boulders, signage, and additional barrier structures if necessary at locations around Prosser Reservoir, on the 06 Rd., and along sections of the proposed Verdi Ridge trail in order to direct travel, restrict trail widening, and prevent resource damage in sensitive areas. Install boulders at proposed managed recreation staging areas to delineate parking area boundaries and prevent resource damage. On the

Humboldt-Toiyabe, install one new gate at the 31074B road (Maps 1 and 2), and improve one existing gated road closure on the south side of the 31002 road (Maps 1 and 2).

8. **Watershed Protection** Construct bridges or undertake stream crossing protection and sediment reduction measures, such as rolling dips or decompaction (dependent on individual site evaluation), to restore natural hydrologic function and reduce erosion from existing, altered stream crossings, riparian zones, and or meadow corridors in the Verdi Ridge project area and in the Prosser Reservoir project area (Maps 1-5).
9. **Invasive Plant Treatment** – Treat approximately 40 acres for three priority invasive plant species (Musk thistle - *Carduus nutans*, Spotted knapweed – *Centaurea stoebe ssp. micranthos*, and Canada thistle - *Cirsium arvense*) (Maps 1-4) using a combination of chemical (Aminopyralid) and mechanical methods. Herbicide will be spot sprayed using a backpack spray. Maximum of one initial and one follow-up herbicide treatment will be allowed annually. Herbicides application will be conducted by a licensed applicator and will be in accordance with all label instructions, state and federal regulations and FS direction. Herbicide is limited to aminopyralid at annual max rate of 0.11 lb a.e./ac annually. Adjuvants may be added, but only non-NPE surfactants would be used. Aminopyralid is a selective herbicide (i.e. only controls a certain type of plant, while leaving other plants unaffected). It is primarily used to control broadleaf weeds, certain annual grasses, and certain woody plants and vines, particularly plant species of the aster family. It provides both pre-emergent and post emergent control (i.e. prevents seeds from germination as well as kills plants after they emerge from soil). Additional infestations may be discovered and prioritized for treatment. For chemical use reference information refer to Pesticide Fact Sheet: Aminopyralid (EPA 2005) and Aminopyralid Human Health and Ecological Risk Assessment (SERA 2007).

## Implementation Strategy

The proposal includes staging area creation or improvement, invasive plant treatments, route decommission, new trail construction as well as realignment of existing route segments to provide for a sustainable use, addressing erosion and hydrologic connectivity concerns, and improving user experience and safety. The routes proposals involve four steps: (1) constructing new trail (2) constructing new alignments (3) obliteration and (4) diverting riders to the newly aligned route segments and discouraging use of the replaced segments by de-compacting soil, installing drainage features, reconnecting altered hydrology, and placing native material on the old segments. Construction will involve cutting vegetation and using barriers and signing to encourage use of new or re-routed segments and discourage use of the old, unsustainable segments. A small trail dozer, excavator, or mini-excavator would be used to conduct the work described here. In addition, Forest Service trail staff and volunteer hand crews would assist with the construction work. In less accessible areas, supplies could be brought in with ATV's. Project implementation could begin as early as the spring of 2021.

The specific locations would be refined with ground verification of existing conditions. Additions and changes to motorized trails and roads would be displayed on the Motor Vehicle Use Map (MVUM), the legal document displaying designated motorized trails and roads. Project implementation could begin after the decision using a combination of the Forest Service trails crews, contractors and volunteers. Implementation of the project includes the following Construction Standards and Management Requirements.

## Trail Construction Standards

### **General Standards**

Best Management Practices (BMP's) for trail construction as identified in the Forest Service

Trails Handbook (FSH 2309.18) and Specifications for Construction and Maintenance of Trails (EM-7720-103) as well as management requirements to protect public resources would be incorporated into trail design and construction.

Road and trail work will occur through the use of hand work or by qualified machine operators approved by USFS. Any trail work, other than standard maintenance, will be approved by the TKRD Trails Officer or roads manager prior to commencement. As much as possible, mechanized trail equipment is planned (a small trail dozer/excavator/mini-excavator with a 4 to 6 foot disturbance for ATV and 4X4 designated roads and trails and a trail dozer/micro excavator with a 2-3 foot disturbance for motorcycle designated trails, trees would be avoided where possible and cutting would be kept to a minimum.) New trails would be given time to settle during the winter season prior to being used. Reroutes would be constructed over a period of years and then, after construction is completed, the reroutes would be opened and the unsustainable alignments would be closed and restored concurrently.

- Average Grade Pitch: 5 percent (within approximately 100 feet or overall segment) grade reversal every 100 to 200 feet
- Moderate duration pitches (less than 100 feet): 8 percent max, include grade reversal or out-slope feature
- Moderate duration pitches (less than 50 feet): 12 percent max, include grade reversal or out-slope feature
- The intent on pitch limiters is to create sustainable trail, volume of usage, soil or surface type; hydrology and user types may affect design standards. Steeper segments may be approved with hardened bench elements.
- Bench Width: 24 to 36 inches
- Clearance from trail center: 30 inches for general obstructions
- Brush removal from trail center: 5 feet
- Height clearance: 10 feet

#### ***Guidelines for preventing Resource Damage***

- Build on side slopes
- Avoid ridge-top or fall line alignments
- Stay out of meadows or flatlands where drainage is poor
- Favor the upslope of trees to prevent root damage
- Build mild, undulating trail alignment that utilizes frequent grade reversals
- Out-slope bench when possible
- Camber outside of turns to minimize lateral wear
- Avoid over-pitch alignments
- Create good sight lines
- Design intuitive trail alignments

#### ***Creek or ephemeral drainage crossings***

- Locate crossings at stable locations
- Trail at crossing should always be at least 12 or more inches lower than approach from either side
- Harden the approach to crossings with appropriately sized material, and rolling dips, if applicable, to reduce sedimentation potential and minimize creek disturbance
- If a bridge is used, construct so freeboard is above 100 year mark
- If a bridge is used, construct with design standards to allow for safe and sustainable equestrian access
- If bridge footings are within 100 year mark, embed into embankment 2 feet or more to avoid high water scouring

### **Switchbacks and Rolling Turns**

- Provide grade reversals within 50 feet of both sides of turn and stage so that lower grade reversals catch upper drainage runoff
- Rolling turns have radiuses in excess of 4 feet trail center and occur on slopes which are less than 30 percent
- Switchbacks have radiuses of less than 4 feet trail center and occur on slopes greater than 30 percent
- Anticipate approaches to turns and design speed reduction to eliminate skid bumps
- Identify line of site issues and remove small diameter trees and or trim vegetation to limit blind turns and reduce the potential of surprise encounters
- Keep overall switchback radius bench at 5 to 10 percent max to minimize wear
- If cambering turn, leave flat climbing radius towards center
- Locate turn in spot that limits short cutting
- Separate trails from each other as early as possible

### **Rolling dips, Grade Reversals or Drain Dips**

- Downhill rise should be 6 to 12 inches above low point
- Features should be 10 to 20 feet in length for smooth transitions
- Place at all ephemeral (rarely active) or seasonal drainages

### **Bermed Turns**

- Confirm all turns drain by splitting or tilting the turn on the slope
- Leave un-cambered inside space for hiking or uphill riding
- Evaluate safety and confirm berm is free of encroaching hazards like trees or rocks

## **Management Requirements**

### **Aquatic Wildlife**

**AW1: Barriers.** Ensure that materials used at stream crossings do not create barriers to upstream or downstream passage for aquatic-dependent species.

**AW2: Riparian.** Where possible retain as much riparian vegetation canopy so that activities will not adversely affect water temperatures required for local species.

