



**Biological Resource Technical
Report**

Zayo Prineville-to-Reno Fiber Optic
Project

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Table of Contents

ABBREVIATIONS	I
1.0 INTRODUCTION.....	1.1
1.1 PROJECT DESCRIPTION	1.1
1.2 ENVIRONMENTAL SETTING.....	1.2
1.2.1 Biological Resources Survey Area	1.2
1.2.2 Physical Conditions	1.2
1.3 PRELIMINARY AGENCY CONSULTATION.....	1.3
1.3.1 U.S. Army Corps of Engineers	1.3
1.3.2 U.S. Fish and Wildlife Service	1.3
1.3.3 California Department of Fish and Wildlife	1.4
1.3.4 Bureau of Land Management.....	1.5
2.0 BIOLOGICAL RESOURCES STUDY METHODS.....	2.1
2.1 DESKTOP REVIEWS	2.1
2.1.1 Habitats and Natural Communities of Concern	2.1
2.1.2 Native Wildlife Corridors and Habitat Connectivity	2.1
2.1.3 Invasive Plants	2.1
2.1.4 Aquatic Resources	2.1
2.1.5 Special Status Plants and Animals.....	2.1
2.2 FIELD SURVEYS.....	2.3
2.2.1 Vegetation Communities and Land Cover Surveys.....	2.3
2.2.2 Aquatic Resources Surveys	2.4
2.2.3 Special Status Species Assessments	2.5
3.0 BIOLOGICAL RESOURCES STUDY RESULTS	3.1
3.1 VEGETATION COMMUNITIES AND LAND COVER.....	3.1
3.1.1 Habitat Communities and Natural Vegetation Communities of Concern	3.1
3.1.2 Native Wildlife Corridors and Habitat Connectivity	3.5
3.1.3 Invasive Plants	3.6
3.2 AQUATIC RESOURCES	3.8
3.2.1 Waters of the U.S. and State.....	3.8
3.3 SPECIAL STATUS SPECIES ASSESSMENTS	3.10
3.3.1 Special Status Plants.....	3.10
3.3.2 Special Status Wildlife	3.33
4.0 REFERENCES.....	4.1

LIST OF TABLES

Table 3-1: Sensitive Natural Vegetation Communities in the Biological Resources Survey Area.....	3.1
Table 3-2: Invasive Plants Documented in the Biological Resources Survey Area	3.6
Table 3-3: Potential Waters of the U.S. and State in the Biological Resources Survey Area.....	3.9



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Table 3-4: Special Status Plant Species Known to or Have the Potential to Occur in the Biological Resources Survey Area3.11
Table 3-5: Special Status Fish and Wildlife Species Known to or Have the Potential to Occur in the Biological Resources Survey Area.....3.34
Table 3-6: Species Observed During April 2020 Wildlife Field Surveys3.71

LIST OF ATTACHMENTS

ATTACHMENT A FIGURES..... A.1
ATTACHMENT B DELINEATION OF POTENTIAL WATERS OF THE U.S.
REPORT B.1
ATTACHMENT C USFWS CONSULTATION LETTERS..... C.1
ATTACHMENT D BOTANICAL RESOURCES REPORT D.1



Abbreviations

°F	degrees Fahrenheit
ac	acres
applicant	Zayo Group, LLC
BLM	Bureau of Land Management
BRSA	Biological Resources Survey Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWHR	<i>A Guide to Wildlife Habitats of California</i>
ESA	Federal Endangered Species Act
ft	foot
GPS	global positioning system
HUC	hydrologic unit code
in.	inch
IPaC	Information for Planning and Conservation
MBTA	Migratory Bird Treaty Act



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

MCV	<i>A Manual of California Vegetation, Second Edition</i>
MP	milepost
NRCS	Natural Resources Conservation Service
OHWM	ordinary high water mark
PAD	California Fish Passage Assessment Database
project	construction and operation of underground fiber optic network from Prineville, Oregon, to Reno, Nevada
project segment	California portion of project
Stantec	Stantec Consulting Services Inc.
US 395	United States Highway 395
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Introduction

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

Zayo Group, LLC (applicant), a California telephone corporation, proposes the construction and operation of an underground fiber optic network from Prineville, Oregon, to Reno, Nevada (project), spanning 433.8 miles. The purpose is to improve the quality of rural broadband in south-central Oregon, northeastern California, and northwestern Nevada, and to make affordable broadband internet services available to currently underserved communities in these areas.

The portion of the project that crosses California (project segment) would extend 194 miles across portions of Modoc, Lassen, and Sierra Counties (Attachment A, Figure A-1). The running line generally follows United States Highway 395 (US 395) but also county roads between the communities of Standish and Buntingville in Lassen County, California, where it follows Standish Buntingville Road (Lassen County Road A3) for 7.35 miles and Cummings Road for 1.15 miles before returning to the right-of-way parallel to US 395.

Conduit to house the new fiber optic cable generally would be buried using a combination of plowing or trenching construction techniques. Horizontal directional drilling would be used to cross water bodies and roads, and where necessary, to avoid existing infrastructure or biological or cultural resources. For some water or road crossing locations, the conduit may be affixed to the side or underside of bridges. Ancillary equipment would be installed at three small buildings that would serve as amplifier sites (In-Line Amplifiers). Fiberglass vaults would be installed flush to the ground along the running line to provide maintenance access and at splice locations. All construction activities would be conducted in compliance with California Department of Transportation (Caltrans) requirements and county longitudinal utility encroachment permit procedures. In support with “dig once” efforts, the applicant has coordinated with other fiber optic network providers and proposes to install an additional conduit beyond the three required for the project in one segment to support future fiber optic network projects.

The portion of the project segment along US 395 would be located within the right-of-way managed by Caltrans. The lands underlying the Caltrans right-of-way are owned or administered by various state, federal, and private entities, including the U.S. Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service (USFWS), California State Lands Commission, and several tribal entities. An 8.5-mile segment of the running line would deviate from US 395 and run along Standish Buntingville Road (Lassen County Road A3) and Cummings Road between the communities of Standish and Buntingville in Lassen County, California. In this location, the underlying land is owned by Lassen County. Ancillary equipment would generally be located on privately owned land.

Refer to Section 3.0 of the Proponent’s Environmental Assessment for the complete project description.



1.2 ENVIRONMENTAL SETTING

1.2.1 Biological Resources Survey Area

The Biological Resources Survey Area (BRSA) for the project includes the entire Caltrans right-of-way along US 395 and the Lassen County right-of-way along County Route A3 and Cummings Road, plus ancillary facilities, staging areas, and materials storage yards outside these rights-of-way (Attachment A, Figure A-2). The project segment requires a relatively narrow construction right-of-way, but the full width of the Caltrans and Lassen County transportation rights-of-way would allow the project segment to shift, if necessary, to avoid sensitive resources or due to engineering constraints. Thus, the BRSA contains all areas that could be directly impacted, both temporarily and permanently, by the project segment and can accommodate any changes to project limits or design that may occur during project development.

1.2.2 Physical Conditions

The BRSA overlaps three ecoregions: Eastern Cascade Slopes and Foothills, Northern Basin and Range, and Central Basin and Range (Griffith et al. 2016). Elevation within the BRSA ranges from approximately 4,006 feet (ft) to 5,570 ft. The topography of the BRSA varies from level to moderately sloped foothills to high mountain passes. The surrounding landscape has similar topography as well as some high mountain peaks, with Eagle Peak being the highest mountain near the BRSA, approximately 15 miles east of Modoc County Milepost (MP) 6.8, at a height of 9,892 ft.

Average precipitation and temperatures within the three ecoregions overlapped by the BRSA are as follows:

- Eastern Cascade Slopes and Foothills¹: From Lassen County MP 101.7 to MP 104.7 and Lassen County MP 130.1 to Modoc County MP 61.6. Average annual rain and snowfall are 12.3 inches (in.) and 30.2 in., respectively. Temperatures range from an average January low of 16.5 degrees Fahrenheit (°F) to an average July high of 88.2°F, with an annual average of 63.6°F (WRCC 2019a).
- Northern Basin and Range²: From Lassen County MP 79.0 to MP 101.7 and from MP 104.7 to MP 130.1. Average annual rain and snowfall are 10.8 in and 49.3 in., respectively. Temperatures range from an average January low of 14.6°F to an average July high of 84.9°F, with an annual average of 60.2°F (WRCC 2019b).
- Central Basin and Range³: From Sierra County MP 0.0 to Lassen County MP 79.0. Average annual rainfall is 10.7 in., and average annual snowfall is 22.6 in. Temperatures range from an average January low of 20.1°F to an average July high of 93.4°F, with an annual average of 66.8°F (WRCC 2019c).

¹ Alturas Station (040161) data from 1905-2016.

² Termo 1E Station (048873) data from 1927-1999.

³ Doyle Station (042504) data from 1923-2016.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Introduction

The Natural Resources Conservation Service (NRCS) Web Soil Survey (2019) reports 144 soil types mapped within the BRSA. Most of the soils are well-drained, with 0 to 2 percent slopes and are non-disturbed except for soils directly adjacent to US 395, which were disturbed during road construction. The *Delineation of Potential Waters of the United States* report (Attachment B) provides more detailed information on the mapped soils within the BRSA.

