Rush Creek Project, FERC Project No. 1389

TERR 2 – Wildlife Resources Technical Study Report

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APLIC	Avian Power Line Interaction Committee
BCC	Birds of Conservation Concern
CALVEG	Classification and Assessment with Landsat of Visible Ecological Groupings
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CFP	California Fully Protected
CNDDB	California Natural Diversity Database
CWHR	California Wildlife Habitat Relationships
dbh	diameter at breast height
DNA	deoxyribonucleic acid
DPS	Distinct Population Segment
ESA	Endangered Species Act
FC	Federal Candidate for Listing
FD	Federal Delisted
FE	Federal Endangered
FERC	Federal Energy Regulatory Commission
FPD	Federal Proposed Delisted
FPE	Federal Proposed Endangered
FPT	Federal Proposed Threatened

FSCC	Forest Service Species of Conservation Concern
FT	Federal Threatened
GIS	Geographic Information System
GPS	Global Positioning System
INF	Inyo National Forest
PAD	Pre-Application Document
Project	Rush Creek Project
SCE	Southern California Edison Company
SE	State Endangered
SSC	Species of Special Concern
ST	State Threatened
T/D	Transmission/Distribution Lines
TSP	Technical Study Plan
TSR	Technical Study Report
TWG	Technical Working Group
USFWS	U.S. Fish and Wildlife Service
WL	Watch List

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1 INTRODUCTION

This Technical Study Report (TSR) describes the methods and results associated with implementation of the TERR 2 – Wildlife Resources Technical Study Plan (Wildlife TSP) for the Rush Creek Hydroelectric Project (Project). Refer to the AQ 7 – Special-status Amphibians Technical Study Report (Amphibian TSR) for the special-status amphibian study methods and results. The Wildlife TSP was approved (with modifications) by the Federal Energy Regulatory Commission (FERC) on October 26, 2022, as part of its Study Plan Determination for the Project.

This document defines a special-status wildlife species as any animal species that is granted status by a federal or state agency. Federally listed species granted status by U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) include Federal Threatened (FT), Federal Endangered (FE), Federal Proposed Threatened or Endangered (FPT or FPE), candidates for listing (FC), Federal Delisted (FD), or proposed for delisting (FPD). Also included are bald and golden eagles protected under the Bald and Golden Eagle Protection Act (Eagle Act). Those species listed by USFWS as Birds of Conservation Concern (BCC) which include “species, subspecies, and populations of all migratory nongame birds that, without additional conservation action, are likely to become candidates for listing under the ESA of 1973” (USFWS 2021a) are also included. The Project falls in Bird Conservation Region 15 (USFWS 2021a).

The Inyo National Forest (INF) also maintains lists of Forest Species of Conservation Concern (FSCC) that are not federally listed but that are designated by the Regional Forester for special management consideration.

State of California listed terrestrial wildlife species, which are granted status by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA), include threatened (ST), endangered (SE), Fully Protected species (CFP), and California Species of Special Concern (SSC).

2 STUDY OBJECTIVES

The objectives of the wildlife resource studies as described in the Wildlife TSP are:

- Update California Wildlife Habitat Relationships (CWHR) habitats within 1 mile of the FERC Project boundary and within 300 feet of proposed helicopter flight paths based on Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) vegetation alliances developed as part of the TERR 1 – Botanical Resources TSP.

- Update information on special-status wildlife species potentially occurring in CWHR habitats within 1 mile of the FERC Project boundary.

- Consult with resource agencies to determine Sierra Nevada bighorn sheep (*Ovis canadensis sierrae)* (FE, SE, CFP) distribution and use of lands within the FERC Project boundary and adjacent Critical Habitat.

- Conduct wildlife reconnaissance survey to characterize wildlife use within the FERC Project boundary[1] and within the potential enhancement area.

- Consult with resource agencies and other local raptor experts to determine historic and recent raptor nest records present in the FERC Project boundary and along proposed helicopter flight paths and to determine regional nesting chronology.

- Document potential nesting habitat and raptor nests along the proposed helicopter flight paths.

- Determine whether Project transmission line and power line tower/pole configurations are consistent with guidelines for the avoidance of avian mortalities.

- Document special-status bat reproductive and seasonal use of Project facilities.

3 STUDY IMPLEMENTATION

Study elements described in the Wildlife TSP were initiated in 2023 and completed in 2024. A summary of the study elements that have been completed, outstanding study elements, and any deviations or proposed modifications to the Wildlife TSP are discussed in the following subsections.

3.1 STUDY ELEMENTS COMPLETED

3.1.1 Documented Special-Status Wildlife Habitats and Occurrences

- Developed an updated CALVEG–CWHR crosswalk table.

- Developed an updated Geographic Information System (GIS) map of wildlife habitats and overlay information on Project facilities, construction areas, proposed helicopter flight paths, restoration areas, and the potential enhancement area.

- Consulted with resource agencies to obtain information on Sierra Nevada bighorn sheep distribution and use of lands within the FERC Project boundary and adjacent Critical Habitat.

[1] Wildlife reconnaissance surveys along the Project-affected streams will only be conducted within stream segments defined in Table TERR 1-1 of the TERR 1, Botanical TSP.

- Consulted with resource agencies and other local raptor experts to determine historic and recent raptor nest records within the FERC Project boundary and proposed helicopter flight paths and to determine regional nesting chronology.

- Identified/mapped potential raptor nesting habitat and observation points to support raptor surveys.

- Conducted wildlife reconnaissance survey within the study area.

- Conducted raptor nest surveys during the regional nesting period, as determined through consultation with agencies and local raptor experts.

- Conducted an evaluation of the potential for ESA-listed species to occur in study area.

3.1.2 Determined the Consistency of Project Transmission Lines and Power Lines with APLIC Guidelines

- Documented the configuration of transmission line and power line towers/poles and evaluate their consistency with Avian Power Line Interaction Committee (APLIC) guidelines for any Project towers/poles not previously evaluated as part of SCE's corporate-wide Avian Protection Program.

- Documented past avian electrocutions and mortalities on Project transmission lines and power lines based on SCE and resource agency consultation.

3.1.3 Documented Special-Status Bat Reproductive and Seasonal Use of Project Facilities

- Conducted an initial desktop assessment of Project facilities to determine each facility's potential to support bat roosts.

- Conducted a preliminary visual assessment of Project facilities during wildlife reconnaissance surveys to determine the potential to support bat roosts.

- Developed a preliminary visual assessment summary of Project facilities potentially supporting bat roosts.

- Conducted a visual roost survey at Project facilities identified as potentially supporting roosting bats.

- Collected and analyzed deoxyribonucleic acid (DNA) samples at roost sites where fresh guano is available and bat species could not be determined visually during the roost survey.

- Conducted acoustic sampling (i.e., sampling of echolocation calls) during the reproductive season at potential flight corridors between potential roosting habitat and foraging habitat, as well as any additional locations where bats were detected during roost surveys but were not identified to species.

- Conducted additional acoustic sampling in the fall before onset of winter snows (i.e., late September/early October) at those locations where active roosts were identified and/or within flight corridors between roost sites and potential foraging habitat to determine seasonal patterns of use.

- Developed a GIS map of special-status bat roosts and overlaid information on Project facilities.

3.2 VARIANCES FROM THE WILDLIFE TSP

All studies were conducted in accordance with the Wildlife TSP.

3.3 OUTSTANDING STUDY ELEMENTS

There are no outstanding study elements.

4 EXTENT OF STUDY AREA

The study area for documentation of special-status wildlife occurrences and habitats; determination of the consistency of Project transmission line and power line tower or pole configurations with APLIC guidelines; and documentation of special-status bats and roosts is defined below.

4.1 DOCUMENT SPECIAL-STATUS WILDLIFE OCCURRENCES AND HABITATS

- For updating CWHR habitat, special-status wildlife species occurrences, and assessing potential for ESA-listed species to occur, the study area includes lands within 1 mile of the FERC Project boundary.

- For obtaining information on Sierra Nevada bighorn sheep distribution and use of lands, the study area includes lands within the FERC Project boundary and adjacent Critical Habitat.

- For wildlife reconnaissance surveys, the study area includes lands within the FERC Project boundary[2] and within the potential enhancement area.

- For identification and mapping of potential raptor nesting habitat, the study area extends 300 feet on either side of the proposed helicopter flight paths.

4.2 DETERMINE THE CONSISTENCY OF TRANSMISSION LINE AND POWER LINE CONFIGURATIONS WITH APLIC GUIDELINES

- For the evaluation of potential avian mortalities, the study area is Project transmission lines and power lines. Refer to Table TERR 2-1 for a list of Project transmission and power lines.

4.3 DOCUMENT SPECIAL-STATUS BAT REPRODUCTIVE AND SEASONAL USE OF PROJECT FACILITIES

- For the visual assessment of Project facilities, the study area includes Project facilities listed in Table TERR 2-1.

- For the bat roost surveys, the study area includes Project facilities with the potential to support roost sites.

- For the seasonal use surveys, the study area includes locations where active roosts were identified and/or within flight corridors between roost sites and potential foraging habitat to determine seasonal patterns of use.

5 STUDY APPROACH

This section provides details on the study approach for documentation of special-status wildlife occurrences and associated habitats; evaluation of transmission line and power line tower/pole configurations; and documentation of potential roosting habitat for special-status bats.

5.1 DOCUMENT SPECIAL-STATUS WILDLIFE HABITAT AND OCCURRENCES

The study approach for identifying special-status wildlife occurrences and habitats in the study area included development of an updated CALVEG–CWHR crosswalk and wildlife habitat map; obtaining updated information on Sierra Nevada bighorn sheep; documenting raptor habitat along the proposed helicopter flight path; conducting a wildlife reconnaissance survey; and developing final tables and maps of special-status species. The approach for each of these study elements is described below.

[2] Wildlife reconnaissance surveys along the Project-affected streams will only be documented within stream segments as defined in Table TERR 1-1 of the TERR 1 TSP.

5.1.1 Develop Updated CALVEG–CWHR Crosswalk Table and CWHR Map

CWHR habitat maps for the study area were developed based on vegetation alliance maps and included in the TERR 1 – TSR. Each CALVEG alliance present in the study area was referenced to a CWHR wildlife habitat using the CALVEG CWHR Crosswalk for California (USDA-FS 2009). This information was then used to develop a Project-specific CALVEG-CWHR crosswalk table and updated maps showing the location of CWHR habitats in the study area.

A table was also developed showing CWHR habitat that may potentially support special-status species known or potentially occurring in the Rush Creek Study Area (refer to Section 5.1.6 below).

5.1.2 Obtain Information on Sierra Nevada Bighorn Sheep Distribution

SCE consulted with resource agencies and stakeholders at the TERR 2 TWG meeting held on May 11, 2023, and followed up with CDFW by e-mail on May 22, 2023 and July 6, 2023 to obtain recently available information on Sierra Nevada bighorn sheep. These materials were reviewed to determine the distribution of this species and use of lands within the FERC Project boundary and adjacent Critical Habitat.

5.1.3 Obtain Information on Mesocarnivore Distribution

SCE contacted the CDFW Alpine Mesocarnivore working group by e-mail on December 13, 2023 to obtain recently available information on the range of the Sierra Nevada Distinct Population Segment (DPS) of the Sierra Nevada red fox (*Vulpes vulpes necator*) (FE, ST) and the Contiguous United States (U.S.) DPS of North American wolverine (*Gulo gulo luscus*) (FT, ST, CFP) in relation to the study area. Since 2015, the Alpine Mesocarnivore working group has deployed remote cameras and collected fecal samples at high elevations of the Sierra Nevada for the purpose of detecting mesocarnivores, with a particular focus on Sierra Nevada red fox and wolverine. The closest survey grid lies just to the southwest of Waugh Lake in the study area.

Materials obtain from CDFW staff were reviewed to provide information on the distribution of these species and use of lands within the FERC Project boundary.

5.1.4 Document Raptor Habitat and Nests Along Proposed Helicopter Flight Path

This section describes methods used to document potential raptor nesting habitat along the proposed helicopter flight paths. As described in Section 3.3, raptor nest surveys were delayed until 2024 (through consultation with resource agencies) because of extreme winter conditions in 2023.

5.1.4.1 Obtain Information on Historic and Recent Raptor Nest Records and Regional Nesting Chronology

SCE consulted with resource agencies and stakeholders at the TERR 2 TWG meeting held on May 11, 2023; and held an additional, focused meeting with USFWS on June 9, 2023 to obtain updated information on historic and recent reported nest records within the FERC Project boundary and proposed helicopter flight paths; and to determine regional nesting chronology.

5.1.4.2 Conduct Desktop Review of Potential Raptor Habitat

A preliminary map showing the proposed helicopter flight paths, observation points, and approximate viewsheds is provided in Map TERR 2-2. This map includes updated aerial photographs and information provided during consultation with resource agencies and raptor experts and was used to determine areas potentially supporting raptor nesting habitat for cliff-nesting and tree-nesting species.

Habitat for cliff-nesting species (i.e., golden eagle (*Aquila chrysaetos*) (Eagle Act, CFP), American peregrine falcon *(Falco peregrinus anatum*) (FD, CFP) and prairie falcon (*Falco mexicanus*)) is defined as cliffs with prominent escarpments that provide a view of surrounding environment and updrafts (Kochert et al. 2002), with the cliff face usually at least 70 feet in height (Pagel et al. 1991; White et al. 2002). Nests are usually, but not always within the upper half of the cliff face (Kochert et al. 2002; Steenhof 2013).

Habitat for tree-nesting species (i.e., American goshawk (*Accipiter atricapillus*) (SSC), osprey (*Pandion haliaetus*), and bald eagle (*Haliaeetus leucocephalus*) (Eagle Act, FSCC, SE, CFP) is defined to include areas supporting trees greater than 24 inches diameter at breast height (dbh) (Jackman and Jenkins 2004, Woodbridge and Hargis 2006, Bierregaard et al. 2016). American goshawks prefer stands of trees with dense canopy cover (Woodbridge and Hargis 2006), while osprey and bald eagle will nest in more open stands (Jackman and Jenkins 2004, Bierregaard et al. 2016).

5.1.4.3 Conduct Raptor Habitat Surveys

Raptor habitat surveys were conducted in July 2023 to assess potential raptor habitat located within 300 feet of the proposed helicopter flight path. Surveys were conducted on foot utilizing existing hiking trails (i.e., the Rush Creek Trail, Fern Lake Trail, and Spooky Meadow Trail) to access five of the six proposed observation points and associated viewsheds. The final observation point, which is located at the chalet at the June Mountain Ski Resort, was accessed by car and on foot. Surveyors assessed habitat along the trails and at the designated observation points using binoculars, focusing on areas determined during the desktop review as potentially supporting raptor nesting habitat. Habitat for cliff- and tree-nesting birds was mapped and photographed. Surveyors evaluated the suitability of the selected observation points and made notes on the location of potential alternate observation points. Incidental sightings of eagles and other raptors were also noted.

Survey results were memorialized in an updated map of raptor habitat within 300 feet of the proposed helicopter flight path.

5.1.4.4 Conduct Raptor Nest Surveys

Raptor nest surveys were conducted by qualified biologists twice during the nesting season and spaced more than 30 days apart in June and August 2024, consistent the guidelines specified in Pagel 1991 and Pagel et al. 2010, and were conducted outside the incubation period. Surveyors utilized existing trails and observation points to survey suitable habitats along the helicopter flight path. While walking existing trails, surveyors stopped at open vantage points and used binoculars to scan all visible potential nesting habitat. At the observation points, binoculars and a spotting scope (at least 45x magnification) were used to view all visible potential nesting habitat. While conducting the raptor nest surveys, biologists verified potential raptor nesting habitat mapped during the desktop review and made refinements as necessary.

Biologists collected the following data for each nest identified, to the extent possible.

- Date, start time, and end time of the observation period
- Weather conditions
- Species
- Nest coordinates, nesting substrate, and nest elevation
- Photographs of the nest location
- Nest status (i.e., occupied, unoccupied)
- Age class of any nestlings observed

The nest location was documented with a Global Positioning System (GPS) unit or triangulated using a compass bearing and an aerial photograph. Habitats that were not visible from observation points were not surveyed, but any raptor nesting behavior observed in the vicinity was recorded.

In addition, biologists conducted American goshawk broadcast call surveys in suitable forested habitat. Surveyors followed the protocols outlined in *Survey Methodology for Northern Goshawks in the Pacific Southwest Region* (USFS 2002). Calls were broadcast utilizing a FoxPro NX4. The results of each broadcast call were documented. Data collected included:

- Date, start time, and end time of the observation period
- Weather conditions
- Nest data (if applicable), including
    - Coordinates and elevation

- Photographs of the nest location
- Nest description and status (i.e., occupied, unoccupied)
- Age class of any nestlings observed

A final map was developed using the data collected during the surveys to show the location of potential raptor nesting habitat and identified nests within the Study Area.

5.1.5 Conduct Wildlife Reconnaissance Survey

SCE conducted wildlife reconnaissance surveys on foot between approximately 0700 and 1800 hours in July 2023. The purpose of the reconnaissance surveys was to record the presence of wildlife and their sign, and to obtain information on the location and extent of habitat features for ESA-listed species potentially present in the study area.

Inaccessible areas were surveyed with binoculars, to the degree possible. Species were recorded as present if they were observed, species-specific vocalizations were heard, or if diagnostic field signs were found (e.g., scat, tracks, pellets). Depending on the survey area and terrain, survey methods included zigzag and linear transects. Zigzag transects were utilized in larger habitat areas (e.g., mixed conifer forest) while linear transects were utilized in narrow habitats (e.g., riparian).

Wildlife sign recorded included direct species observations, scat, pellets, whitewash, tracks, nests, fur or feathers, burrows, dens, prey remains, vegetation browse, food caches, and markings on the ground or on tree bark.

During the wildlife reconnaissance survey, special attention was paid to potential reproductive habitat features preferred by ESA-listed species, particularly for the Sierra Nevada red fox and North American wolverine.

Sierra Nevada red fox are found in subalpine conifer habitats between 8,100 and 11,608 feet in elevation and prefer mosaics of high-elevation meadows, rocky areas, scrub vegetation, and patchy tree cover (USFWS 2021b). Sierra Nevada red fox den in natural openings in rock piles, crevices in exposed bedrock, and earthen dens. Potential denning habitat for Sierra Nevada red fox was assessed during the wildlife reconnaissance survey, and the location of this habitat was recorded in field notebooks.

North American wolverines are found in high-elevation areas in relatively inaccessible landscapes from 5,906 to 11,843 feet in elevation (USFWS 2023b). North American wolverines prefer talus slopes and similar rugged areas, in habitats characterized by the presence of persistent spring snow. Potential habitat for North American wolverine was assessed during the wildlife reconnaissance survey, and the location of this habitat was recorded in field notebooks.

The following data were recorded on datasheets for special-status species found during these studies:

- Date
- Time
- General location
- CWHR wildlife habitat
- Wildlife sign observed
- Specific location or GPS coordinates

Following completion of surveys, survey results were incorporated into an electronic database (i.e., Excel spreadsheet).

For each special-status species observed, a California Natural Diversity Database (CNDDB) field survey form was completed and submitted to CDFW. According to CNDDB guidelines for submitting data, ringtails are not tracked in the CNDDB and bird observations should not be submitted unless specific reproductive behaviors are observed (CNDDB 2023). Therefore, CNDDB forms were only submitted for applicable animal species and for special-status birds that displayed reproductive behavior.

5.1.5.1 Compile Incidental Wildlife Observation Data

Incidental observations of special-status species documented during all technical studies completed for the Rush Creek Project were compiled and reviewed (inclusive of all resource areas). The following data were obtained for each observation: date, location of observation, species observed, and GPS coordinates (when available). These data were entered into the electronic database of special-status wildlife species and were reviewed for accuracy and reliability. Follow-up contact with the observer was made to obtain additional information or clarification, as necessary. Incidental observations of special-status amphibians are reported in the AQ 7 – TSR.

5.1.5.2 Evaluate Potential for ESA-listed Species to Occur in the Project Area

ESA-listed species identified on the USFWS IPaC List were further evaluated for their potential to occur in the Project area based on the results of consultation with resource agencies and review of available information; the CWHR habitat assessment; wildlife reconnaissance survey; and incidental observations. The ESA listing documents, the CNDDB, and all recent status assessments and reports were reviewed for each ESA-listed species.

5.2 DETERMINE CONSISTENCY OF PROJECT TRANSMISSION LINE AND POWER LINE TOWER/POLE CONFIGURATIONS WITH APLIC GUIDELINES

This section describes the study approach for the evaluation of Project transmission line and power line towers or poles to determine their consistency with guidelines outlined in SCE's Avian Protection Plan (Appendix B) and APLIC (2006/2012). The Avian Protection Plan describes SCE's procedures and protocols for managing avian species protection within SCE Transmission and Distribution (T/D) lines. Project transmission lines and power lines are included under the Avian Protection Plan. APLIC Guidelines were developed by USFWS and APLIC to provide recommendations for power line structure designs (e.g., pole/tower) and modifications for protecting raptors or other avian species from electrocution. APLIC is a committee that includes representatives from the utility industry, wildlife resource agencies, conservation groups, and manufacturers of avian protection products. Specific methods completed in the evaluation of Project transmission line and power line tower or pole configurations are summarized below.

5.2.1 Document Configuration of Transmission Lines and Power Lines

Field inspections were conducted to document pole configurations and determine the extent of avian use of Project transmission lines, power lines and associated towers or poles. Accessible portions of Project transmission lines and power lines were visited on foot, and photographs were taken of each type of pole configuration. For power lines that were not accessible, a photograph was taken from a safe location. During the field inspection, any sign of raptor use of the power lines/towers/poles (e.g., nests, perched birds, raptors in the vicinity, whitewashing) was documented through visual identification of individuals or their sign.

In July 2023, each Project transmission line/power line tower/pole configuration was evaluated against APLIC raptor-safe configuration guidelines. In general, electrocution can occur when birds perch on, nest on, or collide with structures having: 1) uncovered phase conductors that are less than wrist-to-wrist or head-to-foot measurement of a bird; or 2) distances between grounded hardware (e.g., grounded wires, equipment, or guy wires) and any energized phase conductors (or other energized equipment) less than the wrist-to-wrist or head-to-foot measurement of a bird. APLIC recommends a conductor-to-conductor or conductor-to-grounded hardware distance of about 60 inches to accommodate the body dimensions of large birds such as bald and golden eagles (APLIC 2012). Therefore, Project power lines were evaluated according to the following criteria:

- Whether the distance between uncovered phase conductors is less than 60 inches with no perch guard;
- Whether the distance between uncovered energized parts and grounded equipment of equipment towers/poles is less than 60 inches; and
- Whether the tower/pole contains uninsulated or partially insulated metal guy wires, jumper, or transformer cables.

5.2.2 Document Past Avian Electrocutions and Mortalities

SCE monitors avian mortalities on Project lines and provides reports as part of the required annual environmental training within SCE's Avian Protection Plan. In addition, avian incidents are reported to USFWS annually as required by SCE's Special Purpose Utility Permit (MB728480). All reports were reviewed and compiled into an electronic database (Excel spreadsheet) recording the year, date, avian species, mortality location, and any additional notes about the mortality.

5.3 Document Special-Status Bat Reproductive and Seasonal Use of Project Facilities

This section describes the study approach used to document bat reproductive and seasonal use of Project facilities.

5.3.1 Identify Facilities Potentially Supporting Bat Roosts

A pre-field assessment of potential bat roosting habitat at Project facilities was conducted through a desktop review of aerial imagery of the Project area (Google 2022) and descriptions of Project facilities from Section 2.0 of the PAD for the Rush Creek Project (SCE 2021). Refer to Table TERR 2-1 for a list of Project facilities reviewed. Potential bat roosting habitat criteria used for the initial assessment included the presence of vertical and roofed components, overhangs, crevices, and cave-like openings or features.

In-field inspections were conducted in July 2023 and August 2024 at Project facilities identified as potentially supporting bat roosting habitat based on the desktop review. The exterior of facility structures was visually inspected to assess the suitability of a structure for bat use. The interior of facilities was also inspected, where possible. Criteria used to assess suitability include the presence of appropriate crevice or cave-like features and appropriate thermal conditions. Bats prefer different thermal conditions for maternity roosting versus hibernacula[3]. Maternity roosts are usually found in microclimates with warmer thermal conditions and high solar exposure (Lausen and Barclay 2003), whereas hibernacula are usually found in areas with colder thermal conditions (Webb et al. 1995). Both maternity roosts and hibernacula tend to be located in cracks, crevices, caves, or building interiors that offer more sheltered and protected conditions. Day and night roosts may be placed in more open areas under overhangs (such as the eaves of rooftops). In addition, the facilities were examined to determine the accessibility of the structure to bats (e.g., presence of small cracks or openings for bats to enter the interior of the structure). Only those facilities having structures with vertical and roofed elements, abundant cracks and crevices, and/or appropriate thermal conditions were considered potential bat roosting habitat.

[3] Hibernacula are defined as shelters used during the winter by hibernating or otherwise dormant animals.