**AW3: Hazardous spills.** Any hazardous spill event into the water shall be immediately contained and reported to the Forest Service dispatch, Forest Service Hydrologist, and Lahontan Regional Water Quality Control Board.

#### **AW4: Survey**

- Survey any proposed water drafting locations for sensitive aquatic species within one week prior to potential use. Use drafting devices with 2-mm or less screening and place hose intake into bucket in the deepest part of the pool. Use a low velocity water pump and do not pump ponds to low levels beyond which they cannot recover quickly (approximately one hour).
- Survey for sensitive aquatic species, any areas where equipment may travel through stream habitat for OHV trail work (such as re-route, drainage crossing, or bridge construction) within one week prior to potential disturbance.

**AW5: Sightings.** If a sensitive or listed aquatic species is sighted within the project area, all work within 100 feet of aquatic habitat will cease immediately. Inform a Forest Service aquatic biologist of the sighting so that an appropriate course of action can be determined.

**AW6: Tightly woven fiber netting** or similar material shall not be used for erosion control or other purposes within aquatic habitats to ensure aquatic wildlife do not get trapped, injured or killed. Plastic mono-filament netting or similar material shall not be used at any of these projects.

**AW7: Drafting in fish-bearing streams.** The water drafting rate should not exceed 350 gallons per minute (gpm) for streamflow greater than or equal to 4 cubic feet per second (cfs) nor exceed 20 percent of surface flows for streamflow less than 4 cfs. For non-fish-bearing streams, the drafting rate should not exceed 350 gpm for streamflow greater than or equal to 2 cfs, nor exceed 50 percent of surface flows. Water drafting should cease when bypass surface flows drop below 1.5 cfs on fish-bearing streams and 10 gpm on non-fish-bearing streams (USFS Region Five BMP 2.5).

**AW8: Herbicide Use.** Use of herbicide to treat invasive plants will be excluded from any areas where infestations overlap with potentially suitable SNYLF habitat.

### **Botanical Resources**

**BR1: Plumas ivesia (*Ivesia sericoleuca*).** There are eight sub-occurrences of Plumas ivesia that intersect the proposed action (IVSETNF05A, IVSETNF05B, IVSETNF08, IVSETNF13, IVSETNF15A, IVSETNF15B, IVSETNF32A, IVSETNF32B). These areas will be identified on project maps, flagged in the field, and provided to contractors/staff.

- a) Avoid ground disturbing activities including but not limited to route construction, route decommission, temporary and permanent staging areas.
- b) Herbicide applications will not occur within 100ft of occurrences
- c) Use boulders or additional barrier construction where decommissioned routes intersect occurrences (IVSETNF07, IVSETNF15A, and IVSETNF15B) in order to minimize ground disturbance. Coordinate with Forest Service Botanist two weeks prior to implementation.

**BR2:** Prior to implementation, conduct surveys for TEPCS and Watch list botanical species in areas of proposed ground disturbance.

**BR3: Undetected botanical resources.** Any additional TES or TNF Watch list botanical species or other botanical resources discovered prior to or during implementation should be flagged and avoided completely until it can be assessed for impacts by District Botanist.

### **Cultural Resources**

**CR1: Additional Survey.** Additional surveys for cultural resources may be required for areas outside of the current area of potential effect (i.e., staging areas, or trail route adjustments).

**CR2: Non-System Road or Trail Work within Sites.** Obliteration of non-system roads or trails within cultural resource sites may be conducted only with approval from a cultural resource specialist.

**CR3: Additional Survey.** Prior to implementation, additional surveys for cultural resources may be required for areas of proposed ground disturbance outside of the current area of potential effect (such as route decommissioning).

### **Fire and Fuels**

**FF1: Leave access** for fire suppression resources along roads and trails.

**FF2: Excess cut woody material.** Scatter, chip, or remove

## **Herbicide Treatment**

### **HT1: Spray Application**

- a) Only ground-based equipment will be used to apply herbicides.
- b) All application of herbicides will cease when weather conditions exceed those on the label.
- c) Application of herbicides will not be performed when the National Weather Service forecasts a greater than 70 percent probability of measurable precipitation (i.e., precipitation greater than 0.1 inch) within the next 24-hour period.
- d) Application of herbicide will cease when wind speed exceeds 10 miles per hour.
- e) Spray nozzles will produce a relatively large droplet size (e.g., 500 to 800 microns) which are less prone to drift.
- f) Application of herbicide will be sprayed until targeted plants are wet and not dripping to help prevent leaching.

**HT2:** Herbicides will be applied and mixed by trained and/or certified applicators in accordance with label instructions and applicable federal and state pesticide laws.

**HT3:** Personal protective equipment will be used in accordance with the product label and California Department of Pesticide Regulation requirements.

**HT4:** Application of herbicides within 20 feet of riparian vegetation or surface water must be approved by the hydrologist/natural resource specialist. Herbicide may not be applied directly to any surface water.

**HT5:** Chemicals will be stored in designated storage facilities consistent with the Forest Service Manual (FSM) 2109.14, Chapter 40. Unused herbicides will be disposed of in accordance with the product label and FSM 2109.14, Chapter 40. If the product label and FSM differ, the more restrictive storage and disposal guidelines will be followed.

**HT6:** Herbicide mixing will not occur within 150 feet of surface waters, except at existing facilities.

**HT7:** A spill kit will be onsite at all times during herbicide application consistent with FSM 2109.14, Chapter 60.

**HT8:** Adjuvants may be added, but only non-NPE surfactants will be used.

## **Invasive Plants**

### **IP1: Avoidance areas.**

- a) Invasive plant infestations that have not been treated prior to implementation will be avoided with a 50ft buffer.
- b) Avoidance areas will be flagged in the field, identified on project maps, and provided to contractors/staff.
- c) Coordination with the natural resource specialist will occur at least 60 days before implementation of planned treatments.

**IP2: Equipment Cleaning.** All equipment and vehicles (Forest Service and contracted) operating off-road must be free of invasive plant material before moving into the project area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter treatment units.



**IP3: Weed-free construction materials.** All gravel, aggregate, fill, mulch, topsoil, erosion control materials and other construction materials are required to be weed-free. When possible, use onsite materials, unless contaminated with invasive species. Otherwise, obtain weed-free materials from sources that have been certified as weed-free.

**IP4: Project-related disturbance.** Minimize the amount of ground and vegetation disturbance. As necessary, reestablish vegetation on disturbed bare ground to reduce invasive species establishment; revegetation is especially important in staging areas.

**IP5: Revegetation.** Seed and plant mixes must be approved the District Botanist. Neither invasive species nor persistent non-natives will be used in revegetation. Seed lots will be tested for weed seed and test results will be provided to District Botanist. Seed and plant material should be collected from as close to the project area as possible, preferably from within the same watershed or at similar elevation.

**IP6: Early Detection.** Any additional infestations discovered prior to or during project implementation should be flagged and avoided. Report new infestations to District Botanist.

**IP7: Post Project Monitoring.** For projects involving ground disturbance or use of imported materials, notify the District Botanist after the project is completed, so that the project area can be monitored for invasive plants subsequent to project implementation (as funding allows).

**IP8: Survey.** Prior to implementation, conduct surveys for invasive plants in areas proposed for ground disturbance. Additional surveys for invasive plants are needed if trail adjustments are outside of a 50-foot buffer from the originally proposed route.

### ***Recreation and Visual Resources***

**R1:** Construct trail tread by hand, or with small mechanized trail equipment, or a combination of the two. Construct trail tread at a width no greater than 36 inches, most commonly ranging from 18 to 24 inches.