The BRSA overlaps four eight-digit watershed hydrologic units (EPA 2019):

- Goose Lake (hydrologic unit code [HUC] 18020001) between Modoc County MP 40.5 and MP 61.5
- Upper Pit (HUC 18020002) between Lassen County MP 132.1 and Modoc County MP 40.5
- Madeline Plains (HUC 18080002) between Lassen County MP 101.7 and MP 132.1
- Honey-Eagle Lakes (HUC 18080003) between Sierra County MP 0.0 and Lassen County MP 101.7

Goose Lake is the major water feature within the California portion of the Goose Lake watershed. In the Upper Pit watershed, the major water features are Big Sage Reservoir, Pit River, Mill River, and Clover Swale Creek. The major waterways in the Madeline Plains watershed include Red Rock Creek, Cold Springs Creek, and Buckhorn Canyon. The major water features in the Honey-Eagle Lakes watershed are Eagle Lake, Horse Lake, Honey Lake, Pine Creek, Susan River, and Long Valley Creek (USGS 2019). Refer to the *Delineation of Potential Waters of the United States* report (Attachment B) for complete details regarding the waters of the U.S. and state, including wetlands, that occur within the BRSA.

1.3 PRELIMINARY AGENCY CONSULTATION

The applicant and/or Stantec have conducted the following agency coordination regarding biological resources for the project segment.

1.3.1 U.S. Army Corps of Engineers

Stantec submitted an aquatic resources delineation report and request for preliminary jurisdictional determination to Nancy Haley of the U.S. Army Corps of Engineers (USACE) on August 20, 2020. On August 26, 2020, Stantec followed up with additional applicant information to Hillary Kraft and Matthew Roberts of the USACE. Ms. Kraft responded on February 11, 2021, requesting further information on 13 features to which Stantec replied on March 22, 2021. Additional consultation is pending the USACE review of Stantec's response.

1.3.2 U.S. Fish and Wildlife Service

On October 23, 2019, USFWS provided Stantec with lists of Federal Endangered Species Act (ESA) protected plant, fish, and wildlife species, including candidate and proposed species that are known or have the potential to occur in the BRSA. The BRSA is within the jurisdictions of two USFWS field offices, Klamath Falls and Reno, both of which provided official species lists for this project segment. Stantec obtained updated official species lists from the USFWS (2020a, b) on June 9, 2020 (Attachment C).



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Introduction

1.3.3 California Department of Fish and Wildlife

The applicant and/or Stantec have coordinated with California Department of Fish and Wildlife (CDFW) as follows:

- Stantec received preliminary vegetation maps of Lassen and Modoc Counties from Diana Hickson, the Vegetation Classification and Mapping Program and Conservation Analysis Unit Supervisor at CDFW, on May 30, 2019.
- Stantec met with CDFW in Redding, California, on August 29, 2019, to provide the agency with project background, a summary of field surveys underway, and California Environmental Quality Act (CEQA) history pertinent to the project segment. CDFW made the following requests and comments:
 - A survey of Swainson's hawk (*Buteo swainsoni*) should be undertaken
 - The project segment must avoid sandhill crane nests (*Antigone canadensis*)
 - Translocation of special status plants is not feasible, and avoidance is preferred
 - Numerous wetlands are present within the right-of-way and there is potential for frac-outs during directional boring
 - Documentation should discuss invasive species, and measures should include equipment washing
- Stantec corresponded with Diana Hickson and Rachelle Boul, Environmental Scientist, on October 28, 2019, regarding sensitive natural community designations under the vegetation alliance classification system described in *A Manual of California Vegetation, Second Edition* (MCV) (Sawyer et al. 2009). CDFW provided guidance about several natural communities that are not currently described in the MCV classification system.
- Stantec met with CDFW (Amy Henderson and Adam McKannay) on March 2, 2020, in Redding, California, to provide an overview of the completed 2019 biological field surveys and the surveys planned for 2020. CDFW provided the following feedback:
 - Noted that raptors are abundant in the Honey Lake area.
 - Did not have a preferred pygmy rabbit (*Brachylagus idahoensis*) survey protocol, but recommended reviewing protocols used in Nevada or Utah.
 - Confirmed that raptor nest surveys need not adhere to 2010 Swainson's hawk survey protocol (CEC and CDFW 2010) during 2020 field surveys, which are intended to inform impacts discussions, but requested that the 2010 protocol be used for pre-construction surveys for work conducted during the breeding season.
 - Requested that analyses of invasive plant species be included in the biological resources technical report.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Introduction

- Highly recommended early consultation for 1600 permit.
- Requested that biologists conducting April 2020 field surveys look for bank swallows (*Riparia riparia*) in the Long Valley Creek area.
- Recommended coordination with BLM for greater sage-grouse (*Centrocercus urophasianus*) lek information.

1.3.4 Bureau of Land Management

Stantec had the following correspondences with BLM pertaining to biological resources on BLM-managed lands in California:

- Stantec corresponded with Larry Ashton of BLM's Deschutes Field Office on April 10, 2020, during which Mr. Ashton noted that the two California districts crossed by the project would be preparing wildlife clearance documents outlining the BLM's concerns regarding potential project impacts on biological resources and providing recommendations to avoid or minimize impacts. Mr. Ashton also indicated that the project would likely result in a "No Effect" determination for all potential federal ESA-listed species in California, including Carson wandering skipper (*Pseudocopa eodes eunus obscurus*).
- On May 1, 2020, Stantec received the wildlife clearance document from Melissa Nelson of the Eagle Lake Field Office via Larry Ashton. The following summarizes the comments and recommendations from Ms. Nelson.
 - No known burrowing owls (*Athene cunicularia*) or other raptor nests where project overlaps the field office's lands. Provided avoidance and minimization measures in case burrowing owls or other raptors are discovered during the construction phase.
 - Recommended that all trees and vegetation be surveyed by a qualified wildlife biologist prior to their removal to check for nesting birds. If nesting birds are located, a 300-foot no-cut buffer should be enforced around the nest site until after the young have fledged.
 - The field office does not have designated mule deer (*Odocoileus hemionus*) key fawning or pronghorn (*Antilocapra americana*) kidding habitat overlapping the project footprint; however, some pronghorn kidding habitat is in proximity to the BRSA on the west side of US 395, and also south and west of the BLM Ravendale Fire Station.
 - Prior to removal, all trees should be surveyed by a qualified wildlife biologist to check for bats. If bats are located, the tree(s) will not be removed, and the BLM wildlife lead (Larry Ashton) will be notified.
 - Ms. Nelson referred the applicant to sections of the *Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment* (BLM 2015) for information pertaining to greater sage-grouse avoidance, minimization, and mitigation strategies for construction of the project. She also indicated that greater sage-grouse habitat and other



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Introduction

pertinent data would be provided when possible, and that habitat mitigation for greater sage-grouse may be required.

- Requested that elk (*Cervus elaphus*), American badger (*Taxidea taxus*), snowshoe hare (*Lepus americanus*), or other “unusual” species be reported to Ms. Nelson and/or Mr. Ashton with global positioning system (GPS) coordinates.
- On May 1, 2020, Stantec received the wildlife clearance document from the Katrina Krause of the Sierra Front Field Office via Larry Ashton. Ms. Krause summarized the special status species that may be affected where Sierra Front Field Office lands in Nevada and California overlap the project, which include the following:
 - Burrowing owls, if present, between April 1 and July 31, but noted that construction activities located close to the road would not likely impact individuals.
 - Multiple species of raptors and other migratory birds, as well as some reptiles (specifics not provided). Removal of vegetation should be restricted between March 1 and August 31 for raptors and between April 1 and July 31 for other migratory birds.
 - Greater sage-grouse habitat; however, there are no known leks in proximity to the project, and seasonal restrictions do not apply.
 - Mule deer movement corridors and crucial winter habitat, and year-round pronghorn habitat, but no seasonal restrictions apply.
- On May 28, 2020, Stantec received the wildlife clearance document from the Applegate Field Office via Larry Ashton. The following summarize the comments and recommendations:
 - Given the linear nature of the project along US 395, the project would not significantly impact greater sage-grouse, and no seasonal restrictions or mitigation measures were recommended.
 - The field office is outside of the range of Carson wandering skipper, and no seasonal restrictions or mitigation measures were recommended.
 - Noted that the California Natural Diversity Database (CNDDDB) reports a Swainson’s hawk nest within 50 meters of the road on the east side of US 395 about 5.5 miles south of Alturas. The nest should be considered active until it is formally surveyed, and if active, a 0.5-mile line-of-sight-buffer should be applied. Impacts would be minimal outside of the species’ breeding season (April 15 to August 15). Also suggested moving the route to the west side of the road in this area if flexibility allows.



2.0 BIOLOGICAL RESOURCES STUDY METHODS

2.1 DESKTOP REVIEWS

Stantec biologists identified special status plants, fish, and wildlife species, as well as habitats and natural communities of concern, that are known or have the potential to occur within or in the vicinity of the BRSA, in part, by using a combination of publicly available occurrence data, literature review, and state and federal government agency resources. They refined the species and habitats lists based on field surveys (Section 2.2, Field Surveys).

2.1.1 Habitats and Natural Communities of Concern

Stantec biologists reviewed the *California Natural Community List* to identify sensitive natural communities that are known or have the potential to occur within the BRSA (CDFW 2019d).

2.1.2 Native Wildlife Corridors and Habitat Connectivity

In addition to agency correspondence, Stantec reviewed various resources to identify wildlife corridors and habitat connectivity including migratory bird flyways (USFWS 2020a) and *California Fish Passage Assessment Database* (CalFish 2020).

2.1.3 Invasive Plants

Stantec botanists reviewed the California Invasive Plant Council (Cal-IPC) inventory of invasive species with ratings of High, Moderate, or Limited (Cal-IPC 2019) and species designated as noxious weeds by the California Department of Food and Agriculture (CDFA) (CDFA 2019). Attachment D, Botanical Resources Report, provides a complete description of botanical desktop studies and a full list of resources reviewed.