The following data were obtained for each facility evaluated:

- Name and location of facility
- Notation of features or structures that represent suitable habitat or reasons why facility is not considered suitable for roosting bats
- Photographs
- Description of surrounding environmental conditions

5.3.2 Conduct Roost Surveys

In August 2024, biologists conducted roost surveys at all Project facilities that had the potential to support bat roosts. Roost surveys included visual inspection of the facilities, guano sampling (Section 5.3.2.1), and night emergence surveys (Section 5.3.2.2). Acoustic surveys were also conducted at potential flight corridors between potential roosting habitat and foraging habitat, as well as any additional locations where bats were detected during roost surveys, but were not identified to species. Refer to Section 5.3.2.3 for additional information on acoustic surveys.

The following data were collected at each facility, as applicable:

- Date and time of the survey
- Name and location of facility
- Notation of bat roost signs (e.g. skeletons, dead young, placentas, guano deposits, urine staining, and culled insect parts) and/or live bats
- Any visually identifiable bats, including
    - Number of adults and/or juveniles present
    - The species of any individuals present, if visually identifiable
    - The type of roost (e.g. night, day, or maternity) and roost status
- Description of surrounding environmental conditions
- Photographs.

5.3.2.1 Guano DNA Sampling

Guano samples were collected from Project facilities where bats or bat sign were observed during the visual inspections, but species identifications not possible, and/or where fresh guano were available. Data collected in the field in relation to these guano samples included:

- Collection date
- Name and location of facility
- GPS coordinates of the guano samples collected
- Photographs
- The unique identification number for each sample for laboratory testing and results

Each sample was collected with a sterilized pair of tweezers and then placed in pre-prepared vials. These samples were stored in a stabilizing solution to prevent DNA degradation and submitted to the Genidaqs SM Molecular Biology and Genetics Lab (Cramer Fish Sciences) for DNA sequencing and species identification. The DNA sequences will be compared to species-specific genetic markers developed by Walker et al. 2016 and further verified by comparison to samples at the National Center for Biotechnology Information DNA sequence database.

5.3.2.2 Night Emergence Surveys

Night emergence surveys were conducted to obtain additional information on potential bat roosts and in locations that were otherwise inaccessible. Biologists began the emergence surveys approximately 15 minutes prior to civil twilight (as determined by online almanac twilight guides) and concluded the surveys after nautical twilight. At the conclusion of nautical twilight, surveyors ended the survey of the facilities and noted any bats utilizing the area for roosting or foraging.

5.3.2.3 Acoustic Sampling

Acoustic sampling was conducted in August 2024 during the reproductive season at potential flight corridors between potential roosting habitat and foraging habitat, as well as any additional locations where bats were detected during roost surveys, but were not identified to species. Acoustic sampling was conducted using full-spectrum Wildlife Acoustics SM4BAT-FS detector units (acoustic units). The acoustic units were operated at the selected sites for five nights from sunset until sunrise.

Sonogram files were later processed using Kaleidoscope Pro 4.5.5 (Wildlife Acoustics), which auto-classified each sonogram into tentative species determinations with 70 to 80 percent accuracy. The Anabat Insight software program was used to further classify files and reduce the amount of time required to manually inspect sonograms. Finally, a qualified bat biologist reviewed the auto-classified sonograms to confirm species designations.

5.3.3 Conduct Seasonal Use Surveys

Additional acoustic sampling was conducted in the fall before onset of winter snows (i.e., late September/early October 2024) at those locations where active roosts were identified and/or within flight corridors between roost sites and potential foraging habitat to determine seasonal patterns of use. Refer to Section 5.3.2.2 for a description of acoustic sampling methods.

5.4 DEVELOP FINAL TABLES AND MAPS OF SPECIAL-STATUS WILDLIFE SPECIES

Tables and maps showing special-status wildlife species known to occur or potentially occurring in the study area were revised and finalized based on study elements completed for this report including CWHR habitat analysis, agency consultation, field surveys, and incidental wildlife observations, as described above. Resource agencies were contacted, and resource agency websites and databases (e.g., CNDDB and CWHR) were reviewed to obtain any new data on special-status wildlife known to occur or potentially occurring in the study area that had become available since the development of the preliminary wildlife occurrence maps for the Rush Creek Project Preliminary Application Document (PAD) (SCE 2021). A new USFWS Information for Planning and Consultation (IPaC) list was generated for the study area. The IPaC's polygon tool was used to draw a 1-mile buffer around the FERC Project boundary. The USFWS, Forest Service, and CDFW species lists were reviewed for any changes in the status of listed animals. Any new location data, including data obtained from implementation of other technical studies or from the compilation of incidental wildlife observation data, was recorded, digitized, and incorporated into GIS layers.

6 STUDY RESULTS

This section summarizes the results of the documentation of special-status wildlife (including ESA-listed species) occurrences and habitats; determination of consistency of Project transmission line and power line towers/poles with APLIC guidelines; and identification of Project facilities potentially supporting special-status bat roosts.

6.1 DOCUMENT SPECIAL-STATUS WILDLIFE HABITAT AND OCCURRENCES HABITATS

Seventeen CHWR wildlife habitats were identified in the study area, representing suitable habitat for 31 special-status wildlife species known to occur or potentially occurring in the study area. Three special-status wildlife species—bald eagle, yellow warbler *(Setophaga petechia*) (SSC), and Cassin's finch (*Haemorhous cassinii*) (BCC)—were detected during reconnaissance surveys. Three additional special-status wildlife species— monarch butterfly (*Danaus plexippus*) (FC), golden eagle, and calliope hummingbird (*Selasphorus calliope)* (BCC)—were identified during agency consultation and/or as incidental sightings during other technical studies. Special-status amphibian observations are discussed in the AQ 7 – TSR. Provided below are the detailed results of the documentation of wildlife habitats and special-status wildlife species in the study area. No ESA-listed wildlife species were observed.

6.1.1 Develop Updated CALVEG–CWHR Crosswalk Table and CWHR Map

Based on the updated CALVEG–CWHR crosswalk developed for the study area (refer to Table TERR 1-1 in the TERR 1 – TSR [SCE 2023]), the following CWHR habitats were identified in the study area:

- Alpine Dwarf-Shrub (ADS)
- Annual Grassland (AGS)
- Aspen (ASP)
- Barren (BAR)
- Eastside Pine (EPN)
- Jeffrey Pine (JPN)
- Juniper (JUN)
- Lacustrine (LAC)
- Lodgepole Pine (LPN)
- Low Sage (LSG)
- Montane Chaparral (MCP)
- Montane Riparian (MRI)
- Riverine (RIV)
- Sagebrush (SGB)
- Subalpine Conifer (SCN)
- Wet Meadow (WTM)
- White Fir (WFR)

Refer to Map TERR 2-1 for the location and distribution of these habitats within the study area.

Refer to Table TERR 2-2 for CWHR habitats used by special-status species known or potentially occurring in the study area (refer to Section 6.4 below for the final table and maps of special-status species).

6.1.2 Obtain Information on Sierra Nevada Bighorn Sheep Distribution Near Project Boundary

SCE contacted CDFW staff by e-mail on May 22, 2023, and July 6, 2023, to obtain updated information on Sierra Nevada bighorn sheep in the study area and adjacent Critical Habitat. No response was received by e-mail. During other technical studies conducted in 2023, biologist Robyn Smith spoke with Sierra Nevada bighorn sheep biologist Lacey Greene who indicated that bighorn sheep have never been recorded within the FERC boundary and are mostly utilizing habitats to the north of the Project area (Lacey Greene, pers. comm.). Refer to Appendix A for documentation of agency communications.

A review of the CDFW webpage for the Sierra Nevada Bighorn Sheep Recovery Program states that the severe winter of 2022–2023 resulted in declines in the population of Sierra bighorn sheep because of avalanches or starvation of sheep that remained at high elevations and/or increased predation of those sheep that retreated to lower elevations to avoid the snow (CDFW 2023b). CDFW conducted additional surveys in the summer of 2023 to assess the full magnitude of the decline. The results of these surveys were not available at the time of distribution of this report but will be reported in the 2024 TERR 2 TSR, if available.

6.1.3 Obtain Information on Mesocarnivore Distribution Near Project Boundary

SCE contacted CDFW Alpine Mesocarnivore Study staff by e-mail on December 13, 2023 to obtain any additional updated information on Sierra Nevada red fox and North American wolverine. A response was received from Julia Lawson, who provided recent observation records for both species in the Project vicinity. Based on a review of this data, in addition to recent reports and news releases for CDFW's Alpine Mesocarnivore Study (Hatfield et al. 2021, Hatfield et al. 2023, CDFW 2023c), North American wolverine and Sierra Nevada red fox were determined to have the potential to occur in the study area, though there are no records within 1 mile of the FERC Project boundary for either species. Refer to Appendix A for documentation of agency communications.

6.1.4 Document Raptor Habitat and Nests along Proposed Helicopter Flight Paths

Provided below are the results of the documentation of raptor habitat and raptor nests along the proposed helicopter flight paths..

The following raptors and/or raptor nests were reported to occur in the vicinity of the proposed helicopter flight paths based on GIS data provided by USFWS and input from the TERR 2 Technical Working Group (TWG) participants:

- Bald eagles were observed flying over Silver Lake (Linda Coffin, pers. comm.)

- Golden eagle nests were located northeast of the Project area in the Mono Craters and east of the Project area in Bald Mountain (USFWS 2023a). All locations of golden eagle nests are over 4 miles from the Project area

- Golden eagles were observed flying over Silver Lake in 2023 (Linda Coffin, pers. comm; USFWS 2023a)

Refer to Appendix A for documentation of communications regarding the location of raptors and raptor nests.

6.1.4.1 Conduct Raptor Habitat Surveys

Refer to Map TERR 2-2 for the location of habitat for cliff- and tree-nesting raptors along the proposed helicopter flight paths as identified during habitats surveys conducted in July 2023. Refer to Appendix C for representative photographs of habitat for cliff-nesting and tree-nesting raptors in the study area. During the habitat surveys, it was determined that the previously selected observation points provide adequate views of the study area for the future nesting raptor survey.

6.1.4.2 Conduct Raptor Nest Surveys

A total of five raptor nests were observed during the raptor nest surveys conducted along the proposed helicopter flight path in June and August 2024. Nests observed included:

- Two active osprey nests:

    - The first nest was identified in June 2024 along the gravel road up to the June Meadows Chalet. One adult was present. While no young were observed, the defensive behavior of the adult osprey indicated their likely presence. In August 2024 two young were observed within the nest and three adult osprey were observed defending the young from a red-tailed hawk.

    - The second nest was also first identified in June 2024, along the gravel road up the June Meadows Chalet. Two adults displaying protective behavior were present during the June survey. No young were observed. This nest was not active when revisited in August but the adult pair was still present.

  One active osprey nest was also incidentally observed in 2023 approximately 500 feet south of the June Mountain parking lot (West, pers. comm., 2023). This nest was not observed in 2024.

- Three inactive raptor nests:

    - The first inactive nest was identified in June 2024 along the gravel road up the June Meadows Chalet. The nest was in poor condition, and it has likely not been used for many years.

- The second inactive nest, located in a tree neighboring one of the active osprey nests, was being utilized as a perch by the adult osprey.

- The third inactive nest was found in June 2024 near Agnew Dam. While the nest was in good shape, a large rock (likely fallen from the nearby cliff) was observed in the nest.

In addition to the surveys from designated observation points, American goshawk calls were broadcast in the study area from thirteen selected locations during the June surveys and fourteen selected locations during the August surveys that either intersected with the helicopter flight path or were possible suitable habitat for the species. During the June 2024 surveys, there were no responses to the broadcast calls. On August 14, 2024, biologists obtained a response from an American goshawk in the Rush Meadows Dam area. There was an auditory response detected before an adult American goshawk was observed flying into the area. No nest or nesting behavior was observed.

A total of 28 raptors not associated with nests were also observed foraging or soaring in the study area during the 2024 survey. This included fifteen red-tailed hawks, two northern harriers, five osprey, one American goshawk (refer above), one turkey vulture, and four unidentified raptors.

Refer to Map TERR 2-2 for the location of the raptor nests and observations identified during the 2024 surveys.

6.1.5 Conduct Wildlife Reconnaissance Survey

Three special-status wildlife species were observed during wildlife reconnaissance surveys, conducted in July 2023:

- **Bald eagle.** One adult was observed perched in a large Jeffrey pine (*Pinus jeffreyi*) on the southern end of Silver Lake; one sub-adult was observed perching on a large pine (*Pinus* spp.) south of Rush Creek, near Gem Lake; and one adult was observed gliding along the northern ridgeline above Gem Dam.

- **Cassin's finch.** A male and a female were observed foraging along the edge of a grassland in the Rush Creek Powerhouse area and an adult male was observed in the lodgepole pine (*Pinus contorta*) forest near the Frontier Pack Station seasonal camp (east of Rush Meadows Dam).

- **Yellow warbler.** An adult male was heard singing in willows (*Salix* spp.) south of Silver Lake and later detected by sight; and four individuals were observed in the vicinity of Silver Lake.

Habitat elements for Sierra Nevada red fox were observed in the vicinity of Waugh Lake during the wildlife reconnaissance survey. Particularly, mosaic habitat including open stands of subalpine conifer intermixed with alpine dwarf scrub and barren rocky areas

was observed on the north shore of Waugh Lake (refer to Map TERR 2-1a). Rocky areas with bedrock crevices and rock piles were observed during the survey. However, areas in the immediate vicinity of Project facilities (such as dams, gages, and buildings) did not support suitable denning habitat for this species.

Habitat elements for North American wolverine were observed in the vicinity of Waugh Lake and Gem Lake during the wildlife reconnaissance survey. Areas of persistent snowpack were observed on the south side of the reservoirs, as well as rocky talus slopes and barren areas (refer to Maps TERR 2-1a and TERR 2-1b). However, areas in the immediate vicinity of Project facilities (such as dams, gages, and buildings) did not support suitable denning habitat for this species.

Common species or their sign observed included terrestrial reptiles such as the sagebrush lizard (*Sceloporus graciosus*), Sierra alligator lizard (*Elgaria coerulea palmeri*) and mountain garter snake (*Thamnophis elegans elegans*); raptors such as the red-tailed hawk and osprey; songbirds such as Clark's nutcracker (*Nucifraga columbiana*), MacGillivray's warbler (*Oporornis tolmiei*), and mountain chickadee (*Poecile gambeli*); and mammals such as American pika (*Ochotona princeps*), black bear (*Ursus americanus*), and mule deer (*Odocoileus hemionus*). Refer to Table TERR 2-3 for a list of special-status and common wildlife species observed in the study area during wildlife reconnaissance surveys and other technical studies.

6.1.5.1 Compile Incidental Wildlife Observations

Six special-status wildlife species were incidentally observed during the course of other technical studies conducted in 2023, including monarch butterfly, bald eagle, calliope hummingbird, Cassin's finch, and yellow warbler. Each observation is described further below.

- Biologists conducting surveys for TERR 1 studies observed one monarch butterfly (FC) flying along the shoreline of Waugh Lake on September 18, 2023 and along the shoreline of Gem Lake on September 21, 2023.

- Biologists conducting surveys for AQ 7 and TERR 1 studies observed bald eagles on multiple survey dates:

- An adult bald eagle was observed perched in a pine along the southern shoreline of Gem Lake on August 24, 2023.

- A sub-adult bald eagle was observed flying over the middle of Waugh Lake on August 26, 2023.

- An adult bald eagle was observed flying over the northern shoreline of Gem Lake and chasing an osprey on September 21, 2023.

- An adult bald eagle was also seen regularly at the perch site at the southern end of Silver Lake during studies conducted in August and September.

- Biologists conducting surveys for TERR 1 studies observed a calliope hummingbird along Rush Creek above Silver Lake on September 9, 2021.

- Biologists conducting surveys for AQ 7 and TERR 1 studies observed Cassin's finches on multiple survey dates:

- A flock of six Cassin's finches was observed at the west end of Waugh Lake on July 18, 2023.

- A male Cassin's finch was observed along Rush Creek below Agnew Dam on September 10, 2023.

- Biologists conducting surveys for AQ 7 observed yellow warblers on multiple survey dates:

- Two adult males were heard singing in willows along Rush Creek below Silver Lake on July 21, 2023.

- Two adult males were heard singing in willows in the wet meadow adjacent to Rush Creek above Silver Lake on July 22, 2023.

An additional three incidental observations of special-status wildlife were reported in 2024:

- An adult bald eagle was observed circling the north shore of Gem Lake on June 24, 2024.

- An immature sub-adult bald eagle was observed in the same general area as the adult mentioned above circling above the north shore of Gem Lake on June 24, 2024.

- An adult bald eagle was observed flying along the ridgeline south of the Billy Lake Stock Camp on June 25, 2024.

Incidental observations of special-status amphibians are reported in the AQ-7 TSR.

Refer to Table TERR 2-3 for a complete list of special-status and common wildlife species observed in the study area during wildlife reconnaissance surveys and other technical studies. Refer to Map TERR 2-3 for the location of special-status wildlife observations in the study area.

6.1.5.2 Evaluate Potential for ESA-listed Species to Occur in Study Area

The most current USFWS IPaC list (USFWS 2023c) identified nine candidate, listed, and proposed wildlife species that may potentially occur in the study area, as well as two critical habitats. These include:

- Monarch butterfly
- Sierra Nevada yellow-legged frog (*Rana sierrae*) (FE, ST) and associated Critical Habitat
- Yosemite toad (*Anaxyrus canorus*) (FT, SSC) and associated Critical Habitat
- Northwestern pond turtle (*Actinemys marmorata*) (FPT, SSC)
- Yellow-billed cuckoo – Western DPS (*Coccyzus americanus*) (FT, SE)
- Fisher – Southern Sierra Nevada DPS (*Pekania pennanti*) (FE, FSCC, ST)
- North American wolverine – Contiguous U.S. DPS
- Sierra Nevada red fox – Sierra Nevada DPS
- Sierra Nevada bighorn sheep and associated Critical Habitat

The study area is outside the geographic range and does not contain suitable habitat for three of the ESA-listed Species identified on the IPaC List—northwestern pond turtle, yellow-billed cuckoo, and fisher. Refer to Table TERR 2-4 for a comprehensive list of special-status species, including ESA-listed species, evaluated for their potential for occurrence.

Provided below is a discussion of the remaining six species that were determined to have potential to occur in the Study Area, based on the results of CWHR habitats, agency consultation, wildlife reconnaissance surveys, and a review of the existing literature on the species.

- **Monarch Butterfly:** Based on results of wildlife reconnaissance surveys, incidental observations, CWHR habitat analyses, monarch butterfly was determined to have the potential to occur in the study area (refer to Section 6.1.5, above). While adults can feed on a variety of nectar sources, monarch butterfly require habitats with milkweed (Asclepias spp.) to support breeding, as their larvae are dependent on this host plant (USFWS 2020a). Monarch butterfly overwinter on the coast of California in coastal groves (USFWS 2020a). No milkweed populations were observed in the study area (refer to the TERR 1 – TSR), but suitable floral foraging habitat is present. Therefore, the study area represents potential foraging and migration habitat, but not overwintering or breeding habitat.

- **Sierra Nevada Yellow-legged Frog and Yosemite Toad** were determined to have potential to occur in the study area as part of the development of the PAD (SCE 2021). A separate study plan (AQ 7, Special-status Amphibian – TSP) was developed specifically for these species. The results are addressed in detail in the AQ 7 – TSR.

- **North American Wolverine:** The contiguous U.S. DPS of North American wolverine was recently listed as FT as of November 30, 2023 (USFWS 2023b). North American wolverine are found in relatively inaccessible landscapes at high elevation that contain talus slopes and are characterized by the presence of persistent spring snowpack (USFWS 2023b). There are no known breeding populations of wolverine in California (USFWS 2023cb). An individual (or individuals) were observed at high elevations in the vicinity of Yosemite National Park and the Inyo National Forest on game cameras set by CDFW's Alpine Carnivore survey (CDFW 2023c). The closest known observation to the study area is from May 2023 on the north shore of Thousand Island Lakes, approximately 1.5 miles south of Waugh Lake. Due to the large individual home ranges for this species (USFWS 2023b), this individual could easily move through the study area. The high-elevation habitat surrounding Gem and Waugh Lakes in the study area contains talus slopes and barren areas with persistent spring snowpack that would be considered suitable wolverine habitat. No North American wolverine or their sign were observed during the wildlife reconnaissance survey. However, studies were conducted during the recreation season and wolverines are known to avoid areas of high human recreation use (USFWS 2023b). Therefore, North American wolverine has the potential to occur in the study area, particularly in the winter when recreation use is lower.

- **Sierra Nevada Red Fox:** The Sierra Nevada DPS of the Sierra Nevada red fox was listed as FE on August 3, 2021 (USFWS 2021b). Sierra Nevada red fox ranges in the Sierra Nevada from the Sierra Crest just south of California State Highway 88 to a few miles north of Kings Canyon National Park (USFWS 2021b). Sierra Nevada red fox occupies subalpine and high elevation conifer forests ranging from 8,120 to 11,608 feet (USFWS 2021b). Preferred subalpine habitats are characterized by a mosaic of high-elevation rocky areas, subalpine scrub, and woodlands dominated by mountain hemlock (*Tsuga mertensiana*), whitebark pine (*Pinus albicaulis*), and lodgepole pine (*Pinus contorta* spp. *murreyana*) (USFWS 2021b). Sierra Nevada red fox typically use natural openings in rock piles or crevices in exposed bedrock as denning sites and pups are typically born in April and early May (USFWS 2018). Foxes may also dig earthen dens (USFWS 2018). The study area contains suitable mosaic subalpine habitat for Sierra Nevada red fox in the vicinity of Waugh Lake in the Ansel Adams Wilderness. At least two Sierra Nevada red fox individuals were detected on two of CDFW's Alpine Carnivore survey cells 1.5 miles southwest of Waugh Lake in May and June of

2019 near Rodgers Lake and Marie Pass (Hatfield et al. 2021, Hatfield et al. 2023). The nearest known reproductive population is in the Mono Creek Watershed southeast of Mammoth Lakes (Hatfield et al. 2023). Sierra Nevada red fox are known to range widely and the study area is within the dispersal distance of these records (USFWS 2018, Hatfield et al. 2021). No Sierra Nevada red fox or their sign were observed during wildlife reconnaissance surveys. However, based on the habitats present in the study area and the results of existing alpine mesocarnivore surveys (Hatfield et al. 2020, 2023), Sierra Nevada red fox has potential to occur in the study area, particularly within the subalpine conifer forest and alpine dwarf scrub habitat on the north shore of Waugh Lake within and surrounding the FERC Project boundary. Suitable denning habitat is not present near Project facilities such as dams, gages, buildings, etc.

- **Sierra Nevada Bighorn Sheep:** Information on the potential for Sierra Nevada bighorn sheep to occur in the study area is presented in Section 6.1.2.

6.2 DETERMINE CONSISTENCY OF PROJECT TRANSMISSION LINE AND POWER LINE TOWER/POLE CONFIGURATIONS WITH APLIC GUIDELINES

There are five Project transmission lines and power lines listed on Table TERR 2-1, Rush Creek Project facilities. Of these, only one power line includes tower/pole configurations that pose a potential risk for avian electrocution. There are no recorded avian mortalities associated with Project transmission lines or power lines. Following are detailed results of the evaluation of Project transmission line and power line tower/pole configurations.

6.2.1 Document Configuration of Transmission Lines and Power Lines

There are five Project transmission lines and power lines listed on Table TERR 2-1. Of these, two (the 4kV Upper Agnew Boat Dock Power Line and the 4kV Agnew Dam to Gem Dam Powerline) are de-energized and are not currently operational, and the 2.4-kV Switchyard to Powerhouse Transmission Line is a line only (does not include any towers/poles). Of the remaining two power lines, only one, the 4kV Rush Creek Powerhouse to Agnew Dam Power Line, includes tower/pole configurations that pose a potential risk for avian electrocution. The 4 kV Agnew Lake Dam Power Line consists of two poles that do not pose risk to raptors. Power line configuration types that were determined to be inconsistent with APLIC guidelines pose a potential risk to avian species. These configurations included one or more of the following:

- Distance between uncovered phase conductors is less than 60 inches with no perch guard

- Distance between energized parts and grounded equipment of equipment towers/poles is less than 60 inches

- Tower/pole contains uninsulated or partially insulated metal guy wires, jumper, or transformer cables

Refer to Table TERR 2-for details on the consistency of pole configurations with APLIC guidelines and to Appendix E for a photograph of each tower/pole.

6.2.2 Document Past Avian Electrocutions and Mortalities

Based on a review of SCE's avian mortality reports and consultation with SCE staff, there are no reported avian electrocutions or mortalities resulting from birds perching on, nesting on, or colliding with Project transmission lines and power lines.

A low level of avian use of Project power lines was observed during the field inspections. Surveyors identified whitewash and a mallard carcass (*Anas platyrhynchos*), which could be a potential prey item (not an electrocution), near pole number 20987-CIT at the Rush Creek Powerhouse. Raptors observed in the vicinity of Project power lines included a red-tailed hawk and an unknown sparrowhawk species (*Accipiter* spp.). Passerine species, including violet-green swallow (*Tachycineta thalassina*) and hummingbirds spp., were also observed in the vicinity. No raptors or passerine bird species were observed perching on Project power towers or poles.

