Rock Creek Road
Environmental Studies

Appendices

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Appendix A

Archaeological Survey Report
Rock Creek Road/California Forest Highway 89
Improvement Project,
Mono and Inyo Counties, California
December 2012 (Summary)

(To view full report, contact Mono County Community Development Department, Phone: 760-924-1800)

Archaeological Survey Report for the Rock Creek Road/California Forest Highway 89 Improvement Project, Mono and Inyo Counties, California

Forest Service Report No.

Mono County
USGS Topographic Quadrangle:
Tom's Place, 7.5-minute
Township and Range:
T4SN R30E, Sections 32, 33
T5S R30E, Sections 4, 5, 8, 17-19

USGS Topographic Quadrangle:
Mt. Morgan, 7.5-minute
Township and Range:
T5S R30E, Sections 19, 30, 31

Inyo County
USGS Topographic Quadrangle:
Mt. Morgan, 7.5-minute
Township and Range:
T6S R30E, Section 6
T6S R29E, Section 1, 12

Project Size:
97.6 acres
9.2 linear miles

Sites:
P-26-001661/CA-MNO-166/
FS 05-04-53-02;

P-26-005107/CA-MNO-4472/
FS 05-04-53-2144;

Rock Creek Road;
TH-01; TH-02; TH-03;TH-04

Keywords:
Archaeological Survey

Submitted to:
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707 17th Street, Suite 2300
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Prepared for:
Allen Grasmick
Federal Highway Administration
Central Federal Lands
Highway Division
12300 W. Dakota Ave., Suite 380
Lakewood, CA 80228

By:
Laura Leach-Palm, M.A.
Kelly McGuire, M.A.

With contributions by:
Tod Hildebrandt
Naomi Scher, M.A.
Far Western Anthropological Research Group, Inc.

and
Chandra Miller, M.A.
JRP Historical Consulting, LLC

December 2012

FAR WESTERN ANTHROPOLOGICAL RESEARCH GROUP, INC.
2727 Del Rio Place, Suite A, Davis, California, 95618
http://www.farwestern.com 530-756-3941

Archaeological Survey Report for the Rock Creek Road/California Forest Highway 89 Improvement Project, Mono and Inyo Counties, California

Forest Service Report No.

By:
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Kelly McGuire, M.A.

With contributions by:
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SUMMARY

The Federal Highway Administration, Central Federal Lands Highway Division, in cooperation with Inyo National Forest and Mono and Inyo counties, is proposing rehabilitation, restoration, and resurfacing of 9.2 miles of California Forest Highway (FH) 89, also known as Rock Creek Road, in Mono and Inyo counties. The project area is southeast of Tom's Place off of US 395. As the project is federally funded through the Federal Lands Highway, Forest Highway Program, it requires compliance with Section 106 of the National Historic Preservation Act (NHPA) 36 CFR Part 800.

Jacobs Engineering Group, Inc. (Jacobs) contracted with Far Western Anthropological Research Group, Inc. (Far Western) to conduct an archaeological inventory for the project. Jacobs is in the process of conducting the Native American consultation. No building more than 40 years old exists within the project area, so an historical architectural Area of Potential Effects (APE) and study were not necessary.

The archaeological APE was designed to encompass the horizontal and vertical extent of all project construction activities and was redesigned for site avoidance and inclusion of adjacent site areas for a total 97.6 acres. The horizontal APE generally consists of a 66-foot- (20.1-meter-) wide corridor centered on the middle of the existing roadway. The corridor width varies to address archaeological sites and accommodate parking improvements, staging areas, and creek crossings. The vertical APE ranges between eight inches to replace asphalt and up to seven feet to replace existing guardrail posts. Prefield records searches provided by the Eastern Information Center, University of California, Riverside, and the Inyo National Forest Supervisor's Office, Bishop, identified two prehistoric debitage scatters, CA-MNO-1661 and -4472, within the initial APE.

Intensive pedestrian survey covered the entire preliminary APE and an additional potential staging area, for a total of 85.5 acres. The entire area of adjacent sites was also walked, thus covering the entire APE. Surface visibility was good during the survey although ground surfaces along the road and within the potential staging areas were disturbed.

The two previously recorded debitage scatters were revisited and their records updated. In addition, four new resources were recorded—one historic-era and three prehistoric. The historic-era resource is Rock Creek Road itself (TH04), shown on pre-1912 maps. The prehistoric resources include two obsidian flakes (TH03, considered an isolate), a small site of six flakes (TH02), and one low-density obsidian debitage scatter bisected by Rock Creek Road (TH01).

Assessment of site significance, based on survey-level data only, indicate that Rock Creek Road lacks integrity, and sites TH02 and TH03 are represented by only a few unmodified flakes. All three are considered not eligible to the National Register under Criterion D and require no further management. The three unevaluated sites (TH01, MNO-1661, and -4472) will be considered eligible for the purposes of this project and construction plans have been revised to avoid them. The previously recorded sites will be avoided by design changes that narrow the area of direct impacts, and the third will have construction width and depth restrictions for avoidance. All three locations will be designated as Environmentally Protected Areas and fenced to avoid construction-related disturbances. The conditions described here will be included in the construction contract.

An assessment for buried site sensitivity determined that 71.3% of the project area has low or very low sensitivity and 28.7% is moderately sensitive. This includes a large area of CA-MNO-1661 which will not be affected by the road improvement project. In the areas of low sensitivity, no additional identification efforts are recommended. Within the moderately sensitive areas, most project impacts are restricted laterally, and the probability of encountering buried archaeological deposits is remote. One

location where a new 24-inch culvert is to be installed also is unlikely to contain buried archaeological deposits. For these reasons, no additional identification efforts are recommended for any part of the APE.

The project policy is to avoid cultural resources whenever possible; when avoidance is not feasible, further investigations may be needed. If buried cultural materials are encountered during construction, work will be required to stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. If the project design and APE change, additional survey may be required. If site avoidance proves unfeasible, a small-scale testing program is recommended to evaluate National Register status.

Appendix B

Biological Assessment/BiologicalEvaluation (BA/BE)
California Forest Highway 89
Rock Creek Road Improvement Project
Inyo and Mono Counties, California
September 2012

Biological Assessment/Biological Evaluation (BA/BE)
California Forest Highway 89-1(1)
Rock Creek Road Improvement Project
Inyo and Mono Counties, California

Prepared for:

Federal Highway Administration
Central Federal Lands Highway Division
12300 W. Dakota Avenue St. 280
Lakewood, CO 80228
Wendy Longley, Project Manager, (720) 963-3694

Prepared by:

JACOBS™

September 2012

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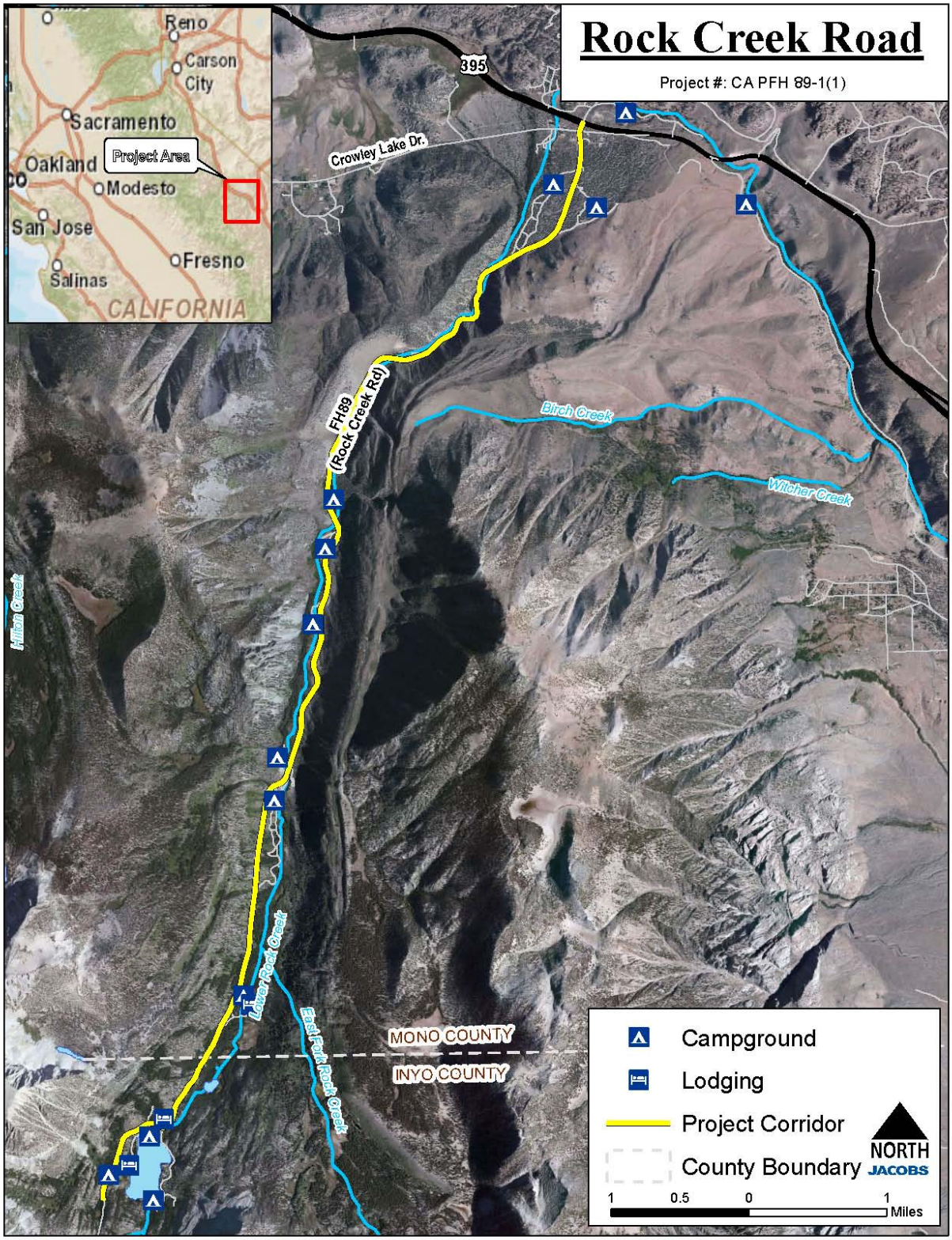
1.0 Introduction