2.1.4 Aquatic Resources

Stantec reviewed the USFWS *National Wetlands Inventory Wetlands Mapper* prior to conducting the delineation for the site to determine if any previously mapped surface water and wetland features occurred in the BRSA and surrounding areas (USFWS 2019). Additionally, Stantec reviewed U.S. Geological Survey topographic 7.5-minute quadrangles for drainage features (perennial and intermittent streams) that occurred in the BRSA. Stantec used data gathered from the desktop reviews to assist with field delineations and mapping efforts. Refer to the *Delineation of Potential Waters of the United States* report (Attachment B) for complete desktop methods used in identifying waters of the U.S. and state.

2.1.5 Special Status Plants and Animals

The biologists identified which special status species designations to evaluate using the California Public Utilities Commission's (CPUC 2019) *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments*. Special status species include



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Methods

species that are listed, candidates, or proposed for listing under the ESA or California Endangered Species Act (CESA); plants listed as rare or endangered under the California Native Plant Protection Act; species that meet the definitions of rare and endangered under CEQA; plants considered by the California Native Plant Society (CNPS) to be “rare, threatened or endangered in California” (California Rare Plant Rank 1A, 1B, 2A, and 2B) as well as California Rare Plant Rank 3 and 4 plant species; species designated by CDFW as Fully Protected or as a Species of Special Concern; species protected under the Bald and Golden Eagle Protection Act; Birds of Conservation Concern or Watch List species; and bats considered by the Western Bat Working Group to be of “high” or “medium” priority. Collectively, species that meet any of these designations will be referred to as “special status species” in this document.

Biologists obtained lists of federally listed species and designated critical habitats using the USFWS Information for Planning and Conservation (IPaC) tool on October 23, 2019, updated on June 9, 2020 (Attachment C). Because the BRSA lies within the jurisdiction of two USFWS field offices, each provided an official species list⁴ (USFWS 2020b, c). The BRSA is located outside of the National Oceanic and Atmospheric Administration Fisheries office jurisdiction (NOAA Fisheries 2019), so no federal species list is required from this agency.

Stantec referred to following resources to identify all other special status plants fish and wildlife that are known or have the potential to occur within a 5-mile search buffer of the BRSA:

- CDFW's (2019a) *Special vascular plants, bryophytes, and lichens list*
- CDFW's (2019c) *Special animals list*
- *Birds of Conservation Concern* (USFWS 2008)
- *Western Bat Species Regional Priority Matrix* (WBWG 2020)
- *California Natural Diversity Database* (CDFW 2019b)
- *Inventory of Rare and Endangered Plants of California* (CNPS 2019a)
- *eBird* (2020)

Stantec biologists modified the first draft of the special status species list by evaluating the potential for these species to occur within the BRSA based on publicly available occurrence data and availability of potential habitat. The categories for likelihood of occurrence are defined as follows:

- Present – species documented within the BRSA during Stantec field surveys.
- High Potential – species with suitable habitat present and recent (within the last 25 years) publicly available occurrence records within the BRSA.
- Moderate Potential – species with suitable habitat present and either no publicly available occurrence records or publicly available occurrences records that are historical (i.e., more than 25 years old).

⁴ Klamath Falls Fish and Wildlife Office (Consultation Code: 08EKLA00-2020-SLI-0008); Reno Fish and Wildlife Office (Consultation Code: 08ENVD00-2020-SLI-0044)



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Methods

- Low Potential – species with no or limited suitable habitat within the BRSA.
- Not Expected – species with no range overlap within the BRSA.

Stantec assessed habitat requirements for each special status plant species evaluated during the desktop review and determined if potential habitat occurs in the BRSA based on the field-mapped MCV natural vegetation communities. Attachment D, *Botanical Resources Report*, provides a complete description of botanical desktop studies and a full list of resources reviewed.

Stantec assessed habitat requirements and determined if potential habitat occurs in the BRSA for each special status wildlife species using the fish and wildlife habitat communities identified with *A Guide to Wildlife Habitats of California* (CWHR) (Mayer and Laudenslayer 1988). Stantec converted the CWHR habitat communities from the mapped MCV natural communities and field-delineated waters of the U.S. and state in the BRSA. MCV is ideal for determining natural vegetation communities and identifying sensitive natural communities; however, CWHR methods are more appropriate for identifying and describing habitat communities as they pertain to fish and wildlife use. Hereafter, “natural vegetation communities” refer to MCV methods, and “habitat communities” refer to CWHR methods, which are used exclusively in discussions of fish and wildlife.

2.2 FIELD SURVEYS

2.2.1 Vegetation Communities and Land Cover Surveys

2.2.1.1 Vegetation Mapping

Stantec conducted surveys to characterize natural vegetation communities and describe the existing environment within the BRSA. Vegetation mapping followed the technical approach and vegetation alliance classification system described in MCV (Sawyer et al. 2009) and updated in the current online edition (CNPS 2019b) as discussed in Section 5-4 in the Proponent’s Environmental Assessment. The alliance classification is determined by plant species dominance, co-dominance, or importance in the stratum (i.e., tree, shrub, or herbaceous layers). The association level is a subcomponent of an alliance classification and describes the variety of vegetation under each alliance.

Stantec mapped vegetation throughout the entire BRSA during the spring and summer of 2019 and 2020. Stantec reviewed each field-mapped natural vegetation community against the *California Natural Community List* to identify sensitive natural communities within the BRSA (CDFW 2019d). Attachment D, *Botanical Resources Report*, provides a complete description of field methods applied during vegetation mapping.

CDFW considers riparian habitat to be a sensitive natural community. To delineate riparian habitat in the BRSA, Stantec selected all MCV natural vegetation communities dominated by plant species typically found in riparian systems. Stantec then selected any community dominated by riparian species in the BRSA that is associated with streams and their floodplains. Certain natural vegetation communities in the mapped riparian habitat are also considered sensitive under MCV. A portion of the riparian habitat also qualifies as potential waters of the U.S. In addition to riparian habitat, CDFW considers certain MCV



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Methods

alliance and associations to be sensitive natural vegetation communities (CDFW 2019d). These were also mapped accordingly.

2.2.1.2 Invasive Plant Surveys

Stantec botanists documented all non-native plant species including invasive plants and noxious weeds observed during the botanical field surveys as discussed in Attachment D, Botanical Resources Report. The surveys consisted of taking point or polygon data of invasive plant populations or individuals and collecting other site-specific information such as phenology; distribution pattern; and distance to special status plant populations, riparian areas, and the roadway.

2.2.2 Aquatic Resources Surveys

2.2.2.1 Waters of the U.S. and State Delineations

Stantec conducted onsite routine delineations of wetlands and “other waters” of the U.S. and state based on field observations of positive indicators for wetland vegetation, hydrology, and soils and indicators of an ordinary high water mark (OHWM). Delineators used methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a). Plant taxonomy followed *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012), including applicable errata and supplements (Jepson Flora Project 2020). Stantec used *The National Wetland Plant List* (Lichvar et al. 2016) to confirm wetland indicator status for plant species, and the “50/20 Rule” or “Prevalence Index” to determine plant dominance (USACE 2008a).

Stantec documented the presence of primary and secondary wetland hydrology indicators for potential aquatic resources and determined the OHWM using the approach outlined in *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States* (USACE 2008b). Stantec evaluated soils for positive indicators of hydric soils in the field following the criteria in *Field Indicators of Hydric Soils in the United States* (Vasilas et al. 2018). Delineators used the Web Soil Survey (NRCS 2019) to review the hydric status of each soil map unit occurring in the BRSA.

Other waters are defined as traditional navigable waters and their tributaries (33 Code of Federal Regulations [CFR] 329). Stantec delineated other waters based on presence of an OHWM, as defined in U.S. USACE regulations (33 CFR 328.3 and 33 CFR 328.4). Physical characteristics of an OHWM include but are not limited to the following conditions: a natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, presence of litter and debris, leaf litter disturbed or washed away, scour, deposition, presence of bed and bank, and water staining.

Stantec mapped the boundaries of delineated features and the associated data points using a tablet computer and GPS device with sub-meter accuracy. The biologists conducted the routine delineation from August to September 2019 and from March to May 2020. Refer to the *Delineation of Potential Waters of the United States* in Attachment B for complete details. Stantec will submit the jurisdiction of individual features as discussed in this report to USACE for verification.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Methods

2.2.3 Special Status Species Assessments

2.2.3.1 Botanical Surveys

Stantec botanists conducted botanical surveys in accordance with the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018). On BLM lands, botanical surveys followed the *Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Species* (USDI 2009). The botanists identified each species observed to the taxonomic level necessary to identify special status plant species. Plant taxonomy followed Baldwin et al. (2012), including applicable errata and supplements (Jepson Flora Project 2019). Stantec botanists listed all plant species observed and mapped special status plant species populations with GPS units.

Stantec conducted the botanical surveys from May to August of 2019 and April to August 2020. Attachment D, *Botanical Resources Report*, provides a complete description of field methods applied during the botanical surveys.

2.2.3.2 Wildlife Surveys

Stantec biologists conducted a wildlife habitat reconnaissance survey of the BRSA, including a visual inspection of lands adjacent to the BRSA, on September 17 and 18, 2019. The biologists noted general conditions of the mapped habitat communities relative to special status species needs and identified unique wildlife habitat features of the landscape that may attract special status fish or wildlife species (e.g., willow [*Salix* sp.]-dominated riparian areas).