6.3 Document Special-Status Bat Reproductive and Seasonal Use of Project Facilities

This section provides a discussion of the results of surveys conducted to provide information on bat reproductive and seasonal use of Project facilities. Eleven bat species were detected during the surveys. Of these, only two, the Townsend's big-eared bat (detected on acoustic devices installed at Rush Creek Powerhouse and at Agnew Dam) and the spotted bat (detected on acoustic devices installed at Rush Creek Powerhouse, Agnew Dam, and Gem Dam), are special-status bat species. An active day roost and night roost was identified at Rush Meadows Dam; however, no special-status bat species were observed at this location. In addition to Rush Meadows Dam, four facilities—including three buildings at the Rush Creek Powerhouse complex (i.e., Cottage No. 1, the Machine Shop, and the Pump House) and the Gem Dam Overhead Hoist House—showed signs of potential night roosting. Refer below for additional details on bat roost and seasonal use surveys conducted in the study area.

6.3.1 Identify Facilities Potentially Supporting Bat Roosts

Provided below are the results of the initial desktop assessment and the visual assessment of Project facilities supporting potential bat roosting habitat conducted in 2023.

During the pre-field desktop assessment of potential bat roosting habitat, it was determined that dams, ancillary and support facilities (e.g., buildings), hoist and valve houses, the Rush Creek Powerhouse, reservoir gages, solar facilities, and motor barges could potentially support roosting bats. Project facilities that were determined to lack structures that could be utilized by roosting bats included reservoirs, trails, roads, communication lines, powerlines, and penstocks. Refer to Table TERR 2-1 for facilities that were assessed during the initial desktop assessment as potentially supporting suitable habitat for roosting bats.

Following completion of the in-field visual assessment, Project facilities that may potentially support bat roosts include dams, ancillary and support facilities, hoist and valve houses, some reservoir and stream gages, and the Rush Creek Powerhouse. Refer to Table TERR 2-6 for a summary of the results of the in-field visual assessment of Project facilities identified during the desktop assessment as potentially supporting bat roosts. Appendix F provides photographs of the facilities obtained during the in-field visual assessments.

No common bat species or special-status bats, roosts, or bat sign were detected at any of the Project facilities inspected in 2023.

6.3.2 Conduct Roost Surveys

In August 2024, visual roost inspections were conducted at all Project facilities identified in Table TERR 2-6 as having the potential to support bat roosts, to the degree possible. As noted in Table TERR 2-6, the interiors of several facilities were inaccessible, and therefore only the exterior was inspected.

A total of eleven guano samples were collected for DNA testing. Seven of the samples were collected at Powerhouse facilities, two were collected at Gem Dam facilities, and two were collected at Rush Meadows Dam facilities.

Night emergence surveys were conducted for Project facilities at Agnew Dam, Gem Dam, and Rush Meadows Dam.

Based on the visual inspection one facility, Rush Meadows Dam, was found to have an active bat day roost. The roost was located within the cracks and cervices of the exfoliating concrete below which guano was observed. Although no bats were observed during the daytime inspection, indications of a roost including guano and white-wash were present. The presence of bats within the dam was confirmed during the night emergence survey when twelve individuals were observed emerging from the facility. The species could not be identified to species visually. Guano collected from the dam was analyzed and indicated the roost is likely occupied by long-eared myotis (*Myotis evotis*), little brown bat (*Myotis lucifugus*), and/or fringed myotis (*Myotis thysanodes*). These common bat species are closely related and share many of the same DNA base pair sequences.

The Rush Meadows Dam also supports a night roost associated with the observed day roost. Guano was found to be present below the roost in addition to a piece of wood adhered to the dam. Bats foraging around the riparian area likely return to the dam to rest during the night.

In addition to Rush Meadows Dam, four facilities—including three buildings at the Rush Creek Powerhouse complex (i.e., Cottage No. 1, the Machine Shop, and the Pump House) and the Gem Dam Overhead Hoist House—showed signs of potential night roosting based on the amount of guano and the localized positions the guano was found on each facility. The guano at these facilities was old and in degraded condition, indicating that the Project facilities may not be regularly used, or that the season of use had ended. These facilities are lighted, and bats may be attracted by the insects drawn to the lights. Therefore, these facilities may provide short-term rest areas for foraging bats.

Night emergence surveys were also conducted in the vicinity of the three Project dams. Approximately 12 bats were observed emerging from the day roost at Rush Meadows Dam (not identifiable to species). Bats were observed around Agnew Dam, but did not emerge from any of the facilities. Surveyors determined that they likely came from the surrounding rock cliff terrain. No bats were seen or detected during the survey of the Gem Dam facilities.

Based on the results of the roost surveys, biologists installed a total of five acoustic devices. This included two acoustic detectors at the Rush Creek Powerhouse area (one near the Machine Shop and the other near Building 0113) and one acoustic device at each dam (Agnew Dam, Gem Dam, and Rush Meadows Dam). These devices were installed near Agnew Cabin, Gem Dam Bunkhouse, and Rush Meadows Dam Equipment Shed, respectively. Refer to Map TERR 2-4 for the location of each device.

Analysis of the sonogram files yielded a total of eleven bat species:

- Townsend’s big-eared bat (SSC) (*Corynorhinus townsendii*)
- Big brown bat (*Eptesicus fuscus*)
- Spotted bat (SSC) (*Euderma maculatum*)
- Hoary bat (*Lasiurus cinereus*)
- Silver-haired bat (*Lasionycteris noctivagans*)
- California myotis (*Myotis californicus*)
- Small-footed myotis (*Myotis ciliolabrum*)
- Long-eared myotis (*Myotis evotis*)
- Little brown bat (*Myotis lucifugus*)
- Long-legged myotis (*Myotis volans*)
- Yuma myotis (*Myotis yumanensis*)

Of the eleven species detected only two, the Townsend's big-eared bat (detected on devices installed at Rush Creek Powerhouse and at Agnew Dam) and the spotted bat (detected on devices installed at Rush Creek Powerhouse, Agnew Dam, and Gem Dam), are special-status bat species.

Refer to Table TERR 2-7 for a summary of the results of the roost surveys (including visual roost, guano analysis and night emergency surveys), and to Table TERR 2-8 for a summary of the results of acoustic surveys. Refer to Map TERR 2-4 for the location of special-status and common bat species observed during the surveys.

6.3.3 Conduct Seasonal Use Surveys

To determine bat seasonal use, biologists installed a total of five acoustic devices in October 2024. Two devices were at the Powerhouse complex (same locations as during the roost surveys). The device at Agnew was relocated to an area that would be more reflective of seasonal use based on the findings of the original acoustic sampling and night emergence surveys. The detector at Gem Dam was moved to an area more able to cover the facilities and riparian corridor. The Rush Meadows Dam device was moved only slightly to minimize interference from the nearby trees.

Analysis of the sonogram files yielded a total of nine bat species:

- Big brown bat
- Hoary bat
- Silver-haired bat
- California myotis
- Small-footed myotis
- Long-eared myotis
- Little brown bat
- Long-legged myotis
- Yuma myotis

No special-status bats were detected during the seasonal use surveys. Refer to Table TERR 2-8 and Map TERR 2-4 for a summary of the results of the seasonal use acoustic surveys.

6.4 DEVELOP FINAL TABLES AND MAPS OF SPECIAL-STATUS SPECIES

The final list of special-status wildlife known to occur or potentially occurring in the study area based on information obtained during the TERR-2 studies and from other incidental observations is provided in Table TERR 2-4. Final maps of special-status wildlife occurrences in the study area, including the Sierra Nevada red fox and North American wolverine records provided by Julia Lawson, are provided in Map TERR 2-3 of this report. Refer to Appendix D for CNDDB forms submitted to CDFW.

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TABLES

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Table TERR 2-1. Rush Creek Project Facilities

Rush Meadows Dam Area
Dams
Rush Meadows Dam
Reservoirs
Waugh Lake
Valve House
Rush Meadows Dam Valve House
Stream Gages
Rush Creek below Rush Meadows (Waugh Lake) (USGS No. 10287262; SCE No. 359r)
Reservoir Gages
Waugh Lake (USGS No. 10287260; SCE No. 359)
Trails
Rush Meadows Dam Access Trail
Rush Meadows Dam/Waugh Lake Ancillary and Support Facilities
Rush Meadows Dam Equipment Shed
Rush Meadows Dam Gage House
Rush Meadows Dam Solar Facility
Gem Dam Area
Dams
Gem Dam
Reservoirs
Gem Lake
Flowline
Gem Dam to Agnew Junction Flowline
Valve House
Gem Valve House and Cabin
Gem Dam Arch 8 Valve House
Stream Gages
Rush Creek below Gem Lake (USGS No. 10287281; SCE No. 352r)
Reservoir Gages
Gem Lake (USGS No. 10287280; SCE No. 352)
Power Lines
4 kV Agnew Dam to Gem Dam Power Line (0.81 mile)

Gem Dam Area (continued)
Communication Lines
Communication Line from Rush Creek Powerhouse to Gem Lake Dam
Communication Line from Gem Valve House to Arch 8 Valve House
Communication Line from Gem Tram Hoist House to Gem Valve House
Trams and Hoist Houses
Gem Tram
Gem Tram Hoist House
Gem Tram Lower/Upper Landing
Trails
Lower Gem Dam Access Trail
Gem Dam Arch 8 Access Trail
Upper Gem Dam Access Trail
Gem Dam/Lake Ancillary and Support Facilities
Gem Lake Dock
Gem Lake Motor Barge
Gem Bunkhouse
Gem Outhouse
Gem Cookhouse
Gem Dam Compressor Shed
Gem Dam Storage Shed
Gem Dam Overhead Hoist House for Dam Length
Gem Dam Overhead Hoist House
Gem Fish Release Footbridge
Gem Tram Landing Footbridge
Gem Tram Bridge
Gem Weather Station
Gem Satellite Dish
Gem Solar Facility
Gem Valve House Tunnel

Agnew Dam Area
Dams
Agnew Dam
Reservoirs
Agnew Lake
Flowline
Agnew Dam to Agnew Junction Flowline
Valve House
Agnew Junction (Valve House and Stand Pipe)
Agnew Dam Valve House
Stream Gages
Rush Creek below Agnew Lake (USGS No. 10287289; SCE No. 357)
Reservoir Gages
Agnew Lake (USGS No. 10287285; SCE No. 351)
Power Lines
4 kV Rush Creek Powerhouse to Agnew Dam Power Line (0.78 mile)
4 kV Agnew Lake Dam Power Line
4 kV Upper Agnew Boat Dock Power Line (non-operational)
Communication Lines
Communication Line from Agnew Hoist House to Agnew Boathouse
Trams and Hoist Houses
Agnew Tram
Agnew Tram Hoist House
Agnew Tram Landing
Trails
Agnew Stream Gage Access Trail
Agnew Dam/Lake Ancillary and Support Facilities
Lower Agnew Lake Boathouse / Dock
Upper Agnew Lake Boathouse / Dock
Agnew Lake Motor Barge
Agnew Cabin
Agnew Weather Station
Agnew Flume (downstream of Agnew Dam)

Rush Creek Powerhouse Area
Penstocks
Agnew Junction to Rush Creek Powerhouse Penstock (No. 1)
Agnew Junction to Rush Creek Powerhouse Penstock (No. 2)
Powerhouse
Rush Creek Powerhouse
Gages
Rush Creek Powerhouse (USGS No. 10287300; SCE No. 367)
Transmission Lines
2.4 kV Switchyard to Powerhouse Transmission Line
Powerhouse Ancillary and Support Facilities
Rush Creek Powerhouse Complex Access Road
Cottages (2)
Garages (4)
Warehouse and Dock
Machine Shop
Pump House
Woodshed (2)
Helicopter Landing Site
Tank (butane)
Bridge over Powerhouse Tailrace
Bridge over Rush Creek

Table TERR 2-2. Special-Status Wildlife Species and CWHR Wildlife Habitats.

Special-Status Wildlife					CWHR Wildlife Habitats																	
					Herb-Dominated Habitats			Shrub-Dominated Habitats				Tree-Dominated Habitats							Non-Vegetated Areas		
Common Name	Scientific Name	Federal Status	Forest Service Status	State Status	Alpine Dwarf-Shrub	Annual Grassland	Wet Meadow	Low Sage	Montane Chaparral	Montane Riparian	Sagebrush	Aspen	Eastside Pine	Jeffrey Pine	Juniper	Lodgepole Pine	Subalpine Conifer	White Fir	Lacustrine	Riverine	Barren
Invertebrates[1]																					
monarch butterfly	*Danaus plexippus*	FC	—	—	X	X	X	X	X	X	X										
Sierra sulphur butterfly	*Colias behrii*	—	FSCC	—	X		X			X							X				
Mono Lake checkerspot butterfly	*Euphydryas editha monoensis*	—	FSCC	—	X	X	X						X	X	X	X		X			
apache fritillary butterfly	*Speyeria nokomis apacheana*	—	FSCC	—			X			X										X	
Birds																					
American goshawk	*Accipiter atricapillus*	—	—	SSC	X			X	X	X	X	X	X	X	X	X	X	X	X		
northern harrier	*Circus hudsonius*	—	—	SSC	X	X	X	X	X		X										
golden eagle	*Aquila chrysaetos*	Eagle Act	—	CFP	X	X	X	X	X	X	X		X	X	X	X	X	X			X
bald eagle	*Haliaeetus leucocephalus*	Eagle Act	—	SE, CFP		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
American peregrine falcon	*Falco peregrinus anatum*	FD	—	CFP	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
short-eared owl	*Asio flammeus*	—	—	SSC		X	X	X		X	X		X	X	X			X			
long-eared owl	*Asio otus*	BCC	—	SSC		X	X	X	X	X	X	X	X		X			X			
flammulated owl	*Psiloscops flammeolus*	BCC	—	—					X	X		X	X	X		X	X	X			
black swift	*Cypseloides niger*	BCC	—	SSC		X	X		X	X		X		X		X	X	X	X	X	X
Calliope hummingbird	*Selasphorus calliope*	BCC	—	—	X		X		X	X		X	X	X		X	X	X			
Lewis's woodpecker	*Melanerpes lewis*	BCC	—	—		X	X	X	X	X	X	X	X	X	X			X			
olive-sided flycatcher	*Contopus cooperi*	BCC	—	SSC						X		X	X	X		X	X	X			
little willow flycatcher	*Empidonax trailii brewsteri*	—	FSCC	SE			X			X											
yellow warbler	*Setophaga petechia*	—	—	SSC					X	X		X	X	X		X		X			
Cassin's finch	*Haemorhous cassinii*	BCC	—	—			X			X	X	X	X	X	X	X	X	X			
Mammals																					
Mt. Lyell shrew	*Sorex lyellii*	—	—	SSC			X			X		X					X				
pallid bat	*Antrozous pallidus*	—	—	SSC		X	X	X	X	X	X		X	X	X	X		X		X	X
Townsend's big-eared bat	*Corynorhinus townsendii*	—	—	SSC		X	X	X	X	X	X	X	X	X	X	X		X		X	X
spotted bat	*Euderma maculatum*	—	—	SSC		X	X	X	X	X	X		X	X	X			X		X	

Special-Status Wildlife					CWHR Wildlife Habitats																
					Herb-Dominated Habitats			Shrub-Dominated Habitats				Tree-Dominated Habitats							Non-Vegetated Areas		
Common Name	Scientific Name	Federal Status	Forest Service Status	State Status	Alpine Dwarf-Shrub	Annual Grassland	Wet Meadow	Low Sage	Montane Chaparral	Montane Riparian	Sagebrush	Aspen	Eastside Pine	Jeffrey Pine	Juniper	Lodgepole Pine	Subalpine Conifer	White Fir	Lacustrine	Riverine	Barren
Sierra Nevada snowshoe hare	*Lepus americanus tahoensis*	—	—	SSC						X		X		X		X	X	X			
western white-tailed jackrabbit	*Lepus townsendii townsendii*	—	—	SSC	X		X	X			X		X	X	X	X	X				
Sierra Nevada mountain beaver	*Aplodontia rufa californica*	—	—	SSC			X			X		X	X	X		X	X	X			
Sierra Nevada red fox – Sierra Nevada DPS	*Vulpes vulpes necator*	FE	—	ST	X	X	X		X	X		X	X	X		X	X	X			X
North American wolverine – Contiguous U.S. DPS	*Gulo gulo luscus*	FT	—	ST, CFP	X		X		X	X		X		X		X	X	X			X
Sierra marten	*Martes caurina sierrae*	—	FSCC	—			X			X		X	X	X		X	X	X			X
American badger	*Taxidea taxus*	—	—	SSC	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X
ringtail	*Bassariscus astutus*	—	—	CFP		X	X	X	X	X	X	X	X	X	X			X			X
Sierra Nevada bighorn sheep[2]	*Ovis canadensis sierrae*	FE	—	SE, CFP	X	X			X	X							X				X

[1] Invertebrate preference for CWHR Wildlife Habitats was determined by reviewing existing literature on habitat preferences for each species and matching to CWHR descriptions. The CWHR system currently has no habitat associations for invertebrates.

[2] Sierra Nevada bighorn sheep are not listed in CWHR Wildlife Habitats system. Sierra Nevada bighorn sheep preference for CWHR Wildlife Habitats was determined by reviewing existing literature on habitat preferences for the species.

Federal Status
BCC = Bird of Conservation Concern
Eagle Act = Bald and Golden Eagle Protection Act
FC = Candidate Species
FD = Federal Delisted
FE = Federal Endangered
FPT = Federal Proposed Threatened
FT = Federal Threatened

Forest Service Status
FSCC = Inyo National Forest Service Species of Conservation Concern

State Status
CFP = California Fully Protected
SE = California Endangered
SSC = California Species of Conservation Concern
ST = California Threatened

Table TERR 2-3. Special-Status and Common Wildlife Species Observed in the Study Area During Technical Studies

Common Name[1]	Scientific Name[1]	Status			Type of Detection				
		Federal	State	Forest Service	Visual/Auditory	Scat/Guano	Den/Bedding Area	Tracks/Feathers	Remains
Invertebrates – Butterflies									
Desert orange-tip	*Anthocharis cethura*	—	—	—	X				
Common ringlet	*Ceononympha tullia*	—	—	—	X				
Orange sulphur	*Colias eurytheme*	—	—	—	X				
Monarch butterfly	***Danaus plexippus***	**FC**	**—**	**—**	X				
Lorquin's admiral	*Limenitis lorquini*	—	—	—	X				
Mourning cloak	*Nymphalis antiopa*	—	—	—	X				
Black swallowtail	*Papilio polyxenes*	—	—	—	X				
Western tiger swallowtail	*Papilio rutulus*	—	—	—	X				
Satyr comma	*Polygonia satyrus*	—	—	—	X				
Western white	*Pontia occidentalis*	—	—	—	X				
Painted lady	*Vanessa cardui*	—	—	—	X				
White-lined sphinx moth	*Hyles lineata*	—	—	—	X				
Amphibians									
Sierra tree frog	*Pseudacris sierrae*	—	—	—	X				
Reptiles									
Sagebrush lizard	*Sceloporus graciosus*	—	—	—	X				
Sierra alligator lizard	*Elgaria coerulea palmeri*	—	—	—	X				
Mountain garter snake	*Thamnophis elegans elegans*	—	—	—	X				
Birds									
Wood duck	*Aix sponsa*	—	—	—	X				
Green-winged teal	*Anas crecca*	—	—	—	X				
Mallard	*Anas platyrhynchos*	—	—	—	X				X
Common merganser	*Mergus merganser*	—	—	—	X				
Black-crowned night-heron	*Nycticorax nycticorax*	—	—	—	X				
Turkey vulture	*Cathartes aura*	—	—	—	X				
Red-tailed hawk	*Buteo jamaicensis*	—	—	—	X				
American goshawk	***Accipiter atricapillus***	—	**SSC**	—	X				
Northern harrier	***Circus hudsonius***	—	**SSC**	—	X				
Golden eagle	***Aquila chrysaetos***	**Eagle Act**	**CFP**	**—**	X				
Bald eagle	***Haliaeetus leucocephalus***	**Eagle Act**	**SE, CFP**	**FSCC**	X				
Osprey	*Pandion haliaetus*	—	—	—	X				

Common Name[1]	Scientific Name[1]	Status			Type of Detection				
		Federal	State	Forest Service	Visual/Auditory	Scat/Guano	Den/Bedding Area	Tracks/Feathers	Remains
Sooty grouse	*Dendragapus fuliginosus*	—	—	—	X				
American coot	*Fulica americana*	—	—	—	X				
Sora	*Porzana carolina*	—	—	—	X				
Spotted sandpiper	*Actitis macularius*	—	—	—	X				
California gull	*Larus californicus*	—	—	—	X				
Anna's hummingbird	*Calypte anna*	—	—	—	X				
Calliope hummingbird	***Selasphorus calliope***	**BCC**	—	—	X				
Downy woodpecker	*Picoides pubescens*	—	—	—	X				
Hairy woodpecker	*Picoides villosus*	—	—	—	X				
Northern flicker	*Colaptes auratus*	—	—	—	X				
Red-breasted sapsucker	*Sphyrapicus ruber*	—	—	—	X				
Williamson's sapsucker	*Sphyrapicus thyroideus*	—	—	—	X				
Western wood-pewee	*Contopus sordidulus*	—	—	—	X				
Olive-sided flycatcher	***Contopus cooperi***	**BCC**	**SSC**	—	X				
Cassin's vireo	*Vireo cassinii*	—	—	—	X				
Warbling vireo	*Vireo gilvus*	—	—	—	X				
Steller's jay	*Cyanocitta stelleri*	—	—	—	X				
Clark's nutcracker	*Nucifraga columbiana*	—	—	—	X				
Common raven	*Corvus corax*	—	—	—	X				
Tree swallow	*Tachycineta bicolor*	—	—	—	X				
Violet-green swallow	*Tachycineta thalassina*	—	—	—	X				
Mountain chickadee	*Poecile gambeli*	—	—	—	X				
Red-breasted nuthatch	*Sitta canadensis*	—	—	—	X				
Brown creeper	*Certhia americana*	—	—	—	X				
House wren	*Troglodytes aedon*	—	—	—	X				
Rock wren	*Salpinctes obsoletus*	—	—	—	X				
Ruby-crowned kinglet	*Regulus calendula*	—	—	—	X				
American robin	*Turdus migratorius*	—	—	—	X				
Hermit thrush	*Catharus guttatus*	—	—	—	X				
Townsend's solitaire	*Myadestes townsendi*	—	—	—	X				
Sage thrasher	*Oreoscoptes montanus*	—	—	—	X				
Orange-crowned warbler	*Vermivora celata*	—	—	—	X				
Nashville warbler	*Vermivora ruficapilla*	—	—	—	X				

Common Name[1]	Scientific Name[1]	Status			Type of Detection				
		Federal	State	Forest Service	Visual/Auditory	Scat/Guano	Den/Bedding Area	Tracks/Feathers	Remains
Yellow-rumped warbler	*Dendroica coronata*	—	—	—	X				
Yellow warbler	***Setophaga petechia***	—	**SSC**	—	X				
MacGillivray's warbler	*Oporornis tolmiei*	—	—	—	X				
Wilson's warbler	*Wilsonia pusilla*	—	—	—	X				
Black-headed grosbeak	*Pheucticus melanocephalus*	—	—	—	X				
Western tanager	*Piranga ludoviciana*	—	—	—	X				
Green-tailed towhee	*Pipilo chlorurus*	—	—	—	X				
Lark sparrow	*Chondestes grammacus*	—	—	—	X				
Song sparrow	*Melospiza melodia*	—	—	—	X				
Savannah sparrow	*Passerculus sandwichensis*	—	—	—	X				
Dark-eyed junco	*Junco hyemalis*	—	—	—	X				
White-crowned sparrow	*Zonotrichia leucophrys*	—	—	—	X				
Red-winged blackbird	*Agelaius phoeniceus*	—	—	—	X				
Brewer's blackbird	*Euphagus cyanocephalus*	—	—	—	X				
Brown-headed cowbird	*Molothrus ater*	—	—	—	X				
Red crossbill	*Loxia curvirostra*	—	—	—	X				
Pine siskin	*Spinus pinus*	—	—	—	X				
Mountain bluebird	*Sialia currucoides*	—	—	—	X				
Cassin's finch	***Haemorhous cassinii***	**BCC**	—	—	X				
Mammals									
Townsend's big-eared bat	***Corynorhinus townsendii***	—	**SSC**	—	X				
Big brown bat	*Eptesicus fuscus*	—	—	—	X				
Spotted bat	***Euderma maculatum***	—	**SSC**	—	X				
Hoary bat	*Lasiurus cinereus*	—	—	—	X				
Silver-haired bat	*Lasionycteris noctivagans*	—	—	—	X				
California myotis	*Myotis californicus*	—	—	—	X				
Small-footed myotis	*Myotis ciliolabrum*	—	—	—	X				
Long-eared myotis	*Myotis evotis*	—	—	—	X	X			
Little brown bat	*Myotis lucifugus*	—	—	—	X	X			
Long-legged myotis	*Myotis volans*	—	—	—	X				
Yuma myotis	*Myotis yumanensis*	—	—	—	X	X			
Fringed myotis	*Myotis thysanodes*	—	—	—	X	X			
Montane vole	*Microtus montanus*	—	—	—	X				

Common Name[1]	Scientific Name[1]	Status			Type of Detection				
		Federal	State	Forest Service	Visual/Auditory	Scat/Guano	Den/Bedding Area	Tracks/Feathers	Remains
Golden-mantled ground squirrel	*Spermophilus lateralis*	—	—	—	**X**				
Yellow-bellied marmot	*Marmota flaviventris*	—	—	—	**X**				
Chipmunk	*Neotamias* spp.	—	—	—	**X**				
Douglas squirrel	*Tamiasciurus douglasii*	—	—	—	**X**				
Belding's ground squirrel	*Urocitellus beldingi*	—	—	—	**X**				
American pika	*Ochotona princeps*	—	—	—	**X**				
Raccoon	*Procyon lotor*	—	—	—	**X**				
Black bear	*Ursus americanus*	—	—	—		**X**			
Coyote	*Canis latrans*	—	—	—	**X**				
Mule deer	*Odocoileus hemionus*	—	—	—	**X**				

[1] Special-status wildlife species are indicated in bold text.