**R2:** Incorporate rolling dips and/or reverse grades into the construction of the trail segments averaging around 100-foot spacing to ensure long-term drainage control.

**R3:** At drainage crossings, move the spoils from trail construction away from the drainage to prevent entry into the waterway.

**R4:** Minimize cut and fill slopes and cover with slash and forest duff to hide contrast of exposed soil.

**R5:** At trailheads and near narrow precipitous segments, increase monitoring of use and install safety signage to educate and inform users.

**R6:** Utilize native timber and rock materials when additional trail building materials are needed or use materials that match the color and texture of native materials.

### ***Terrestrial Wildlife***

**TW1: California spotted owl.** To protect nesting California spotted owl, no mechanized trail construction or chainsaw use will occur between March 1 and August 15 in the following general areas containing Protected Activity Centers (PACs): Big Chief, unless surveys determine they are not nesting. Construction of new trail will remain outside a ½ mile buffer to be placed around all known current and historic nest locations.

**TW2: Northern goshawk.** To protect nesting northern goshawk, no mechanized trail construction or chainsaw use will occur between February 15 and September 15 in the following general areas containing Protected Activity Centers (PACs): Wornmill Canyon, Canyon 4, Big Chief, and Hoke Valley, unless surveys determine they are not nesting. Construction of new trail

will remain outside a ½ mile buffer to be placed around all known current and historic nest locations.

**TW3: Bats.** Report any bat roosts identified during project layout or trail construction to a wildlife biologist. Limit trail construction within 500 feet of identified roosts whenever possible.

**TW4: Large trees and logs.** Locate trails to avoid cutting large trees, trees with evidence of wildlife use (e.g., cavities, nests, etc.), large snags, and large downed logs.

**TW5: TES Species.** If any TES species (Federally threatened, endangered, proposed, or Forest Service sensitive species) previously unknown in the project area are detected or found nesting/roosting within 0.25 miles of project activities, appropriate mitigation measures would be implemented based on input from the aquatics biologist, botanist, and/or wildlife biologist. Measures can include, but are not limited to, flagging and avoiding a plant site, implementing a species specific LOP, or designating a protected activity center.

**TW6: Raptor Nests.** If any active Raptor nest is identified within the boundaries of, or directly adjacent to the project area (within 100 meters) during implementation, a buffer would be placed around the active nest and at the discretion of the District Biologist a species specific LOP may be put into place for the buffer zone.

**TW7: Carnivore Nests and Denning Structures.** If any large stick nests or signs of active denning are observed or detected within or adjacent to the project area (within 100 meters), work will cease in the immediate area and the occurrence will be reported to the wildlife biologist to determine any potential need for further review and/or mitigation measures.

### ***Watershed, Soils and Aquatic Resources***

**WSA1: Shallow stream fords.** When constructing shallow stream fords, locate in shallower portions of the stream. The approaches should climb a short distance above the typical high water line so water is not channeled down the tread. Avoid locations where the stream turns, because the water will undercut approaches on the outside of a turn. The tread in the ford should be level, ideally made of native rock or medium sized gravel that provides solid footing. The objective is to even out the water flow through the ford so the gravel-sized material is not washed away, leaving only cobble or boulders.

**WSA2: Trail approaches to watercourse crossings.** Design watercourse crossings to avoid diversion of flow down the trail should the crossing fail.

- Where possible, make crossing approaches short and level, or reverse the grade if possible.
- Install cross drainage (cut-off water breaks) at crossings to prevent water and sediment from being channeled directly into watercourses.
- Locate cut-off water breaks as close to the crossing as possible without being hydrologically connected to the watercourse.
- Armor steep crossing approaches with stable aggregate or trail-hardening materials.
- Where possible (for example, at bridges or arch culverts), reverse the grade of the crossing approaches so runoff drains away from the watercourse.

**WSA3: Road / Trail decommissioning.** Administratively close decommissioned trail sections to continued use.

- Block access to and obscure the first 100 to 300 feet of the old trail at intersections with the new reroutes and place woody debris (no greater than 12 inches in height) on them to discourage any further use. Utilize regrading, bouldering, and covering regraded area with slash and forest duff as necessary.
- Install drainage structures so water does not concentrate on decommissioned routes. Mulch and or re-vegetate denuded areas with native materials and plants.

- Scarify top 2 to 4 inches of soil to promote water infiltration and return of vegetation. Maintain at least 70 percent effective soil cover prior to winter precipitation. If soil cover cannot be recruited on site, use biodegradable geotextile netting or a thick cover of weed free straw.

**WSA4: Trail drainage.** Look for small draws to locate grade reversals. The trail should climb gently for a few feet on each side of the draw. Construct a trail grade that is less than half of the side-slope grade. For example, on a hill with 6-percent side-slope, trail grade should be no more than 3 percent.

**WSA5: Region 5 Best Management Practices and Trail Construction, Reconstruction and Maintenance standards.** Follow the Trail Construction Standards described in the Tahoe NF Trail Design Standards document and BMPs listed in the Region 5 Soil and Water Conservation Handbook, chapter 10, sections 4.7.1 to 4.7.8. Follow BMP 2.13 to effectively limit and mitigate erosion and sedimentation from any ground-disturbing activities. Develop an erosion control plan to include mitigation measures, requirements to meet BMPs, specifications and any federal or state permit requirements.

**WSA6: Stream Channel Crossings.** The proposed crossings will be designed to slightly modify the existing channel without significantly changing capacity or channel form, without adding fill or excavating (dredge). The proposed design will be constructed to maintain flow capacity and only minor changes, rearranging in channel rock for ingress and egress are proposed.

**WSA7: Storm Precipitation Action Plan.** Stop operations during periods of inclement weather (runoff producing rainfall or wet soil conditions) that create erosion or soil deformation (rutting) and implement temporary erosion control measures as needed until the site is dry enough to resume work. Provide erosion control measures on completed sections of trail or decommissioned sections of trail.

**WSA8: Construction Dry Periods.** Dry period construction leads to increased pulverization of soils and an associated increase in the potential for air or water transport, as soils tend to be less cohesive when overly dry. Adequate water must be both made available for, and applied to, dry at risk soils during construction to increase cohesion thereby minimizing these potential impacts.

**WSA9: Refueling and Maintenance of Equipment.** Refueling and maintenance of equipment should be carried out in areas removed from drainages and riparian vegetation and outside of SEZ/WBBZ.

## Alternative 2 – No Action

Maintenance would occur on existing roads and trails. Wet weather seasonal closure dates would remain for public wheeled motor vehicle travel on NFS roads and trails on the Truckee Ranger District. The following activities would not occur as proposed in Alternative 1: wet weather closures, new trail construction, staging area creation / improvement, trail / road reroutes, decommissioning, bridge construction, barrier fencing, gate and boulder placement, road closure, and proposals related to e-bike use. The result would be a continued lack of opportunity for motorcycle riding and other OHV use experiences. Trail opportunities would also be lost for non-motorized users and unlicensed vehicle users, who would have to re-load and off-load their vehicles. The effects of taking no action would continue.