A team of eight Stantec wildlife biologists conducted targeted surveys for pygmy rabbits and raptor nests and recorded incidental observations of special status species in April 2020. Pygmy rabbits use big sagebrush (*Artemisia tridentata*) habitats, so the biologists conducted surveys in all CWHR sagebrush habitat communities within the species' known range, which includes the entire BRSA north of about Lassen County MP 16.0 (CDFW 2019f), using the guidance in *Surveying for Pygmy Rabbits (Brachylagus idahoensis)* (Ulmschneider 2008). The BRSA includes relatively narrow corridors on both sides of paved roads that were not wide enough for multiple transects; therefore, one wildlife biologist walked a meandering transect on each side of the road. The biologists searched areas of tall, dense, or mounded big sagebrush for pygmy rabbit individuals, scat, or burrows. Pygmy rabbit scat may overlap in size with that of cottontails (*Sylvilagus* sp.), and pygmy rabbit burrows overlap in size with those of other animals, so scat and burrows must be observed together to be considered a positive identification (Ulmschneider 2008). The biologists also modified the CWHR sagebrush polygons based on field observations of this habitat community during pygmy rabbit surveys.

Stantec biologists documented raptor nests concurrently with pygmy rabbit surveys. They surveyed the entire California project segment and recorded all active and inactive raptor nests visible with high-powered optics (10x binoculars and 20-60x spotting scopes) from the BRSA, including nests beyond the BRSA boundary. The biologists also recorded common raven (*Corvus corax*) nests because common ravens and raptors may use the same nests in different years (Smith and Slater 2009). They collected GPS points for each nest observed using a tablet computer and recorded the nest status, nest condition, number of eggs and/or young, nest substrate, nest height, and any additional relevant information.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Methods

While pygmy rabbits and raptor nests were the main objective of the survey, Stantec biologists also recorded GPS points of incidental observations of other special status wildlife species, including special status raptors not associated with a nest and active nests of birds not considered special status species. In addition, the biologists maintained daily lists of all wildlife species they observed, whether targeted (i.e., nesting raptors) or incidental.



3.0 BIOLOGICAL RESOURCES STUDY RESULTS

3.1 VEGETATION COMMUNITIES AND LAND COVER

3.1.1 Habitat Communities and Natural Vegetation Communities of Concern

Stantec mapped 61 MCV natural vegetation communities in the BRSA to the alliance or association level; CDFW considers 22 of them to be sensitive natural vegetation communities. Attachment D, *Botanical Resources Report*, provides a complete description of MCV natural vegetation communities in the BRSA and their locations. Stantec also mapped 16 CWHR habitat communities the BRSA (Attachment A, Figure A-2).

3.1.1.1 Natural Vegetation Communities of Concern

Twenty-two of the mapped natural vegetation communities (association level) are sensitive natural communities according to CDFW. Table 3-1 lists all MCV sensitive natural vegetation communities in the BRSA.

Table 3-1: Sensitive Natural Vegetation Communities in the Biological Resources Survey Area

Alliance	Association	Area (Acres)
Forests and Woodlands		
Jeffrey pine forest	<i>Pinus jeffreyi</i> / <i>Purshia tridentate</i>	6.46
Aspen groves	<i>Populus tremuloides</i> / <i>Symphoricarpos rotundifolius</i>	0.48
Black cottonwood forest	<i>Populus trichocarpa</i>	0.18
Shrublands		
Little sagebrush scrub	<i>Artemisia arbuscula</i> ssp. <i>arbuscula</i> / <i>Poa secunda</i> ¹	192.03
Silver sagebrush scrub ³	<i>Artemisia cana</i> (ssp. <i>bolanderi</i> , ssp. <i>viscidula</i>) / <i>Poa secunda</i> ²	0.93
Bitterbrush scrub	<i>Purshia tridentata</i> – <i>Artemisia arbuscula</i> ³	22.48
	<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> – <i>Tetradymia canescens</i>	39.51
	<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> / <i>Bromus tectorum</i> ²	5.52
	<i>Purshia tridentata</i> – <i>Artemisia tridentata</i>	416.89
	<i>Purshia tridentata</i> – <i>Prunus subcordata</i> ²	1.26
Interior rose thickets	<i>Rosa woodsii</i>	7.11
Shining willow groves	<i>Salix lucida</i> – <i>Rosa woodsii</i> / Mixed Herbs ²	3.81
Greasewood scrub	<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> ¹	198.02



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Alliance	Association	Area (Acres)
Herbaceous Vegetation		
Sheldon's sedge patch ²	<i>Carex sheldonii</i> – <i>Elymus cinereus</i> ^{1,3}	3.39
One spike oat grass meadows ²	<i>Danthonia unispicata</i> – <i>Poa secunda</i> ¹	7.46
Ashy ryegrass meadows	<i>Elymus cinereus</i> – <i>Alopecurus geniculatus</i> ^{2,3}	22.63
	<i>Elymus cinereus</i> ³	46.24
Blue bunch wheat grass meadows	<i>Pseudoroegneria spicata</i> – <i>Poa secunda</i>	19.37
Hardstem bulrush marshes	<i>Schoenoplectus acutus</i>	0.14
American bulrush marsh	<i>Schoenoplectus americanus</i>	0.07
Needle-and-thread grassland ²	<i>Stipa comata</i> ¹	0.71
Tansyleaf evening primrose patch ²	<i>Taraxia tanacetifolia</i> – <i>Iva axillaris</i> ¹	70.26

Notes:

1. Association not described in the MCV but is presumed sensitive because it is like other sensitive associations under the alliance or is dominated by uncommon native species.
2. Association not described in the MCV but is included within an existing alliance in MCV that is designated as sensitive
3. *Leymus cinereus* is no longer an active name, though it is still used in the MCV. *Elymus cinereus* is used exclusively to reflect current nomenclature.

Source: Sawyer et al. 2009; CNPS 2019b

3.1.1.2 Habitat Communities

Each of the 16 CWHR habitat communities are described below, including their respective acreages within the BRSA. Attachment A, Figure A-2 depicts the CWHR habitat communities within the BRSA.

Jeffrey Pine

The Jeffrey pine (*Pinus jeffreyi*) community occurs in one location west of Honey Lake and consists of 6.46 acres (ac) within the BRSA. This community is dominated by Jeffrey pine and western juniper (*Juniperus occidentalis*). The understory primarily consists of shrubs, including big sagebrush (*Artemisia tridentata* ssp. *tridentata*) and bitterbrush (*Purshia tridentata*).

Juniper

Juniper occurs throughout the BRSA and is the most common tree-dominated habitat community. This forest community consists of 507.84 ac within the BRSA and is dominated by western juniper, little sagebrush (*Artemisia arbuscula* ssp. *arbuscula*), curl-leaf mountain mahogany (*Cercocarpus ledifolius*), bitterbrush, and big sagebrush. Perennial grasses and herbs occur among the trees and shrubs, including blue fescue (*Festuca idahoensis*), curly bluegrass (*Poa secunda*), and Thurber's needle grass (*Stipa thurberiana*).



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Aspen

The aspen (*Populus tremuloides*) community occurs in the northern portion of the BRSA near the North Fork of the Pit River and consists of 0.48 ac within the BRSA. This forest community is dominated by aspen, with mountain snowberry (*Symphoricarpos rotundifolius*) common in the shrub layer.

Montane Riparian

The montane riparian community occurs along streams and within meadows throughout the BRSA. Within the BRSA, this community consists of 57.52 ac of riparian shrub species, including interior rose (*Rosa woodsii*), sandbar willow (*Salix exigua*), Himalayan blackberry (*Rubus armeniacus*), shining willow (*Salix lucida*), and arroyo willow (*Salix lasiolepis*). However, one black cottonwood (*Populus trichocarpa*) stand occurs near New Pine Creek in the northern portion of the BRSA.

Bitterbrush

The bitterbrush community occurs in many topographic settings throughout the BRSA but is most prominent in highly permeable and well-drained soils characteristic of sagebrush steppe environments. This shrub community consists of 478.37 ac within the BRSA and is dominated by bitterbrush, big sagebrush, rubber rabbitbrush (*Ericameria nauseosa*), and spineless horsebrush (*Tetradymia canescens*).

Sagebrush

The sagebrush community occurs in a variety of topographic settings and is the most common habitat community in the BRSA. This shrub community consists of 2,418.01 ac within the BRSA, is characterized by big sagebrush, and is present in pure stands with grasses and forbs as well as in stands co-dominated with rubber rabbitbrush and bitterbrush. Other sagebrush communities include little sagebrush, silver sagebrush (*Artemisia cana*), and mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), which usually occur in mixed stands with big sagebrush in microhabitats. Little sagebrush occurs in rocky/shale flats and open rocky ground throughout the BRSA. Silver sagebrush occurs in one mesic area north of Mud Flat, and is co-dominant with big sagebrush, interior rose, and greasewood (*Sarcobatus vermiculatus*). Mountain big sagebrush occurs in foothills and on mountain slopes adjacent to Goose Lake and Honey Lake in the BRSA.

Montane Chaparral

Montane chaparral consists of 1.12 ac located at the far northern end of the BRSA near Goose Lake. This community is dominated by bitter cherry (*Prunus emarginata*) and Klamath plum (*Prunus subcordata*), along with big sagebrush, yellow rabbitbrush (*Chrysothamnus viscidiflorus*), and rubber rabbitbrush. Native bunch grasses such as ashy ryegrass (*Elymus cinereus*) and curly bluegrass occur between shrubs.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Alkali Desert Scrub

The alkali desert scrub community occurs in high concentrations in areas of alkaline soils such as those found in old lakebeds, playas, and intermittently flooded desert sinks in the central portion of the BRSA. This shrub community consists of 278.36 ac within the BRSA and is dominated by greasewood and yellow rabbitbrush and contains an understory characterized by grasses such as cheatgrass (*Bromus tectorum*), bulbous bluegrass (*Poa bulbosa*), and saltgrass (*Distichlis spicata*). An herbaceous inclusion of this shrub community occurs in Mud Flat, a dry alkali lakebed in the central portion of the study area. The herbaceous community is dominated by tansyleaf evening primrose (*Taraxia tanacetifolia*) and povertyweed (*Iva axillaris*).