The Federal Highway Administration (FHWA), in cooperation with Inyo National Forest, Inyo County and Mono County, are proposing improvements to California Forest Highway 89 (FH 89), also known as Rock Creek Road, in Inyo National Forest, Inyo County, and Mono County, California.

The project route provides access to Inyo National Forest System Lands, as well as to 10 different campgrounds, several recreation residences, and two lodges. The project consists of rehabilitation, restoration and resurfacing (3R) of approximately 9.2 miles of FH 89 in Inyo National Forest and traversing Inyo County and Mono County (See Figure 1). The route is a two-lane paved roadway with paved widths varying from 22 to 24 feet and variable width unpaved shoulders. The proposed improvements would follow the existing road and will consist of widening the paved section to add a bike lane, extension/replacement of existing culverts, improvement or removal of existing pull-outs, and upgrading regulatory/warning signs to meet current standards. Widening of the roadway at the bridge locations and installation of rip-rap may require work to occur within Rock Creek. The rehabilitation efforts would prevent further deterioration of the pavement surface and would be constructed for a 20-year design life.

The purpose of this Biological Assessment (BA)/Biological Evaluation (BE) is to review the proposed improvements to Rock Creek Road in sufficient detail to determine to what extent the proposed action may affect threatened, endangered, or candidate species that would warrant formal consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to the Federal Endangered Species Act and if the proposed project may affect any USFS sensitive species to an extent that would result in a trend toward federal listing of those species, as specified in Forest Service Manual 2670.

Figure 1: Project Location



2.0 Summary of Findings

The Project Area was evaluated for the presence of, and potential to support, federally-listed and U.S. Forest Service (USFS) sensitive plant and wildlife species. The Project Area includes the area that could be directly disturbed by project activities plus the surrounding land adjacent to the Project Area. The potential area of disturbance includes a 25-foot buffer along roadway from the edge of pavement; a 30-foot buffer beyond the edge of pavement at culvert locations; and areas where potential staging and stockpiling may occur.

Data from U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game Natural Diversity Database (CNDDB), California Native Plant Society (CNPS), and the USFS were reviewed to identify special-status species that occur, or have the potential to occur, in the vicinity of the Project Area. Based on a desktop review, which included a review of recorded occurrences, known range, and habitat requirements of each species, it was determined that the following nine sensitive wildlife species have the potential to occur or are known to occur in the Project Area:

- **Sierra Nevada Bighorn Sheep** (*Ovis canadensis ssp. Sierrae*) – Federally Endangered, California State Endangered, California State Fully Protected Species
- **Northern Goshawk** *(Accipiter gentillis)* - Forest Service Sensitive
- **Yosemite Toad** (*Anaxyrus canorus*) - Forest Service Sensitive
- **California Wolverine** (*Gulo Gulo luteus*) – California State Threatened, California State Fully Protected Species, Forest Service Sensitive
- **Northern Leopard Frog** (*Lithobates pipiens)* - Forest Service Sensitive
- **American Marten** (*Martes americana*) - Forest Service Sensitive
- **Mountain Yellow-Legged Frog** *(Rana muscosa)* - California State Species of Concern, Forest Service Sensitive
- **Sierra Nevada Red Fox** (*Vulpes vulpes necator*) – California State Threatened, Forest Service Sensitive
- **Mono Milk Vetch** (*Astragalus monoensis var. monoensis*) – Forest Service Sensitive

A field survey was conducted July 24–27, 2012 to determine the potential for these species to be impacted by the project: Based on the survey findings, and through the implementation of compensatory mitigation measures and Best Management Practices, it has been determined that the proposed project would have no effect on wildlife species.

In addition to wildlife species, it was determined that the Project Area contained potentially suitable habitat for 12 sensitive plant species (see **Appendix A**). Only the Mono milk vetch was observed during a focused botanical survey (July 24–27, 2012). With the implementation of conservation measures and best management practices, this project may affect individuals but is not likely to result in a trend toward federal listing or loss of viability for this species.

3.0 Consultation to Date

Informal consultation with the USFWS was initiated on July 16, 2012 by requesting a list of threatened or endangered species that may occur in the Project Area. Subsequent phone conversations and E-mail correspondence were initiated with the USFS-Inyo National Forest to discuss biological resources within and adjacent to the proposed project. Information provided by the USFS assisted in determining the occurrence potential for both federally listed and USFS sensitive species within the Project Area. A complete list of USFS sensitive species for Inyo National Forest was also provided.

4.0 Current Management Direction

The Federal Endangered Species Act of 1973 (16 USC 1531 et seq.) requires that any action authorized by a federal agency not be likely to jeopardize the continued existence of threatened and endangered species, or result in the destruction or adverse modification of habitat of such species that is determined to be critical. Significant adverse effects to a federally listed species or its habitat require consultation with the USFWS and/or National Marine Fisheries Service under Section 7 of the Federal Endangered Species Act.

It is USFS policy and practice to use the BE process (FSM Section 2670.32) to analyze, review, and determine the potential impacts to species designated as sensitive by each individual forest that may occur from authorizations or programs carried out on USFS-managed lands. Sensitive species are plant or animal species identified by the Regional Forester for which population viability is a concern, as evidenced by either a significant current or predicted downward trend in population numbers or density, or a significant current or predicted downward trend in habitat capability that would reduce the species' existing distribution. This BE follows the USFS process to determine the potential impacts to USFS-Inyo National Forest -designated sensitive species as a result of the construction, continued operation, and maintenance of the proposed project.

5.0 Description of the Proposed Action

The proposed project involves resurfacing, rehabilitation and restoration improvements for 9.2 miles of the route within the project limits. The proposed improvements would follow the existing road and would consist of widening the paved section to add a bike lane, extension/replacement of existing culverts, improvement or removal of existing pull-outs, and upgrading regulatory/warning signs to meet current standards. Widening of the roadway at the bridge locations and installation of scour protection measures (e.g., rip-rap) may require work to occur within Rock Creek. The rehabilitation efforts would prevent further deterioration of the pavement surface and would be constructed for a 20 year design life.

6.0 Conservation/Minimization Measures

The following conservation measures will be implemented for the project in order to avoid and minimize potential impacts to federally listed species/USFS sensitive species, control erosion and sedimentation during construction, and to protect water quality in streams.

- If the parking area adjacent to the Palisades Campground is to be used for construction staging, a survey of that parking area will be conducted by a qualified biologist to determine the presence/absence of Mono milk vetch prior to construction. This survey will be conducted during the growing season of the construction year. If plants are found, a no-work buffer zone will be established around the plants throughout the duration of construction.

- During construction, garbage or trash produced from construction activities will be removed promptly and properly to avoid creating attractive wildlife nuisances.

- Vehicles and equipment entering the Project Area will be kept clean of noxious weeds and free from oil leaks and are subject to inspection. Construction equipment will be washed thoroughly to remove dirt, plant, and other foreign material prior to entering the Project Area. Particular attention will be shown to the under carriage and surfaces where soil containing exotic seeds may exist. These efforts are critical to prevent the introduction and establishment of non-native plant species into the Project Area. FHWA will inspect each piece of equipment before entering the project. Equipment found operating on the project that has not been inspected, or has oil leaks will be shut down and subject to citation.

- Provide certified weed free permanent and temporary erosion control measures to minimize erosion and sedimentation during and after construction.