# **Appendix B. Air Quality Data: Daily Emissions Estimates**

East Zone Connectivity and Restoration Project Phase 1

Road Constructions Emissions Model, Version 9.0.0

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Appendix B: Air Quality Data: Daily Emissions Estimates

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Tahoe NF East Zone Connectivity Trails															
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)	
Grubbing/Land Clearing	9.14	59.75	26.78	4.42	2.22	2.20	1.86	1.40	0.46	0.15	14,594.22	2.20	0.44	14,779.38	
Grading/Excavation	8.80	58.36	28.29	4.47	2.27	2.20	1.90	1.45	0.46	0.15	14,945.14	2.43	0.39	15,122.77	
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Maximum (pounds/day)	9.14	59.75	28.29	4.47	2.27	2.20	1.90	1.45	0.46	0.15	14,945.14	2.43	0.44	15,122.77	
Total (tons/construction project)	3.53	23.30	11.00	1.76	0.89	0.87	0.75	0.57	0.18	0.06	5,871.95	0.93	0.16	5,943.29	
Notes: Project Start Year -> 2022 Project Length (months) -> 36 Total Project Area (acres) -> 4000 Maximum Area Disturbed/Day (acres) -> 0 Water Truck Used? -> No															
		Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)											
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck									
Grubbing/Land Clearing	25	0	20	0	12,375	0									
Grading/Excavation	0	0	0	0	12,375	0									
Drainage/Utilities/Sub-Grade	0	0	0	0	0	0									
Paving	0	0	0	0	0	0									
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified. Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K. CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.															
Total Emission Estimates by Phase for -> Tahoe NF East Zone Connectivity Trails															
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)	
Grubbing/Land Clearing	1.21	7.89	3.53	0.58	0.29	0.29	0.25	0.19	0.06	0.02	1,926.44	0.29	0.06	1,769.62	
Grading/Excavation	2.32	15.41	7.47	1.18	0.60	0.58	0.60	0.38	0.12	0.04	3,945.52	0.64	0.10	3,621.89	
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Maximum (tons/phase)	2.32	15.41	7.47	1.18	0.60	0.58	0.60	0.38	0.12	0.04	3,945.52	0.64	0.10	3,621.89	
Total (tons/construction project)	3.53	23.30	11.00	1.76	0.89	0.87	0.75	0.57	0.18	0.06	5,871.95	0.93	0.16	5,943.29	
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified. Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K. CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs. The CO2e emissions are reported as metric tons per phase.															

# **Appendix C. Special-Status Species Tables**

## East Zone Connectivity and Restoration Project Phase 1

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## Appendix C: Special-Status Species Tables

Table C-1. Special-Status Plant Species with the Potential to Occur in the Project Area

Species <sup>1, 2, 3, 4, 5</sup>	Status <sup>2</sup>	Range in California <sup>3</sup>	Habitat Requirements <sup>2, 3, 5</sup>	Life Form; Blooming Period <sup>3</sup>	Potential Occurrence in the Project Area <sup>3, 4, 5</sup>
<b>NON-VASCULAR SPECIES</b>					
upswept moonwort <i>Botrychium ascendens</i>	CRPR 2B.3, USFS-S	Sierra Nevada Range and other mountain ranges from the northeastern border of California to near Los Angeles.	Lower montane coniferous forest, meadows and seeps. Grassy fields, coniferous woods near springs and creeks. 1115-3265 m.	perennial rhizomatous herb; (Jun) Jul-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.
scalloped moonwort <i>Botrychium crenulatum</i>	CRPR 2B.2, USFS-S	Sierra Nevada Range and other mountain ranges from the northeastern border of California to near Los Angeles.	Bogs and fens, meadows and seeps, upper montane coniferous forest, lower montane coniferous forest, marshes, and swamps. Moist meadows, freshwater marsh, and near creeks. 1185-3110 m.	perennial rhizomatous herb; Jun-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.
Slender moonwort <i>Botrychium lineare</i>	CRPR 1B.1, USFS-S	Primarily the eastern Sierra Nevada Range from near Lee Vining to the Sequoia National Forest.	Upper coniferous forest, subalpine coniferous forest, meadows, and seeps. 2560-3115 m.	perennial herb; unknown	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.
common moonwort <i>Botrychium lunaria</i>	CRPR 2B.3, USFS-S	Northeastern Sierra Nevada Range from Sierraville to Lee Vining, and Warner Mountains in northeastern California.	Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. 1950-3415 m.	perennial rhizomatous herb; Aug	<b>Low Potential.</b> Occurrences are known north of the Prosser Creek Reservoir; however, the project is not expected to impact suitable habitat.
Mingan moonwort <i>Botrychium minganense</i>	CRPR 2B.2, USFS-S	Sierra Nevada Range from near Mt. Shasta to Sequoia National Park, and Warner Mountains in northeastern California.	Lower montane coniferous forest, upper montane coniferous forest, bogs and fens, meadows and seeps. Creekbanks in mixed conifer forest. 1190-3295 m.	perennial rhizomatous herb; Jul-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.



Species <sup>1, 2, 3, 4, 5</sup>	Status <sup>2</sup>	Range in California <sup>3</sup>	Habitat Requirements <sup>2, 3, 5</sup>	Life Form; Blooming Period <sup>3</sup>	Potential Occurrence in the Project Area <sup>3, 4, 5</sup>
western goblin <i>Botrychium montanum</i>	CRPR 2B.1, USFS-S	Sierra Nevada Range from Modoc National Forest to Inyo National Forest, and the Warner Mountain Range.	Lower montane coniferous forest, upper montane coniferous forest, meadows and seeps. Creekbanks in old-growth forest. 1430-2430 m.	perennial rhizomatous herb; Jul-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.
moosewort <i>Botrychium tunux</i>	CRPR 2B.1, USFS-S	In California, found only in the Tenaya Lake and Yosemite Falls USGS Quads in Mariposa County.	Alpine boulder and rock field. Calcareous substrates. 3050 m.	perennial rhizomatous herb; Aug-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.
Bolander's bruchia <i>Bruchia bolanderi</i>	CRPR 4.2 USFS-S	Sierra Nevada Range and other mountain ranges in California from the northern border to Sequoia National Forest.	Damp soils within Lower montane coniferous forest, Meadows and seeps, and upper montane coniferous forest. Moss which grows on damp clay soils. Seems to colonize bare soil along streambanks, meadows, fens, and springs. This species has an ephemeral nature and is disturbance adapted. 1610-3340 m.	perennial herb; unknown	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.
three-ranked hump moss <i>Meesia triquetra</i>	CRPR 4.2	Sierra Nevada Range and other mountain ranges in California from the northern border to Sequoia National Park.	Bogs and fens, meadows and seeps, upper montane coniferous forest, subalpine coniferous forest. Moss growing on mesic soil. Saturated bogs, fens, seeps and meadows in coniferous to subalpine forests. 1300-2955 m.	moss; July	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.
broad-nerved hump moss <i>Meesia uliginosa</i>	CRPR 2B.2, USFS-S	Sierra Nevada Range and other mountain ranges in California from the northern border to Sequoia National Forest.	Meadows and seeps, bogs and fens, upper montane coniferous forest, subalpine coniferous forest. Moss on damp soil. Often found on the edge of fens or raised above the fen on hummocks/ shrub bases. 1095-2805 m.	moss; Jul-Oct	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat is not present within the project area.