Annual Grassland

Annual grasslands are dominated by non-native invasive grass species and occur throughout the BRSA in disturbed roadside areas. This community consists of 393.89 ac within the BRSA. Cheatgrass dominates the community and often co-occurs with medusahead (*Elymus caput-medusae*) and other non-native grasses and forbs.

Perennial Grassland

Perennial grasslands occur throughout the BRSA and are dominated by perennial native grasses. This community consists of 437.40 ac within the BRSA. Common grass species in this community include crested wheatgrass (*Agropyron cristatum*), meadow foxtail (*Alopecurus pratensis*), onespoke oatgrass (*Danthonia unispicata*), curly bluegrass, ashy ryegrass, saltgrass, and squirreltail (*Elymus elymoides*). Scattered shrubs such as big sagebrush and patches of annual grasses also occur throughout this vegetation community.

Wet Meadow

Wet meadow occurs in wet seeps and drainages adjacent to large grasslands throughout the BRSA. This community consists of 48.62 ac within the BRSA and is dominated by Baltic rush (*Juncus arcticus* ssp. *balticus*) and may be co-dominant with yarrow (*Achillea millefolium*), spikerushes (*Eleocharis* spp.), and Nebraska sedge (*Carex nebrascensis*).

Fresh Emergent Wetland

Fresh emergent wetland consists of 0.48 ac and occurs in select locations in the central and southern portions of the BRSA. This community occurs in semi-permanently flooded freshwater marshes and is dominated by broadleaf cattail (*Typha latifolia*) and hardstem bulrush (*Schoenoplectus acutus*). Other common species in this community include spikerushes, Nebraska sedge, rushes (*Juncus* spp.), and a low cover of riparian shrubs, including willow (*Salix* spp.).



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Riverine

Riverine consists of 27.99 ac and includes the open water and non-vegetated portions of perennial and intermittent streams in the BRSA, including the Pit River, Long Valley Creek, and Secret Creek, and other features that either flow year-around or have a non-vegetated river channel.

Irrigated Hayfield

Irrigated hayfield includes areas used for alfalfa (*Medicago sativa*) and hay production. This community consists of 59.16 ac in the northern portion of the BRSA.

Urban

The urban community was used to designate areas of ornamental trees and shrubs and consists of 1.52 ac. These areas include hedges, ornamental trees, and other landscaping in rural residential areas. Most areas mapped as urban occur in the northern half of the BRSA.

Barren

Under Mayer and Laudenslayer (1988), barren includes areas that naturally or artificially contains less than 2 percent herbaceous vegetation cover or less than 10 percent tree or shrub cover. In the BRSA, barren mainly occurs in areas that are not vegetated due to human activity and land use. These areas include roads, road shoulders, structures, and parking areas throughout the BRSA and consist of 1,294.09 ac.

3.1.2 Native Wildlife Corridors and Habitat Connectivity

Habitat corridors connect patches of habitat and allow movement of plants and animals between them. Plants, fish, and wildlife may use habitat corridors and linkages to move, expand territories, find mates and reproduce, and forage and hunt (Crain 2015). In the BRSA, habitat corridors may consist of woodland riparian segments, canyons, wetlands, ridgelines, and waterways.

Flyways are administrative regions in North America that categorize the major north-south bird migration (USFWS 2020a). On a broad scale, northeastern California falls within the Pacific Flyway, which is composed of numerous, narrow migration corridors that pass through the BRSA and the surrounding lands (PFC 2019).

The California Fish Passage Assessment Database (PAD) maps known and potential barriers to anadromous fish (CalFish 2020). Although no special status anadromous fish occur within the BRSA, the PAD-mapped barriers could also prevent or hinder movement of non-anadromous special status fish species that may occur in waterways in the BRSA. The PAD includes the following waterway crossings within the BRSA:

- New Pine Creek between Modoc County MP 61.4 to 61.5 – remediated but fish response unconfirmed, meaning that the barrier structures were removed; however, there is no evidence yet of fish presence above the remediated site.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

- Cottonwood Creek between Modoc County MP 58.0 to 58.1 – remediated but fish response unconfirmed and unknown passage status
- Willow Creek between Modoc County MP 54.4 to 54.5 – remediated but fish response unconfirmed
- Lassen Creek between Modoc County MP 53.6 to 53.7 – partial barrier from steep culvert

The remaining waterways have either not been assessed or do not contain barriers and therefore may serve as passages for special status fish.

The BLM Sierra Front Field Office within the Carson City District considers the section of the BRSA from approximately Lassen County MP 0.0 to MP 18.9 as a mule deer movement corridor (Krause 2020). Mule deer generally use the corridors from March 1 to May 15 and from October 1 to November 30 (BLM 2014).

The project segment would follow roads with high traffic volumes which hinder the movement of many species. Existing roads often separate and isolate plant and animal habitats and sever corridors, acting as a physical barrier to movement, or inducing avoidance behavior for some species, and causing mortalities or injuries for some others (Ascensão et al. 2016; Bennett 2017; Jacobson et al. 2016).

3.1.3 Invasive Plants

Invasive species are non-native organisms that invade and cause damage to natural environments and native species. Invasive plant species can displace or outcompete native species and alter wildlife habitats and plant communities. Table 3-2 lists the invasive plant species documented in the BRSA and their statuses according to CDFA and Cal-IPC. Refer to Attachment D, *Botanical Resources Report*, for complete details regarding invasive plant species.

Table 3-2: Invasive Plants Documented in the Biological Resources Survey Area

Scientific Name	Common Name	CAL-IPC/CDFA ¹
<i>Acroptilon repens</i>	Russian knapweed	Moderate/Noxious
<i>Agrostis stolonifera</i>	Redtop	Limited/-
<i>Alopecurus pratensis</i>	Meadow foxtail	Watch/-
<i>Bassia hyssopifolia</i>	Five horn bassia	Limited/-
<i>Berberis sp.</i>	Barberry	Watch/-
<i>Briza maxima</i>	Rattlesnake grass	Limited/-
<i>Bromus hordeaceus</i>	Soft chess	Limited/-
<i>Bromus japonicus</i>	Hairy chess	Limited/-
<i>Bromus tectorum</i>	Downy chess	High/-
<i>Carduus nutans</i>	Musk thistle	Moderate/Noxious
<i>Centaurea solstitialis</i>	Yellow starthistle	High/Noxious
<i>Centaurea stoebe ssp. micranthos</i>	Spotted knapweed	High/Noxious



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Scientific Name	Common Name	CAL-IPC/CDFA ¹
<i>Chorispora tenella</i>	Crossflower	-/Noxious
<i>Cirsium arvense</i>	Canada thistle	Moderate/Noxious
<i>Cirsium vulgare</i>	Bullthistle	Moderate/Noxious
<i>Conium maculatum</i>	Poison hemlock	Moderate/-
<i>Convolvulus arvensis</i>	Field bindweed	-/Noxious
<i>Cynoglossum officinale</i>	Hound's tongue	Moderate/-
<i>Dactylis glomerata</i>	Orchardgrass	Limited/-
<i>Descurainia sophia</i>	Herb Sophia	Limited/-
<i>Dipsacus fullonum</i>	Wild teasel	Moderate/-
<i>Elaeagnus angustifolia</i>	Russian olive	Moderate/-
<i>Elymus caput-medusae</i>	Medusa head	High/Noxious
<i>Erodium cicutarium</i>	Coastal heron's bill	Limited/-
<i>Euphorbia virgata</i>	Leafy spurge	High/Noxious
<i>Festuca arundinacea</i>	Reed fescue	Moderate/-
<i>Festuca myuros</i>	Rattail sixweeks grass	Moderate/-
<i>Halogeton glomeratus</i>	Halogeton	Moderate/Noxious
<i>Holcus lanatus</i>	Common velvetgrass	Moderate/-
<i>Hordeum murinum</i>	Foxtail barley	Moderate/-
<i>Hypericum perforatum</i> ssp. <i>perforatum</i>	Klamathweed	Limited/Noxious
<i>Isatis tinctoria</i>	Dyer's woad	Moderate/Noxious
<i>Lepidium chalepense</i>	Lens-podded hoary cress	Moderate/ Noxious
<i>Lepidium draba</i>	Whitetop	Moderate/Noxious
<i>Lepidium latifolium</i>	Perennial pepperweed	High/Noxious
<i>Linaria dalmatica</i> ssp. <i>dalmatica</i>	Dalmatian toadflax	Moderate/ Noxious
<i>Marrubium vulgare</i>	White horehound	Limited/-
<i>Onopordum acanthium</i> ssp. <i>acanthium</i>	Scotch thistle	High/Noxious
<i>Plantago lanceolata</i>	Ribwort	Limited/-
<i>Poa cusickii</i> ssp. <i>cusickii</i>	Cusick's blue grass	Limited/-
<i>Polypogon monspeliensis</i>	Rabbitsfoot grass	Limited/-
<i>Robinia pseudoacacia</i>	Black locust	Limited/-
<i>Rubus armeniacus</i>	Himalayan blackberry	High/-
<i>Rumex acetosella</i>	Sheep sorrel	Moderate/-
<i>Rumex crispus</i>	Curly dock	Limited/-
<i>Salsola tragus</i>	Russian thistle	Limited/-
<i>Salvia aethiopsis</i>	Mediterranean sage	Limited/Noxious



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Scientific Name	Common Name	CAL-IPC/CDFA ¹
<i>Tamarix ramosissima</i>	Salt cedar	High/Noxious
<i>Tribulus terrestris</i>	Puncture vine	Limited/Noxious
<i>Trifolium hirtum</i>	Rose clover	Limited/-
<i>Ventenata dubia</i> ²	Ventenata grass	Watch/-
<i>Verbascum thapsus</i>	Woolly mullein	Limited/-

1. Invasive/Noxious Status

California Invasive Plant Council (Cal-IPC 2019):

High = These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate = These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited = These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Watch = These species are not currently invasive in California. An assessment has found them to be a high risk for becoming invasive in the future.