7.0 Methods

The Project Area was evaluated for the presence of, and potential to support, federally-listed and USFS sensitive plant and wildlife species. Data from USFWS, CNDDB, CNPS, and USFS were reviewed to identify special-status species that occur, or have the potential to occur, in the Project Area vicinity. A table of special-status species with the potential to occur was created from the data search (see **Appendix A**). The data sources included:

- CNDDB occurrence records from the Tom's Place, Mt. Morgan, Mount Tom, Mt. Hilgard, Mt. Abbot, Convict Lake, Whitmore Hot Springs, Wattenson Canyon, Tungsten Hills, Rovana, Casa Diablo Mtn. and Banner Ridge USGS 7.5 minute quadrangles (CNDDB 2012);
- USFWS species list dated August 2, 2012 for the Mt. Morgan quadrangle;
- CNPS on-line database records from the Tom's Place, Mt. Morgan, Mount Tom, Mt. Hilgard, Mt. Abbot, Convict Lake, Whitmore Hot Springs, Wattenson Canyon, Tungsten Hills, Rovana, Casa Diablo Mtn. and Banner Ridge USGS 7.5 minute quadrangles (CNPS 2012); and
- USFS Inyo National Forest Sensitive Species List (2007).

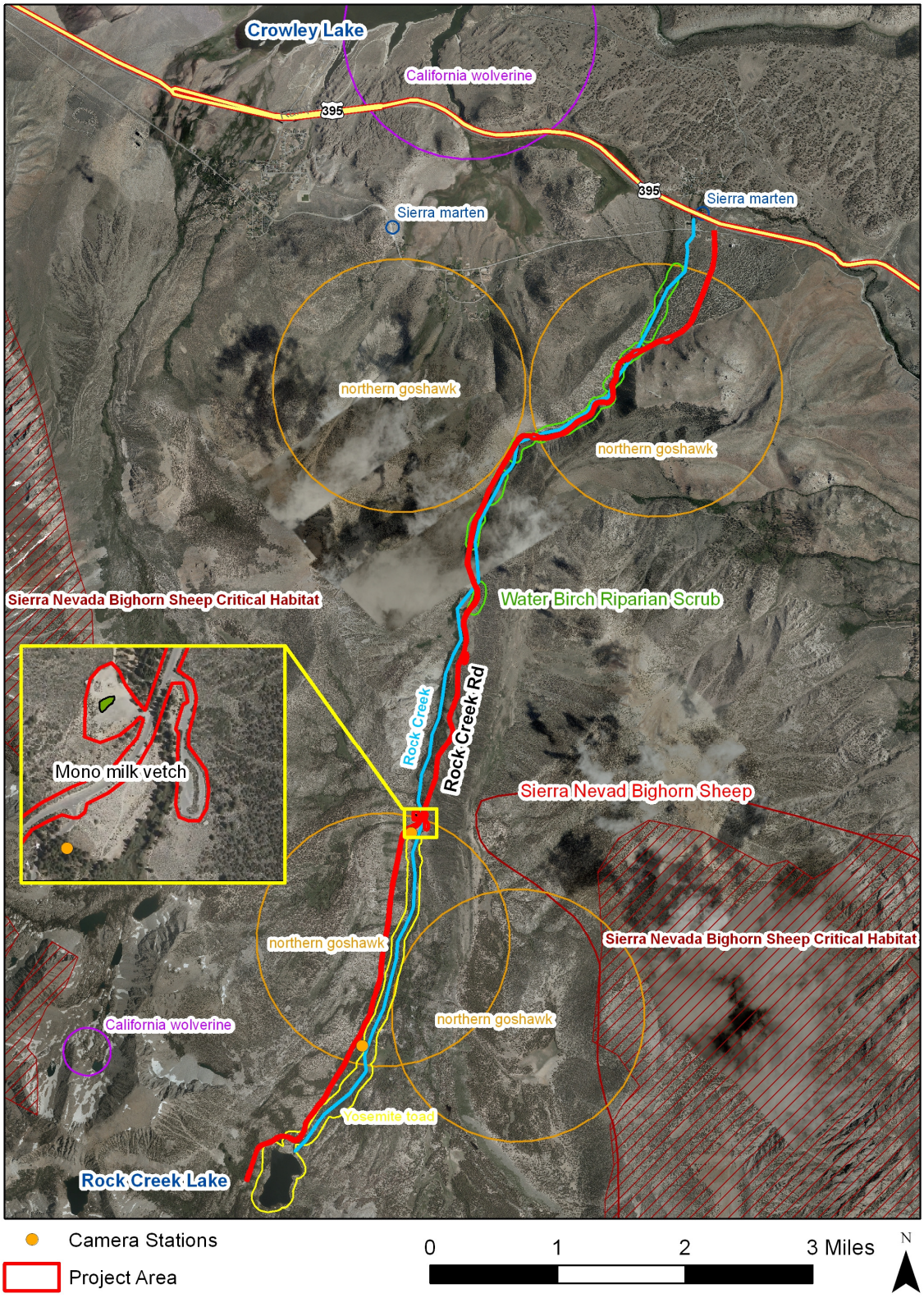
As a result of the data searches, seven federally-listed threatened and endangered species and 83 Forest Service Sensitive Species (23 wildlife species and 60 plant species) were evaluated

for presence of required habitat (including soils, climate, disturbance, plant communities, etc.) within the Project Area, as well as reported location occurrences of species within the vicinity of the Project Area (see **Appendix A** for comprehensive species list). The reason for inclusion or exclusion of these species in the document has also been detailed in **Table A-1 (**see **Appendix A)**.

Presence/absence surveys for raptor nests were conducted within the Project Area between July 24 and 27, 2012. The surveys were performed by walking the length of the roadway and observing the adjacent trees with the naked eye and binoculars.

Botanical surveys were conducted July 24–27, 2012 to determine the presence/absence of sensitive plant species. These surveys were conducted within the area that could be directly disturbed by project activities, which includes a 25-foot buffer along roadway from the edge of pavement; a 30-foot buffer beyond the edge of pavement at culvert locations; and areas where potential staging and stockpiling may occur.

Figure 2: Biological Survey Area and Special-Status Species Occurrences



8.0 Action Area/Biological Setting

Habitat within the Project Area is characterized by a series of vegetation communities that change with elevation. The northern portion of the Project Area, which occurs at the lowest elevation, is generally dominated by sagebrush (*Artemisia tridentata*). As the elevation rises, the habitat generally transitions to mountain mahogany (*Cercocarpus montanus*) and sensitive water birch (*Betula occidentalis*) riparian vegetation (see Figure 2). The southern portion, in the highest elevation, is characterized as rocky outcrops that are dominated by coniferous trees including lodgepole pine (*Pinus contorta*) and Jeffery pine (*Pinus jeffreyi*). The elevation ranges from approximately 7,100–9,900 feet. Rock Creek flows from south to north and is generally located adjacent to Rock Creek Road, where it crosses the roadway at multiple locations. The Project Area consists of land owned and managed by the Inyo National Forest with recreational and commercial land use.

8.1 Federally Listed Species

This section contains background information, potential effects and Section 7 determinations for the following federally listed species with potential to occur within the Project Area.

- Sierra Nevada Bighorn Sheep (*Ovis canadensis ssp. sierrae*)

8.1.1 Sierra Nevada Bighorn Sheep (*Ovis canadensis ssp. sierrae*)

Sierra Nevada bighorn sheep inhabit portions of the Sierra Nevada Mountain Range located along the eastern boundary of California in Tuolumne, Mono, Fresno, Inyo, and Tulare Counties. Their habitat occurs from the eastern base of the range from 1,460–4,300 meters (Wehausen 1980). They inhabit open areas with rock land that is sparsely vegetated and characterized by steep slopes and canyons (Wehausen 1980). Breeding takes place in late fall, generally November and December (Jones 1950). They are primarily diurnal and grazers; however, they may browse woody vegetation at times (Jones 1950). Plants consumed include various grasses, browse, and forbs, depending on season and location (Wehausen 1980).

There are historic occurrences (circa [ca] 1983) of bighorn sheep in the Project Area. Critical habitat is present near (i.e., 2 miles), but not within, the area of potential disturbance. The sheep do not forage or go near the roadway due to the high level of human activity and generally follow the ridgeline of the surrounding mountains to go around the road (Leann Murphy personal communication). For these reasons, it is unlikely that this species would be found in the Project Area and would not be impacted by construction-related activities.

Rehabilitation of the roadway would not increase vehicle capacity or traffic in the area that could result in direct or indirect impacts to this species, such as vehicle mortality or noise disturbance. The addition of a bike lane to the roadway could encourage more bicycle use; however, no impacts to this species are anticipated as a result because bicycle traffic does not pose a threat to this species. The addition of scour protection measures (e.g., rip rap) at the bridge sites would not affect habitat and therefore, would not adversely impact this species. For these

reasons, the project would not result in any significant change in habitat availability for the Sierra Nevada bighorn sheep or any significant change in the existing condition.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project would have no effect on the Sierra Nevada bighorn sheep.