Species <sup>1, 2, 3, 4, 5</sup>	Status <sup>2</sup>	Range in California <sup>3</sup>	Habitat Requirements <sup>2, 3, 5</sup>	Life Form; Blooming Period <sup>3</sup>	Potential Occurrence in the Project Area <sup>3, 4, 5</sup>
<b>ANGIOSPERM: MONOCOTS</b>					
Davy's sedge <i>Carex davyi</i>	CRPR 1B.3	Sierra Nevada Range from Lassen National Forest to Yosemite National Park.	Subalpine coniferous forest, upper montane coniferous forest. 1605-3230 m.	perennial herb; May-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
mud sedge <i>Carex limosa</i>	CRPR 2B.2	Sierra Nevada Range from Shasta-Trinity National Forest to Sierra National Forest, and Warner Mountain Range.	Bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest. In floating bogs and soggy meadows and edges of lakes. 1370-2790 m.	perennial rhizomatous herb; Jun-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
slender cottongrass <i>Eriophorum gracile</i>	CRPR 4.2	Sierra Nevada Range from Mt. Shasta to Yosemite National Park, Coast Range from Santa Rosa to Coalinga, and Warner Mountain Range.	Bogs and fens, meadows and seeps, upper montane coniferous forest. Acidic soils. 1280-2900 m.	perennial rhizomatous herb (emergent); May-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Center Basin rush <i>Juncus hemiendytus</i> var. <i>abjectus</i>	CRPR 4.3	Sierra Nevada Range from the northern border to Sequoia National Forest, and Warner Mountain Range.	Subalpine coniferous forest, meadows, and seeps. Mesic sites. 1400-3400 m.	annual herb; May-Jun (Jul)	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Santa Lucia dwarf rush <i>Juncus luciensis</i>	CRPR 1B.2	Sierra Nevada Range from Modoc National Forest to Lake Tahoe, Coast Range from near Santa Rosa to San Diego.	Vernal pools, meadows and seeps, lower montane coniferous forest, chaparral, Great Basin scrub. Vernal pools, ephemeral drainages, wet meadow habitats and stream sides. 280-2035 m.	annual herb; Apr-Jul	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Robbins' pondweed <i>Potamogeton robbinsii</i>	CRPR 2B.3	Klamath National Forest and Sierra Nevada Range from Plumas National Forest to Kings Canyon National Park.	Marshes and swamps. Deep water, lakes. 1525-3495 m.	perennial rhizomatous herb (aquatic); Jul-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
<b>ANGIOSPERMS: DICOTS</b>					

Species <sup>1, 2, 3, 4, 5</sup>	Status <sup>2</sup>	Range in California <sup>3</sup>	Habitat Requirements <sup>2, 3, 5</sup>	Life Form; Blooming Period <sup>3</sup>	Potential Occurrence in the Project Area <sup>3, 4, 5</sup>
Washoe Tall Rockcress <i>Arabis rectissima</i> var. <i>simulans</i>	USFS-S	Not found in California. Restricted to the Central Carson Range of western Nevada.	Open, rocky areas along forest edges of conifer and/or aspen stands; usually found on north aspects, above 2286	perennial herb; May-Jul	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Galena Creek rockcress <i>Arabis rigidissima</i> var. <i>demota</i>	CRPR 1B.2, USFS-S	Endemic to the mountains surrounding Lake Tahoe.	Broadleaved upland forest, upper montane coniferous forest. Well-drained, stony soil underlain by basic volcanic rock. 2270-2805 m.	perennial herb; Jul-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
threetip sagebrush <i>Artemisia tripartita</i> ssp. <i>tripartita</i>	CRPR 2B.3	Northern Lake Tahoe region and near Janesville.	Upper montane coniferous forest. Openings in the forest. Rocky, volcanic soils. 2285-2440 m.	perennial shrub; Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Lemmon's milkvetch <i>Astragalus lemmonii</i>	CRPR 1B.2, USFS-S	Eastern side of Sierra Nevada Range from Modoc National Forest to Inyo National Forest.	Great Basin scrub, meadows and seeps, marshes and swamps. Lakeshores, meadows, and seeps. 1005-2865 m.	perennial herb; May-Aug (Sep)	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
clustered-flower cryptantha <i>Cryptantha glomeriflora</i>	CRPR 4.3†	Sierra Nevada Range from Lassen National Forest to Sequoia National Forest.	Great Basin scrub, meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Granitic or volcanic soils; sandy sites. 1800-3750 m.	annual herb; Jun-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
English sundew <i>Drosera anglica</i>	CRPR 2B.3	Klamath National Forest, Sierra Nevada Range from Shasta-Trinity National Forest to Truckee, and Warner Mountain Range.	Bogs and fens, meadows, and seeps. 600-2045 m.	perennial herb (carnivorous); Jun-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
northern Sierra daisy <i>Erigeron petrophilus</i> var. <i>sierrensis</i>	CRPR 4.3†	Sierra Nevada Range north of Spring Valley/Happy Valley area to just south of Lake Almanor.	Lower montane coniferous forest, upper montane coniferous forest, cismontane woodland. Rocky foothills to montane forest, sometimes on serpentine. 300-2075 m.	perennial rhizomatous herb; Jun-Oct	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.

Species <sup>1, 2, 3, 4, 5</sup>	Status <sup>2</sup>	Range in California <sup>3</sup>	Habitat Requirements <sup>2, 3, 5</sup>	Life Form; Blooming Period <sup>3</sup>	Potential Occurrence in the Project Area <sup>3, 4, 5</sup>
Slide mountain buckwheat <i>Eriogonum ovalifolium</i> var. <i>eximium</i>	CRPR 4.3†	In California, found only in the Robb's Peak USGS Quad.	Subalpine coniferous forest, alpine boulder and rock fields. Granitic sand; dry flats and ridges. 1800-3400 m.	perennial herb; Jun-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible
Altered andesite buckwheat <i>Eriogonum robustum</i>	USFS-S	Not found in California; only known from the Reno-Sparks-Virginia City area of Nevada.	Grows on altered andesite soils, often with yellow pines.	perennial herb; Jun-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and suitable habitat for this species is not known to occur within the project area.
Donner Pass buckwheat <i>Eriogonum umbellatum</i> var. <i>torreyanum</i>	CRPR 1B.2, USFS-S	North of Lake Tahoe to west of Reno.	Upper montane coniferous forest, meadows, and seeps. Steep slopes and ridgetops; rocky, volcanic soils; usually in bare or sparsely vegetated areas. 1810-2560 m.	perennial herb; Jul-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
alkali hymenoxys <i>Hymenoxys lemmonii</i>	CRPR 2B.2	Eastern California from Yreka to Death Valley National Park.	Great Basin scrub, lower montane coniferous forest, meadows and seeps. Subalkaline soils. 805-2745 m.	perennial herb; (May) Jun-Aug (Sep)	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Sierra Valley ivesia <i>Ivesia aperta</i> var. <i>aperta</i>	CRPR 1B.2, USFS-S	North of Lake Tahoe to just south of Honey Lake.	Great Basin scrub, pinyon and juniper woodland, lower montane coniferous forest, meadows, and seeps. Usually in loamy soils derived from volcanics. Grassy areas w/in sagebrush scrub or other communities. 1480-1985 m	perennial herb; Jun-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Dog Valley ivesia <i>Ivesia aperta</i> var. <i>canina</i>	CRPR 1B.1, USFS-S	Near Lake Tahoe west of Reno.	Lower montane coniferous forest, meadows. Shallow rocky soil of volcanic origin. 1735-1920 m.	perennial herb; Jun-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.