California Department of Food and Agriculture (CDFA 2019):

Noxious = Listed as a noxious weed under Section 4500

2. Bureau of Land Management-identified invasive weed.

3.2 AQUATIC RESOURCES

3.2.1 Waters of the U.S. and State

Potential waters of the U.S. and state occur in the BRSA as wetlands and other waters. Wetland types as defined by Stantec, which incorporates and expands the USACE in-lieu fee classification types, include riparian wetland, riparian fresh emergent wetland complex, fresh emergent wetland, seasonal wetland, wetland swale, and wetland seep spring. Other waters include perennial stream, intermittent stream, ephemeral stream, irrigation canal, vegetated ditch, non-vegetated ditch, and pond. Refer to the *Delineation of Potential Waters of the U.S.* report (Attachment B) for further details on wetland and other waters features in the BRSA.

The field delineations identified 238.21 ac of potential waters of the U.S. and state⁵ within the BRSA. This includes 62 riparian wetlands (14.25 ac), 35 riparian fresh emergent wetland complexes (26.48 ac), 131 fresh emergent wetlands (67.22 ac), 51 seasonal wetlands (94.70 ac), 17 wetland swales (1.40 ac), 4 wetland seep springs (1.75 ac), 96 perennial streams (12.75 ac), 107 intermittent streams (2.32 ac), 168 ephemeral streams (3.76 ac), 33 irrigation canals (3.82 ac), 2 vegetated ditches (0.02 ac), 17 non-vegetated ditches (0.12 ac), and 6 ponds (9.62 ac). Refer to the *Delineation of Potential Waters of the*

⁵ All aquatic features meeting the definition of waters of the U.S. or waters of the state have been delineated, and the analysis contained herein reflects impacts to both. For purposes of this analysis, it is conservatively assumed that each feature meets the more stringent water of the state standard. The final identification of waters of the U.S. and waters of the state will be determined by USACE, and the waters of the state will be confirmed by the Regional Water Quality Control Board.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

U.S. report (Attachment B) for complete details of the waters of the U.S. and state in the BRSA, including figures depicting their locations. Table 3-3 lists the types of potential jurisdictional waters that Stantec delineated within the BRSA and the total acreages or linear feet for each type.

Table 3-3: Potential Waters of the U.S. and State in the Biological Resources Survey Area

Potential Waters of the United States and State	Total Acres	Total Linear Feet	Cowardin Type
Wetlands			
Riparian Wetland	14.25	N/A	PSS, PEM, PEM/PSS, PFO, PSS/PFO, R4SB, R5, R4UB, R3UB, R3SB
Riparian Fresh Emergent Wetland Complex	26.48	N/A	PSS, PEM/PSS, PSS
Fresh Emergent Wetland	67.22	N/A	PEM, PEM/PSS
Seasonal Wetland	94.70	N/A	PEM, PEM/PSS, PSS
Wetland Swale	1.40	N/A	PEM, PEM/PSS, PSS
Wetland Seep Spring	1.75	N/A	PEM, PEM/PSS
Other Waters			
Perennial Stream	12.75	3,120.57	R3SB, R2AB, R5UB, R3UB, RFT, R4SB, R2UB, R2AB, R4UB
Intermittent Stream	2.32	11,872.25	R4SB
Ephemeral Stream	3.76	34,588.14	R4SB, R4UB, R5, RFT, R5UB, R5SB
Irrigation Canal	3.82	5,148.90	R4UB, R4SB, R5UB, R3UB, R3SB, R5
Vegetated Ditch	0.02	191.43	R4UB
Non-Vegetation Ditch	0.12	2,105.88	R4SB, R4UB, R5UB
Pond	9.62	N/A	PUB, L1UB
Total Potential Waters of the United States and State	238.21	57,027.17	N/A

Sources: Cowardin et al. 1979

N/A = not applicable

L1UB = Lacustrine, Unconsolidated Bottom

PEM = Palustrine Emergent

PSS = Palustrine Scrub-Shrub

PFO = Palustrine Forested

PUB = Palustrine, Unconsolidated Bottom

R2AB = Riverine Lower Perennial, Aquatic Bed

R2UB = Riverine Lower Perennial, Unconsolidated Bottom

R3SB = Riverine Upper Perennial, Streambed

R3UB = Riverine Upper Perennial, Unconsolidated Bottom

R4 = Riverine Intermittent

R4SB = Riverine Intermittent, Streambed

R4UB = Riverine Intermittent, Unconsolidated Bottom

R5 = Unknown Perennial

R5UB = Unknown Perennial, Unconsolidated Bottom

R5SB = Unknown Perennial, Streambed

RFT = Riverine Flow-through



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

3.3 SPECIAL STATUS SPECIES ASSESSMENTS

No federally designated or proposed critical habitat occurs within the BRSA. One designated critical habitat polygon for Sierra Nevada yellow-legged frog (*Rana sierrae*) occurs approximately 4 miles west of the BRSA near Janesville. Six designated critical habitat polygons for Webber's ivesia (*Ivesia webberi*) occur within 5 miles of the BRSA, with the closest abutting the BRSA between approximately Lassen County MP 0.7 and 1.0 (USFWS 2020d) (Attachment A, Figure A-3). For the purposes of this document, the potential for a species to occur within the BRSA is defined as the following:

- Not Expected (NE) – species with no range overlap within the BRSA
- Low Potential (Low) – species with no or limited suitable habitat within the BRSA
- Moderate Potential (Moderate) – species with suitable habitat present and either no publicly available occurrence records or publicly available occurrences records that are historical (i.e., more than 25 years old) within the BRSA
- High Potential (High) – species with suitable habitat present and recent (within the last 25 years) publicly available occurrence records within the BRSA
- Present (Present) – species documented within or adjacent to the BRSA during Stantec field surveys.

3.3.1 Special Status Plants

Table 3-4 lists all the special status plant species that are known to or have the potential to occur within the BRSA along with their conservation status, habitat requirements, and potential occurrence. The table includes all plant species provided on the official USFWS (2020a, b) species lists even if they are not expected to occur within the BRSA.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Table 3-4: Special Status Plant Species Known to or Have the Potential to Occur in the Biological Resources Survey Area