8.2 Forest Service Sensitive Species

USFS sensitive species are defined as, "Those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density, or (b) significant or current or predicted downward trends in habitat capability that would reduce a species' existing distribution" (FSM 2670). Eighty three USFS sensitive species (23 wildlife species and 60 plant species) were evaluated for presence of required habitat (including soils, climate, disturbance, plant communities, etc.) within the Project Area, as well as reported location occurrences of species within the vicinity of the Project Area (see **Appendix A** for comprehensive species list). The reason for inclusion or exclusion of these Forest Service Sensitive Species in the document has also been detailed in **Table A-1 - (Appendix A)**. This section contains information about sensitive species with the potential to occur (suitable habitat present and probability of occurrence) for the project.

Based on discussions with USFS personnel, a desktop review which included a review of recorded occurrences, known range, and habitat requirements of each species, and a field survey conducted July 24–27, 2012, the following Forest Service Sensitive Species are known to occur or could be located in habitat within, or directly adjacent, to the Project Area:

- Mono Milk Vetch (*Astragalus monoensis*)
- Northern Goshawk *(Accipiter gentillis)*
- Yosemite Toad (*Anaxyrus canorus*)
- California Wolverine (*Gulo Gulo luteus*)
- Northern Leopard Frog (*Lithobates pipiens)*
- American Marten (*Martes americana*)
- Mountain Yellow-Legged Frog *(Rana muscosa)*
- Sierra Nevada Red Fox (*Vulpes vulpes necator*)

These species and the effect determination for each are described below.

8.2.1 Mono Milk Vetch (*Astragalus monoensis var. monoensis*)

The Mono milk vetch occurs in large open pumice flats in loose sandy or gravelly soils between 6,500–7,500 feet in elevation. It is a rhizomatous perennial herb with stems growing partly underground and emerging to lie flat on the sand. The blooming period occurs in June through July. (Jepson 2012)

This species is known to occur within the Project Area and was observed at one location during a botanical survey between July 24 and 27, 2012 (see **Figure 2**). The observed location is not adjacent to the roadway, but is within an area that may be used for construction staging. If this area is used for construction staging, conservation measures to protect this species will be implemented.

Widening of the roadway is not anticipated to impact this species because this species was not observed along the roadway. The project would not result in any significant change in habitat availability for the Mono milk vetch or any significant change in the existing condition.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project may affect individuals but is not likely to result in a trend toward federal listing or loss of viability for the Mono milk vetch.

8.2.2 Northern Goshawk (*Accipiter gentillis*)

Northern goshawks are woodland raptors that typically occur in coniferous, deciduous, and mixed forests, especially in mountains (Wattel 1981). In California, they breed in the North Coast and Sierra Nevada Ranges, and in the Klamath, Cascade and Warner mountains (Zeiner 1990). Generally, goshawks breed from the mixed conifer forests at low elevations up to and including high elevation lodgepole pine forests and ponderosa pine habitats (Zeiner 1990a). In breeding areas, they are uncommon yearlong residents that prefer middle to high elevation dense mature coniferous forests (Timossi, 1995). They nest in large trees, typically within dense, mature stands. The proposed project is located in the Cascade Sierra Goshawk Bioregion (USDA 2006). Prey items consist mainly of forest birds and mammals (Timossi, 1995).

There are historic occurrences (ca 1983) of goshawks in the Project Area. Coniferous trees provide suitable habitat for nesting and roosting; however, there have not been any recent sightings and none were observed during a general biological survey from July 24 to 27, 2012. Also, presence/absence surveys for raptor nests at that time did not result in any findings within

the Project Area. Due to lack of recent occurrences, this species is presumed to be absent from the Project Area.

Although trees along the road may be removed, goshawks are not likely to roost or nest in them due to the frequent human disturbance adjacent to the road. Additionally, the number of trees that would be removed in comparison to the suitable habitat in the surrounding area would be minor. Rehabilitation of the roadway would not increase vehicle capacity or traffic in the area that could result in direct or indirect impacts to this species, such as vehicle mortality or noise disturbance. The addition of a bike lane to the roadway could encourage more bicycle use; however, no impacts to this species are anticipated as a result because bicycle traffic does not pose a threat to this species. The addition of scour protection measures (e.g., rip rap) at the bridge sites would not affect habitat or prey and therefore, would not adversely impact this species. For these reasons, the project would not result in any significant change in habitat availability for the Northern goshawk or any significant change in the existing condition.

Construction-related activities that would have potential to impact this species include temporary noise and vibration disturbance. Due to the presumed absence of this species from the Project Area, construction-related activities are not expected to result in any effects to Northern goshawk.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project would have no effect on the Northern goshawk.

8.2.3 Yosemite Toad (*Anaxyrus canorus*)

The Yosemite toad is a species endemic to California and is found at high elevations in the Sierra Nevada Mountains. They occur from 6,400–11,300 feet elevation, but are more typically found between 8,500–10,000 feet (Karlstrom 1962). They are found in open montane meadows near lodgepole pine forests (Kagarise Sherman 1980). They are most often found no more than a hundred yards from permanent water source, but spend little time actually in water (Karlstrom 1962). Yosemite toads breed in shallow pools and small, slow moving, shallow streams usually in meadows without deep water or adjacent steep terrain (Karlstrom 1962). They enter hibernation in late September or early October, and emerge between April and July after five to six months.

There are historic occurrences of Yosemite toad (ca 1960) within the Project Area. Although suitable habitat may be present along Rock Creek, the nearest recent occurrence of this

species (ca 2003) was located 5 miles away. Due to lack of recent occurrences, this species is presumed to be absent from the Project Area.

Wet and forested areas around Rock Creek provide suitable habitat for the Yosemite toad, but these areas are located outside the potential area of disturbance. Rehabilitation of the roadway would not increase vehicle capacity or traffic in the area that could result in direct or indirect impacts to this species, such as vehicle mortality or noise disturbance. The addition of a bike lane to the roadway could encourage more bicycle use; however, no impacts to this species are anticipated as a result because bicycle traffic does not pose a threat to this species. The addition of scour protection measures (e.g., rip rap) at the bridge sites would not affect habitat and therefore, would not adversely impact this species. For these reasons, the project would not result in any significant change in habitat availability for the Yosemite toad or any significant change in the existing condition.

Construction-related activities that would have potential to impact this species include noise and vibration disturbance. Due to the presumed absence of this species from the Project Area, construction-related activities are not expected to result in any effects to the Yosemite toad.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project would have no effect on the Yosemite toad.

8.2.4 California Wolverine (*Gulo Gulo luteus*)

The wolverine once occupied high elevation habitat throughout the western United States and were relatively common in the Sierra Nevada. They are now generally considered to be extirpated in many areas (Aubry 2007). They inhabit a variety of habitats between 1,600–14,200 feet, but prefer high elevation areas that are often associated with subalpine or tree line habitats, (Banci 1994). They are primarily nocturnal, but are known to be active throughout the day. There are historic occurrences (ca 1960) near the Project Area and at Lake Crowley. However, this species is presumed to be absent due to lack of recent occurrences.

There is no suitable habitat for the wolverine in the Project Area and therefore, the project would not result in changes to habitat availability. Rehabilitation of the roadway would not increase vehicle capacity or traffic in the area that could result in direct or indirect impacts to this species, such as vehicle mortality or noise disturbance. The addition of a bike lane to the roadway could encourage more bicycle use; however, no impacts to this species are anticipated as a result because bicycle traffic does not pose a threat to this species. For these reasons, the project

would not result in any significant change in habitat availability for the California wolverine or any significant change in the existing condition.

Construction-related activities that would have potential to impact this species include noise and vibration disturbance. Construction noise and vibration disturbance is unlikely because this species is generally nocturnal and would likely avoid the roadway in favor of less disturbed areas away from human activities. Thus, they are not likely to be adversely impacted by any construction-related noise and vibration that occurs during the day. For these reasons, construction-related activities are not expected to result in any effects to this species.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project would have no effect on the California wolverine.

8.2.5 Northern Leopard Frog (*Lithobates pipiens*)

Northern leopard frogs require a broad range of habitats that are relatively close in proximity because their life history is complex. There are three major habitat types: winter habitat (overwintering in lakes, streams, and ponds), summer habitat (feeding by adults in upland areas), and tadpole habitat (up to three months spent as tadpoles in shallow breeding ponds (Merrell and Rodell 1968). They typically breed in mid-sized ponds that do not support fish, are not connected with other bodies of water and dry up during droughts (Merrell 1968). Following reproduction, adults transition to upland habitat, such as grassy meadows, to feed in the summer (Merrell 1970). In the fall, adult frogs migrate to overwintering sites, which includes the bottoms of flowing streams, ponds, and springs that are do not freeze in winter (Froiland 1990). Their feeding habits change along with their development; tadpoles are generalist herbivores and become carnivorous as adults feeding primarily on insects (Drake 1914).