Table TERR 2-4. Special-Status Terrestrial Wildlife Species Known or Potentially Occurring Within 1 Mile of the FERC Project Boundary

Scientific/Common Name	Federal Status	Forest Service Status	State Status	Habitat	Likelihood for Occurrence
Known to Occur or Critical Habitat is Present in the FERC Project Boundary or Within 1 Mile of the Boundary					
Danaus plexippus Monarch butterfly	FC	—	—	Overwintering populations occur in coastal California. In late-February or March, monarchs will disperse from wintering areas to interior California. Breeding occurs on milkweed (*Asclepias* spp.) which occur in short and tall grass prairies, livestock pastures, agricultural margins, roadsides, wetland and riparian areas, sandy areas, gardens, open forests, and woodlands.	**Known to occur within 1 mile of the FERC Project boundary.** Observed migrating near Waugh Lake and Gem Lake during technical studies implemented in 2023. No milkweeds were observed in the Project area during TERR 1 technical studies, so the Project area does not contain suitable breeding habitat for this species. Flowering plants in the Project area provide suitable foraging habitat for the species during their migration to wintering habitat on the coast.
Aquila chrysaetos golden eagle	Eagle Act	—	CFP (nesting and wintering)	Grasslands and early successional stages of forest and shrub habitats for foraging at elevations up to 11,500 feet. Secluded cliffs with overhanging ledges or large trees in open areas with unobstructed view for nesting.	**Known to Occur within 1 Mile of the FERC Project Boundary.** Observations of golden eagles in the vicinity of Silver Lake were reported by agencies and members of the TERR 2 Technical Working Group (Linda Coffin, pers. comm). In addition, USFWS reported nests in the vicinity of Mono Craters and Bald Mountain (USFWS 2023). All nest occurrences are more than 4 miles from the study area.
Haliaeetus leucocephalus bald eagle	Eagle Act	FSCC	SE, CFP	Year-round resident in ice-free regions of California. Foraging areas include regulated and unregulated rivers, reservoirs, lakes, estuaries, and coastal marine ecosystems. Majority of bald eagles in California breed near reservoirs and nests are usually located within 1 mile of foraging habitat. Nests are typically placed in the branches of large conifer trees within dense stands of trees (Jackman and Jenkins 2004).	**Known to occur in the FERC Project boundary**. • Observed flying over the Agnew Lake dam during monitoring conducted in the Project vicinity (Phase I) (SCE 2017). • A subadult was observed flying over Waugh Lake during pre-construction surveys conducted at Rush Meadows Dam (Phase II) (SCE 2018). During technical studies conducted in 2023: • One adult was observed perched in a large Jeffrey pine (*Pinus jeffreyi*) on the southern end of Silver Lake on multiple dates; • One sub-adult was observed on a large pine (*Pinus* spp.) south of Rush Creek, near Gem Lake; • One adult was observed gliding along the northern ridge of Gem Dam. • One adult was observed perched in a pine along the southern shoreline of Gem Lake. • One sub-adult was observed flying over Waugh Lake. • One adult bald eagle was observed chasing an osprey on the north shoreline of Gem Lake. During technical studies conducted in 2024: • One adult bald eagle was observed flying along the southwest shore of Gem Lake. Incidental observations during the 2024 study period include: • One adult bald eagle was observed circling the north shore of Gem Lake on June 24, 2024. • One immature sub-adult was observed in the same general area as the adult mentioned above circling above the north shore of Gem Lake on June 24, 2024. • One adult bald eagle was observed flying along the ridgeline south of the Billy Lake Stock Camp on June 25, 2024.

Scientific/Common Name	Federal Status	Forest Service Status	State Status	Habitat	Likelihood for Occurrence
Accipiter atricapillus American goshawk	—	—	SSC (nesting)	Middle to high elevation, mature, dense conifer forests for foraging and nesting. Casual in foothills during winter, northern deserts in pinyon-juniper woodland, and low elevation riparian habitats.	**Known to occur in the FERC Project boundary**. One adult was heard then visually observed in the vicinity of Rush Meadows Dam during the technical studies completed in 2024.
Circus hudsonius northern harrier	—	—	SSC (nesting)	Occurs in a variety of habitats at elevations up to 10,000 feet. Forages in open areas such as meadows, wetlands, and grasslands. Breeding habitat is up to 5,700 feet in the Sierra Nevada, in areas with shrubby vegetation near foraging habitat. During migration in the fall and spring, they can be found flying over mountain ridges and coastlines	**Known to occur in the FERC Project boundary**. Two adult individuals, one male and one female, were observed in late August during the 2024 technical studies in the vicinity of Fern Lake.
Selasphorus calliope Calliope hummingbird	BCC	—	—	Prefers coniferous forests and mountain meadow habitats for breeding. In the Sierra Nevada, it typically nests above 4,000 feet elevation. Nests almost always in a lodgepole pine or aspen, immediately beneath live branches, and typically in riparian areas. Migrates and spend winter in central and southern Mexico.	**Known to Occur within 1 Mile of the FERC Project Boundary.** One individual was observed in willow habitats along Rush Creek above Silver Lake during technical studies implemented in 2023.
Setophaga petechia yellow warbler	—	—	SSC (nesting)	Usually arrives in California in April, and migrates by October. Breeds in riparian woodlands from coastal and desert lowlands at elevations up to 8,000 feet in the Sierra Nevada. Also breeds in montane chaparral, open ponderosa pine, and mixed conifer habitats with substantial amounts of brush.	**Known to occur within 1 Mile of the FERC Project boundary.** During technical studies completed in 2023: • An adult male was heard singing in willows (*Salix* spp.) south of Silver Lake and later detected by sight. • Four individuals were observed in the vicinity of Silver Lake. • Two individuals were observed along Rush Creek downstream of Silver Lake.
Haemorhous cassinii Cassin's finch	BCC	—	—	A common montane resident from 4,200 to 8,000 feet in elevation. Prefers tall, open coniferous forests, in lodgepole pine, red fir, and subalpine conifer habitats, especially for breeding. Most numerous near wet meadows and grassy openings; also frequents semiarid forests.	**Known to occur in the FERC Project boundary.** During technical studies completed in 2023 : • A male and a female were observed foraging along the edge of a grassland in the Rush Creek Powerhouse area; • An adult male was observed in a lodgepole pine (*Pinus contorta*) forest near the Frontier Pack Station (east of Rush Meadows Dam). • Six individuals were observed near Rush Creek west of Waugh Lake. • An adult male was observed along Rush Creek below Agnew Dam.
Contopus cooperi olive-sided flycatcher	BCC	—	SSC	Uncommon to common, summer resident in a wide variety of forest and woodland habitats. Nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine forests from 3,000 to 9,000 feet in elevation.	**Known to occur in the FERC Project boundary.** A male was observed singing on 6/25 near the Billy Lake Stock Camp during the technical studies completed in 2024.
Corynorhinus townsendii Townsend's big-eared bat	—	—	SSC	Found in all but alpine and subalpine habitats; most abundant in mesic habitats up to 6,000 feet in elevation. Requires caves, mines, tunnels, buildings, or other man-made structures for roosting. Hibernates October through April. Locally migratory only. Extremely sensitive to disturbance and may abandon a roost if disturbed. The Inyo National Forest is known to provide hibernacula, but likely does not support maternity roosts because of its high elevation (Forest Service 2018b).	**Known to occur in the FERC Project boundary.** Species was detected during the 2024 technical studies via acoustic recording at the Rush Creek Powerhouse and Agnew Dam.
Euderma maculatum Spotted bat	—	—	SSC	Ranges from arid deserts and grasslands through mixed conifer forests up to elevations of 10,600 feet in southern California. Prefers sites with adequate roosting habitat, such as cliffs. Often limited by the availability of cliff habitat. Feeds over water and along marshes. Capable of torpor and may hibernate. May make seasonal movements from high elevations in summer to lower elevations in autumn.	**Known to occur in the FERC Project boundary.** Species was detected during the 2024 technical studies via acoustic recording at the Rush Creek Powerhouse, Agnew Dam, and Gem Dam.

Scientific/Common Name	Federal Status	Forest Service Status	State Status	Habitat	Likelihood for Occurrence
May Potentially Occur in the FERC Project Boundary or Within 1 Mile of the Boundary					
Colias behrii Sierra sulphur butterfly	—	FSCC	—	Endemic to the Sierra Nevada from Tuolumne County south to Tulare County. Found in alpine and subalpine meadows above 9,000 feet. Found in association with *Vaccinium* sp. and *Gentiana newberryi* host plants (Forest Service 2018b).	May potentially occur in appropriate habitat.
Euphydryas editha monoensis Mono Lake checkerspot butterfly	—	FSCC	—	The Mono checkerspot occurs on the east side of the Sierra Nevada in meadows and conifer forests, and Mono County is the center of its distribution (Forest Service 2018b).	May potentially occur in appropriate habitat.
Speyeria nokomis apacheana apache fritillary butterfly	—	FSCC	—	Moist meadows, seeps, marshes, and streams in the eastern Sierra Nevada. Specific to the host plant *Viola nephropylla,* and is threatened by encroachment of non-native species such as *Cirsium vulgare* into meadow habitats (Forest Service 2018b).	May potentially occur in appropriate habitat.
Falco peregrinus anatum American peregrine falcon	FD	—	CFP	Very uncommon breeding resident and uncommon as a migrant. Breeds in woodlands, forests, coastal habitats, and riparian areas near wetlands, lakes, rivers, or other water on high cliffs, banks, dunes, or mounds. Active nesting sites are known along the coast, in the Sierra Nevada, and in the mountains of northern California. Migrants occur along the coast and the western Sierra Nevada in spring and fall.	May potentially occur in appropriate habitat.
Asio flammeus short-eared owl	—	—	SSC (nesting)	Open areas with few trees, such as annual and perennial grasslands, prairies, dunes, meadows, irrigated lands, saline and fresh emergent wetlands. Needs elevated sites for perching and dense vegetation for roosting.	May potentially occur in appropriate habitat.
Asio otus long-eared owl	BCC	—	SSC (nesting)	Found in dense riparian habitat or other thickets in foothills and mountains with small, densely canopied trees for roosting and nesting. More common in Great Basin regions of California.	May potentially occur in appropriate habitat.
Psiloscops flammeolus flammulated owl	BCC	—	—	Summer resident in coniferous habitats from ponderosa pine to red fir forests from 6,000 to 10,000 feet in elevation; prefers low to intermediate canopy closure. Breeds in the North Coast and Klamath Ranges, Sierra Nevada, and in suitable habitats in mountains in southern California.	May potentially occur in appropriate habitat.
Cypseloides niger black swift	BCC	—	SSC (nesting)	Nests in moist crevices or caves, or on cliffs near waterfalls in deep canyons at elevations ranging from 6,000 to 11,000 feet. Forages widely over many habitats; seems to avoid arid regions. Known from the high elevations of the Sierra National Forest.	May potentially occur in appropriate habitat.
Melanerpes lewis Lewis's woodpecker	BCC	—	—	Breeds east of the Sierra Nevada crest in a cavity excavated in sycamore, cottonwood, oak, or conifer trees. Winter resident in open oak savannas, broken deciduous and coniferous habitats with sufficient supply of acorns and insects.	May potentially occur in appropriate habitat.

Scientific/Common Name	Federal Status	Forest Service Status	State Status	Habitat	Likelihood for Occurrence
Empidonax traillii brewsteri little willow flycatcher	—	FSCC	SE	Summer resident in wet meadow and montane riparian habitats at 2,000 to 8,000 feet in the Sierra Nevada. Most often occurs in broad, open river valleys or large mountain meadows with lush growth of shrubby willows. Requires meadows at least 1 acre in size for breeding, prefers meadows larger than 10 acres (Green et al. 2003).	May potentially occur in appropriate habitat. The CNDDB query yielded one historic record within 1 mile of the boundary: • One territorial male was observed singing in June 1982 about 0.5 mile east of the Rush Creek Powerhouse. Point counts conducted in this area between 1998 – 2003 did not detect any individuals. The NRIS query yielded two historic records within 1 mile of the boundary. • One male was observed in June 1982 across Highway 158 in a meadow near the Rush Creek Powerhouse. Another male was observed in June 1982 approximately 1 mile northeast of the Rush Creek Powerhouse. No individuals were observed during technical studies completed in 2023.
Sorex lyelli Mt. Lyell shrew	—	—	SSC	Riparian habitats within high montane and cold steppe communities of the eastern slopes of the Sierra Nevada in the vicinity of Yosemite National Park. Uses logs, stumps, and other surface objects for cover.	May potentially occur in appropriate habitat.
Antrozous pallidus Pallid bat	—	—	SSC	Grasslands, shrublands, woodlands, and forests from sea level to 10,000 feet in elevation. Typically, day-roosts in caves, crevices, or mines. Night roosts are in more open areas. Requires open habitat for foraging. Pallid bat hibernates in winter. Maternal colonies form in April.	May potentially occur in appropriate habitat.
Lepus americanus tahoensis Sierra Nevada snowshoe hare	—	—	SSC	Found at upper elevations in the Cascades and Sierra Nevada. Found primarily in montane riparian habitats with thickets of alder and willow, in stands of young conifers interspersed with chaparral, and on edges of meadows.	May potentially occur in appropriate habitat.
Lepus townsendii townsendii Western white-tailed jackrabbit	—	—	SSC	Open areas with scattered shrubs in sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland habitats in the high eastern Sierra. Also uses low sagebrush, wet meadow, and early successional stages of various conifer habitats. Moves seasonally to lower elevations in the winter.	May potentially occur in appropriate habitat.
Aplodontia rufa californica Sierra Nevada mountain beaver	—	—	SSC	Dense riparian and open brushy stages of most forest types at elevations ranging from 3,900 to 10,100 feet in elevation. Deep, friable soils are required for burrowing along cool, moist microclimates. Line in burrows located in or near deep soils near streams and springs. Typical habitat in the Sierra is montane riparian.	May potentially occur in appropriate habitat.
Vulpes vulpes necator Sierra Nevada red fox (Sierra Nevada Distinct Population Segment [DPS])	FE	—	ST	The current range of the Sierra Nevada DPS of the Sierra Nevada red fox runs southeast along the Sierra crest from just south of Highway 88 to a few miles north of Kings Canyon National Park (USFWS 2021). Inhabits sub-alpine and high-elevation conifer areas including high-elevation meadows, rocky areas, scrub vegetation and open whitebark pine and lodgepole pine forest. Typically found between 8,100 and 11,600 feet in elevation. USFWS has not proposed to designate Critical Habitat for this species.	May potentially occur in appropriate habitat. Sierra Nevada red foxes have been detected on CDFW's Alpine Mesocarnivore survey grids in the vicinity of the Rush Creek Project between 2019 and 2023. The nearest observations are two 2019 camera trap observations southwest of Waugh Lake near Rogers Lake and Marie Pass (Hatfield et al. 2021, 2023; Julia Lawson, pers. comm.)
Gulo gulo luscus North American wolverine – Contiguous U.S. DPS	FT	—	ST, CFP	No breeding populations have been identified in California (USFWS 2023c). Wolverines require large territories in inaccessible landscapes at high elevation, access to seasonally varied food resources, physical/structural features (e.g., talus slopes, rugged terrain) for breeding, and habitats characterized by the presence of persistent spring snow (of greater than or equal to 1 meter on May 1). Occurs in Sierra Nevada at elevations ranging from 4,300 to 10,800 feet. Majority of recorded sightings are found above 8,000 feet in elevation. USFWS has not proposed to designate Critical Habitat for this species.	May potentially occur in appropriate habitat. Multiple sightings of a wolverine on the Inyo National Forest in Mono and Inyo counties were confirmed by CDFW in 2023 (CDFW 2023c). Another sighting was confirmed in Yosemite National Park in Tuolumne County (CDFW 2023c). The nearest known detection of wolverine was from the north shore of Thousand Islands Lakes, just south of the Project area (Julia Lawson, pers. comm.).

Scientific/Common Name	Federal Status	Forest Service Status	State Status	Habitat	Likelihood for Occurrence
Martes caurina sierrae Sierra marten	—	FSCC	—	Martens are known from the high elevation forested plant communities. Optimal habitats are various mixed evergreen forests with more than 40% crown closure and large trees and snags for den sites. Most commonly found in red fir and lodgepole pine forests between 4,000 and 10,600 feet elevation.	May potentially occur in appropriate habitat. Alpine Mesocarnivore Studies detected 89 marten observations on grid cells in the Ritter Range study area (Hatfield et al. 2023).
Taxidea taxus American badger	—	—	SSC	Occurs throughout most of the state in areas with dry, friable soils. It is most abundant in drier open stages of most shrub, forest, and herbaceous habitats up to 12,000 feet in elevation.	May potentially occur in appropriate habitat.
Bassariscus astutus ringtail	—	—	CFP	Found in most forest and shrub habitats in close association with rock and/or riparian areas, usually not more than 0.6 mile from water. Dens in hollow trees, snags, or other cavities. Found from seal level up to 8,800 feet.	May potentially occur in appropriate habitat.
Ovis canadensis sierrae Sierra Nevada bighorn sheep	FE	—	SE, CFP	Lives on steep, rugged slopes in the eastern Sierra Nevada in shrub, grassland, montane chaparral, subalpine conifer, or riparian habitats.	May potentially occur in appropriate habitat. Critical habitat is present within 1 mile of the FERC Project boundary. Critical Habitat is present in the Project vicinity. Critical Habitat Unit 2 (Mount Gibbs) is present within 1 mile of the FERC Project boundary, but does not overlap the boundary (USFWS 2008b). In addition, the Cathedral Range Herd Unit (CDFW 2015), is located approximately 1.2 mile east of the FERC Project boundary. There are no known occurrences of this species in the FERC Project boundary or within 1 mile of the boundary. Collared individuals of the Mt. Gibbs herd commonly spend most of the year in alpine habitats and make seasonal movements between Mt. Gibbs and Mt. Lewis, approximately 10 miles north of the Project area (CDFW 2021). However, movements have been recorded between the Mount Gibbs herd and the Central recovery unit south of the Project area, and between the Mt. Gibbs Herd unit and the Cathedral Range Herd Unit to the east of the Project area (CDFW 2018). Therefore, there is some potential that individuals may migrate or disperse through the Project (USFWS 2007). Conversation with Lacey Greene, a bighorn sheep biologist, indicated that bighorn sheep are unlikely to move down into the Project area (Lacey Green, pers. comm.).
Unlikely to Occur in the FERC Project Boundary or Within 1 Mile of the Boundary					
Euphilotes battoides mazourka square dotted blue	—	FSCC	—	Only known from badger flat adjacent to Mazourka peak from about 8,000 to 13,000 feet in elevation.	**Unlikely to occur.** The Project is outside the geographic range of this species.
Plebejus icarioides inyo Boisduval's blue	—	FSCC	—	Restricted to the Inyo Mountains around elevations of 9,000 feet.	**Unlikely to occur.** The Project is outside the geographic range of this species.
Plebulina emigdionis San Emigdio blue	—	FSCC	—	Found in southern California as far north as Inyo County, in desert shrubland and chaparral habitats and dry river courses and intermittent stream sides as well as adjacent flats.	**Unlikely to occur.** The Project is within Mono County, which is outside of the geographical range of this species.
Tuberochernes aalbui a cave obligate pseudoscorpion	—	FSCC	—	Only known from one location in Poleta Cave in the Inyo-White Mountains in Inyo County, California (Forest Service 2018b).	**Unlikely to occur.** The Project is outside the geographic range of this species.
Actinemys marmorata northwestern pond turtle	FPT	—	SSC	Found in perennial wetlands and slow-moving creeks and ponds with overhanging vegetation up to 6,500 feet in elevation in the Sierra Nevada (USFWS 2023d). It prefers suitable basking sites, such as logs and rocks, above the waterline.	**Unlikely to occur.** The Project is outside the elevation range of this species.

Scientific/Common Name	Federal Status	Forest Service Status	State Status	Habitat	Likelihood for Occurrence
Buteo swainsoni Swainson's hawk	—	—	ST (nesting)	Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Riparian woodlands, juniper-sage flats, and oak woodlands for nesting. Grasslands and agricultural areas for foraging.	**Unlikely to occur.** The Project does not contain suitable habitat for this species.
Centrocercus urophasianus greater sage-grouse – Bi-State DPS	FPT	—	State Candidate Endangered, SSC	Found in sagebrush, perennial grasslands, wet meadows, and desert scrub from 4,000 to over 9,000 feet in the eastern Sierra Nevada. Found in the Bodie Hills and Long Valley area of Mono County (Hall et al. 2008, USFWS 2020b).	**Unlikely to occur.** No appropriate habitat is present in the Project vicinity. Specifically: • Primarily associated with sagebrush habitats with greater than 10% canopy cover and with low cover of western juniper and pinyon pine (Hall et al. 2008). Sagebrush scrub habitat in the Project vicinity is sparse and has a canopy cover of less than 10%. Intermixed conifers are abundant in sagebrush habitats in the study area. • Species is unlikely to occur west of Highway 395 (Hall et al. 2008). No known occurrences of greater sage-grouse in the Project vicinity. The nearest known occurrence is approximately 24 miles southeast of the Project vicinity.
Dendragapus fuliginosa howardi Mt. Pinos sooty grouse	—	FSCC	SSC	Restricted to the Southern Sierra Nevada and the Piute and Tehachapi mountains, Mt. Pinos/Mt. Able, and Frasier Mountain.	**Unlikely to occur.** The Project is outside the geographic range of this species.
Strix nebulosa great gray owl	—	FSCC	CE (nesting)	Nests in old growth coniferous forests and forages in montane meadows. Distribution includes high elevations of the western slope Sierra Nevada and Cascade ranges, from 2,100 to 8,100 feet in elevation (Wu et al. 2016).	**Unlikely to occur.** The Project is outside the typical elevation range of this species and the Project vicinity does not provide suitable habitat.
Coccyzus americanus occidentalis Yellow-billed cuckoo – Western DPS	FT	—	SE	Breeds and forages in riparian areas with low woody vegetation in lowland California, especially willow-cottonwood habitat. Currently known from the Sacramento River Valley and the South Fork of the Kern River (USFWS 2021b). USFWS has designated critical habitat for this species. The Project area is outside critical habitat.	**Unlikely to occur.** The Project is outside the geographic range of this species.
Strix occidentalis occidentalis California spotted owl	BCC	FSCC	SSC	Dense, old growth, multi-layered mixed conifer, redwood, Douglas-fir, and oak woodland habitats in the western slope of the Sierra Nevada, from sea level to elevations of approximately 7,600 feet.	**Unlikely to occur.** The Project is outside the geographic range of this species.
Empidonax traillii adastus willow flycatcher	—	FSCC	SE	Found in the Great Basin and central Rocky Mountains south to Utah and Colorado. Found in a variety of shrubby habitats, but particularly montane riparian habitat with extensive growth of willows.	**Unlikely to occur.** The Project is outside the geographic range of this species.
Xanthocephalus xanthocephalus yellow-headed blackbird	—	—	SSC	Breeds and forages east of the Sierra Nevada in fresh emergent wetland with dense vegetation and deep water, often along borders of lakes or ponds. Winters in the Central Valley.	**Unlikely to occur.** The Project does not contain suitable habitat for this species.
Eumops perotis californicus western mastiff bat	—	—	SSC	Found in variety of habitats including desert scrub, chaparral, oak woodland, ponderosa pine, meadows and mixed conifer forests up to 4,600 feet in elevation. Distribution is likely limited by availability of significant rock features offering suitable roosting habitat.	**Unlikely to occur.** The Project is outside the elevational range of this species.
Brachylagus idahoensis pygmy rabbit	—	—	SSC	Associated with tall, dense, large-shrub stages of big sagebrush, greasewood, and rabbitbrush in Modoc, Lassen, and Mono counties.	**Unlikely to occur.** Big sagebrush scrub within the Project vicinity is sparsely distributed and does not represent suitable habitat for this species.