Common Name (Scientific Name)	Status ¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur ²
Grass alisma (<i>Alisma gramineum</i>)	—/—/2B.2	Marshes and swamps (assorted shallow freshwater). Elevation: 1,300-5,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains freshwater meadows. Three historical CNDDDB occurrences, with two overlapping the BRSA, and two recent occurrences within the search buffer (CDFW 2019b).	High
Great Basin onion (<i>Allium atrorubens</i> var. <i>atorubens</i>)	—/—/2B.3	Great Basin scrub, pinyon and juniper woodland. Rocky or sandy soil. Elevation: 3,900-7,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub and juniper woodland. Four recent CNDDDB occurrences within the search buffer, with one overlapping the BRSA (CDFW 2019b).	High
Punctate onion (<i>Allium punctum</i>)	—/—/2B.2	Pinyon and juniper woodland. Rocky soil. Elevation: 3,900-5,250 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland. One occurrence was detected during the 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Hillside arnica (<i>Arnica fulgens</i>)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, meadows and seeps. Mesic soils. Elevation: 4,900-8,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. One occurrence was detected during the 2019 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). Six recent CNDDDB occurrences within the search buffer, with one overlapping the BRSA (CDFW 2019b).	Present
Purple loco weed (<i>Astragalus agrestis</i>)	—/—/2B.2	Great Basin scrub, meadows and seeps with vernal mesic soils. Elevation: 5,100-5,400 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps and Great Basin scrub. Five occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). Nine recent CNDDDB occurrences and four undated occurrences, with one overlapping the BRSA, within the search buffer (CDFW 2019b).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur ²
Silverleaf milk-vetch (<i>Astragalus argophyllus</i> var. <i>argophyllus</i>)	—/—/2B.2	Alkali sink, wetland riparian; meadows, playas. Heavy alkaline or saline soil. Elevation: 4,200-4,400 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and wetland riparian habitats. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Geyer's milk-vetch (<i>Astragalus geyeri</i> var. <i>geyeri</i>)	—/—/2B.2	Chenopod scrub and Great Basin scrub with sandy soil. Elevation: 3,800-6,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Four historical CNDDDB occurrences and eight recent occurrences, with one overlapping the BRSA, within the search buffer (CDFW 2019b).	High
Snake milk-vetch (<i>Astragalus iodanthus</i> var. <i>diaphanoides</i>)	—/—/4.3	Chenopod scrub and Great Basin scrub (sandy, clay). Elevation: 3,900-4,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Five occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Lemmon's milk-vetch (<i>Astragalus lemmonii</i>)	—/—/1B.2	Sagebrush scrub, wetland riparian. Moist, alkaline meadows. Elevation: 4,300-9,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains wetland riparian areas and Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Lens-pod milk-vetch (<i>Astragalus lentiformis</i>)	—/—/1B.2	Great Basin scrub, lower montane coniferous forest. Volcanic and sandy soils. Elevation: 4,800-6,300 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Modoc plateau milk vetch (<i>Astragalus pulsiferae</i> var. <i>coronensis</i>)	—/—/4.2	Great Basin scrub, lower montane coniferous forest, and pinyon and juniper woodland. Sandy, gravelly, and volcanic soils. Elevation: 4,400-6,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub and juniper woodland. Three occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Pulsifer's milk-vetch (<i>Astragalus pulsiferae</i> var. <i>pulsiferae</i>)	—/—/1B.2	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Usually granitic, sandy, or rocky soil. Elevation: 4,300-5,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland and Great Basin scrub. Four historical occurrences, with one overlapping the BRSA, and nine recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Suksdorf's milk-vetch (<i>Astragalus pulsiferae</i> var. <i>suksdorfii</i>)	—/—/1B.2	Loose, often rocky soil, often with pines. Elevation: 4,300-5,200 ft	Suitable habitat occurs in the BRSA: the project segment contains areas with loose rocky soils. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Hillman's silverscale (<i>Atriplex argentea</i> var. <i>hillmanii</i>)	—/—/2B.2	Great Basin scrub, meadows and seeps with alkaline soil. Elevation: 3,900-5,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and Great Basin scrub. One historical CNDDDB occurrence overlaps the BRSA (CDFW 2019b).	Moderate
Sickle saltbush (<i>Atriplex gardneri</i> var. <i>falcata</i>)	—/—/2B.2	Chenopod scrub and Great Basin scrub. Often with alkaline soil. Elevation: 3,900-5,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Three occurrences were detected during the 2019 surveys refer to Attachment D, <i>Botanical Resources Report</i> , for location). Three historical CNDDDB occurrences within the search buffer and three recent occurrences overlap the BRSA (CDFW 2019b).	Present
Serrated balsamroot (<i>Balsamorhiza serrata</i>)	—/—/2B.3	Great Basin scrub with rocky soil. Elevation: 4,600-5,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Dwarf resin birch (<i>Betula glandulosa</i>)	—/—/2B.2	Bogs, fens, lower montane coniferous forest, meadows, seeps, marshes, swamps, and subalpine conifer forest; mesic. Elevation: 4,200-7,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. One recent CNDDDB occurrence within the search buffer (CDFW 2019b).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Scalloped moonwort (<i>Botrychium crenulatum</i>)	—/—/2B.2	Bogs, fens, lower montane coniferous forest, meadows, seeps, marshes and swamps (freshwater), upper montane coniferous forest. Elevation: 4,200-10,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. Two recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Common moonwort (<i>Botrychium lunaria</i>)	—/—/2B.3	Meadows, seeps, subalpine coniferous forest, and upper montane coniferous forest. Elevation: 6,400-11,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. One recent CNDDDB occurrence within the search buffer (CDFW 2019b).	High
Western goblin (<i>Botrychium montanum</i>)	—/—/2B.1	Lower montane coniferous forest, meadows, seeps, and upper montane coniferous forest. Elevation: 4,800-7,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. One recent CNDDDB occurrence within the search buffer (CDFW 2019b).	High
Northwestern moonwort (<i>Botrychium pinnatum</i>)	—/—/2B.3	Lower montane coniferous forest, meadows and seeps, and upper montane coniferous forest with mesic soil. Elevation: 5,800-6,700 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps; however, the BRSA is below the known elevation range for this species. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Low
Slough sedge (<i>Carex atherodes</i>)	—/—/2B.2	Meadows, seeps, marshes, swamps, and pinyon and juniper woodland with mesic soil. Elevation: 4,300-5,100 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and juniper woodland. Four occurrences were detected during the 2019 and 2020 surveys refer to Attachment D, <i>Botanical Resources Report</i> , for location). One historical CNDDDB occurrence that overlaps the BRSA (CDFW 2019b).	Present
Woolly-fruited sedge (<i>Carex lasiocarpa</i>)	—/—/2B.3	Bogs, fens, and marshes and swamps (freshwater, lake margins). Elevation: 5,500-6,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. One recent CNDDDB occurrence within the search buffer (CDFW 2019b).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Mud sedge (<i>Carex limosa</i>)	—/—/2B.2	Bogs, fens, lower montane coniferous forest, meadows, seeps, marshes, swamps, and upper montane coniferous forest. Elevation: 3,900-8,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Liddon's sedge (<i>Carex petasata</i>)	—/—/2B.3	Broad-leaved upland forest, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland. Elevation: 2,000-10,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and juniper woodlands. One historical CNDDDB occurrence within the search buffer (CDFW 2019b).	Moderate
Sheldon's sedge (<i>Carex sheldonii</i>)	—/—/2B.2	Lower montane coniferous forest (mesic), marshes and swamps (freshwater), and riparian scrub. Elevation: 3,900-6,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains riparian scrub habitats. Six occurrences were detected during the 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). Four recent CNDDDB occurrences, with one overlapping the BRSA, within the search buffer (CDFW 2019b).	Present
Western valley sedge (<i>Carex vallicola</i>)	—/—/2B.3	Great Basin scrub or meadows and seeps with mesic soil. Elevation: 5,000-9,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. One recent CNDDDB occurrence within the search buffer (CDFW 2019b).	High
Large seeded goosefoot (<i>Chenopodium simplex</i>)	—/—/4.3	Lower montane coniferous forest (openings, disturbed areas) and pinyon and juniper woodland (carbonate). Elevation: 4,500-7,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Cruciform evening-primrose (<i>Chylismia claviformis</i> ssp. <i>cruciformis</i>)	—/—/2B.3	Chenopod scrub and Great Basin scrub with clay soil. Elevation: 2,000-4,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Five occurrences were detected during the 2019 and 2020 surveys refer to Attachment D, <i>Botanical Resources Report</i> , for location). One historical CNDDDB occurrence and ten recent occurrences, with two overlapping the BRSA, within the search buffer (CDFW 2019b).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Great Basin claytonia (<i>Claytonia umbellata</i>)	—/—/2B.3	Subalpine coniferous forest (talus). Elevation: 5,600-11,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains small sections of subalpine coniferous forest. One undated CNDDDB occurrence overlapping the BRSA.	Moderate
Hillman's cleomella (<i>Cleomella hillmanii</i> var. <i>hillmanii</i>)	—/—/2B.2	Chenopod scrub and Great Basin scrub (clay). Elevation: 4,000-4,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Yakima bird's-beak (<i>Cordylanthus capitatus</i>)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Elevation: 5,900-7,800 ft	Suitable habitat occurs in the study area; the study area contains juniper woodlands and Great Basin scrub; however, the BRSA is below the known elevation range for this species. Two recent CNDDDB occurrences and one historical occurrence within the search buffer (CDFW 2019b).	Low
Fiddleleaf hawksbeard (<i>Crepis runcinate</i>)	—/—/2B.2	Mojavean desert scrub, pinyon and juniper woodland. Mesic and alkaline soils. Elevation: 4,100-7,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland habitats. There are two historical CNDDDB occurrences that overlap the BRSA (CDFW 2019b).	Moderate
Ornate Dalea (<i>Dalea ornate</i>)	—/—/2B.1	Northern juniper woodland, open, rocky hillsides. Elevation: 4,600-5,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands. No CNDDDB occurrences the search buffer (CDFW 2019b).	Moderate
Spiked larkspur (<i>Delphinium stachydeum</i>)	—/—/2B.3	Great Basin scrub, upper montane coniferous forest (edges). Rocky. Elevation: 4,300-8,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Five recent CNDDDB occurrences and three historical occurrences within the search buffer (CDFW 2019b).	High
Doublet (<i>Dimeresia howellii</i>)	—/—/2B.3	Lower montane coniferous forest, pinyon and juniper woodland. Volcanic and xeric soils. Elevation: 4,400-7,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland habitats. Nine recent CNDDDB occurrences and eight historical occurrences within the search buffer (CDFW 2019b).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Cusick's monkeyflower (<i>Diplacus cusickioides</i>)	—/—/2B.3	Great Basin scrub, lower montane coniferous forest. Roadsides, gravelly, scree, and volcanic soils. Elevation: 2,000-6,000 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Great Basin calicoflower (<i>Downingia laeta</i>)	—/—/2B.2	Mesic Great Basin scrub, meadows and seeps, marshes and swamps (assorted shallow freshwater), mesic pinyon and juniper woodland, vernal pools. Elevation: 4,000-7,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. Two occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). Five historical CNDDDB occurrences, with three overlapping the BRSA, and one recent CNDDDB occurrence within the search buffer (CDFW 2019b).	Present