Species <sup>1, 2, 3, 4, 5</sup>	Status <sup>2</sup>	Range in California <sup>3</sup>	Habitat Requirements <sup>2, 3, 5</sup>	Life Form; Blooming Period <sup>3</sup>	Potential Occurrence in the Project Area <sup>3, 4, 5</sup>
Plumas ivesia <i>Ivesia sericoleuca</i>	CRPR 1B.2, USFS-S	Sierra Nevada Range from Janesville to Lake Tahoe.	Great Basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools. Vernally mesic areas; usually volcanic substrates. 1315-2135 m.	perennial herb; May-Oct	<b>Expected.</b> There are three known occurrences in the project area on the southeast side of the Boca Reservoir.
Webber's ivesia <i>Ivesia webberi</i>	FT, CRPR 1B.1, USFS-S	Northeastern California in Lassen, Plumas and Sierra counties.	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Rocky or gravelly volcanic soils. 1035-1920 m.	perennial herb; May-Jul	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Hutchinson's lewisia <i>Lewisia kelloggii</i> ssp. <i>hutchisonii</i>	CRPR 3.2, USFS-S	Sierra Nevada Range from Shasta-Trinity National Forest to Stanislaus National Forest; also Klamath and Six Rivers National Forests in the northwest.	Upper montane coniferous forest. On slate; in openings and on ridgetops. Sometimes on rhyolite tuff. 765-2365 m.	perennial herb; (Apr) May-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Kellogg's lewisia <i>Lewisia kelloggii</i> ssp. <i>kelloggii</i>	CRPR 3.2, USFS-S	Sierra Nevada Range from Lassen National Forest to Yosemite National Park.	Upper montane coniferous forest. On slate; in openings and on ridgetops. Sometimes on rhyolite tuff. 765-2365 m.	perennial herb; (Apr) May-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Gray's lomatium <i>Lomatium grayi</i>	CRPR 2B.3	Warner Mountain Range and near Truckee.	Great Basin scrub, pinyon and juniper woodland. 1400-1985 m.	perennial herb; Apr-Jun	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
beautiful shootingstar <i>Primula pauciflora</i>	CRPR 4.2†	Sierra Nevada Range and other mountain ranges from the northern border to Inyo National Forest.	Great Basin scrub, meadows and seeps, pinyon and juniper woodland. Mesic sites. 1000-2380 m.	perennial herb; Apr-Jun	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
alder buckthorn <i>Rhamnus alnifolia</i>	CRPR 2B.2	Sierra Nevada Range from Lassen National Forest to Lake Tahoe.	Meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, riparian scrub. Mesic sites. 1460-2135 m.	perennial deciduous shrub; May-Jul	<b>Low Potential.</b> Occurrences are known near the Sawtooth area and Truckee; however, the project is not expected to impact suitable habitat.

Species <sup>1, 2, 3, 4, 5</sup>	Status <sup>2</sup>	Range in California <sup>3</sup>	Habitat Requirements <sup>2, 3, 5</sup>	Life Form; Blooming Period <sup>3</sup>	Potential Occurrence in the Project Area <sup>3, 4, 5</sup>
Tahoe yellow cress <i>Rorippa subumbellata</i>	SE, CRPR 1B.1	Lake Tahoe region.	Lower montane coniferous forest, meadows and seeps. Sandy beaches, on lakeside margins and in riparian communities; on decomposed granite sand. 1895-2410 m.	perennial rhizomatous herb; May-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
marsh skullcap <i>Scutellaria galericulata</i>	CRPR 2B.2	Sierra Nevada Range from northern border to Eldorado National Forest, and Stockton area.	Marshes and swamps, lower montane coniferous forest, meadows and seeps. Swamps and wet places. 0-1950 m.	perennial rhizomatous herb; Jun-Sep	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
cut-leaf checkerbloom <i>Sidalcea multifida</i>	CRPR 2B.3	Eastern side of Sierra Nevada Range from Honey Lake to Bridgeport, and Sequoia National Park and Forest.	Lower montane coniferous forest, meadows and seeps, Great Basin scrub, pinyon and juniper woodland. 1280-2760 m.	perennial herb; May-Sep	<b>Expected.</b> Occurrences are known near the Stampede Meadows Road (County Highway 894) Little Truckee River and Boca Reservoir.
obtuse starwort <i>Stellaria obtusa</i>	CRPR 4.3	Sierra Nevada Range from Lassen National Forest to Yosemite National Park; also Six Rivers and Mendocino National Forests in the northwest.	Upper montane coniferous forest, lower montane coniferous forest, riparian woodland. Streams or seeps in conifer forest. 150-2135 m.	perennial rhizomatous herb; May-Sep (Oct)	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.
Howell's tauschia <i>Tauschia howellii</i>	CRPR 1B.3, USFS-S	Klamath National Forest, Inyo National Forest, and Kings Canyon National Park.	Subalpine coniferous forest, upper montane coniferous forest. Hot dry ridge summits and slopes in decomposed granite gravel and red sand. 1720-2440 m.	perennial herb; Jun-Aug	<b>Not Expected.</b> No occurrences are known to exist in the project area, and potential impacts to suitable habitat for this species is negligible.

**STATUS KEY:****Federal**

FE: Federally-listed Endangered

FT: Federally-listed Threatened

USFS-S: United States Forest Service - Sensitive

**State**

SE: State-listed Endangered

SR: State-listed Rare

ST: State-listed Threatened

**California Native Plant Society (CNPS) California Rare Plant Rank (CRPR):**

1B: Plants listed as rare, threatened, or endangered in California and elsewhere

2B: Plants rare, threatened, or endangered in California, but more common elsewhere

3: Plants about which we need more information

4: Watch list: plants of limited distribution

CNPS CRPR added a decimal threat rank to the List rank to parallel that used by the CNDDDB. This extension replaces the E (Endangerment) value from the R-E-D Code. CRPR ranks therefore read as 1B.1, 1B.2, etc. Threat code extensions and their meanings are as follows:

- .1 – Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat)
- .2 – Fairly endangered in California (20-80% occurrences threatened)
- .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

**NOTES:**

†CRPR List 3 and 4 species are included in the table for informational purposes only and are not included in the CEQA analysis. List 3 and 4 species that are also listed as sensitive by the USFS are included in the analysis.

**SOURCES:**

1. U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPAC) Species List (October 8, 2021).
2. California Natural Diversity Database (CNDDDB) Rarefind 5 search of Boca USGS Quad and eight surrounding quads; BIOS five-mile radius search (October 13, 2021).
3. California Native Plant Society (CNPS) Rare and Endangered Plant Inventory search of Boca USGS Quad and eight surrounding quads (October 13, 2021).
4. United States Department of Agriculture Forest Service. December 2020. East Zone Connectivity and Restoration Project Environmental Assessment
5. USFS Tahoe. 2021. Habitat Management Program for Off-Highway Motor Vehicle Recreation Division Department of Parks and Recreation, Grants and Cooperative Agreements Program



**Table C-2. Special-Status Animal Species with the Potential to Occur in the Project Area**

Species <sup>1A, 1B, 2, 3, 4</sup>	Status <sup>1A</sup>	Geographic Distribution <sup>1A, 1B, 2, 3, 4</sup>	Habitat Requirements <sup>1A, 1B, 2, 3, 4</sup>	Potential for Occurrence <sup>5, 6, 7</sup>
<b>INVERTEBRATES</b>				
Morrison bumblebee <i>Bombus morrisoni</i>	CNDDDB	From the Sierra-Cascade ranges eastward across the intermountain west.	Food plant genera include <i>Cirsium</i> , <i>Cleome</i> , <i>Helianthus</i> , <i>Lupinus</i> , <i>Chrysothamnus</i> , and <i>Melilotus</i> .	<b>High Potential.</b> There is suitable habitat for this species in the project area. However, since this species is currently only CNDDDB-tracked, and therefore not known to be a sensitive species at this time, no impacts are assessed for this analysis.
Western bumblebee <i>Bombus occidentalis</i>	SCE, USFS-S	Once common and widespread, this species has declined precipitously from central CA to southern British Columbia., perhaps from disease.	Western bumble bees use a wide variety of natural, agricultural, urban, and rural habitat types. Require suitable nesting sites, overwintering sites for the queens, and nectar and pollen resources throughout the spring, summer, and fall.	<b>High Potential.</b> There is suitable habitat for this species in the project area. It was recorded south of the Boca Reservoir in 1958.
Kings Canyon cyrtochian caddisfly <i>Cryptochia excella</i>	CNDDDB	Narrowly distributed in cold springs in the Sierra Nevada.	Restricted to spring stream and source.	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.
Monarch butterfly <i>Danaus plexippus</i>	FC, USFS-S	North America from southern Canada south to South America and the Caribbean. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	<b>Low Potential.</b> Activities would not occur along or in close proximity to any known occurrences on TNF.
Amphibious caddisfly <i>Desmona bethula</i>	CNDDDB	Sierra Nevada, including Madera, Mariposa, Mono, Nevada, Placer, Plumas, and Sierra counties, and Sequoia National Park	Mostly small, first order streams in open, wet meadows. Also found in beaver ponds and second order streams. Final instar larvae leave the water at night to feed on riparian vegetation and return to water at sunrise.	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.
Kings Creek ecclysomyian caddisfly <i>Ecclisomyia bilera</i>	CNDDDB	Narrowly distributed in springs in the Sierra Nevada and Cascades.	Fresh water sources, springs	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.