Scientific/Common Name	Federal Status	Forest Service Status	State Status	Habitat	Likelihood for Occurrence
Pekania [=Martes] *pennanti* fisher – Southern Sierra Nevada Distinct Population Segment [DPS]	FE	FSCC	ST	Large areas of mature, dense forest red fir, lodgepole pine, ponderosa pine, mixed conifer, and Jeffery pine forests with snags and greater than 50% canopy closure. Known from elevations of 4,000 to 8,000 feet. USFWS has proposed critical habitat for this species. The Project area is outside of proposed critical habitat.	**Unlikely to occur.** The Project is outside the geographic range of this species. The only population of fishers known on the Inyo National Forest occurs on the Kern Plateau along the boundary of the Sequoia National Forest (Forest Service 2018b).
Ovis canadensis nelsoni Nelson desert bighorn sheep	—	FSCC	CFP	Found in Mojave desert mountains from southeastern Mono County south to Imperial County. Only known from the White Mountains within the Inyo National Forest (Forest Service 2018b).	**Unlikely to occur.** The Project is outside the geographic range of this species.

Federal Status
BCC = Bird of Conservation Concern
Eagle Act = Bald and Golden Eagle Protection Act
FC = Candidate Species
FD = Federal Delisted
FE = Federal Endangered
FPT = Federal Proposed Threatened
FT = Federal Threatened

Forest Service Status
FSCC = Inyo National Forest Service Species of Conservation Concern

State Status
CFP = California Fully Protected
SE = California Endangered
SSC = California Species of Conservation Concern
ST = California Threatened

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Table TERR 2-5. Consistency of Project Transmission Line and Power Line Tower/Pole Configurations with APLIC Guidelines

Tower/Pole Number	Conclusion	Risk Factors		
		Uncovered Phase Conductors <60 Inches Apart with No Perch Guard	Distance Between Energized Parts and Grounded Equipment on Equipment Towers/Poles <60 Inches	Uninsulated or Partially Uninsulated Metal Guy Wires, Jumper Wires, or Transformer Cables
Gem Dam Area				
4kV Agnew Dam to Gem Dam Power Line (0.81 mile)				
Non-operational	No risk for avian electrocution	—	—	—
Agnew Dam Area				
4kV Rush Creek Powerhouse to Agnew Dam Power Line (0.78 mile)				
Tower immediately adjacent to powerhouse	Potential risk for avian electrocution	—	X	—
20987 - CIT	Potential risk for avian electrocution	X	—	—
4840586E	Potential risk for avian electrocution	X	—	X
4423278E	Potential risk for avian electrocution	X	—	—
4423279E	Potential risk for avian electrocution	X	—	X
4423280E	Potential risk for avian electrocution	X	—	—
4423281E	Potential risk for avian electrocution	X	—	X
4423282E	Potential risk for avian electrocution	—	—	X
4423283E	Potential risk for avian electrocution	X	—	—
4423284E	Potential risk for avian electrocution	X	—	X
4423285E	Potential risk for avian electrocution	X	—	X
4423286E	Potential risk for avian electrocution	X	—	X

Tower/Pole Number	Conclusion	Risk Factors		
		Uncovered Phase Conductors <60 Inches Apart with No Perch Guard	Distance Between Energized Parts and Grounded Equipment on Equipment Towers/Poles <60 Inches	Uninsulated or Partially Uninsulated Metal Guy Wires, Jumper Wires, or Transformer Cables
4423287E	Potential risk for avian electrocution	X	X	X
4423288E	Potential risk for avian electrocution	X	X	X
4 kV Agnew Lake Dam Power Line				
Two unnumbered poles located at dam	No risk for avian electrocution	—	—	—
4kV Upper Agnew Boat Dock Power Line				
Non-operational	No risk for avian electrocution	—	—	—
Rush Creek Powerhouse Area				
2.4 kV Switchyard to Powerhouse Transmission Line				
No towers/poles associated with this line	No risk for avian electrocution	—	—	—

Table TERR 2-6. Results of Field Assessment of Project Facilities with Potential to Support Bat Roosting Habitat, by Facility Type

Project Facility	Potential Roost Habitat Element			Suitable Roosting Habitat Present?	Notes	Surrounding Environmental Conditions	Photo ID[1]
	Vertical or Roofed Elements	Cracks/ Crevices	High Solar Exposure				
Dams							
Rush Meadows Dam		X	X	Yes	The dam structure has cracks and crevices that could provide suitable bat roosting habitat, and appropriate thermal conditions (high solar exposure).	Rush Creek; Waugh Lake; subalpine forest	1
Gem Dam	X	X	X	Yes	The dam contains cracks in concrete overhangs and has appropriate thermal conditions (high solar exposure).	Gem Lake; Rush Creek; rock outcrop	2
Agnew Dam	X	X	X	Yes	The dam has concrete overhangs and crevices and appropriate thermal conditions (high solar exposure).	Agnew Lake; rock outcrop	3
Valve Houses							
Rush Meadows Dam Valve House				No	The valve house does not have overhangs or crevices suitable for bat roosting. Valve house is partially inundated with water and does not have appropriate thermal conditions.	Waugh Lake; subalpine conifers	4
Gem Valve House and Cabin	X	X	X	Yes	This wooden building has openings along the tin roof and cracks around windows where bats could enter to access suitable bat roosting habitat. Building receives appropriate solar exposure.	Rush Creek; rock outcrop	5
Gem Dam Arch 8 Valve House				No	This metal building has no cracks, crevices, or entry points for bats. Roofed elements are made of metal, which do not provide a suitable gripping surface for roosting.	Rock outcrops; Rush Creek	6
Gem Flowline Valve House				No	Metal structure does not provide overhangs or cracks and crevices suitable for roosting. Position over the emergency spillway creates cold thermal conditions unsuitable for roosting.	Rock outcrop; streams	7
Agnew Junction (Valve House and Stand Pipe)	X	X	X	Yes	Building contains overhangs with cracks along the cracks in the corrugated metal roof that could provide access to interior.	Sagebrush	8
Agnew Dam Valve House	X	X		Yes	Crack above door provides access; corrugated metal roof provides suitable roofed element. Because of the proximity to dam outlet pipes and shady position, building is likely colder than surrounding conditions. Cold buildings are not preferred for maternity roosting, but could be used for hibernation.	Agnew Lake; Rush Creek	9
Stream Gages							
Rush Creek below Rush Meadows (Waugh Lake) (USGS No. 10287262; SCE No. 359r)				No	The gage is not accessible and submerged by high water flow.	Rush Creek; subalpine conifer forest	N/A
Rush Creek below Gem Lake (USGS No. 10287281; SCE No. 352r)				No	This gage is located inside Gem Arch 8 Valve House, which is inaccessible to bats.	Rock outcrops	N/A
Rush Creek below Agnew Lake (USGS No. 10287289; SCE No. 357)	X	X	X	Yes	The gage building contains suitable cracks and crevices. Underneath the gage is a roofed overhang. Building receives appropriate solar exposure.	Rush Creek; rock outcrops; willows	10

Project Facility	Potential Roost Habitat Element			Suitable Roosting Habitat Present?	Notes	Surrounding Environmental Conditions	Photo ID[1]
	Vertical or Roofed Elements	Cracks/ Crevices	High Solar Exposure				
Reservoir Gages							
Waugh Lake (USGS No. 10287260; SCE 359)				No	This gage is located inside gage house building.	Rock outcrops; Rush Creek	N/A
Gem Lake (USGS No. 10287280; SCE No. 352)	X	X		Yes	This gage building is metal with wooden roofed elements and a crack in the door for bats to access. However, it is located in the dam arch and is cold and shaded. Cold buildings are not preferred for maternity roosting, but could be used for hibernation.	Rock outcrops, Rush Creek	11
Agnew Lake (USGS No. 10287285; SCE No. 351)				No	This gage is a concrete slab with no overhangs, cracks, or crevices and is low to the ground.	Agnew Lake; rock outcrops	12
Ancillary and Support Facilities							
Rush Meadows Equipment Shed	X		X	Yes	This building contains a wooden overhang on the exterior but lacks cracks and crevices around doors or windows.	Rush Creek; rock outcrops	13
Rush Meadows Dam Gage House	X		X	Yes	Building contains wooden overhangs, but lacks cracks and crevices allowing access to the interior. Building has appropriate solar exposure.	Rush Creek; rock outcrops	14
Rush Meadows Dam Solar Facility				No	Metal structure does not contain suitable overhangs or crevices for bat roosting.	Rush Creek; rock outcrops	15
Gem Lake Dock				No	This is a concrete slab close to the ground and water. There is no overhangs or cracks and crevices for roosting.	Gem Lake; rock outcrops	16
Gem Lake Motor Barge				No	Watercraft does not represent appropriate bat roosting habitat.	Gem Lake; rock outcrops	17
Gem Bunkhouse	X	X	X	Yes	This building provides suitable roofed elements, cracks, crevices, and open window entrance points for bats. Building is positioned in an area with solar exposure.	Rock outcrops; montane chaparral; slopes	18
Gem Outhouse	X	X	X	Yes	This wooden building contains suitable roofed elements, cracks and crevices for bat entry, and is in an area that has appropriate thermal conditions (high solar exposure).	Rock outcrops; montane chaparral	19
Gem Cookhouse	X	X	X	Yes	This building contains suitable roofed elements for bat roosting, and has a broken window and gaps in the metal siding for bats to enter. The roof is a corrugated metal sheet with enough spacing for bats to roost under the eaves. Building is located in an area that has appropriate thermal conditions (high solar exposure).	Rock outcrops; montane chaparral	20
Gem Dam Compressor Shed				No	New metal building with no gaps in door or along roofline. There are metal eaves do not provide a suitable gripping surface for bat roosting.	Rock outcrops; Gem Lake	21
Gem Dam Storage Shed		X	X	Yes (marginal)	Metal building does not provide suitable bat roosting habitat, but the pipe opening provides a large enough crevice for some smaller bat species to roost. The building has appropriate thermal conditions (high solar exposure).	Rock outcrops; Gem Lake	22
Gem Dam Overhead Hoist House for Dam Length	X	X	X	Yes	Wooden building with holes that bat could potentially access suitable roosting habitat.	Rock outcrops; Gem Lake	23
Gem Dam Overhead Hoist House	X	X	X	Yes	Corrugated metal building with wooden roofed elements on exterior and contains cracks and crevices suitable for roosting habitat. The building has appropriate thermal conditions (high solar exposure).	Rock outcrops; Gem Lake	24

Project Facility	Potential Roost Habitat Element			Suitable Roosting Habitat Present?	Notes	Surrounding Environmental Conditions	Photo ID[1]
	Vertical or Roofed Elements	Cracks/ Crevices	High Solar Exposure				
Gem Fish Release Footbridge				No	Metal grating bridge that stretches over Rush Creek does not provide roofed elements or cracks and crevices suitable for roosting. Metal material does not provide a suitable gripping surface.	Rush Creek; rock outcrops	25
Gem Tram Landing Footbridge	X		X	Yes	Open slated wood provides roofed elements for roosting, but structure lacks tight cracks and crevices and is very open to the air. Location receives suitable solar exposure for day roosting, but is too open for maternity roosting.	Rock outcrops; montane chaparral	26
Gem Tram Bridge	X			No	The underside of the tram bridge provides roofed elements, but the tram slats are very open and the wood lacks cracks or crevices. Tram bridge is also over Rush Creek, which drains water from the bottom of Gem Lake, which creates a microclimate that may be too cold for day-roosting bats considering the openness of the bridge.	Rush Creek; subalpine conifer forest; rock outcrops	27
Gem Weather Station	X	X	X	Yes	There are cracks in the metal door with an overhanging wooden shelf inside that could provide suitable roosting habitat. Building has appropriate thermal conditions (high solar exposure).	Rock outcrop; Rush Creek	28
Gem Satellite Dish/ Gem Solar Facility				No	The satellite dish and solar facility do not provide roofed elements or cracks and crevices suitable roosting habitat. The building that is connected to the satellite dish/solar facility has no openings for bats to enter.	Rock outcrop; Rush Creek; montane chaparral	29
Gem Valve House Tunnel				No	The tunnel is used as a spillway during high flows. The concrete pad does not contain roofed elements or cracks and crevices suitable for roosting and the conveyance of water makes this structure unsuitable.	Rock outcrop; perennial stream	30
Lower Agnew Lake Boathouse/Dock	X	X	X	Yes	The building contains holes for bats to enter and suitable solar exposure. The cracks in the corrugated metal roof could also provide suitable entrance points for roosting.	Agnew Lake; aspen; curl-leaf mountain mahogany	31
Upper Agnew Lake Boathouse/Dock	X	X	X	Yes	The building contains suitable wooden roofed elements with corrugated metal sheeting that provides cracks and crevices for bats to access the interior. The concrete pad where the building sits also has a wooden edge that also provide roofed elements. The building has appropriate thermal conditions (high solar exposure).	Agnew Lake; Rush Creek	32a, b
Agnew Lake Motor Barge				No	Motor barge is a flat surface located within Agnew that does not provide suitable roofed elements or cracks and crevices for roosting.	Agnew Lake	33
Agnew Cabin	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices where bats could enter. Building is located in an area that has appropriate thermal conditions (high solar exposure).	Aspen; curl leaf mountain mahogany	34
Agnew Flume (downstream of Agnew Dam)				No	The flume is made of relatively new concrete that does not have cracks and crevices for bats to enter and lacks roofed elements. The flume conveys Rush Creek which makes the walls of the structure cold.	Rush Creek; rock outcrop	35
Rush Creek Powerhouse Cottage No. 1[2]	X	X	X	Yes	Bats could potentially roost under roof eaves on the building. There may be a few cracks under the shingles for bats to access the interior. Building receives solar exposure.	Aspen; Jeffrey pine; wet meadow; stream; developed	36

Project Facility	Potential Roost Habitat Element			Suitable Roosting Habitat Present?	Notes	Surrounding Environmental Conditions	Photo ID[1]
	Vertical or Roofed Elements	Cracks/ Crevices	High Solar Exposure				
Rush Creek Powerhouse Garage No. 1[2]	X	X	X	Yes	Structure contains vertical and roofed components and cracks and crevices suitable for bat roosting. Building has appropriate thermal conditions (high solar exposure).	Aspen; Jeffrey pine; wet meadow; stream; developed	37
Rush Creek Powerhouse Cottage No. 2[2]	X		X	Yes	There are eaves located on the building that provide roofed elements. The building is mostly sealed around edges and does not display cracks or crevices. Building has appropriate thermal conditions (high solar exposure).	Lawn; developed; rock outcrops	38
Rush Creek Powerhouse Garage No. 2[2]	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter and the building has appropriate thermal conditions (high solar exposure).	Aspen; streams; Jeffrey pine; developed	39
Rush Creek Powerhouse Garage No. 3[2]	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter and the building has appropriate thermal conditions (high solar exposure).	Developed; aspen; willow	40
Rush Creek Powerhouse Garage No. 4[2]	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices where bats could enter the building has appropriate thermal conditions (high solar exposure).	Wet meadow; grassland; developed	41
Rush Creek Powerhouse Warehouse and Dock	X		X	Yes	Exterior of the building provides vertical and roofed components that could potentially support roosting bats, but the building lacks cracks and crevices for bats to enter interior.	Developed	42
Rush Creek Powerhouse Building 0113[2]	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter, and the building has appropriate thermal conditions (high solar exposure).	Aspen; Jeffrey pine; perennial stream (Rush Creek)	43
Rush Creek Powerhouse Machine Shop	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter. The building also provides warm thermal conditions for potential roosting bats.	Aspen; willow; developed	44
Rush Creek Powerhouse Pump House	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter and has appropriate thermal conditions (high solar exposure).	Willow; grassland; developed	45
Rush Creek Powerhouse Woodshed No. 1[2]	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has abundant cracks and crevices that bats could enter, and the building has appropriate thermal conditions (high solar exposure).	Aspen; Jeffrey pine; streams; meadow	46
Rush Creek Powerhouse Woodshed No. 2[2]	X		X	Yes	Building provides vertical and roofed components that could potentially support roosting bats on the exterior. The building does not contain cracks and crevices to enter the interior, but it receives appropriate solar exposure.	Rock outcrops; Jeffrey pine	47
Bridge over Rush Creek Powerhouse Tailrace				No	Tailrace water levels are routinely high (to bottom of bridge), which would prevent bat roosting.	Tailrace channel; aspen	48
Rush Creek Powerhouse Tailrace				No	A tailrace is a cold, fast, flowing channel of water out of the powerhouse which would not provide suitable bat roosting habitat.	Developed parking lot; aspen; lodgepole pine	49

Project Facility	Potential Roost Habitat Element			Suitable Roosting Habitat Present?	Notes	Surrounding Environmental Conditions	Photo ID[1]
	Vertical or Roofed Elements	Cracks/ Crevices	High Solar Exposure				
Bridge over Rush Creek	X			Yes	Bridge provides roofed component that could potentially support roosting bats during low flow conditions.	Rush Creek; aspen; lodgepole pine; developed	50
Unnamed Shed near Rush Creek Powerhouse[2]	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. Cracks and crevices on the shingle siding may provide openings for small bats. Building has appropriate thermal conditions (high solar exposure).	Developed; aspen	51
Trams and Hoist Houses							
Gem Tram				No	Tram line does not provide vertical or roofed components that provide appropriate bat roosting habitat and lies against the ground.	Rock outcrops; Rush Creek	53
Gem Tram Hoist House	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter and has appropriate thermal conditions (high solar exposure).	Rock outcrops; Gem Lake; Rush Creek	54
Gem Tram Upper Landing	X		X	Yes	Upper landing is cave-like and provides vertical and roofed components that could potentially support roosting bats. Concrete generally lacks cracks and crevices large enough for roosting. This structure has appropriate thermal conditions (high solar exposure).	Gem Lake; rock outcrops	55
Gem Tram Lower Landing				No	Lower landing is a concrete slab on the ground that does not provide vertical or roofed components or cracks/crevices for roosting bats.	Perennial stream; rock outcrops	56
Agnew Tram				No	Tram line does not provide vertical or roofed components that provide appropriate bat roosting habitat. Tram line lies against the ground.	Aspen; rock outcrops	57
Agnew Tram Hoist House	X	X	X	Yes	Building provides vertical and roofed components and has cracks and crevices that could potentially support roosting bats. Building has appropriate thermal conditions (high solar exposure).	Aspen; curl-leaf mountain mahogany; Agnew Lake	58
Agnew Tram Landing (metal storage building not identified on facility list or on the maps)				No	Metal storage container does not provide roofed components or cracks and crevices that could potentially support roosting bats.	Sagebrush; rock outcrops; aspen	59
Powerhouse							
Rush Creek Powerhouse	X	X	X	Yes	Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices where bats could enter the facility. The building has appropriate thermal conditions (high solar exposure).	Developed; juniper	60
Gages							
Rush Creek Powerhouse (USGS No. 10287300; SCE No. 367)				No	The gage is located inside the powerhouse at the outlet to the tailrace and does not contain roofed components or cracks/crevices suitable for roosting.	Powerhouse interior	NA

[1] Refer to Appendix G. Photographs of Facilities Evaluated for Potential to Support Bat Roosting Habitat.

[2] This building is part of the Rush Creek Powerhouse complex and is not identified as an individual facility in Table TERR 2-1.

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Table TERR 2-7. Results of Bat Roost Surveys

Project Facilities	Interior Accessible?	Survey Results			Conclusion	Acoustic Device Coverage? (See Table TERR 2-8)
		Visual Inspection	Guano Sampling	Night Emergence Survey		
Rush Creek Powerhouse						
Rush Creek Powerhouse	Yes	Incidental guano present. No bats observed. Building well sealed.	One sample was collected. DNA was not identifiable to species or group.	—	No roost present. Bats are not currently utilizing this facility. The DNA sample identified Yuma myotis.	Yes
Rush Creek Powerhouse Cottage No. 1[2]	Yes	Guano present. No bats observed. Building well sealed.	One sample was collected. DNA was not identifiable to species or group.	—	**Potential night roost.** Amount of guano in localized spots indicate potential night roost. The DNA sample indicated three potential species roosting: long-eared myotis, little brown bat, and/or fringed myotis.	Yes
Rush Creek Powerhouse Garage No. 1[2]	Yes	Incidental guano present, in degraded condition. No bats observed. Small openings present.	—	—	No roost present. Bats are not currently utilizing this facility. Two old pieces of guano on exterior likely from incidental usage.	No
Rush Creek Powerhouse Woodshed No. 1[2]	Yes	Incidental guano present. No bats observed. Building open.	One sample collected. DNA was not identifiable to species or group.	—	No roost present. Bats are not currently utilizing this facility. Guano likely from incidental usage. The DNA sample identified Yuma myotis.	No
Rush Creek Powerhouse Cottage No. 2[2]	Yes	No guano present. No bats observed. Building well sealed.	—	—	No roost present. Bats are not currently utilizing this facility.	Yes
Rush Creek Powerhouse Garage No. 2[2]	Yes	Old guano present, in degraded condition. No bats observed. Roof access possible.	—	—	No roost present. Bats are not currently utilizing this facility. Guano present is likely from incidental usage.	Yes
Rush Creek Powerhouse Woodshed No. 2[2]	Yes	No guano present. No bats observed. Building well sealed.	—	—	No roost present. Bats are not currently utilizing this facility.	Yes
Rush Creek Powerhouse Garage No. 3[2]	Yes	Incidental guano present. No bats observed. Building well sealed.	—	—	No roost present. Bats are not currently utilizing this facility. Two pieces of old guano were found on the exterior and are likely from an incidental flyby along the northeast vegetation.	Yes
Rush Creek Powerhouse Garage No. 4[2]	Yes	No guano present. No bats observed. Building well sealed.	—	—	No roost present. Bats are not currently utilizing this facility.	Yes
Rush Creek Powerhouse Building 0113[2]	Yes	No guano present. No bats observed. Entry under roof possible.	—	—	No roost present. Bats are not currently utilizing this facility. The corrugated roof has openings that bats could utilize for roosting as it is shaded by trees.	Yes

Project Facilities	Interior Accessible?	Survey Results			Conclusion	Acoustic Device Coverage? (See Table TERR 2-8)
		Visual Inspection	Guano Sampling	Night Emergence Survey		
Rush Creek Powerhouse Machine Shop	Yes	Guano present. No bats observed. Building well sealed.	Three samples collected. Results indicate three possible species.	—	**Potential night roost.** Facility supports a potential night roost on the exterior of the building. Two DNA samples indicated three potential species roosting: long-eared myotis, little brown bat, and/or fringed myotis. One DNA sample identified Yuma myotis.	Yes
Rush Creek Powerhouse Pump House	Yes	Guano present. No bats observed. Building well sealed.	One sample collected. DNA was not identifiable to species or group.	—	**Potential night roost.** Facility supports a potential night roost on the exterior of the building. The DNA sample indicated three potential species: long-eared myotis, little brown bat, and/or fringed myotis.	Yes
Rush Creek Powerhouse Warehouse and Dock	Yes	Guano present. No bats observed. Building well sealed.	—	—	Bats are unlikely to utilize this facility. Metal structure gets very hot during the day and cold at night. It has no suitable places on the exterior for roosting and no access points.	Yes
Bridge over Rush Creek	NA	No guano present. No bats observed. No gaps for bats.	—	—	Bats are unlikely to utilize this facility. Gaps on the underside of the bridge are too small for bat utilization.	Yes
Unnamed Shed near Rush Creek Powerhouse[2]	Yes	No guano present. No bats observed. Building well sealed.	—	—	No roost present. Bats are not currently utilizing this facility.	Yes
Agnew Dam						
Agnew Cabin	Yes	No guano present No bats observed. Small openings present.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility.	Yes
Agnew Dam	No	No guano present No bats observed. No points of entry.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility.	Yes
Agnew Dam Valve House	No	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	Unable to access building to confirm interior. No roost present. Bats are not currently utilizing this facility.	Yes
Agnew Junction (Valve House and Stand Pipe)	Yes	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility.	Yes
Lower Agnew Lake Boathouse/Dock	Yes	Guano present. No bats observed. Small openings present.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility. Guano present is likely from incidental usage.	Yes
Upper Agnew Lake Boathouse/Dock	No	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	Unable to access building to confirm interior. No roost present. Bats are not currently utilizing this facility.	No

Project Facilities	Interior Accessible?	Survey Results			Conclusion	Acoustic Device Coverage? (See Table TERR 2-8)
		Visual Inspection	Guano Sampling	Night Emergence Survey		
Agnew Tram Hoist House	Yes	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	Yes
Rush Creek below Agnew Lake (USGS No. 10287289; SCE No. 357)	Yes	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	Yes
Unnamed Agnew Building	No	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	Unable to access building to confirm interior. No roost present. Bats are not currently utilizing this facility.	Yes
Gem Dam						
Gem Bunkhouse	No	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	Yes
Gem Cookhouse	No	No guano present. No bats observed. Access to interior & under.	—	Bats were not observed emerging from facility.	Unable to access building to confirm interior. No roost present. Bats are not currently utilizing this facility.	Yes
Gem Dam	Yes	No guano present No bats observed. Points of entry present.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	Yes
Gem Dam Overhead Hoist House for Dam Length	Yes	No guano present No bats observed. Points of entry present.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	No
Gem Dam Overhead Hoist House	No	Guano present. No bats observed. Window access to interior.	Two samples collected. DNA was not identifiable to species or group.	Bats were not observed emerging from facility.	**Potential night roost.** Unable to access building to confirm interior. Facility supports a potential night roost on the exterior of the building. Guano DNA sample identified Yuma myotis.	No
Gem Dam Storage Shed	Yes	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	Yes
Gem Lake Reservoir Gage (USGS No. 10287280; SCE No. 352)	No	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	Unable to access building to confirm interior. No roost present. Bats are not currently utilizing this facility	Yes
Gem Outhouse	Yes	Old guano present. No bats observed. Door access to interior.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	Yes