There are no historic occurrences within the Project Area and the nearest occurrence for the Northern leopard frog is 6 miles away. There are areas of potentially suitable habitat for this species within the Project Area where Rock Creek crosses the roadway. However, due to lack of recent occurrences, this species is presumed to be absent from the Project Area.

Although potentially suitable habitat may be present within and near Rock Creek, these areas within the area of potential disturbance are small in comparison to the available habitat within the surrounding area. Rehabilitation of the roadway would not increase vehicle capacity or traffic in the area that could result in direct or indirect impacts to this species, such as vehicle mortality or noise disturbance. The addition of a bike lane to the roadway could encourage more bicycle use; however, no impacts to this species are anticipated as a result because

bicycle traffic does not pose a threat to this species. The addition of scour protection within the creek may reduce potentially suitable habitat. However, this is not anticipated to result in any impacts to the species because these areas are small in comparison to the habitat available within the surrounding area and there are no recorded occurrences of this species within the Project Area. Therefore, the project would not result in any significant change in habitat availability for the Northern leopard frog or any significant change in the existing condition.

Construction-related activities that would have potential to impact this species include noise and vibration disturbance. Disturbance from construction noise and vibration is not anticipated to impact this species because of their presumed absence from the area. As a result, construction activities are not anticipated to result in any effects to the Northern leopard frog.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project would have no effect on the Northern leopard frog.

8.2.6 American Marten (*Martes americana*)

Martens are a widely distributed species that occur throughout coniferous habitats of North America and currently occupy much of their historic range in California (Kucera 1995). They prefer late seral coniferous forests above 5,000 feet in elevation that have moderate-to high-canopy closure interspersed with riparian areas and meadows (Freel 1991; Zeiner 1990b). These habitats typically contain an abundance of snags and downed logs needed to provide the coarse woody debris that is necessary for effective winter foraging (Sherburne and Bissonette 1994). They are primarily a nocturnal species that den in cavities in large trees, snags, stumps, or logs or burrows, caves, and crevices in rocky areas (Zeiner 1990b).

This species was observed in Project Area (Upper Rock Creek area) in 2010 and 2011 with the use of cameras (Leann Murphy personal communication) (see Figure 2)

Although suitable habitat is present within the Project Area, there is none within the area of potential disturbance. Rehabilitation of the roadway would not increase vehicle capacity or traffic in the area that could result in direct or indirect impacts to this species, such as vehicle mortality or noise disturbance. The addition of a bike lane to the roadway could encourage more bicycle use; however, no impacts to this species are anticipated as a result because bicycle traffic does not pose a threat to this species. The addition of scour protection measures (e.g., rip rap) at the bridge sites would not affect habitat and therefore, would not adversely impact this species. For these reasons, the project would not result in any significant change in habitat availability for the American marten or any significant change in the existing condition.

Construction-related activities that would have potential to impact the American marten include noise and vibration disturbance. This species is primarily nocturnal and would likely avoid the roadway in favor of less disturbed areas away from human activities. Thus, they are not likely to be adversely impacted by any construction-related noise and vibration that occurs during the day. For these reasons, construction-related activities are not expected to result in any effects to this species.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project would have no effect on the American marten.

8.2.7 Mountain Yellow-Legged Frog *(Rana muscosa)*

The mountain yellow-legged frog was historically the most abundant frog in the Sierra Nevada Mountains, but the populations have declined and the species has been extirpated from much of its historic range. In the Sierra Nevada Mountains, it ranges from southern Plumas County to southern Tulare County (Jennings and Hayes 1994). They are found in lakes, ponds, springs, and streams (Zweifel 1968). The species is usually associated with montane riparian habitats in lodgepole pine, yellow pine, sugar pine, white fir, whitebark pine, and wet meadow vegetation types (Zweifel 1955; Zeiner 1990b). They prefer streams of low gradient and slow or moderate flow, probably due to flood effects (Stebbins 1951). Breeding sites are generally located in or connected to lakes and ponds that do not dry in the summer, and that are sufficiently deep (>2 m) so as to not freeze through in winter (Bradford 1983). They feed primarily on insects (Bradford 1983).

The nearest occurrence for this species is 30 miles from Project Area. Although habitat may be present along Rock Creek, due to the lack of recent occurrences, this species is presumed to be absent from the Project Area.

Although potentially suitable habitat may be present within and near Rock Creek, these areas of habitat within the area of potential disturbance are small in comparison to the habitat within the surrounding area. Also, it is unlikely that this species would occur in these areas because there are no known occurrences within the Project Area. Rehabilitation of the roadway would not increase vehicle capacity or traffic in the area that could result in direct or indirect impacts to this species, such as vehicle mortality or noise disturbance. The addition of a bike lane to the roadway could encourage more bicycle use; however, no impacts to this species are anticipated as a result because bicycle traffic does not pose a threat to this species. The addition of scour protection within the creek may reduce potentially suitable habitat. However, this is not anticipated to result in any impacts to the species because these areas are small in comparison

to the habitat available within the surrounding area and there are no recorded occurrences of this species within the Project Area. Therefore, the project would not result in any significant change in habitat availability for the mountain yellow-legged frog or any significant change in the existing condition.

Construction-related activities that would have potential to impact this species include the noise and vibration disturbance. Due to the presumed absence of this species from the Project Area, construction-related activities are not expected to result in any effects to mountain yellow-legged frog.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project would have no effect on the mountain yellow-legged frog.

8.2.8 Sierra Nevada Red Fox (*Vulpes vulpes necator*)

The Sierra Nevada red fox once occupied high-elevation habitat throughout much of the Sierra Nevada Mountains, but its population has declined significantly to only a few dozen in remnant populations. The only known population within the Sierra Nevada Mountains is located in the Lassen Volcanic National Park (Perrine 2005, Zielinski 2005). They typically inhabit high-elevation forests (greater than 7000 feet) and subalpine habitat that are interspersed with riparian and meadow habitat (Perrine 2005). Their preferred forest types include red fir, lodgepole pine and subalpine fir (Schempf and White 1977). They are primarily a nocturnal species that den in natural cavities in talus slopes or rockslides, earthen dens, boulder piles, or man made structures (USDA 2010). Prey items include mall and medium-sized mammals birds, insects, invertebrates, fruit, carrion, garbage and other seasonal foods (USDA 2010).

According to the Inyo National Forest (Leann Murphy personal communication), there was a sighting of this species that crossed Rock Creek Road near a campground in the 1990s. Additionally, an occurrence of this species was noted in the CNDDB in 2011 approximately 7 miles away near Lake Crowley. To confirm occurrences of this species within the area, cameras were placed within the Upper Rock Creek area in 2010 and 2011 (see Figure 2), but did not record any occurrences. As a result, this species is presumed to be absent from the Project Area.

Although suitable habitat may be present near the project area, there is none within the potential area of disturbance. Rehabilitation of the roadway would not increase vehicle capacity or traffic in the area that could result in direct or indirect impacts to this species, such as vehicle mortality or noise disturbance. The addition of a bike lane to the roadway could encourage more bicycle

use; however, no impacts to this species are anticipated as a result because bicycle traffic does not pose a threat to this species. The addition of scour protection measures (e.g., rip rap) at the bridge sites would not affect habitat or prey and therefore, would not adversely impact this species. For these reasons, the project would not result in any significant change in habitat availability for the Sierra Nevada red fox or any significant change in the existing condition.

Construction-related activities that would have potential to impact this species include noise and vibration disturbance. Construction noise and vibration disturbance is unlikely because this species is generally nocturnal and would likely avoid the roadway in favor of less disturbed areas away from human activities. Thus, they are not likely to be adversely impacted by any construction-related noise and vibration that occurs during the day. For these reasons, construction-related activities are not expected to result in any effects to this species.

Cumulative Effects

Cumulative effects include those effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Project Area. Review of the current schedule of proposed actions report from Inyo National Forest did not identify any proposed actions in the Project Area and Inyo and Mono counties have not identified any proposed actions on private lands in the Project Area. Therefore, no cumulative effects are anticipated for the proposed project.

Determination

The proposed project would have no effect on the Sierra Nevada red fox.