Species <sup>1A, 1B, 2, 3, 4</sup>	Status <sup>1A</sup>	Geographic Distribution <sup>1A, 1B, 2, 3, 4</sup>	Habitat Requirements <sup>1A, 1B, 2, 3, 4</sup>	Potential for Occurrence <sup>5, 6, 7</sup>
Sagehen Creek goeracean caddisfly <i>Goeracea oregona</i>	CNDDDB	Known from several sites in Nevada Co. and perhaps also from Mt. Tamalpais in Marin Co.	Found in relatively warm springs.	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.
Cold Spring caddisfly <i>Lepidostoma ermanae</i>	CNDDDB	Only known from cold springs in the vicinity of Sagehen Creek.	Cold springs.	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.
Western pearlshell <i>Margaritifera falcata</i>	CNDDDB	Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope.	Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.
Sheldon's amphipod <i>Stygobromus sheldoni</i>	CNDDDB	Known only from springs in Nevada County.	Aquatic habitats, springs.	<b>Low Potential.</b> Project activities would not occur within specific habitats and conditions required by the species.
Sierra amphipod <i>Stygobromus sierrensis</i>	CNDDDB	Known only from springs in Sierra County	Aquatic habitats, springs.	<b>Low Potential.</b> Project activities would not occur within specific habitats and conditions required by the species.
<b>FISH</b>				
Lahontan mountain sucker <i>Catostomus lahontan</i>	CSSC	Occur in the Walker, Carson, Truckee and Susan river drainages of the Lahontan basin in the eastern Sierra Nevada, but not in the Eagle Lake basin. Also found in the North Fork Feather River drainage, mainly in Red Clover Creek.	Found in shallow (< 2 m), clear, low-gradient streams; associated with diverse substrates, from sand to boulders, in areas with dense cover. Have been found in streams at elevations up to 2800 m and at temperatures of 1-25C.	<b>Expected.</b> This species is known from the Truckee River, Little Truckee River, and tributaries.
Cui-ui <i>Chasmistes cujus</i>	FE	Pyramid Lake and the lower Truckee River; extirpated from Winnemucca Lake in northwestern Nevada	Spend most of year in open waters of large lakes. They feed on plankton. Spawn in tributary streams.	<b>Moderate Potential.</b> This species has not been recorded in the project area, but some suitable habitat exists.
Lahontan cutthroat trout <i>Oncorhynchus clarkii henshawi</i>	FT	Historically in all accessible cold waters of the Lahontan Basin in a wide variety of water temps and conditions.	Cannot tolerate presence of other salmonids. Requires gravel riffles in streams for spawning.	<b>Moderate Potential.</b> This species has not been recorded in the project area, but some suitable habitat exists.
Mountain whitefish <i>Prosopium williamsoni</i>	CSSC	Western North America, from California to Alaska	Mountain whitefish inhabit clear, cold streams and rivers, and occasionally lakes.	<b>High Potential.</b> This species is known from the Truckee River.

Species <sup>1A, 1B, 2, 3, 4</sup>	Status <sup>1A</sup>	Geographic Distribution <sup>1A, 1B, 2, 3, 4</sup>	Habitat Requirements <sup>1A, 1B, 2, 3, 4</sup>	Potential for Occurrence <sup>5, 6, 7</sup>
Lahontan Lake tui chub <i>Siphatales bicolor pectinifer</i>	CSSC	Lahontan Basin from California to Nevada: Lake Tahoe (formerly); Pyramid Lake, Nevada; Walker Lake, Nevada. Possibly (need taxonomic study) also Topaz Lake, California and Nevada; Honey Lake, California, and populations on the Little Truckee River.	Inhabits large, deep lakes. Tolerates a wide range of physiochemical water conditions. Spawns in near-shore shallow areas over beds of aquatic vegetation.	<b>High Potential.</b> Not found in the project area in past fish surveys, but tui chub in Boca Reservoir could be this species.
<b>AMPHIBIANS</b>				
Southern long-toed salamander <i>Ambystoma macrodactylum sigillatum</i>	CSSC	High elevation meadows and lakes in the Sierra Nevada, Cascade, and Klamath mountains.	Aquatic larvae occur in ponds and lakes. Outside of breeding season adults are terrestrial and associated with underground burrows of mammals and moist areas under logs and rocks.	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.
Sierra Nevada yellow-legged frog <i>Rana sierrae</i>	FE, ST, USFS-S	Diamond Mountains northeast of the Sierra Nevada in Plumas County, CA south through the Sierra Nevada to Matlock Lake just east of Kearsarge Pass, Inyo County	Always encountered within a few feet of water. Tadpoles may require 2 - 4 years to complete their aquatic development.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area, although it has not been previously recorded in the project area.
<b>BIRDS</b>				
Northern goshawk <i>Accipiter gentilis</i>	CSSC, USFS-S	Inhabits forested areas all around the northern hemisphere, including both North America and Eurasia.	Within, and in vicinity of, coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area. It is a year-round resident of the Tahoe National Forest but is not known from the project area.
Greater sandhill crane <i>Antigone canadensis tabida</i>	ST, CFP, USFS-S	Nests in wetland habitats in northeastern California; winters in the Central Valley.	Prefers grain fields within 4 miles of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.	<b>Not Expected.</b> There is no suitable habitat for this species in the project area

Species <sup>1A, 1B, 2, 3, 4</sup>	Status <sup>1A</sup>	Geographic Distribution <sup>1A, 1B, 2, 3, 4</sup>	Habitat Requirements <sup>1A, 1B, 2, 3, 4</sup>	Potential for Occurrence <sup>5, 6, 7</sup>
White-headed woodpecker <i>Dryobates albolarvatus</i>	USFS-S	Western North America, from San Diego Co., California, USA, to extreme southern British Columbia, CAN; is listed as Endangered by the Committee on the Status of Endangered Wildlife in Canada	Inhabits dry conifer forests; nests in recently burned and unburned forests with a combination of open and closed canopies. Associated with fire, and typically occupies recent burned areas, and areas dominated by ponderosa pine.	<b>High Potential.</b> There is suitable habitat for this species in the project area. This species is common in the Tahoe National Forest.
Willow flycatcher <i>Empidonax traillii</i>	SE, USFS-S	North, South, and Central America	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2000-8000 ft elevation. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.	<b>Not Expected.</b> There is no suitable habitat for this species in the analysis area; the project would avoid dense riparian vegetation.
Bald eagle <i>Haliaeetus leucocephalis</i>	SE, CFP, USFS-S	Year-round resident in northern California, winters throughout the rest of the state.	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests are within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	<b>Expected.</b> There is suitable habitat for this species in the project area. There is a known nesting territory at Boca Reservoir.
Mountain quail <i>Oreortyx pictus</i>	USFS-S	Western North America from Oregon, USA, to Baja California, MEX.	Desert scrub with heavy ground cover, chaparral, and mixed or coniferous woodlands with aspen, manzanita, willow, or sagebrush. Occurs from about 2,000 feet to over 10,000 feet elevation.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area. Known to occur in Humboldt-Toiyabe NF to the northeast of the project area.
Yellow warbler <i>Setophaga petechia</i>	CSSC	Summer resident throughout much of California.	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	<b>Low Potential.</b> Project activities would not occur within specific habitats and conditions required by the species.