Project Facilities	Interior Accessible?	Survey Results			Conclusion	Acoustic Device Coverage? (See Table TERR 2-8)
		Visual Inspection	Guano Sampling	Night Emergence Survey		
Gem Tram Hoist House	Yes	No guano present. No bats observed. Small opening present.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	No
Gem Tram Landing Footbridge	N/A	No guano present. No bats observed.	—	Bats were not observed emerging from facility.	Bats are unlikely to utilize this facility. Gaps on the underside are wide and exposed in a windy location.	Yes
Gem Tram Upper Landing	N/A	No guano present. No bats observed.	—	Bats were not observed emerging from facility.	Bats are unlikely to utilize this facility. Gaps on the underside are wide and exposed in a windy location.	Yes (partially)
Gem Valve House and Cabin	No	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	Unable to access building to confirm interior. No roost present. Bats are not currently utilizing this facility	Yes
Gem Weather Station	No	No guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	Unable to access building to confirm interior. No roost present. Bats are not currently utilizing this facility	Yes
Rush Meadows Dam						
Rush Meadows Dam	Yes	Guano present. Bats observed.	Two samples collected. Results indicate three possible species.	Twelve bats were seen emerging from the dam.	**Facility supports an active day and night roost.** DNA indicates three potential species roosting: long-eared myotis, little brown bat, and/or fringed myotis.	Yes
Rush Meadows Dam Gage House	Yes	Old guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	Yes
Rush Meadows Equipment Shed	Yes	Old guano present. No bats observed. Building well sealed.	—	Bats were not observed emerging from facility.	No roost present. Bats are not currently utilizing this facility	Yes

Table TERR 2-8. Results of Bat Acoustic Surveys

Acoustic Location	Facilities Covered[1]	Bat Species Detected[2]										
		Townsend's Big-eared Bat (*Corynorhinus townsendii*)*	Big Brown Bat (*Eptesicus fuscus*)	Spotted Bat (*Euderma maculatum*)*	Hoary Bat (*Lasiurus cinereus*)	Silver-haired Bat (*Lasionycteris noctivagans*)	California Myotis (*Myotis californicus*)	Small-footed Myotis (*Myotis ciliolabrum*)	Long-eared Myotis (*Myotis evotis*)	Little Brown Bat (*Myotis lucifugus*)	Long-legged Myotis (*Myotis volans*)	Yuma Myotis (*Myotis yumanensis*)
Rush Creek Powerhouse Detector 1	Garage No. 3, Garage No. 4, Machine Shop[G], Pump House[G], Warehouse and Dock	—	R	—	R, S	R, S	—	R	R	R	R	R
Rush Creek Powerhouse Detector 2	Rush Creek Powerhouse[G], Cottage No. 1[G], Cottage No. 2[G], Woodshed No. 2, Garage No. 2[G], Building 0113	R	R	R	R, S	R, S	—	R	R, S	R, S	R, S	R, S
Agnew Dam	Cabin, Agnew Dam, Valve House, Agnew Junction (Valve House & Stand Pipe), Lower Agnew Lake Boathouse/Dock[G], Tram Hoist House, Rush Creek below Agnew Lake (USGS No. 10287289; SCE No. 357), Unnamed Agnew Building	R	R, S	R	R, S	R, S	R, S	R, S	R, S	R, S	R	R, S

Acoustic Location	Facilities Covered[1]	Bat Species Detected[2]										
		Townsend's Big-eared Bat (*Corynorhinus townsendii*)*	Big Brown Bat (*Eptesicus fuscus*)	Spotted Bat (*Euderma maculatum*)*	Hoary Bat (*Lasiurus cinereus*)	Silver-haired Bat (*Lasionycteris noctivagans*)	California Myotis (*Myotis californicus*)	Small-footed Myotis (*Myotis ciliolabrum*)	Long-eared Myotis (*Myotis evotis*)	Little Brown Bat (*Myotis lucifugus*)	Long-legged Myotis (*Myotis volans*)	Yuma Myotis (*Myotis yumanensis*)
Gem Dam	Bunkhouse[G], Cookhouse, Gem Dam, Storage Shed, Gem Lake Reservoir Gage (USGS No. 10287280; SCE No. 352), Outhouse[G], Tram Landing Footbridge, Tram Upper Landing (partially), Valve House and Cabin, Weather Station	—	R, S	R	R, S	R, S	—	R, S	R, S	R, S	—	R, S
Rush Meadows Dam	Rush Meadows Dam[G], Gage House[G], Equipment Shed[G]	—	R, S	—	S	R, S	R	R, S	R, S	R, S	—	R, S

[1] Based on the assumption that the acoustic detector covers 100 meters radius from the placement of the microphone, per the product description.

[2] Species detected during the roost survey are denoted with 'R' while species detected during the seasonal use survey are denoted with 'S'.

Key: * = special-status species
G = facilities where guano was found

MAPS

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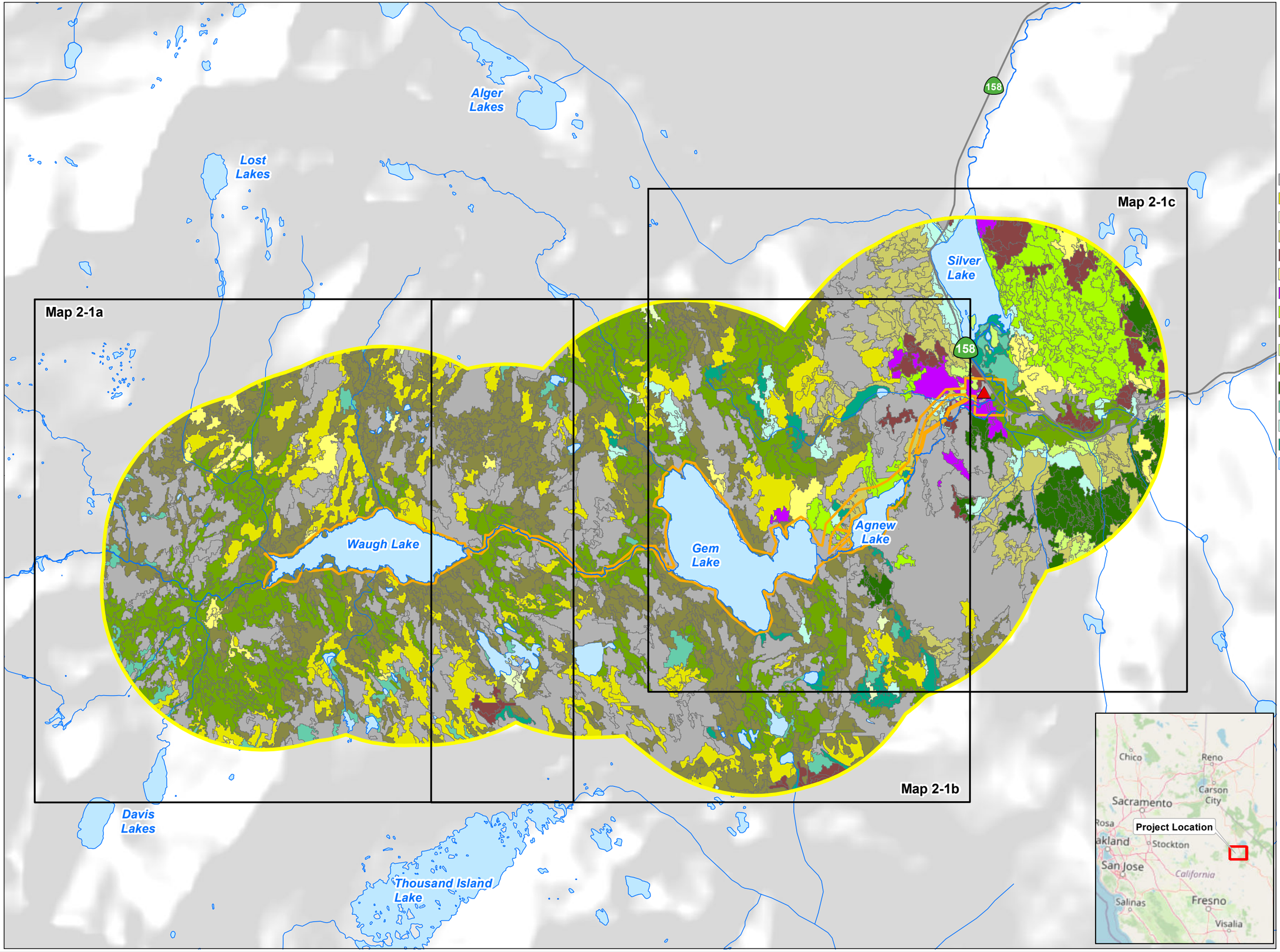

SCE Facilities

- Powerhouse

Other Features

- Highway
- River/Stream (Riverine "RIV")
- FERC Boundary
- 1-Mile FERC Boundary Buffer

CWHR Wildlife Habitat *

- Barren (BAR)
- Alpine Dwarf-Shrub (ADS)
- Annual Grassland (AGS)
- Montane Chaparral (MCP)
- Sagebrush (SGB)
- Low Sage (LSG)
- Juniper (JUN)
- Eastside Pine (EPN)
- Subalpine Conifer (SCN)
- Jeffrey Pine (JPN)
- Lodgepole Pine (LPN)
- White Fir (WFR)
- Wet Meadow (WTM)
- Aspen (ASP)
- Montane Riparian (MRI)
- Lacustrine (LAC)
- Riverine (RIV)

*Source: USDA-FS CALVEG, 2018
Stantec, 2023

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Rush Creek Project (FERC 1389)

Map TERR 2-1

CWHR Habitats within 1 Mile of the Rush Creek Project

0 0.25 0.5 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 11/15/2023

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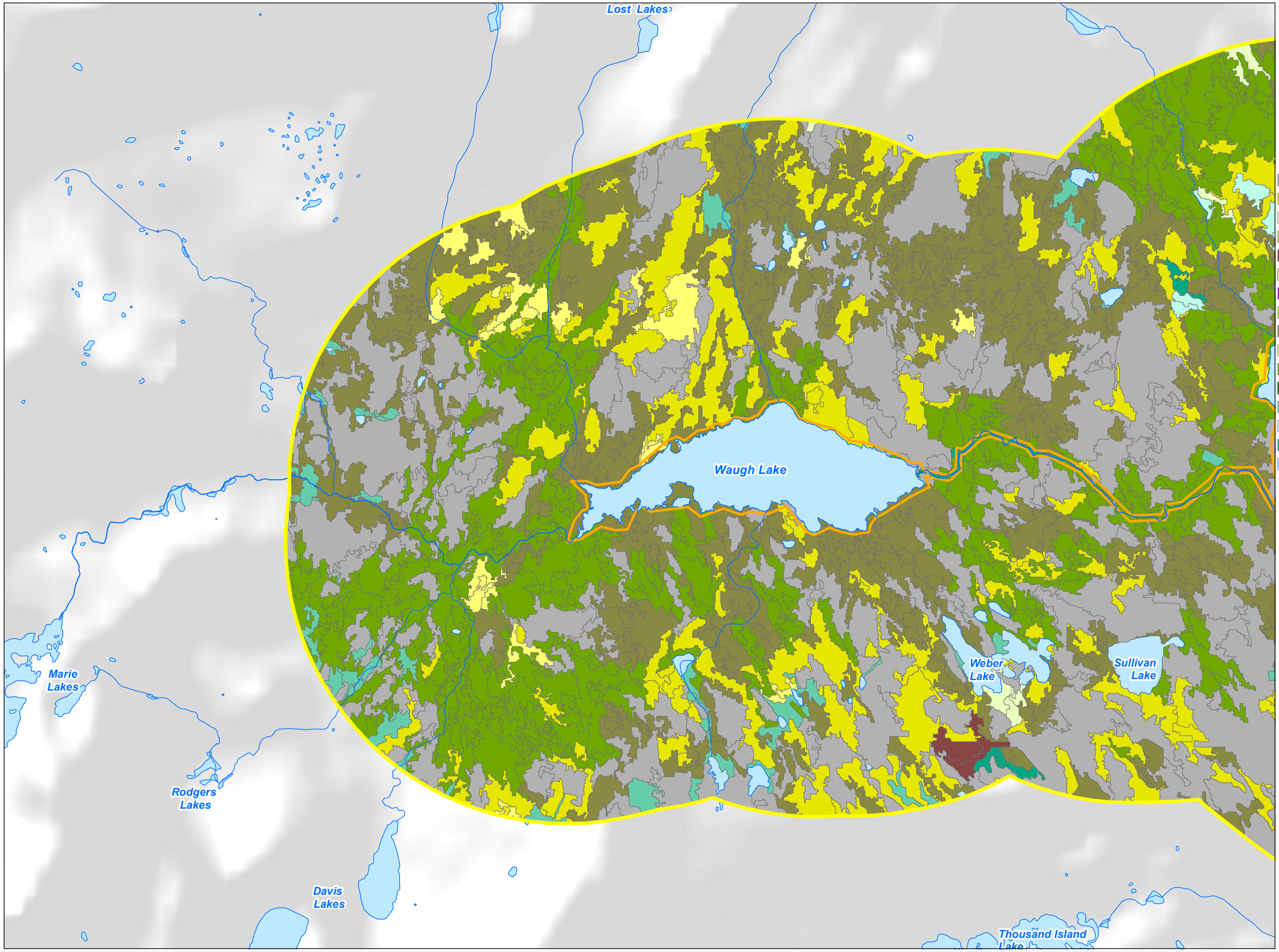

SCE Facilities

- Powerhouse

Other Features

- Highway
- River/Stream (Riverine "RIV")
- FERC Boundary
- 1-Mile FERC Boundary Buffer

CWHR Wildlife Habitat *

- Barren (BAR)
- Alpine Dwarf-Shrub (ADS)
- Annual Grassland (AGS)
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- Jeffrey Pine (JPN)
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- White Fir (WFR)
- Wet Meadow (WTM)
- Aspen (ASP)
- Montane Riparian (MRI)
- Lacustrine (LAC)
- Riverine (RIV)

*Source: USDA-FS CALVEG, 2018
Stantec, 2023

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Rush Creek Project (FERC 1389)

Map TERR 2-1a

CWHR Habitats within 1 Mile of the Rush Creek Project

0 500 1,000 2,000 Feet

Date: 11/15/2023

Projection: UTM Zone 11
Datum: NAD 83

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Silver Lake
158
Agnew Lake
Waugh Lake
Gem Lake
Weber Lake
Sullivan Lake
Thousand Island Lake

SCE Facilities

- Powerhouse

Other Features

- Highway
- River/Stream (Riverine "RIV")
- FERC Boundary
- 1-Mile FERC Boundary Buffer

CWHR Wildlife Habitat *

- Barren (BAR)
- Alpine Dwarf-Shrub (ADS)
- Annual Grassland (AGS)
- Montane Chaparral (MCP)
- Sagebrush (SGB)
- Low Sage (LSG)
- Juniper (JUN)
- Eastside Pine (EPN)
- Subalpine Conifer (SCN)
- Jeffrey Pine (JPN)
- Lodgepole Pine (LPN)
- White Fir (WFR)
- Wet Meadow (WTM)
- Aspen (ASP)
- Montane Riparian (MRI)
- Lacustrine (LAC)
- Riverine (RIV)

*Source: USDA-FS CALVEG, 2018
Stantec, 2023

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Rush Creek Project (FERC 1389)

Map TERR 2-1b

CWHR Habitats within 1 Mile of the Rush Creek Project

0 500 1,000 2,000 Feet

Projection: UTM Zone 11
Datum: NAD 83

Date: 11/15/2023

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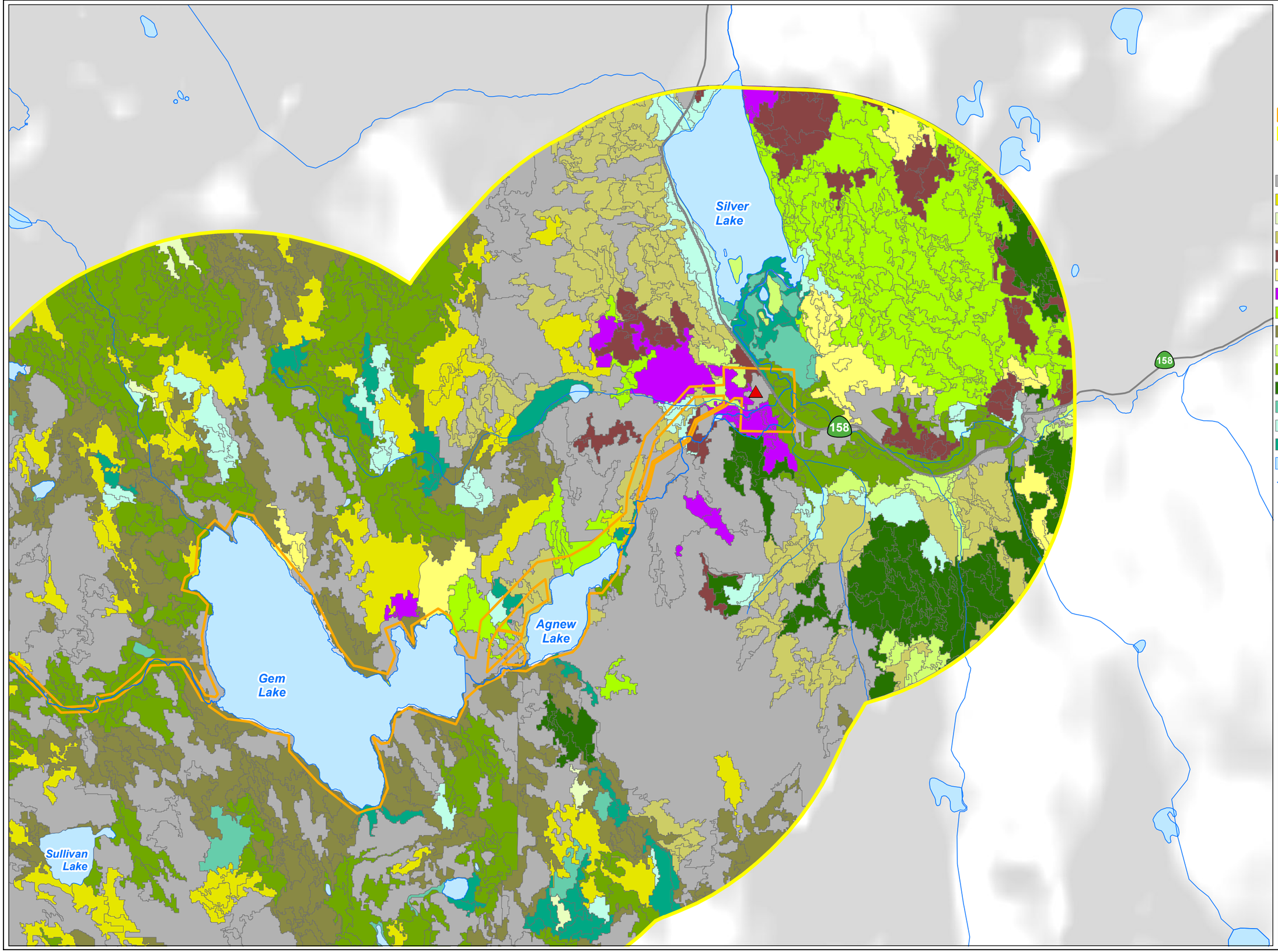

SCE Facilities

- Powerhouse

Other Features

- Highway
- River/Stream (Riverine "RIV")
- FERC Boundary
- 1-Mile FERC Boundary Buffer

CWHR Wildlife Habitat *

- Barren (BAR)
- Alpine Dwarf-Shrub (ADS)
- Annual Grassland (AGS)
- Montane Chaparral (MCP)
- Sagebrush (SGB)
- Low Sage (LSG)
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- Subalpine Conifer (SCN)
- Jeffrey Pine (JPN)
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- White Fir (WFR)
- Wet Meadow (WTM)
- Aspen (ASP)
- Montane Riparian (MRI)
- Lacustrine (LAC)
- Riverine (RIV)

*Source: USDA-FS CALVEG, 2018
Stantec, 2023

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Rush Creek Project (FERC 1389)

Map TERR 2-1c

CWHR Habitats within 1 Mile of the Rush Creek Project

0 500 1,000 2,000 Feet

Projection: UTM Zone 11
Datum: NAD 83

Date: 11/15/2023

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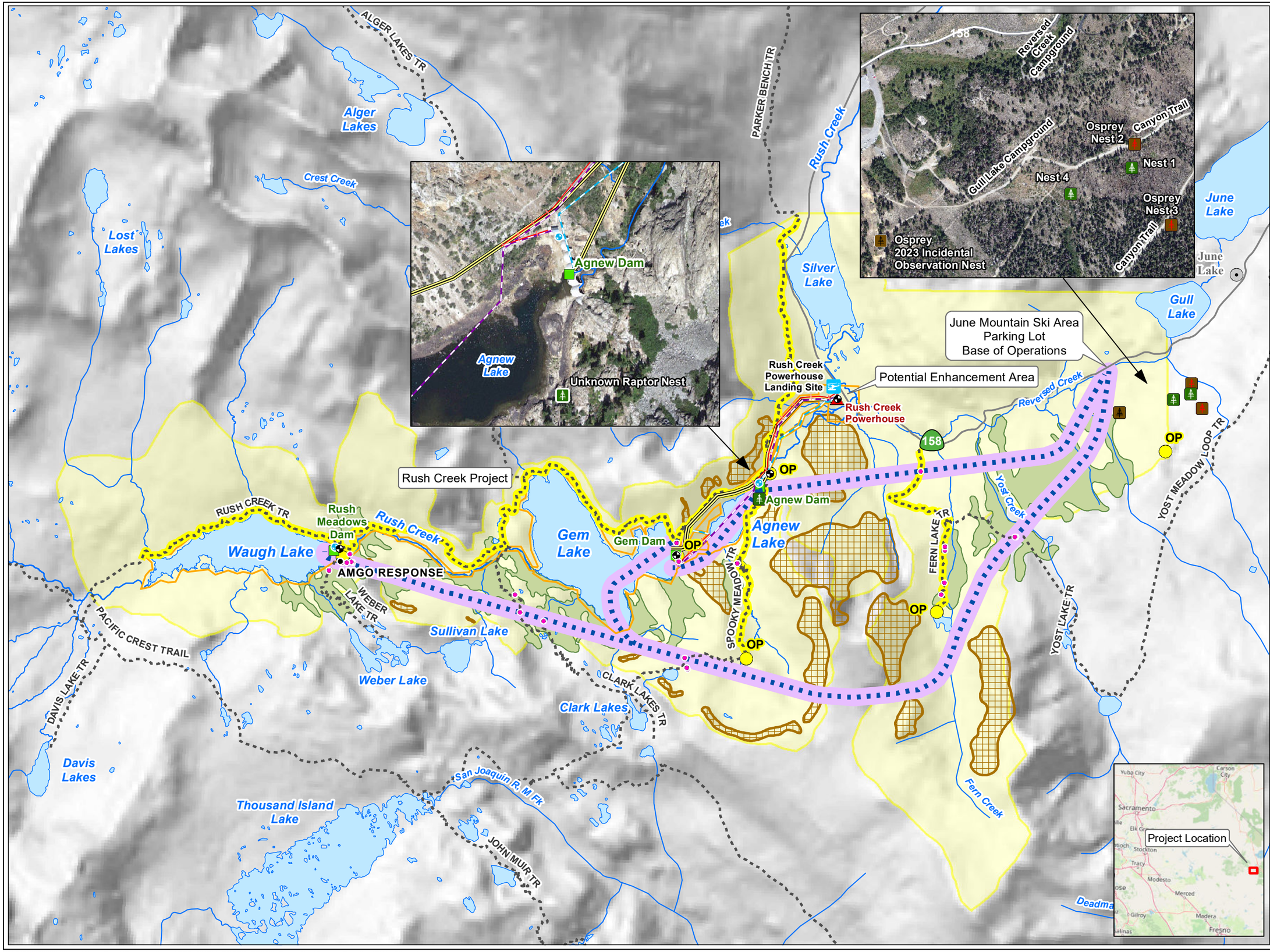

SCE Facilities

- Powerhouse
- Dam
- Stream Gage
- Reservoir Gage
- Tramway
- Helicopter Landing Site
- Flowline / Penstock
- Power Line
- Comm Line
- FERC Project Boundary

Other Features

- Major City/Town
- Highway
- River/Stream
- Lake
- Potential Access Trails

TERR-2 Raptor Nest Survey

- Raptor Observation Points (OPs)
- Raptor Survey Trails
- Viewshed from OPs*
- Inactive Unknown Raptor Nest
- Active Osprey Nest
- AMGO Broadcast Survey Locations
- AMGO Broadcast Survey Locations (Positive Response)

*Viewshed from OPs or Trails Limited to 2 Miles (Scope Limits)

Species Observed During All Technical Studies

- 2023 Active Osprey Nest (Incidental Observation)

Raptor Study Area

- Approximate Helicopter Flight Path
- 300-foot Buffer

Potential Raptor Habitat

- Cliff Nesting Habitat
- Forest Nesting Habitat

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Rush Creek Project (FERC 1389)

Map TERR 2-2

Raptor Nest Survey Results

0 1,250 2,500 Feet

Projection: UTM Zone 11
Datum: NAD 83

Date: 11/1/2024

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CONFIDENTIAL INFORMATION

The following map is being withheld from public disclosure in accordance with applicable regulations. It contains details on the locations of special-status biological resources and qualifies as Confidential Information (18 Code of Federal Regulations § 385.1112). Disclosure of such information could be harmful to these resources. To further understand the Federal Energy Regulatory Commission's regulations regarding confidential filings, visit: https://www.ferc.gov/foia.