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APPENDIX A:
Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Inyo National Forest and Inyo and Mono Counties, California

Table A-1. Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Lassen National Forest and Plumas County, California

Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Wildlife										
Accipiter gentilis	Northern Goshawk	-	-	SSC	FS Sensitive	Coniferous forests.	Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	HP	Known to have occurred within the Project Area. Although habitat is present, the most recent occurrences for this species were in 1983. Presence/absence surveys for nests did not result in any findings within the Project Area.	No Effect
Anaxyrus (Bufo) canorus	Yosemite Toad	FC	-	SSC	FS Sensitive	Wet mountain meadows, willow thickets, and the borders of forests	Usually not more than a hundred meters from permanent water. (1,460 - 3,630 m.) Elevation.	HP	Historic occurrences within the Project Area (1960). Although habitat may be present, the nearest recent occurrence (2003) was located 5 miles from the Project Area.	No Effect
Antrozous pallidus	Pallid Bat	-	-	SSC	FS Sensitive	Rock crevices, tree hollows, mines, caves.		A	Nearest occurrence is 14 miles from Project Area	No Effect
Batrachoseps campi	Inyo Mountain Salamander	-	-	SSC	FS Sensitive	Permanent springs or seeps	Very dry mountain ranges in the immediate vicinity of springs, seeps, and associated riparian vegetation. Usually where there is a small area of suitable habitat surrounded by inhospitable desert terrain.	A	Nearest occurrence is over 40 miles from Project Area	No Effect
Batrachoseps robustus	Kern Plateau Slender Salamander	-	-	-	FS Sensitive	Broad range of ecological settings, from high elevation coniferous forests to semiarid pinyon pine/sagebrush associations with permanent water sources. Found in the Kern Plateau (Tulare County), the eastern slopes of the Sierra Nevada draining into Owens and Indian Wells valleys (Inyo County), and the Scodie Mountains (Kern County).		A	No known recorded occurrences within the 50 miles of the Project Area	No Effect
Buteo swainsoni	Swainson's Hawk	-	ST	-	FS Sensitive	Grasslands, agricultural fields w/scattered trees.		A	Nearest occurrence is 15 miles from Project Area	No Effect
Centrocercus urophasianus	Greater Sage-Grouse	FC	-	SSC	FS Sensitive	Uses a wide variety of sagebrush mosaic habitats with meadows and aspen in close proximity. Roosts in sagebrush and use seeps, wet meadows, riparian areas, alfalfa fields, potato fields, and other cultivated and irrigated areas.		A	Nearest occurrence is 25 miles from Project Area	No Effect
Coccyzus americanus occidentalis	Western Yellow-Billed Cuckoo	FC	ST	-	FS Sensitive	Deciduous, broad-leafed woodland with thick, scrubby undergrowth usually along watercourses		A	Nearest occurrence is 30 miles from Project Area	No Effect
Corynorhinus townsendii	Townsend's Big-Eared Bat	-	-	SSC	FS Sensitive	Restricted to caves and mines with suitable microclimates		A	Nearest occurrence is 16 miles from Project Area	No Effect

Table A-1. Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Lassen National Forest and Plumas County, California

Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Elgaria panamintina	Panamint Alligator Lizard	-	-	SSC	FS Sensitive	Riparian areas in the desert.	Rocky canyon bottoms near streams and springs with creosote bush, sagebrush, and at the lower edge of the pinon-juniper zone. Found in dense vegetation near damp soil, and also in rocky talus outside of riparian areas	A	Nearest occurrence is 30 miles from Project Area	No Effect
Empidonax traillii	Willow Flycatcher	-	SE	-	FS Sensitive	Extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters.	Dense willow thickets for nesting/roosting.	A	Nearest occurrence is 6 miles from Project Area	No Effect
Empidonax traillii extimus	Southwestern Willow Flycatcher	FE	SE	-	-	Dense riparian habitats.	Saturated soils, standing water or nearby streams, are a component of nesting habitat.	A	Nearest occurrence is 13 miles from Project Area	No Effect
Gila (Siphateles) bicolor snyderi	Owens Tui Chub	FE	SE	-	-	Water with low velocities (portions of the Owens River)	Associated tributaries, springs, sloughs, drainage ditches, and irrigation canals with dense aquatic vegetation for cover and habitat for insect food items	A	Nearest recent occurrence (1998) was located 2 miles from the Project Area.	No Effect
Gulo gulo luteus	California Wolverine	FC	ST	FP	FS Sensitive	Extensive wilderness dominated by coniferous forest. In California, coniferous forests include Douglas-fir/tanoak.	Snags, downed logs, large hollow trees. Elevation and vegetation varies by season.	HP	Nearest recent occurrence (2003) was located 2 miles from the Project Area. It is unlikely that this species is in the area or that they would be affected by construction because they are primarily a nocturnal species.	No Effect
Gymnogyps californianus	California Condor	FE	SE	-	-	Rugged canyons, gorges, and forested mountains mainly between 985 and 8,860 feet		A	No known recorded occurrences within the 50 miles of the Project Area	No Effect
Haliaeetus leucocephalus	Bald Eagle	-	SE	FP	FS Sensitive	Seacoasts, rivers, large lakes, and other large areas of open water.	Nest, perch, and roost primarily in old-growth and mature stands of conifers or hardwoods.	A	Nearest occurrence is 16 miles from Project Area	No Effect
Lasiurus blossevillii	Western Red Bat	-	-	-	FS Sensitive	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests.	Prefer riparian areas dominated by cottonwoods, willows or oaks where they roost in tree foliage.	A	No known recorded occurrences within the 50 miles of the Project Area	No Effect
Lithobates (Rana) pipiens	Northern Leopard Frog	-	-	SSC	FS Sensitive	variety of aquatic habitats including slow-moving or still water along streams and rivers, wetlands, and permanent or temporary pools		HP	Nearest occurrence is 6 miles from Project Area. Although habitat may be present, the nearest occurrences of this species are historic (1994) and occur too far away from the Project Area for any impacts to occur.	No Effect
Martes americana	American Marten	-	-	-	FS Sensitive	Coniferous forests.	They den in hollow trees, crevices, or vacant ground burrows.	HP	This species was observed in 2010 and 2011 in Project Area (Upper Rock Creek area) with cameras (Leann Murphy pers. comm.). It is unlikely that this species would be affected by construction because they are primarily a nocturnal species.	No Effect

Table A-1. Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Lassen National Forest and Plumas County, California

Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Oncorhynchus clarki ssp. Henshawi	Lahontan Cutthroat Trout	FT	-	-	-	Stream habitat characterized by clear, cold water	A variety of stream habitats including slow deep water, abundant instream cover (i.e., large woody debris, boulders, undercut banks), and relatively stable streamflow and temperature regimes.	A	Nearest occurrence is 13 miles from Project Area	No Effect
Oncorhynchus clarki seleniris	Paiute Cutthroat Trout	FT	-	-	-	Cool, well-oxygenated waters.	Prefer stream pool habitat in low gradient meadows with undercut or overhanging banks and abundant riparian vegetation	A	Nearest occurrence is 25 miles from Project Area	No Effect
Oncorhynchus mykiss aguabonita	California Golden Trout	-	-	SSC	FS Sensitive	High-elevation watersheds, with very clear and cold watercourses. Native to the watersheds of Sierra Nevada Mountain range.		A	No known recorded occurrences within the 50 miles of the Project Area	No Effect
Ovis canadensis ssp. Sierrae	Sierra Nevada Bighorn Sheep	FE	SE	FP	-	Rocky, steep slopes and canyons with adjacent open areas; forages in meadows and brushlands.		HP	Nearest occurrence within one mile of Project Area. Critical habitat is present near (2 miles), but not within the Project Area. The sheep do not forage or go near the roadway due to the high level of human activity. They generally follow the ridgeline of the surrounding mountains and go around the road (Leann Murphy pers. comm.). For these reasons, it is unlikely that this species would be found in the area.	No Effect
Pyrgulopsis owensensis	Owen's Valley Springsnail	-	-	-	FS Sensitive	Freshwater		A	Nearest occurrence is 20 miles from Project Area. Although habitat may be present, the description of habitat is very general and the nearest occurrence of this species occurs too far away from the Project Area for any impacts to occur.	No Effect
Pyrgulopsis wongi	Wong's Springsnail	-	-	-	FS Sensitive	Freshwater		A	Nearest occurrence is 4 miles from Project Area. Although this species is known to occur within the vicinity, the nearest occurrence is located within the Owen's River gorge. This area provides unique habitat that is not within the Project Area.	No Effect
Rana muscosa	Mountain Yellow-Legged Frog	FC	SC	-	FS Sensitive	Montane lakes and ponds, riparian and other habitats; eggs laid in shallow water attached to gravel or rocks.		HP	Nearest occurrence is 30 miles from Project Area. Although habitat may be present, the nearest occurrence of this species occurs too far away from the Project Area for any impacts to occur.	No Effect

Table A-1. Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Lassen National Forest and Plumas County, California

Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Strix nebulosa	Great Gray Owl	-	SE	-	FS Sensitive	Breed in mixed conifer and red fir forests; Nesting in islands of aspens within conifer stands; foraging in open areas of marshes, bogs, and forest clearings with trees and shrubs for perches.		A	Nearest recent occurrences (2007) of this species occur 40 miles from the Project Area. The nearest occurrences are historic (1975) and are too far away from the Project Area for any impacts to occur.	No Effect
Strix occidentalis occidentalis	California Spotted Owl	-	-	SSC	FS Sensitive	Mature forest stands, riparian corridors.		A	No known recorded occurrences within 50 miles of the Project Area	No Effect
Vireo bellii pusillus	Least Bell's Vireo	FE	SE	-	-	dense, low brush near water. Riparian thickets		A	No known recorded occurrences within 50 miles of the Project Area	No Effect
Vulpes vulpes necator	Sierra Nevada Red Fox	-	ST	-	FS Sensitive	Preferred habitat is red fir and lodgepole pine forests in the subalpine zone and alpine fell-fields; known to inhabit vegetation types similar to those used by the marten and wolverine.	Need loose-textured sandy soils for burrowing, and suitable prey base.	HP	According to Inyo National Forest (Leann Murphy pers. comm.), there was a sighting of this species that crossed the road near a campground in the 1990s. Cameras placed within the Project Area (Upper Rock Creek area) in 2010 and 2011 did not record any occurrences.	No Effect
Plants										
Abronia alpina	Ramshaw Meadows Abronia	-	-	1B.1	FS Sensitive	Upper Montane Coniferous Forest;	Meadows (granitic with gravelly margins) at 2400-2700 m elevation; Dry, open, granitic meadows	A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Abronia nana ssp. covillei	Coville's Dwarf Abronia	-	-	4.2	FS Sensitive	Dry slopes with carbonate soil and in sandy places within the San Bernardino, Inyo, New York, and White mountains.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Arabis bodiensis	Bodie Hills Rock Cress	-	-	1B.3	FS Sensitive	Alpine boulder and rock field, great basin scrub, pinyon and juniper woodland, subalpine coniferous forest.		HP	No known recorded occurrences within 50 miles of the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Arabis pinzliae (Bolechera pinzliae)	Boundary Peak Rock Cress	-	-	1B.3	FS Sensitive	Rocky slopes. 3000–3350 m. White and Inyo Mountains		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Arabis shockleyi	Shockley's Rockcress	-	-	2.2	FS Sensitive	Grows on carbonate or quartzite soil in pinyon-juniper woodlands.	San Bernardino (ne san Bernardino mtns.) and Inyo cos., NV great basin;	A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Arabis tiehmii	Tiehm's Rock Cress	-	-	1B.3	FS Sensitive	Steep outcrops, talus, and scree of weathering andesitic and metavolcanic deposits or decomposed granite or carbonates. Ridgetops and dry drainages in alpine and subalpine habitats.		A	Nearest recorded occurrences located 50 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect

Table A-1. Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Lassen National Forest and Plumas County, California

Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Astragalus cimae var. sufflatus	Inflated Cima Milk-Vetch	-	-	1B.2	FS Sensitive	Great Basin scrub, pinyon and juniper woodland on carbonate, rocky soils. Elevations from 1,500 to 2,075 m.		A	Nearest recorded occurrences located 50 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Astragalus johannis-howellii	Long Valley Milk-Vetch	-	-	1B.2	FS Sensitive	Great basin scrub.	In sandy volcanic ash or pumice with sagebrush scrub. 2030-2530m.	HP	Nearest recorded occurrences located 6 miles from the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Astragalus lemmonii	Lemmon's Milk-Vetch	-	-	1B.2	FS Sensitive	Great basin scrub, meadows and seeps, marshes and swamps.	Lakeshores, meadows and seeps. 1280-2200m.	HP	Nearest recorded occurrence located within the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Astragalus lentiginosus var. kernensis	Kern Plateau Milk-Vetch	-	-	1B.2	FS Sensitive	Open Flats around Montane Meadows with Sagebrush and Lodgepole Pine Dry Sandy- gravel, Granitic Soils	7,700 to 8,500 ft.	A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Astragalus monoensis var. monoensis	Mono Milk-Vetch	-	-	1B.2	FS Sensitive	Great basin scrub, upper montane coniferous forest.	Pumice flats with sparse vegetative cover. 2110-3355m.	HP	Known to occur within the Project Area. Observed during July 2012 botanical survey.	May affect individuals but is not likely to result in a trend toward federal listing or loss of viability for this species.
Astragalus ravenii	Raven's Milk-Vetch	-	-	1B.3	FS Sensitive	Alpine boulder and rock field, upper montane coniferous forest.	Gravelly flats and slopes on metamorphosed sedimentary and volcanic bedrock. 3355-3460.	A	Nearest recorded occurrences located 3 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Botrychium ascendens	Upswept Moonwort	-	-	2.3	FS Sensitive	Lower montane coniferous forest.	Grassy fields, coniferous woods near springs and creeks. 1500-2060 meters.	HP	Nearest recorded occurrences located 11 miles from the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Botrychium crenulatum	Scalloped Moonwort	-	-	2.2	FS Sensitive	Bogs and fens, meadows, lower montane coniferous forest, freshwater marsh.	Moist meadows, near creeks. 1500-2670m.	HP	Nearest recorded occurrences within the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Botrychium lineare	Slender Moonwort	-	-	1B.3	FS Sensitive	At elevations between approximately1,500 m (4,921 ft) and 3,000 m (9,843ft) in mountains. Habitat ranges from meadow, wooded areas, cliffs, or disturbed early seral sites.		A	Nearest recorded occurrences located 15 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Botrychium lunaria	Common Moonwort	-	-	2.3	FS Sensitive	Open fields and forests		A	Nearest recorded occurrences located 37 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Botrychium minganense	Mingan Moonwort	-	-	2.2	FS Sensitive	Lower montane coniferous forest.	Creek banks in mixed conifer forest. 1500-2275 meters.	A	Nearest recorded occurrences located 30 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect

Table A-1. Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Lassen National Forest and Plumas County, California

Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Bruchia bolanderi	Bolander's Bruchia	-	-	2.2	FS Sensitive	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest on damp soil. Elevations from 1,700 to 2,800 m.		A	Nearest recorded occurrences located 30 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Calochortus excavatus	Inyo County Star-Tulip	-	-	1B.1	FS Sensitive	Chenopod scrub, meadows (alkaline).	Mostly on fine, sandy loam soils with alkaline salts, grassy meadows in shadscale scrub. 1150-2000m.	A	Nearest recorded occurrences located 3 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Carex tiogana	Tioga Pass Sedge	-	-	1B.3	FS Sensitive	Meadow and seep, wetland, mesic lake margins.		A	Nearest recorded occurrences located 33 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Caulostramina jaegeri	Jaeger's Caulostramina	-	-	1B.2	FS Sensitive			A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Cordylanthus eremicus (ssp. kernensis	Kern Plateau Bird's Beak	-	-	1B.3	FS Sensitive	Pinyon-Juniper and Joshua Tree Woodland, Upper Montane Coniferous Forest Steep Rocky Slopes in Granitic or Metamorphic Substrate	5,500 to9,800 ft.	A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Cryptantha incana	Tulare Cryptantha	-	-	1B.3	FS Sensitive	Lower montane coniferous forest, gravelly or rocky soils. Elevations from 1,430 to2,150 m.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Cryptantha roosiorum	Bristlecone Cryptantha	-	-	1B.2	FS Sensitive	Subalpine coniferous forest on rocky carbonate soils. Elevations from 2,440 to3,230 m.		A	Nearest recorded occurrences located 50 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Dedeckera eurekensis	July Gold	-	-	1B.3	FS Sensitive	Mojavean desert scrub on carbonate soil. Elevations from 1,220 to2,200 m.		A	Nearest recorded occurrences located 20 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Draba asterophora var. asterophora	Tahoe Draba	-	-	1B.2	FS Sensitive	Granitic rock crevices, talus, scree, or rocky decomposed granitic or volcanic soils on steep northern slopes. Subalpine forests.		A	Nearest recorded occurrences located 35 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Draba incrassata	Sweetwater Mountains Draba	-	-	1B.3	FS Sensitive	Alpine boulder and rock field; endemic to the rhyolite substrates of the Sweetwater Mountains on loose, steep, talus slopes. Elevations from 2,500 to3,500 m.		A	Nearest recorded occurrences located 7 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect

Table A-1. Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Lassen National Forest and Plumas County, California

Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Draba monoensis	White Mountains Draba	-	-	1B.2	FS Sensitive	Wet, boggy areas, meadows, and swales with grasses, moss and willows		A	Nearest recorded occurrences located 25 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Draba sharsmithii	Mt. Whitney Draba	-	-	1B.3	FS Sensitive	Alpine boulder and rock field, subalpine coniferous forest. Elevations from 3,355 to3,960 m.		A	Nearest recorded occurrences located 50 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Epilobium howellii	Subalpine Fireweed	-	-	4.3	FS Sensitive	Meadows, subalpine coniferous forest.	Wet meadows, mossy seeps. 1970-2700m.	HP	Nearest recorded occurrences located 2 miles from the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Ericameria gilmanii	Gilman's Goldenbush	-	-	1B.3	FS Sensitive	Subalpine coniferous forest, and uppermontane coniferous forest on carbonate orgranitic, rocky soil. Elevations from 2,100 to3,400 m.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Erigeron aequifolius	Hall's Daisy	-	-	1B.3	FS Sensitive	Steep, Rocky, Crevices in Conifer Forest and Pinyon-Juniper Woodland Granitic Substrate	5,200 to8,000 ft.	A	Nearest recorded occurrences located 45 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Erigeron multiceps	Kern River Daisy	-	-	1B.2	FS Sensitive	Dry Meadow Edges in Mixed Conifer or Aspen Forest Granitic Gravelly Banks and Sandy Flats	5,000 to8,400 ft.	A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Erigeron uncialis var. uncialis	Limestone Daisy	-	-	1B.2	FS Sensitive	Great Basin scrub, subalpine coniferous forest on carbonate soils. Elevations from2,100 to 2,900 m.		A	Nearest recorded occurrences located 35 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Eriogonum wrightii var. olanchense	Olancha Peak Buckwheat	-	-	1B.3	FS Sensitive	Alpine boulder and rockfield, subalpine coniferous forest on gravelly or rocky soils. Elevations from 3,260 to3,535 m.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Helodium blandowii	Blandow's Bog Moss	-	-	2.3	FS Sensitive	Wet areas dominated by willows and mineotropic peatlands.		HP	Nearest recorded occurrences within the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Horkelia hispidula	White Mountains Horkelia	-	-	1B.3	FS Sensitive	Alpine dwarf scrub, Great Basin scrub, subalpine coniferous forest. Elevations from3,000 to 3,400 m.		A	Nearest recorded occurrences located 27 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect

Table A-1. Federally Listed Threatened, Endangered, and Candidate Species, and Sensitive Wildlife Species of Lassen National Forest and Plumas County, California

Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Hulsea brevifolia	Short-Leaved Hulsea	-	-	1B.2	FS Sensitive	Upper montane coniferous forest on granitic or volcanic(pumice) soil of forest openings and road cuts. Elevations from 1,500 to3,200m.		A	Nearest recorded occurrences located 20 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Hulsea vestita ssp. pygmaea	Pygmy Hulsea	-	-	1B.3	FS Sensitive	Alpine boulder and rock fields, subalpine coniferous forest on granitic, gravelly soil. Elevations from 2,835 to3,900 m.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Hydrothyria venosa (Peltigera hydrothyria)	Veined Water Lichen	-	-	-	FS Sensitive	Grows on rocks in woodland streams at high elevations.		A	Nearest recorded occurrences located 38 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Lupinus duranii	Mono Lake Lupine	-	-	1B.2	FS Sensitive	Great Basin scrub, subalpine coniferous forests, upper montane coniferous forests. Dry volcanic pumice and gravelly soils. Blooming period: May-August Elevation: 2000-3000 meters		A	Nearest recorded occurrences located 15 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Lupinus gracilentus	Slender Lupine	-	-	1B.3	FS Sensitive	Subalpine coniferous forest.	Semi-moist shaded areas. 2500-3500m.	HP	Nearest recorded occurrences located 3 miles from the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Lupinus lepidus var. culbertsonii	Hockett Meadows Lupine	-	-	1B.3	FS Sensitive	Meadows and seeps, Upper montane coniferous forest	Mesic, rocky	HP	No known recorded occurrences within 50 miles of the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Lupinus padre-crowleyi	Father Crowley's Lupine	-	-	1B.2	FS Sensitive	Great basin scrub, riparian scrub, riparian forest, upper montane coniferous forest.	Scattered on steep avalanche chutes, in sunny sites in drainages, and in valley bottoms; decomposed granite. 2500-4000m.	HP	Nearest recorded occurrences located 3 miles from the Project Area. Species was not found during July 2012 botanical surveys.	No Effect
Meesia triquetra	Three-Ranked Hump Moss	-	-	4.2	FS Sensitive	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. 1300-2500 meters.	A	Nearest recorded occurrences located 35 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Meesia uliginosa	Broad-Nerved Hump Moss	-	-	2.2	FS Sensitive	Meadows and seeps, bogs and fens, upper montane coniferous forest.	Moss on damp soil. Often found on the edge of fens or raised above the fen on hummocks/shrub bases. 1300-2500 meters.	A	Nearest recorded occurrences located 37 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Monardella beneolens	Sweet-Smelling Monardella	-	-	1B.3	FS Sensitive	Alpine boulder and rock field, subalpine coniferous forest, upper montane coniferous forest on granitic soil. Elevations from 2,500 to3,500 m.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect

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Petrophyton caespitosum ssp. acuminatum	Rock Spiraea	-	-	1B.3	FS Sensitive			A	Nearest recorded occurrences located 45 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Phacelia inyoensis	Inyo Phacelia	-	-	1b.2	FS Sensitive	Meadows and seeps.	Alkaline meadows. 1025-3200m.	A	Nearest recorded occurrences located 8 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Phacelia monoensis	Mono County Phacelia	-	-	1B.1	FS Sensitive	Great Basin scrub, pinyon and juniper woodland. Clay alkaline soils.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Phacelia mustelina	Death Valley Round-Leaved Phacelia	-	-	1B.3	FS Sensitive	Mojavean desert scrub, pinyon and juniper woodland on carbonate or volcanic, gravelly or rocky soils. Elevations from 730 to 2,620 m.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Phacelia novenmillensis	Nine Mile Canyon Phacelia	-	-	1B.2	FS Sensitive	Broadleaved upland forest, cismontane woodland, pinyon and juniper woodland, upper montane coniferous forest on sandy or gravelly soil. Elevations from 1,645 to 2,640 m.		A	No known recorded occurrences within 50 miles of the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Polemonium chartaceum	Mason's Sky Pilot	-	-	1B.3	FS Sensitive	Alpine boulder and rock field, subalpine coniferous forest on rocky, serpentine, granitic, or volcanic soil. Elevations from 1,800 to4,200 m.		A	Nearest recorded occurrences located 25 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Polyctenium williamsiae	Williams' Combleaf	-	-	1B.2	FS Sensitive	Marshes and swamps(alkali), playas, vernal pools. Elevations from1,350 to 2,700 m.		A	Nearest recorded occurrences located 35 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Potentilla morefieldii	Morefield's Cinquefoil	-	-	1B.3	FS Sensitive	Alpine boulder and rock field on carbonate soils. Elevations from 3,265 to4,000 m.		A	Nearest recorded occurrences located 25 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Senecio pattersonensis	Mount Patterson Senecio	-	-	1B.3	FS Sensitive	Alpine boulder and rock fields. Elevations from2,900 to 3,720 m.		A	Nearest recorded occurrences located 25 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Streptanthus gracilis	Alpine Jewel-Flower	-	-	1B.3	FS Sensitive	Subalpine coniferous forest, upper montane coniferous forest on granitic, rocky soils. Elevations from 2,800 to3,500 m.		A	Nearest recorded occurrences located 35 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect

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Scientific Name	Common Name	FED[1]	STATE[2]	CDFG/ CNPS[3]	USFS[4]	General Habitat	Microhabitat	Habitat Present in Study Area?[5]	Closest Occurrence/Comments[6]	Finding
Streptanthus oliganthus	Masonic Mountain Jewel-Flower	-	-	1B.2	FS Sensitive	Pinyon and juniper woodland habitats. Volcanic or rocky granitic soils.		A	Nearest recorded occurrences located 45 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Trifolium dedeckerae	Dedecker's Clover	-	-	1B.3	FS Sensitive	Lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, upper montane coniferous forest on granitic, rocky soils. Elevations from2,100 to 3,500 m.		A	Nearest recorded occurrences located 30 miles from the Project Area. No survey for this species was conducted due to lack of suitable habitat within the Project Area.	No Effect
Viola pinetorum spp. grisea	Goosefoot Yellow Violet			1B.3	FS Sensitive	Lodgepole Forest, Subalpine Forest, Red Fir Forest		HP	Nearest recorded occurrences located 14 miles from the Project Area. Species was not found during July 2012 botanical surveys.	No Effect

STATUS CODES:

1: Federal Status
FE – Federally listed as endangered
FT – Federally listed as threatened
FC– Federal candidate for listing

2: State Status
SE – State listed as endangered
ST – State listed as threatened
SR – State listed as rare
SC – State species of Concern

3: CDFG Status
FP – Fully Protected
SSC – Species of Special Concern

CNPS Status
1A – Plants presumed extinct in California
1B – Plants rare, threatened, or endangered in California and elsewhere
2 – Plants rare, threatened, or endangered in California, but more common elsewhere
3 – Plants about which we need more information – a review list

CNPS threat code extensions
.1 – Seriously endangered in California.
.2 – Fairly endangered in California.
.3 – Not very endangered in California.

4: Forest Service Status
FS Sensitive= Designated Forest Service Sensitive Species on Inyo National Forest (Inyo County)

5: Habitat Present in Study Area
A= Absent
HP= Habitat is or may be present. The species may be present.

6: Occurrence Data
Closest occurrence data obtained from CNDDB 2012.