Species <sup>1A, 1B, 2, 3, 4</sup>	Status <sup>1A</sup>	Geographic Distribution <sup>1A, 1B, 2, 3, 4</sup>	Habitat Requirements <sup>1A, 1B, 2, 3, 4</sup>	Potential for Occurrence <sup>5, 6, 7</sup>
Great grey owl <i>Strix nebulosa</i>	SE, USFS-S	Alaska across Canada, down the Northern Rocky Mountains, and northern Minnesota within the US; also, Northern Europe and Asia	Resident of mixed conifer or red fir forest habitat, in or on edge of meadows. Requires large diameter snags in a forest with high canopy closure, which provide a cool sub-canopy microclimate.	<b>Not Expected.</b> There is no suitable habitat for this species in the project area
California spotted owl <i>Strix occidentalis occidentalis</i>	CSSC, USFS-S	Southern Cascade Range of northern California south along the west slope of the Sierra Nevada and in mountains of central and southern California nearly to the Mexican border, with three sight records from the Sierra San Pedro Mártir of northern Baja California	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area. This species is known to occur in the Tahoe National Forest, although there are no Protected Activity Centers (PACs) mapped in the project area.
<b>MAMMALS</b>				
Pallid bat <i>Antrozous pallidus</i>	CSSC	Throughout California, the pallid bat is usually found in low to middle elevation habitats below 6000 feet; however, the species has been found up to 10,000 feet in the Sierra Nevada Mountains.	Found in chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean Desert scrub, riparian woodland, Sonoran Desert scrub, upper montane coniferous forest, and valley & foothill grassland habitats. Prefers deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area. Pallid bat was previously recorded in the Sierraville Ranger District of the Tahoe National Forest in 1999.
Sierra Nevada mountain beaver <i>Aplodontia rufa californica</i>	CSSC	Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope.	Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.

Species <sup>1A, 1B, 2, 3, 4</sup>	Status <sup>1A</sup>	Geographic Distribution <sup>1A, 1B, 2, 3, 4</sup>	Habitat Requirements <sup>1A, 1B, 2, 3, 4</sup>	Potential for Occurrence <sup>5, 6, 7</sup>
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	CSSC	In California, the range is nearly state-wide except the highest peaks of the Sierra Nevada Mountains.	Found in broadleaved upland forest, chaparral, chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, meadow and seep, Mojavean Desert scrub, riparian forest, riparian woodland, Sonoran Desert scrub, Sonoran thorn woodland, upper montane coniferous forest, and valley & foothill grassland habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area. Only documented maternity colony in the Tahoe National Forest is 46 miles north of the project area in Sierra City.
North American porcupine <i>Erethizon dorsatum</i>	CNDDDB	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges.	Wide variety of coniferous and mixed woodland habitat.	<b>High Potential.</b> There is suitable habitat for this species in the project area. However, since this species is currently only CNDDDB-tracked, and therefore not known to be a sensitive species at this time, no impacts are assessed for this analysis.
Spotted bat <i>Euderma maculatum</i>	CSSC, USFS-S	Western North America from British Columbia, CAN to Durango, MEX	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area, but it hasn't been previously recorded in the area.
Silver-haired bat <i>Lasionycteris noctivagans</i>	CNDDDB	Throughout the United States (excluding Florida), Mexico, and Canada	Primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	<b>High Potential.</b> There is suitable habitat for this species in the project area. However, since this species is currently only CNDDDB-tracked, and therefore not known to be a sensitive species at this time, no impacts are assessed for this analysis.



Species <sup>1A, 1B, 2, 3, 4</sup>	Status <sup>1A</sup>	Geographic Distribution <sup>1A, 1B, 2, 3, 4</sup>	Habitat Requirements <sup>1A, 1B, 2, 3, 4</sup>	Potential for Occurrence <sup>5, 6, 7</sup>
Fringed myotis <i>Myotis thysanodes</i>	USFS-S	British Columbia, Mexico, and the western United States	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area. This species has been observed in the Tahoe National Forest, although not within the project area.
Sierra Nevada snowshoe hare <i>Lepus americanus taхоensis</i>	CSSC	Boreal riparian areas in the Sierra Nevada.	Thickets of deciduous trees in riparian areas and thickets of young conifers, and similar riparian woodlands.	<b>Low Potential.</b> Project activities would not occur in specific habitats and conditions required by the species.
North American wolverine <i>Gulo gulo luscus</i>	ST, CFP, USFS-S	Found in the north coast mountains and the Sierra Nevada. Found in a wide variety of high elevation habitats.	Needs water source. Uses caves, logs, burrows for cover and den area. Hunts in more open areas. Can travel long distances.	<b>Not Expected.</b> There is no suitable habitat for this species in the project area.
Pacific marten <i>Martes caurina sierrae</i>	USFS-S	Mixed evergreen forests with more than 40% crown closure along Sierra Nevada and Cascade mountains.	Needs variety of different-aged stands, particularly old-growth conifers and snags which provide cavities for dens/nests.	<b>Moderate Potential.</b> There is some suitable habitat for this species in the project area. Conifer woodland with low chance of disturbance to individual martens during project implementation. Important habitat attributes (large snags/down woody material) would be retained.
Fisher <i>Pekania pennanti</i>	CSSC, USFS-S	Northern US to CAN; many populations extirpated in southern range	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area, but it hasn't been previously recorded in the area.
American badger <i>Taxidea taxus</i>	CSSC	Occurs throughout California, the western United States, and Canada.	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	<b>Moderate Potential.</b> There is suitable habitat for this species in the project area, but it hasn't been previously recorded in the area.



Species <sup>1A, 1B, 2, 3, 4</sup>	Status <sup>1A</sup>	Geographic Distribution <sup>1A, 1B, 2, 3, 4</sup>	Habitat Requirements <sup>1A, 1B, 2, 3, 4</sup>	Potential for Occurrence <sup>5, 6, 7</sup>
Sierra Nevada red fox <i>Vulpes vulpes necator</i>	FPE, ST, USFS-S	Historically found from the Cascades down to the Sierra Nevada.	Found in a variety of habitats from wet meadows to forested areas. Use dense vegetation and rocky areas for cover and den sites. Prefer forests interspersed with meadows or alpine fell-fields.	<b>Low Potential.</b> Project activities would not occur within specific habitats and conditions required by the species.

**STATUS KEY:**Federal

FE: Federally-listed Endangered

FT: Federally-listed Threatened

FC: Federal Candidate

FPE: Federally Proposed Endangered

USFS-S: U.S. Forest Service – Sensitive Species

State

SE: State-listed Endangered

ST: State-listed Threatened

SCE: State-listed Candidate Endangered

CSSC: California Species of Special Concern

CFP: California Fully Protected

CNDDDB: Species tracked by the CNDDDB; included for informational purposes only

**NOTES:**

† Species tracked by the CNDDDB that do not meet the definition of a special-status species are included in the table for informational purposes only and are not included in the CEQA analysis.

**SOURCES:**

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