Map TERR 2-3 Special-Status Terrestrial Wildlife Species within the FERC Project Boundary or within 1 Mile of the FERC Project Boundary (Confidential)

Map TERR 2-3 will not be distributed to the general public. Documents containing Confidential Information may be requested by entities and organizations with jurisdiction over these resources. To request copies, please contact Matthew Woodhall, SCE Relicensing Project Manager at (909) 362-1764 or matthew.woodhall@sce.com.

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CONFIDENTIAL INFORMATION

The following map is being withheld from public disclosure in accordance with applicable regulations. It contains details on the locations of special-status biological resources and qualifies as Confidential Information (18 Code of Federal Regulations § 385.1112). Disclosure of such information could be harmful to these resources. To further understand the Federal Energy Regulatory Commission's regulations regarding confidential filings, visit: https://www.ferc.gov/foia.

Map TERR 2-4 Results of Bat Roost and Seasonal Use Surveys (Confidential)

Map TERR 2-4 will not be distributed to the general public. Documents containing Confidential Information may be requested by entities and organizations with jurisdiction over these resources. To request copies, please contact Matthew Woodhall, SCE Relicensing Project Manager at (909) 362-1764 or matthew.woodhall@sce.com.

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APPENDIX A

Documentation of Agency Consultation

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From:	Janelle Nolan
To:	colleen@hydroreform.org; tiffanee.hutton@tu.org; Alyssa.Marquez@Wildlife.ca.gov; brandy.wood@wildlife.ca.gov; Janelle Nolan; audry.williams@sce.com; matthew.woodhall@sce.com; ed.bianchi@cardno.com; jora@friendsoftheinyo.org; cmcnally-murphy@americanrivers.org; martin.ostendorf@sce.com; patricia.moyer@wildlife.ca.gov; david.moore@sce.com; nicolas.von@sce.com; jill.north@waterboards.ca.gov; greg@monolake.org; eltrescott@hotmail.com; blake.engelhardt@usda.gov; linda@traveloe.com; rajaa.hassan@waterboards.ca.gov
Cc:	matthew.woodhall@sce.com; ed.bianchi@cardno.com; John Aedo; Robyn Smith
Subject:	Rush Creek Project - Terrestrial Pre-field Consultation/Coordination Meeting
Date:	Wednesday, April 12, 2023 10:54:57 AM
Attachments:	image001.jpg

Rush Creek Project – Terrestrial Technical Working Group

Working Group Members – Please let me know your availability to attend a working group meeting (approx. 2 hours) to discuss pre-field consultation requirements identified in the TERR 1 – Botanical Resources and TERR 2 – Wildlife Resources Technical Study Plans (TSPs) and current site conditions. Specifically, we would like to discuss the following:

TERR 1 – Botanical Resources

- Confirm most recent special-status plant and non-native invasive plant lists
- Obtain any new information on the location of special-status plants identified in the study area following distribution of the PAD
- Identify appropriate Forest Service personnel to coordinate special-status plant reference population visits and verify timing of botanical surveys
- Discuss current site conditions and potential effects on surveys (timing)

TERR 2 – Wildlife Resources

- Obtain any new information on Sierra Nevada big horn sheep distribution and use of lands within the study area and adjacent Critical Habitat
- Obtain historic and current raptor nest records in the study area
- Obtain any new information on avian electrocutions and mortalities on Project transmission/power lines
- Discuss current site conditions and potential effects on surveys (raptor nest surveys and bat roost surveys)

Please provide your availability for a meeting in the Doddle Poll link below.

https://doodle.com/meeting/participate/id/egn77BGd

Thank you,
Janelle

Janelle Nolan
Environmental Compliance/Permitting
Janelle Nolan & Associates Environmental Consulting
Cell: (530) 277-4582

janelle@jna-consulting.com

JNA_logo_signature.jpg

Rush Creek Project (FERC Project No. 1389)
Technical Working Group

Pre-Field Consultation/Coordination Webinar

TERR 1 – Botanical Resources
TERR 2 – Wildlife Resources

Date: May 11, 2023
Time: 8:30–10:30 am

Agenda

Topic	Lead
Welcome and Introductions	Matt
Safety Moment	Robyn
TERR 1 – Botanical Resources TSP • Confirm most recent special-status plant and non-native invasive plant (NNIP) lists • Obtain any new information on the location of special-status plants and NNIPs identified in the study area following distribution of the PAD • Identify appropriate Forest Service personnel to coordinate special-status plant reference population visits and verify timing of botanical surveys • Discuss current site conditions and potential effects on surveys (timing)	Janelle
TERR 2 – Wildlife Resources TSP • Obtain any new information on Sierra Nevada big horn sheep distribution and use of lands within the study area and adjacent Critical Habitat • Obtain historic and current raptor nest records in the study area • Obtain any new information on avian electrocutions and mortalities on Project transmission/power lines • Discuss current site conditions and potential effects on surveys (raptor nest surveys and bat roost and seasonal use surveys)	Janelle
Action Items, Next Steps, Adjourn	Janelle

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From: Moyer, Patricia (Trisha)@Wildlife
To: Janelle Nolan
Cc: Tovar, Michael@Wildlife; Lawson, Beth@Wildlife
Subject: RE: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail
Date: Monday, June 5, 2023 8:30:15 AM

I approve the delay of studies as proposed by SCE until 2024.
Trisha

Trisha A. Moyer

CDFW- Inland Deserts Region 6
Habitat Conservation Program Supervisor
787 North Main Street Suite 220
Bishop, CA 93514

(760) 835-4304

"Coming together is beginning, staying together is progress, and working together is success."

~Henry Ford

From: Janelle Nolan <Janelle@JNA-Consulting.com>
Sent: Monday, June 5, 2023 8:02 AM
To: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Cc: Tovar, Michael@Wildlife <Michael.Tovar@Wildlife.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>
Subject: RE: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Hi Trisha – I wasn't clear from your e-mail if you approved of the delay until 2024.

Janelle Nolan
Environmental Compliance/Permitting
Janelle Nolan & Associates Environmental Consulting
Cell: (530) 277-4582

janelle@jna-consulting.com

Janelle Nolan
& associates

From: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Sent: Friday, June 2, 2023 12:18 PM
To: Janelle Nolan <Janelle@JNA-Consulting.com>
Cc: Tovar, Michael@Wildlife <Michael.Tovar@Wildlife.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>
Subject: RE: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Janelle you already have CDFW concurrence, correct?

Trisha A. Moyer

CDFW- Inland Deserts Region 6
Habitat Conservation Program Supervisor
787 North Main Street Suite 220
Bishop, CA 93514

(760) 835-4304

"Coming together is beginning, staying together is progress, and working together is success."

~Henry Ford

From: Janelle Nolan <Janelle@JNA-Consulting.com>
Sent: Tuesday, May 30, 2023 11:04 AM
To: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; 'jill.north@waterboards.ca.gov' <jill.north@waterboards.ca.gov>; Sheila.irons@usda.gov; Hassan, Rajaa@Waterboards <Rajaa.Hassan@Waterboards.ca.gov>; Tovar, Michael@Wildlife

<Michael.Tovar@Wildlife.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>
Cc: Matthew Woodhall <matthew.woodhall@sce.com>; Sara Reece <Sara@JNA-Consulting.com>; John Aedo <john.aedo@cardno.com>; Robyn Smith <robyn@JNA-Consulting.com>
Subject: FW: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Hello Terrestrial Working Group – Agency Representatives

This is a reminder that we are hoping to obtain concurrence from you on delaying raptor nest surveys and bat roost and seasonal use surveys until 2024 (because of heavy snow conditions in 2023) to ensure that we obtain reliable and representative data by COB tomorrow (May 31, 2023). See e-mail below for details.

Feel free to call me or e-mail me if you have any questions.

Janelle Nolan
Environmental Compliance/Permitting
Janelle Nolan & Associates Environmental Consulting
Cell: (530) 277-4582
janelle@jna-consulting.com

From: Janelle Nolan
Sent: Tuesday, May 16, 2023 7:37 AM
To: 'Alyssa.Marquez@Wildlife.ca.gov' <Alyssa.Marquez@Wildlife.ca.gov>; 'patricia.moyer@wildlife.ca.gov' <patricia.moyer@wildlife.ca.gov>; 'jill.north@waterboards.ca.gov' <jill.north@waterboards.ca.gov>; 'blake.engelhardt@usda.gov' <blake.engelhardt@usda.gov>; 'Sheila.irons@usda.gov' <Sheila.irons@usda.gov>; 'rajaa.hassan@waterboards.ca.gov' <rajaa.hassan@waterboards.ca.gov>
Cc: Matthew Woodhall <matthew.woodhall@sce.com>; John Aedo <john.aedo@cardno.com>; Robyn Smith <robyn@JNA-Consulting.com>; Sara Reece <Sara@JNA-Consulting.com>
Subject: FW: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Terrestrial Working Group – Agency Representatives:

We are sorry that some of you were unable to attend the Pre-field consultation/coordination webinar on May 11, 2023. As a follow-up to the meeting, we wanted to reach out to you and obtain

your input on the following:

Based on site conditions this year, JNA/SCE is requesting your concurrence to adjust raptor nest survey and bat roost/seasonal use survey periods under TERR 2 Wildlife Resources Technical Study Plan (TSP) to ensure that we obtain reliable/representative survey data. Please provide your concurrence or questions/comments by May 31, 2023 to allow sufficient time for survey planning.

Specifically, JNA/SCE is recommending the following adjustments:

Raptor nest surveys

- Delay raptor nest surveys until 2024
  - The heavy snow conditions in 2023 (240% of normal) would likely cause resident pairs to skip nesting and/or move to lower elevations for nesting (outside the Project area).
  - Surveys completed in 2023 may not be representative of typical site conditions.
- Consistent with the TSP, the desktop habitat review will be completed and the observation points for future nesting surveys will be confirmed in 2023.

Bat Surveys

- Delay bat roost and seasonal use surveys until 2024
  - Project facilities potentially support bat roosts will be under snow during the typical maternity roosting season.
  - Surveys completed in 2023 may not be representative of typical site conditions.
- Consistent with the TSP, the desktop assessment and preliminary visual assessment of Project facilities will be completed in 2023.

In addition, consistent with the TERR 2 Wildlife Resources TSP, JNA/SCE is requesting:

- Any new information on Sierra Nevada big horn sheep distribution and use of lands within the study area and adjacent Critical Habitat
- Any new information on historic and current raptor nest record in the study area

Please feel free to contact me if you have questions or would like to discuss proposed survey timing adjustments.

Thank you,
Janelle

Janelle Nolan
Environmental Compliance/Permitting
Janelle Nolan & Associates Environmental Consulting
Cell: (530) 277-4582
janelle@jna-consulting.com

Janelle Nolan
& associates

Rush Creek Project (FERC Project No. 1389)
Technical Working Group

Pre-Field Consultation/Coordination Webinar

USFWS Meeting

Date: June 9, 2023
Time: 12:30–1:30 pm

Agenda

Topic	Lead
Welcome and Introductions	Matt
Safety Moment	Robyn
Project Overview	Janelle
TERR 2 – Wildlife Resources TSP • Discuss current site conditions and potential effects on surveys (raptor nest surveys and bat roost and seasonal use surveys) • Obtain historic and current raptor nest records in the study area • Obtain any new information on avian electrocutions and mortalities on Project transmission/power lines	Robyn
Action Items, Next Steps, Adjourn	Janelle

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From: Dietsch, Thomas V
To: Janelle Nolan; Haworth, Marcy
Cc: Matthew Woodhall; Robyn Smith; Sussman, Patricia; Mankowski, Anne
Subject: Re: [EXTERNAL] Rush Creek Project - USFWS Pre-field Consultation Coordination
Date: Thursday, June 15, 2023 2:47:14 PM

I forgot to attach the file. Here's the map. Let me know if you have any questions.

Thanks, Tom

****

Thomas Dietsch, PhD
Migratory Bird Biologist
US Fish and Wildlife Service, Region 8
Carlsbad Fish and Wildlife Office
2177 Salk Ave, Suite 250
Carlsbad, CA 92008
~~(760) 431-9440 Ext. 214~~
Email is preferred: thomas_dietsch@fws.gov
****

From: Dietsch, Thomas V <thomas_dietsch@fws.gov>
Sent: Thursday, June 15, 2023 2:45 PM
To: Janelle Nolan <Janelle@JNA-Consulting.com>; Haworth, Marcy <marcy_haworth@fws.gov>
Cc: Matthew Woodhall <matthew.woodhall@sce.com>; Robyn Smith <robyn@JNA-Consulting.com>; Sussman, Patricia <patricia.sussman@stantec.com>; Mankowski, Anne <anne_mankowski@fws.gov>
Subject: Re: [EXTERNAL] Rush Creek Project - USFWS Pre-field Consultation Coordination

Hi Janelle,

Here's a map of the eagle records in our database in the vicinity of the project. I had our GIS person add another 2 mile buffer beyond the 2 mile buffer you provided. There are known eagle nests in the area but not in the area of the project. That doesn't mean there are no eagle nests in the area currently. We don't know if the area has ever been surveyed.

Thank you for the synopsis of the project and the update on the current conditions. The US Fish and Wildlife Surveys supports postponing the raptor surveys until 2024 as you described on the call. I'll let you know if my colleague has any additional information.

Thanks, Tom

****

Thomas Dietsch, PhD
Migratory Bird Biologist
US Fish and Wildlife Service, Region 8
Carlsbad Fish and Wildlife Office
2177 Salk Ave, Suite 250
Carlsbad, CA 92008
~~(760) 431-9440 Ext. 214~~
Email is preferred: thomas_dietsch@fws.gov
****

From: Janelle Nolan <Janelle@JNA-Consulting.com>
Sent: Monday, June 12, 2023 11:03 AM
To: Haworth, Marcy <marcy_haworth@fws.gov>; Dietsch, Thomas V <thomas_dietsch@fws.gov>
Cc: Matthew Woodhall <matthew.woodhall@sce.com>; Robyn Smith <robyn@JNA-Consulting.com>; Sussman, Patricia <patricia.sussman@stantec.com>; Mankowski, Anne <anne_mankowski@fws.gov>
Subject: [EXTERNAL] Rush Creek Project - USFWS Pre-field Consultation Coordination

Thank you for participating in the meeting on Friday. Attached for your records is the PowerPoint and a summary of key decisions/action items. Please let me know if I have missed anything.

Thank you,
Janelle

Janelle Nolan
Environmental Compliance/Permitting
Janelle Nolan & Associates Environmental Consulting
Cell: (530) 277-4582
janelle@jna-consulting.com

From:	Janelle Nolan
To:	"Tom.Stephenson@wildlife.ca.gov"; "lacey.greene@wildlife.ca.gov"
Cc:	Sara Reece; Robyn Smith; "Matthew Woodhall"; "John Aedo"
Subject:	RE: Rush Creek Project - Sierra Nevada big horn sheep
Date:	Thursday, July 6, 2023 8:56:00 AM
Attachments:	TERR 2-1 Map.pdf

Hi Tom/Lacey – I wanted to follow-up with you again to see if you have any new information on Sierra Nevada big horn sheep in the Rush Creek Project study area and adjacent Critical Habitat (Map attached, additional information in the e-mail thread below). Any information would be greatly appreciated.

Thank you,
Janelle

Janelle Nolan
Environmental Compliance/Permitting
Janelle Nolan & Associates Environmental Consulting
Cell: (530) 277-4582
janelle@jna-consulting.com

From: Janelle Nolan
Sent: Monday, May 22, 2023 10:20 AM
To: Tom.Stephenson@wildlife.ca.gov; lacey.greene@wildlife.ca.gov
Cc: Sara Reece <Sara@JNA-Consulting.com>; Robyn Smith <robyn@JNA-Consulting.com>; Matthew Woodhall <matthew.woodhall@sce.com>; John Aedo <john.aedo@cardno.com>
Subject: FW: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Good Morning Tom and Lacey – I am working with Southern California Edison (SCE) on the Rush Creek Project relicensing. Trisha Moyer asked that I contact you to obtain any new information on Sierra Nevada big horn sheep in the study area and adjacent Critical Habitat (Map attached).

Information that we currently have includes the listing package, critical habitat final rule, recovery plan, and 2019 annual report. Do you have any additional information (e.g., CDFW annual monitoring data from 2022) that you can provide to support our efforts in reviewing potential Project effects on the species?

Any information is greatly appreciated.

Thank you,
Janelle

Janelle Nolan
Environmental Compliance/Permitting
Janelle Nolan & Associates Environmental Consulting
Cell: (530) 277-4582
janelle@jna-consulting.com

From: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Sent: Wednesday, May 17, 2023 2:53 PM
To: Janelle Nolan <Janelle@JNA-Consulting.com>
Cc: Stephenson, Tom@Wildlife <Tom.Stephenson@wildlife.ca.gov>
Subject: RE: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Hi Janelle,
Danny Gammons let me know a better CDFW contact for bighorn sheep questions is Lacey Greene or Tom Stephenson.

Trisha A. Moyer

CDFW- Inland Deserts Region 6
Habitat Conservation Program Supervisor
787 North Main Street Suite 220
Bishop, CA 93514

(760) 835-4304

"Coming together is beginning, staying together is progress, and working together is success."

~Henry Ford

From: Janelle Nolan <Janelle@JNA-Consulting.com>
Sent: Wednesday, May 17, 2023 11:20 AM
To: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; jill.north@waterboards.ca.gov; blake.engelhardt@usda.gov; Sheila.irons@usda.gov; Hassan, Rajaa@Waterboards <Rajaa.Hassan@Waterboards.ca.gov>
Cc: Matthew Woodhall <matthew.woodhall@sce.com>; John Aedo <john.aedo@cardno.com>; Robyn Smith <robyn@JNA-Consulting.com>; Sara Reece <Sara@JNA-Consulting.com>; Tovar, Michael@Wildlife <Michael.Tovar@Wildlife.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Subject: RE: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Trisha – Thank you for responding to our request. Below are responses to your questions/comments.

Question 1: Just to clarify, are you proposing to skip raptor nest and bat surveys for 2023 completely?

We are planning to postpone the raptor nest survey and the bat roost and seasonal use surveys. We will implement the following TSP components in 2023:

- The raptor desktop habitat review and confirmation of the observation points for future raptor nest surveys
- We will also complete the bat desktop assessment and preliminary visual assessment of Project facilities.

Question 2: Does this mean you will only conduct one year or surveys or will you push out surveys to 2024 and then 2025 to conduct 2 full years of surveys?

The schedule in the TERR 2 Wildlife Resources TSP and FERC's Study Plan Determination (October 26, 2022) includes a single year of studies for raptors and bats. FERC staff and SCE expect that conducting a single year of studies, as proposed by SCE, will provide sufficient information regarding the potential effects of the Project on the resources (FERC 2022). However, as recommended by FERC, SCE is committed to consulting with the California Department of Fish and Wildlife (CDFW) on the timing of surveys during the study season to help ensure that any species that are present are detected.

That said, because of the unusual winter, SCE is proposing to implement a portion of the studies in 2023 (see response above) and to conduct the raptor nest survey and bat roost and seasonal use surveys in 2024.

Comment 1: Regarding your request for information on Sierra Nevada bighorn sheep distribution, please contact Danny Gammons in our CDFW Wildlife branch, also ccd.

Thank you, we will contact Danny Gammons for information on Sierra Nevada bighorn sheep.

Comment 2: Also, please remove Alyssa Marquez from your mailing list and add both Michael Tovar and Beth Lawson, both ccd.
We will remove Alyssa and add Michael Tovar and Beth Lawson to future correspondence for the Rush Creek Project.

Feel free to call me if you have any further questions/comments.

Thank you,
Janelle

References:

Southern California Edison. 2022. Letter to Kimberly D. Bose re: Rush Creek Hydroelectric Project, FERC Project No. 1389-059 Response to Comments Filed by California Department of Fish and Wildlife on

Southern California Edison Company's Revised Study Plan (October 19, 2022).
Federal Energy Regulatory Commission (FERC). 2022. Letter to Matthew Woodhall re: Rush Creek Hydroelectric Project, FERC Project No. 1389-059 Study Plan Determination (October 26,2022).

Janelle Nolan
Environmental Compliance/Permitting
Janelle Nolan & Associates Environmental Consulting
Cell: (530) 277-4582
janelle@jna-consulting.com

Janelle Nolan
& associates

From: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Sent: Tuesday, May 16, 2023 1:27 PM
To: Janelle Nolan <Janelle@JNA-Consulting.com>; Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>; jill.north@waterboards.ca.gov; blake.engelhardt@usda.gov; Sheila.irons@usda.gov; Hassan, Rajaa@Waterboards <Rajaa.Hassan@Waterboards.ca.gov>
Cc: Matthew Woodhall <matthew.woodhall@sce.com>; John Aedo <john.aedo@cardno.com>; Robyn Smith <robyn@JNA-Consulting.com>; Sara Reece <Sara@JNA-Consulting.com>; Tovar,

Michael@Wildlife <Michael.Tovar@Wildlife.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Subject: RE: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Greetings Janelle,
Just to clarify, are you proposing to skip raptor nest and bat surveys for 2023 completely? Does this mean you will only conduct one year or surveys or will you push out surveys to 2024 and then 2025 to conduct 2 full years of surveys?

Regarding your request for information on Sierra Nevada bighorn sheep distribution, please contact Danny Gammons in our CDFW Wildlife branch, also ccd.

Also please remove Alyssa Marquez from your mailing list and add both Michael Tovar and Beth Lawson, both ccd.
Thank you,
Trisha

Trisha A. Moyer

CDFW- Inland Deserts Region 6
Habitat Conservation Program Supervisor
787 North Main Street Suite 220
Bishop, CA 93514

(760) 835-4304

"Coming together is beginning, staying together is progress, and working together is success."

~Henry Ford

From: Janelle Nolan <Janelle@JNA-Consulting.com>
Sent: Tuesday, May 16, 2023 7:37 AM
To: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>; Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; jill.north@waterboards.ca.gov; blake.engelhardt@usda.gov; Sheila.irons@usda.gov; Hassan, Rajaa@Waterboards <Rajaa.Hassan@Waterboards.ca.gov>
Cc: Matthew Woodhall <matthew.woodhall@sce.com>; John Aedo <john.aedo@cardno.com>; Robyn Smith <robyn@JNA-Consulting.com>; Sara Reece <Sara@JNA-Consulting.com>

Subject: FW: Rush Creek Project - Pre-field Meeting Agency Follow-up - Draft E-mail

Terrestrial Working Group – Agency Representatives:

We are sorry that some of you were unable to attend the Pre-field consultation/coordination webinar on May 11, 2023. As a follow-up to the meeting, we wanted to reach out to you and obtain your input on the following:

Based on site conditions this year, JNA/SCE is requesting your concurrence to adjust raptor nest survey and bat roost/seasonal use survey periods under TERR 2 Wildlife Resources Technical Study Plan (TSP) to ensure that we obtain reliable/representative survey data. Please provide your concurrence or questions/comments by May 31, 2023 to allow sufficient time for survey planning.

Specifically, JNA/SCE is recommending the following adjustments:

Raptor nest surveys

- Delay raptor nest surveys until 2024
  - The heavy snow conditions in 2023 (240% of normal) would likely cause resident pairs to skip nesting and/or move to lower elevations for nesting (outside the Project area).
  - Surveys completed in 2023 may not be representative of typical site conditions.
- Consistent with the TSP, the desktop habitat review will be completed and the observation points for future nesting surveys will be confirmed in 2023.

Bat Surveys

- Delay bat roost and seasonal use surveys until 2024
  - Project facilities potentially support bat roosts will be under snow during the typical maternity roosting season.
  - Surveys completed in 2023 may not be representative of typical site conditions.
- Consistent with the TSP, the desktop assessment and preliminary visual assessment of Project facilities will be completed in 2023.

In addition, consistent with the TERR 2 Wildlife Resources TSP, JNA/SCE is requesting:

- Any new information on Sierra Nevada big horn sheep distribution and use of lands within the study area and adjacent Critical Habitat
- Any new information on historic and current raptor nest record in the study area

Please feel free to contact me if you have questions or would like to discuss proposed survey timing adjustments.

Thank you,
Janelle

Janelle Nolan
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janelle@jna-consulting.com

From:	Lawson, Julia@Wildlife
To:	Robyn Smith; Gammons, Daniel@Wildlife; Hatfield, Brian@Wildlife
Cc:	Janelle Nolan
Subject:	RE: Sierra Nevada Red Fox and Wolverine Detections near Rush Creek
Date:	Wednesday, December 13, 2023 12:25:34 PM

Hi Robyn,

Yes, the wolverine detection was on 5/20/23. Red fox detections were on 5/7/19, 6/13/19, 3/9/20, 10/30/20, 4/30/22, 5/1/22, and 5/4/23.

Thanks,
Julia

--
Julia Runcie Lawson
Environmental Scientist
California Department of Fish and Wildlife
Bishop Field Office
Cell: 760-937-0138
julia.lawson@wildlife.ca.gov

From: Robyn Smith <robyn@JNA-Consulting.com>
Sent: Wednesday, December 13, 2023 12:22 PM
To: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Hatfield, Brian@Wildlife <Brian.Hatfield@wildlife.ca.gov>
Cc: Janelle Nolan <Janelle@JNA-Consulting.com>
Subject: RE: Sierra Nevada Red Fox and Wolverine Detections near Rush Creek

Hi Julia,

Thank you so very much for your quick response! Understood on sharing the camera trap locations, these buffered areas will definitely suffice for our analysis.

Just to confirm dates for our report, was the wolverine observation from this year?

Thanks again,

Robyn Smith
Project Scientist II
Janelle Nolan & Associates Environmental Consulting

robyn@jna-consulting.com
(916) 765-6450

From: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Sent: Wednesday, December 13, 2023 12:15 PM
To: Robyn Smith <robyn@JNA-Consulting.com>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Hatfield, Brian@Wildlife <Brian.Hatfield@wildlife.ca.gov>
Cc: Janelle Nolan <Janelle@JNA-Consulting.com>
Subject: RE: Sierra Nevada Red Fox and Wolverine Detections near Rush Creek

Hi Robyn,

Thanks for reaching out. I've attached a kmz showing the wolverine and Sierra Nevada red fox detections within the vicinity of the project area. I buffered the locations of the Sierra Nevada red fox detections – we would prefer not to share exact coordinates in this case since we still have equipment in those areas.

Please let me know if another format would be preferable, and if there is any other information we can provide.

Take care,
Julia

--
Julia Runcie Lawson
Environmental Scientist
California Department of Fish and Wildlife
Bishop Field Office
Cell: 760-937-0138
julia.lawson@wildlife.ca.gov

From: Robyn Smith <robyn@JNA-Consulting.com>
Sent: Wednesday, December 13, 2023 11:13 AM
To: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Hatfield, Brian@Wildlife <Brian.Hatfield@wildlife.ca.gov>; Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Cc: Janelle Nolan <Janelle@JNA-Consulting.com>
Subject: Sierra Nevada Red Fox and Wolverine Detections near Rush Creek

Dear Alpine Carnivore Team,

Our firm is working with Southern California Edison on relicensing the Rush Creek Hydroelectric Project (Project), which is located near the town of June Lake, and portions lie within the Ansel Adams Wilderness. The elevation of the Project is between 7,200 and 9,500 feet. Please see the attached map of the Project area for your reference.

We are looking for information on Sierra Nevada Red Fox and North American wolverine records in the vicinity of the Project. Specifically, we are required to assess the potential for these species to occur in within a 1 mile buffer from the FERC Project boundary as part of the wildlife resources technical study report.

I have reviewed the reports/information provided on your website, and I see that Sierra Nevada red fox have been detected near our Project area on two of your Ritter Range survey grid cells.

Would you be able to provide more specific locations on these occurrences for Sierra Nevada red fox, as well as for the North American wolverine sightings mentioned in this year's news release?

Thank you so much for your consideration, and please let me know if you have any questions.

Happy holidays,

Robyn Smith
Project Biologist II
Janelle Nolan & Associates Environmental Consulting
robyn@jna-consulting.com
(916) 765-6450

Janelle Nolan
& associates

APPENDIX B

SCE's Avian Protection Plan

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The Avian Protection Plan (APP) is the foundation of the Southern California Edison (SCE) Avian Protection Program. The APP details SCE processes for managing avian species and is informed by the Avian Power Line Interaction Committee (APLIC) and U.S. Fish and Wildlife Service (USFWS) Avian Protection Plan Guidelines (2005). SCE personnel are informed of the APP through a variety of methods such as annual training, mobile materials, posters, articles, job aids, formal presentations, and other materials. The information provides pertinent environmental regulations, general bird identification, reporting procedures for the discovery of a dead bird, protocols for how to deal with bird nests, and modifications that can be made to power line structures to lower the risk of avian electrocutions. Within the APP is the Avian Mortality Reporting procedure that SCE personnel must adhere to if a bird fatality is discovered on or near SCE infrastructure or within SCE facilities. This procedure includes completion of an avian incident report and the subsequent follow up timeframe for retrofitting the structure to SCE's avian-safe construction standards. Reporting and retrofit requirements are detailed in the APP and training materials are available on the SCE intranet. Reporting of avian incidents is part of the required annual environmental training. In addition, these incidents are reported to U.S. Fish and Wildlife Service annually as required by SCE's Special Purpose Utility Permit (MB728480).

POWER LINE MAINTENANCE PROGRAM

The Rush Creek Project conforms to the SCE Avian Protection Plan and SCE Transmission and Distribution standards requiring avian-safe construction standards. Those construction standards are informed by the APLIC guidance Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. The Rush Creek Project falls within the SCE defined "Eagle Zone" requiring spacing or covers to prevent contact by eagles. In the event lines or structures are replaced or built as a part of the Rush Creek Project, those facilities will be built to SCE eagle zone avian-safe standards. In addition, should an avian fatality occur on a structure, a retrofit will be required to bring the structure up to SCE avian-safe construction standards.

CONTINUE TO IMPLEMENT THE SPECIAL STATUS SPECIES PROTECTION STANDARD.

SCE's Environmental Services Department (ESD) is committed to protecting the environment and ensuring that SCE manages its activities in compliance with all applicable state and federal laws and regulations, including the:

a. Federal Endangered Species Act (ESA)
b. California Endangered Species Act (CESA)
c. California Fish and Game Code (FGC)
d. California Environmental Quality Act (CEQA)
e. National Environmental Policy Act (NEPA) and
f. Agency permits, licenses, management plans, agreement documents, and programs

This standard describes the requirements to avoid, minimize, and/or mitigate impacts to Special Status Species (Species) and habitat for those Species (Habitat). Special Status Species includes Endangered or Threatened Species and Species with other regulatory protections. Employees are provided annual environmental awareness training. Proposed activities are screened for environmental impacts and if identified to have potential conflict with a sensitive species, ESD reviews and provides avoidance and minimization measures. If avoidance and minimization is insufficient, ESD obtains or helps coordinate obtaining appropriate permits from regulatory agencies.

APPENDIX C

Representative Photographs of Habitat for Cliff-Nesting and Tree-Nesting Raptors

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Cliff-Nesting Habitat

Photo 1. Representative photo of cliff-nesting habitat. This photo is of Carson Peak, located southeast of Agnew Lake and contains ledges and edges that could provide suitable habitat for cliff-nesting species.

Photo 2. Representative photo of cliff-nesting habitat. This cliff is located south of Gem Lake. This cliff is approximately 400 feet high and contains a steep escarpment with ledges and edges that could provide suitable habitat for cliff-nesting species.

Photo 3. Representative photo of cliff-nesting habitat. This cliff is located southwest of Agnew Lake. This cliff is approximately 300 feet high and contains barren ledges that could provide suitable habitat for cliff-nesting species.

Photo 4. Representative photo of cliff-nesting habitat. This cliff is located south of Fern Lake. This cliff is approximately 2,000 feet high and contains rocky outcrops that could provide suitable habitat for cliff-nesting species.

Tree-Nesting Habitat

Photo 5. Representative photo of tree-nesting habitat. This forest is located south of Gem Lake. This high-cover canopy forest contains lodgepole pine and mountain hemlock that could provide suitable habitat for tree-nesting species.

Photo 6. Represetative photo of tree-nesting habitat. This forest is located southwest of June Mountain Ski Area. This high-cover canopy forest contains mixed conifer-fir species that could provide suitable habitat for tree-nesting species.

Photo 7. Representative photo of tree-nesting habitat. This forest is located along Yost Meadow Loop Trail. This dense forest contains *Pinus* spp. and *Abies* spp.that could provide suitable habitat for tree-nesting species.

Photo 8. Representative photo of tree-nesting habitat. This forest is located southeast of Waugh Lake. This dense forest contains lodgepole pine, mountain hemlock, and whitebark pine that could provide suitable habitat for tree-nesting species.

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APPENDIX D

CNDDB Forms
(CONFIDENTIAL)

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CONFIDENTIAL INFORMATION

The following appendix is being withheld from public disclosure in accordance with applicable regulations. It contains details on the locations of special-status biological resources and qualifies as Confidential Information (18 Code of Federal Regulations § 385.1112). Disclosure of such information could be harmful to these resources. To further understand the Federal Energy Regulatory Commission's regulations regarding confidential filings, visit: https://www.ferc.gov/foia.

Appendix D. CNDDB Forms (Confidential)

Appendix D will not be distributed to the general public. Documents containing Confidential Information may be requested by entities and organizations with jurisdiction over these resources. To request copies, please contact Matthew Woodhall, SCE Relicensing Project Manager at (909) 362-1764 or matthew.woodhall@sce.com.

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APPENDIX E

Photographs of Project Transmission Line and Power Line Towers/Poles

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Tower immediately adjacent to powerhouse. This photograph shows a large equipment structure at the Rush Creek Powerhouse. This design poses a potential risk for avian electrocution since the distance between energized parts and grounded equipment is less than 60 inches apart.

20987 - CIT. This photograph shows a pole that has uninsulated phase conductors that are less than 60 inches apart. This configuration poses a potential risk for avian electrocution.

4423278E. This photograph shows a pole that has uninsulated phase conductors that are less than 60 inches apart. This configuration poses a potential risk for avian electrocution.

4423279E. This photograph shows a tower that has uninsulated jumper wires and uninsulated phase conductors that are less than 60 inches apart. This tower design poses a potential risk for avian electrocution.

4423280E. This photograph shows a tower with uncovered phase conductors that are less than 60 inches apart. This tower design poses a potential risk for avian electrocution.

4423281E. This photograph shows a tower that has uninsulated jumper wires and uninsulated phase conductors that are less than 60 inches apart. This design poses a potential risk for avian electrocution.

4423282E. This photograph shows a tower with uninsulated jumper wires. This tower design poses a potential risk for avian electrocution.

4423283E. This photograph shows a tower with jumper wires that are assumed to be uninsulated. This tower poses a potential risk for avian electrocution.

4423284E. This photograph shows a tower that has uninsulated phase conductors that are less than 60 inches apart and uninsulated jumper wires. This configuration poses a potential risk for avian electrocution.

4423285E. This photograph shows a tower with a transformer and uninsulated jumper wires and guy wires. This tower poses a potential risk for avian electrocution.

4423286E. This photograph shows a tower that has uninsulated jumper wires and uninsulated phase conductors that are less than 60 inches apart. This tower design poses a potential risk for avian electrocution.

4423287E. This photograph shows a tower with one transformer. This tower design poses a potential risk for avian electrocution.

4423288E. This photograph shows a tower with one transformer. This tower design poses a potential risk for avian electrocution.

4840586E. This photograph shows a tower that has uninsulated jumper wires and uninsulated phase conductors that are less than 60 inches apart. This tower design poses a potential risk for avian electrocution.

Agnew Lake Dam Powerline. This photograph shows an equipment pole with an insulated guy wire and jumper wires. This configuration does not represent a risk for avian electrocution.

APPENDIX F

Photographs of Facilities Evaluated for Bat Roosting Habitat

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Dams

Photo 1. Rush Meadows Dam. The 2024 bat roost surveys determined the dam has an active day roost and night roost present. The dam structure has cracks and crevices that bats utilize for roosting habitat and appropriate thermal conditions (high solar exposure).

Photo 2. Gem Dam. The 2024 bat roost surveys determined the dam does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. The dam contains cracks in concrete overhangs and has appropriate thermal conditions (high solar exposure).

Photo 3. Agnew Dam. The 2024 bat roost surveys determined the dam does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. The dam has concrete overhangs and crevices and appropriate thermal conditions (high solar exposure).

Valve House

Photo 4. Rush Meadows Dam Valve House. This facility is unsuitable for bat roosting. The valve house does not have overhangs or crevices suitable for bat roosting. Valve house is partially inundated with water and does not have appropriate thermal conditions.

Photo 5. Gem Valve House and Cabin. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed but the interior could not be accessed. This facility was determined to be suitable bat roosting habitat. This wooden building has openings along the tin roof and cracks around windows where bats could enter. Building receives appropriate solar exposure.

Photo 6. Gem Dam Arch 8 Valve House. This facility is unsuitable for bat roosting. This metal building has no cracks, crevices, or entry points for bats. Roofed elements are made of metal, which do not provide a suitable gripping surface for roosting.

Photo 7. Gem Flowline Valve House. This facility is unsuitable for bat roosting. Metal structure does not provide overhangs or cracks and crevices suitable for roosting. Position over the emergency spillway creates cold thermal conditions unsuitable for maternity roosting.

Photo 8. Agnew Junction (Valve House and Stand Pipe). The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Building contains overhangs with cracks along the corrugated metal roof that could provide access to interior.

Photo 9. Agnew Dam Valve House. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed but the interior could not be accessed. This facility was determined to be suitable bat roosting habitat. Crack above door provides access; corrugated metal roof provides suitable roofed element. Because of the proximity to dam outlet pipes and shady position, building is likely colder than surrounding conditions. Cold buildings are not preferred for maternity roosting, but could be used for hibernation.

Stream Gages

Photo 10. Rush Creek below Agnew Lake (USGS No. 10287289; SCE No. 357). The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. The gage building contains suitable cracks and crevices. Underneath the gage is a roofed overhang. Building receives appropriate solar exposure.

Reservoir Gages

Photo 11. Gem Lake (USGS No. 10287280; SCE No. 352). The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed but the interior could not be accessed. This facility was determined to be suitable bat roosting habitat. This gage building is metal with wooden roofed elements and a crack in the door for bats to access. However, it is located in the dam arch and is cold and shaded. Cold buildings are not preferred for maternity roosting, but could be used for hibernation.

Photo 12. Agnew Lake (USGS no. 10287285; SCE No. 351). This facility is unsuitable for bat roosting. This gage is a concrete slab with no overhangs, cracks, or crevices and is too low to the ground.

Ancillary and Support Facilities

Photo 13. Rush Meadows Equipment Shed. The 2024 bat roost surveys determined the building does not currently have a roost present. Old guano was observed. This facility was determined to be suitable bat roosting habitat. This building contains a wooden overhang on the exterior under which bats could roost, but lacks cracks and crevices around doors or windows for access to the interior.

Photo 14. Rush Meadows Dam Gage House. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed but the interior could not be accessed. This facility was determined to be suitable bat roosting habitat. Building contains wooden overhangs under which bats could roosts, but lacks cracks and crevices allowing access to the interior.

Photo 15. Rush Meadows Dam Solar Facility. This facility is unsuitable for bat roosting. Metal structure does not contain suitable overhangs or crevices for bat roosting.

Photo 16. Gem Lake Dock. This facility is unsuitable for bat roosting. This is a concrete slab close to the ground and water. There is no overhangs or cracks and crevices for roosting.

Photo 17. Gem Lake Motor Barge. This facility is unsuitable for bat roosting. Watercraft does not represent appropriate bat roosting habitat.

Photo 18. Gem Bunkhouse. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. This building provides suitable roofed elements, cracks, crevices, and open window entrance points for bats. Building is positioned in an area with high solar exposure for maternity roosting.

Photo 19. Gem Outhouse. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. This wooden building contains suitable roofed elements, cracks and crevices for bat entry, and is in an area that has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 20. Gem Cookhouse. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed but the interior could not be accessed. This facility was determined to be suitable bat roosting habitat. This building contains suitable roofed elements for bat roosting, and has a broken window and gaps in the metal siding for bats to enter. The roof is a corrugated metal sheet with enough spacing for bats to roost under the eaves. Building is located in an area that has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 21. Gem Dam Compressor Shed. This facility is unsuitable for bat roosting. New metal building with no gaps in door or along roofline. There are metal eaves do not provide a suitable gripping surface for bat roosting (i.e., lacks cracks and crevices for bats to grip).

Photo 22. Gem Dam Storage Shed. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Metal building does not provide suitable bat roosting habitat, but the pipe opening provides a large enough crevice for some smaller bat species to roost. The building has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 23. Gem Dam Overhead Hoist House for Dam Length. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Wooden building with holes that bat could potentially access suitable roosting habitat.

Photo 24. Gem Dam Overhead Hoist House. The 2024 bat roost surveys determined the building has a potential night roost present. Guano was observed and collected but the interior could not be accessed. This facility is suitable bat roosting habitat. Corrugated metal building with wooden roofed elements on exterior and contains cracks and crevices allow for access to suitable interior roosting habitat. The building has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 25. Gem Fish Release Footbridge. This facility is unsuitable for bat roosting. Metal grating bridge that stretches over Rush Creek does not provide roofed elements or cracks and crevices suitable for roosting. Metal material does not provide a suitable gripping surface.

Photo 26. Gem Tram Landing Footbridge. The 2024 bat roost surveys determined the bridge is not suitable roosting habitat. Gaps on the underside of the footbridge are wide and the facility is in an exposed windy location.

Photo 27. Gem Tram Bridge. The 2024 bat roost surveys determined the bridge is not suitable roosting habitat. Gaps on the underside of the footbridge are wide and the facility is in an exposed windy location. Tram bridge is also over Rush Creek, which drains water from the bottom of Gem Lake, which creates a microclimate that may be too cold for day roosting bats considering the openness of the bridge.

Photo 28. Gem Weather Station. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed but the interior could not be accessed. This facility was determined to be suitable bat roosting habitat. There are cracks in the metal door with an overhanging wooden shelf inside that could provide suitable roosting habitat. Building has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 29. Gem Satellite Dish/ Gem Solar Facility. This facility is unsuitable for bat roosting. The satellite dish and solar facility do not provide roofed elements or cracks and crevices suitable roosting habitat. The building that is connected to the satellite dish/solar facility has no openings for bats to enter.

Photo 30. Gem Valve House Tunnel. This facility is unsuitable for bat roosting. The tunnel is used as a spillway during high flows. The concrete pad does not contain roofed elements or cracks and crevices suitable for roosting and the conveyance of water makes this structure unsuitable.

Photo 31. Lower Agnew Lake Boathouse/Dock. The 2024 bat roost surveys determined the building does not currently have a roost present. Old guano was observed, likely from incidental use. This facility was determined to be suitable bat roosting habitat. The building contains holes for bats to enter and suitable solar exposure The cracks in the corrugated metal roof could also provide suitable entrance points for roosting.

Photo 32a. Upper Agnew Lake Boathouse. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed but the interior could not be accessed. This facility was determined to be suitable bat roosting habitat. The building contains suitable wooden roofed elements with corrugated metal sheeting that provides cracks and crevices for bats to access the interior. The concrete pad where the building sits also has a wooden edge that also provide roofed elements. The building has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 32b. Upper Agnew Lake Dock. The 2024 bat roost surveys determined the facility does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. The dock contains suitable wooden roofed elements with corrugated metal sheeting

that provides cracks and crevices for bats to access the interior. The concrete pad where the building sits also has a wooden edge that also provide roofed elements.

Photo 33. Agnew Lake Motor Barge. This facility is unsuitable for bat roosting. Motor barge is a flat surface located within Agnew that does not provide suitable roofed elements or cracks and crevices for roosting.

Photo 34. Agnew Cabin. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The

building has cracks and crevices where bats could enter. Building is located in an area that has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 35. Agnew Flume (downstream of Agnew Dam). This facility is unsuitable for bat roosting. The flume is made of relatively new concrete that does not have cracks and crevices for bats to enter and lacks roofed elements. The flume conveys Rush Creek which makes the walls of the structure too cold for day roosting.

Photo 36. Rush Creek Powerhouse Cottage No. 1. The 2024 bat roost surveys determined the building has a potential night roost present. Guano was observed and collected. This facility is suitable bat roosting habitat. Signs indicated that bats were roosting under roof eaves on the building. Resident noted that there were no bats in the interior. Building receives solar exposure.

Photo 37. Rush Creek Powerhouse Garage No. 1. The 2024 bat roost surveys determined the building does not currently have a roost present. Old guano was observed, likely from incidental use. This facility was determined to be suitable bat roosting habitat. Structure contains vertical and roofed components and cracks and crevices suitable for bat roosting. Building has appropriate thermal conditions (high solar exposure).

Photo 38. Rush Creek Powerhouse Cottage No. 2. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. There are eaves located on the building that provide roofed elements. The building is mostly sealed around edges and does not display cracks or crevices. Building has appropriate thermal conditions (high solar exposure).

Photo 39. Rush Creek Powerhouse Garage No. 2. The 2024 bat roost surveys determined the building does not currently have a roost present. Old guano was observed, likely from incidental use. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter and the building has appropriate thermal conditions (high solar exposure).

Photo 40. Rush Creek Powerhouse Garage No. 3. The 2024 bat roost surveys determined the building does not currently have a roost present. Old guano was observed, likely from incidental use. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter and the building has appropriate thermal conditions (high solar exposure).

Photo 41. Rush Creek Powerhouse Garage No. 4. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices where bats could enter the building has appropriate thermal conditions (high solar exposure).

Photo 42. Rush Creek Powerhouse Warehouse and Dock. The 2024 bat roost surveys determined the building is not suitable for roosting. Metal structure gets very hot during the day and cold at night and has no suitable places on the exterior for roosting and lacks cracks and crevices for bats to enter interior.

Photo 43. Rush Creek Powerhouse Building 0113. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter, and the building has appropriate thermal conditions (high solar exposure).

Photo 44. Rush Creek Powerhouse Machine Shop. The 2024 bat roost surveys determined the building has a potential night roost present. Guano was observed and collected. This facility is suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter. The building also provides warm thermal conditions for potential roosting bats.

Photo 45. Rush Creek Powerhouse Pump House. The 2024 bat roost surveys determined the building has a potential night roost present. Guano was observed and collected. This facility is suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter and has appropriate thermal conditions (high solar exposure).

Photo 46. Rush Creek Powerhouse Woodshed No. 1. The 2024 bat roost surveys determined the building does not currently have a roost present. Old guano was observed, likely from incidental use. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has abundant cracks and crevices that bats could enter, and the building has appropriate thermal conditions (high solar exposure).

Photo 47. Rush Creek Powerhouse Woodshed No. 2. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats on the exterior. The building does not contain cracks and crevices to enter the interior, but it receives appropriate solar exposure.

Photo 48. Bridge over Rush Creek Powerhouse Tailrace. This facility is unsuitable for bat roosting. Tailrace water levels are routinely high (to bottom of bridge), which would prevent bat roosting.

Photo 49. Rush Creek Powerhouse Tailrace. This facility is unsuitable for bat roosting. A tailrace is a cold, fast, flowing channel of water out of the powerhouse which would not provide suitable bat roosting habitat.

Photo 50. Bridge over Rush Creek. This facility is unsuitable for bat roosting. Bridge provides roofed component that could potentially support roosting bats during low flow conditions.

Photo 51. Unnamed Shed near Rush Creek Powerhouse. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. Cracks and crevices on the shingle siding may provide openings for small bats. Building has appropriate thermal conditions for maternity roosting (high solar exposure).

Trams and Hoist Houses

Photo 53. Gem Tram. This facility is unsuitable for bat roosting. Tram line does not provide vertical or roofed components that provide appropriate bat roosting habitat and lies against the ground.

Photo 54. Gem Tram Hoist House. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices that bats could enter and has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 55. Gem Tram Upper Landing. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility does not contain suitable bat roosting habitat. Concrete generally lacks cracks and crevices large enough for roosting though the structure has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 56. Gem Tram Lower Landing. This facility is unsuitable for bat roosting. Lower landing is a concrete slab on the ground that does not provide vertical or roofed components or cracks/crevices for roosting bats.

Photo 57. Agnew Tram. This facility is unsuitable for bat roosting. Tram line does not provide vertical or roofed components that provide appropriate bat roosting habitat. Tram line lies against the ground.

Photo 58. Agnew Tram Hoist House. The 2024 bat roost surveys determined the building does not currently have a roost present. No guano was observed. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components and has cracks and crevices that could potentially support roosting bats. Building has appropriate thermal conditions for maternity roosting (high solar exposure).

Photo 59. Agnew Tram Landing (metal storage building not identified on facility list or on the maps). This facility is unsuitable for bat roosting. Metal storage container does not provide roofed components or cracks and crevices that could potentially support roosting bats.

Powerhouse

Photo 60. Rush Creek Powerhouse. The 2024 bat roost surveys determined the building does not currently have a roost present. One piece of was observed near the corner where Cottage No. 2 has a light. Guano is likely a result of a fly-by and is incidental. This facility was determined to be suitable bat roosting habitat. Building provides vertical and roofed components that could potentially support roosting bats. The building has cracks and crevices where bats could enter the facility. The building has appropriate thermal conditions for maternity roosting (high solar exposure).

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