Pine Creek evening-primrose (<i>Eremothera boothii</i> ssp. <i>alyssoides</i>)	—/—/4.3	Great Basin scrub. Sandy and gravelly soils. Elevation: 1,900-5,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Five occurrences were detected during the 2019 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Nelson's evening-primrose (<i>Eremothera minor</i>)	—/—/2B.3	Chenopod scrub, Great Basin scrub (sandy). Elevation: 4,000-4,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One recent CNDDDB occurrence and three historical occurrences within the search buffer (CDFW 2019b).	High
Nevada daisy (<i>Erigeron eatonii</i> var. <i>nevadincola</i>)	—/—/2B.3	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Rocky. Elevation: 5,000-9,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland and Great Basin scrub. One occurrence was detected during the 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). Twenty-two recent CNDDDB occurrences and one historical occurrence within the search buffer (CDFW 2019b).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Volcanic daisy (<i>Erigeron elegantulus</i>)	—/—/4.3	Alpine boulder and rock field, Great Basin scrub, pinyon and juniper woodland, subalpine coniferous forest, and upper montane coniferous forest. Volcanic soils. Elevation: 3,200-8,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland and Great Basin scrub. Five occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Plumas rayless daisy (<i>Erigeron lassenianus</i> var. <i>deficiens</i>)	—/—/1B.3	Lower montane coniferous forest. Gravelly, sometimes serpentine. Elevation: 4,500-6,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains small sections of lower montane coniferous forest. One historical CNDDDB occurrence within the search buffer (CDFW 2019b).	Moderate
Hill buckwheat (<i>Eriogonum collinum</i>)	—/—/4.3	Great Basin scrub and pinyon and juniper woodland. Vertisol clay soils. Elevation: 4,200-5,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub and juniper woodland. Seven occurrences were detected during the 2019 and 2020 surveys refer to Attachment D, <i>Botanical Resources Report</i> , for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Schoolcraft's wild buckwheat (<i>Eriogonum microthecum</i> var. <i>schoolcraftii</i>)	—/—/1B.2	Great Basin scrub, pinyon and juniper woodland. Sandy to rocky soils. Elevation: 4,300-5,700 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland and Great Basin scrub. There are six recent CNDDDB occurrences, with two overlapping the BRSA, and one historical occurrence within the search buffer (CDFW 2019b).	High
Nodding buckwheat (<i>Eriogonum nutans</i> var. <i>nutans</i>)	—/—/2B.3	Chenopod scrub, Great Basin scrub. Sandy or gravelly soils. Elevation: 4,000-9,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One occurrence was detected during the 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). Two recent CNDDDB occurrences the search buffer (CDFW 2019b).	Present
Ochre-flowered buckwheat (<i>Eriogonum ochrocephalum</i> var. <i>ochrocephalum</i>)	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Volcanic or clay soils. Elevation: 3,900-7,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland and Great Basin scrub. Three recent CNDDDB occurrences, with two overlapping the BRSA, and one historical CNDDDB occurrence within the search buffer (CDFW 2019b).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Prostrate buckwheat (<i>Eriogonum prociduum</i>)	—/—/1B.2	Great Basin scrub, pinyon and juniper woodland, upper montane coniferous forest. Volcanic soils. Elevation: 4,300-8,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Six recent CNDDDB occurrences, with one overlapping the BRSA, one undated occurrence which overlaps the BRSA, and five historical CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Warner Mountain buckwheat (<i>Eriogonum umbellatum</i> var. <i>glaberrimum</i>)	—/—/1B.3	Great Basin scrub, lower montane coniferous forest, and upper montane coniferous forest. Sandy or gravelly soils. Elevation: 5,000-7,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Two recent CNDDDB occurrences within search buffer (CDFW 2019b).	High
Ephemeral monkeyflower (<i>Erythranthe inflatula</i>)	—/—/1B.2	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Gravelly or rocky. Vernallly mesic soils. Elevation: 4,100-5,700 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Two occurrences were detected during the 2019 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). One undated CNDDDB, two historical occurrences that overlap the BRSA occurrence, and two recent occurrences within the search buffer (CDFW 2019b).	Present
Modoc frasera (<i>Frasera albicaulis</i> var. <i>modocensis</i>)	—/—/2B.3	Great Basin grassland, sometimes in upper montane coniferous forest. Occurs in openings. Elevation: 3,000-5,700 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin grasslands. Twelve occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, <i>Botanical Resources Report</i> , for location). Two historical CNDDDB occurrences overlapping the BRSA (CDFW 2019b).	Present
Warner Mountains bedstraw (<i>Galium serpticum</i> ssp. <i>warnerense</i>)	—/—/1B.2	Meadows and seeps, pinyon and juniper woodland, subalpine coniferous forest. Rocky talus. Elevation: 4,800-9,000 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and juniper woodlands. Ten recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Aleppo avens (<i>Geum aleppicum</i>)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, meadows and seeps. Elevation: 1,500-4,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. One recent CNDDDB occurrence and one historical occurrence within the search buffer (CDFW 2019b).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Boggs Lake hedge-hyssop (<i>Gratiola heterosepala</i>)	—/SE/1B.2	Marshes and swamps (lake margins), vernal pools, freshwater wetlands and wetland-riparian. Clay. Elevation: 30-7,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains freshwater meadows and wetland riparian habitats. One recent CNDDDB occurrence within the search buffer and one historical occurrence overlapping the BRSA (CDFW 2019b).	High
Cusick stickweed (<i>Hackelia cusickii</i>)	—/—/4.3	Alpine boulder and rock field, pinyon and juniper woodland (rocky loam), and subalpine coniferous forest. Elevation: 3,900-6,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland. Six occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Water star-grass (<i>Heteranthera dubia</i>)	—/—/2B.2	Marshes and swamps (alkaline, still or slow-moving water) in wetland riparian communities. Requires a PH of 7 or higher, usually in slight eutrophic waters. Elevation: 100-4,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains wetland riparian habitats. One historical CNDDDB occurrence within the search buffer (CDFW 2019b).	Moderate
Lemmon's goldflower (<i>Hymenoxys lemmonii</i>)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, meadows and seeps (subalkaline). Elevation: 800-11,100 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. One occurrence was detected during the 2019 surveys (refer to Attachment D, Botanical Resources Report, for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Baker's globe mallow (<i>Iliamna bakeri</i>)	—/—/4.2	Chaparral, Great Basin scrub, lower montane coniferous forest (openings), and pinyon and juniper woodland. Volcanic soils, often in burned areas. Elevation: 3,200-8,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub and juniper woodlands. One recent and three historical CNDDDB occurrences within the search buffer (CDFW 2019b).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Sierra Valley Ivesia (<i>Ivesia aperta</i> var. <i>aperta</i>)	—/—/1B.2	Sagebrush scrub, yellow pine forest, northern juniper woodland. Dry, rocky meadows, and generally volcanic soils. Elevation: 4,900-7,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains sagebrush scrub and juniper woodland. Ten historical CNDDDB occurrences and two recent occurrences within the search buffer (CDFW 2019b).	High
Bailey's ivesia (<i>Ivesia baileyi</i> var. <i>baileyi</i>)	—/—/2B.3	Great Basin scrub, lower montane coniferous forest. Volcanic and rocky soils. Elevation: 4,400-8,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Four recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Ash Creek ivesia (<i>Ivesia paniculate</i>)	—/—/1B.2	Great Basin scrub, pinyon and juniper woodland, upper montane coniferous forest. Volcanic, rocky, or gravelly soils. Elevation: 4,900-6,400 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland and Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Plumas ivesia (<i>Ivesia sericoleuca</i>)	—/—/1B.2	Great Basin scrub, lower montane coniferous forest, meadows, seeps, and vernal pools. Vernal mesic and usually volcanic soils. Elevation: 4,300-7,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. Three historical and four recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Webber's ivesia (<i>Ivesia webberi</i>)	FT/—/1B.1	Great Basin scrub (volcanic ash), lower montane coniferous forest, pinyon and juniper woodland. Sandy or gravelly. Elevation: 3,300-6,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodland and Great Basin scrub. One historical and four recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Center basin rush (<i>Juncus hemiendytus</i> var. <i>abjectus</i>)	—/—/4.3	Meadows and seeps and subalpine coniferous forest. Mesic soils. Elevation: 4,500-11,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Santa Lucia dwarf rush (<i>Juncus luciensis</i>)	—/—/1B.2	Chaparral, Great Basin scrub, lower montane coniferous forest, meadows, seeps, and vernal pools. Elevation: 1,000-6,700 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. One historical and one recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Lance-leaved surf-pea (<i>Ladeania lanceolata</i>)	—/—/2B.3	Great Basin scrub (sandy). Elevation: 4,000-8,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One occurrence was detected during the 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). One historical CNDDDB occurrence, one undated occurrence that overlaps the BRSA, and three recent occurrences within the search buffer (CDFW 2019b).	Present
Rigid pea (<i>Lathyrus rigidus</i>)	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Often disturbed areas. Elevation: 2,600-5,700 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Nine occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). One undated CNDDDB occurrence within the search buffer and one recent and one historical CNDDDB occurrences that overlap the BRSA (CDFW 2019b).	Present
Sagebrush loeflingia (<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>)	—/—/2B.2	Desert dunes, Great Basin scrub, Sonoran Desert scrub. Sandy soils. Elevation: 2,300-5,300 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One recent CNDDDB occurrence within the search buffer (CDFW 2019b).	High
Canby's lomatium (<i>Lomatium canbyi</i>)	—/—/4.3	Great Basin scrub and pinyon and juniper woodland. Elevation: 4,200-6,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub and juniper woodland. Eight occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Maddougal's lomatium (<i>Lomatium foeniculaceum</i> ssp. <i>maddougali</i>)	—/—/2B.2	Chenopod scrub, Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Volcanic soils. Elevation: 4,000-6,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Seven recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Henderson's biscuitroot (<i>Lomatium hendersonii</i>)	—/—/2B.3	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Rocky and clay soils. Elevation: 5,000-8,000 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Seven recent CNDDDB occurrences, with one overlapping the BRSA, two undated occurrences, and one historical occurrence within the search buffer (CDFW 2019b).	High
Paiute lomatium (<i>Lomatium ravenii</i> var. <i>paiutense</i>)	—/—/2B.3	Great Basin scrub. Rocky, gravelly, and volcanic with underlying clay soils. Elevation: 2,900-5,500 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Four recent CNDDDB occurrences, with three overlapping the BRSA, and ten historical CNDDDB occurrences, with one overlapping the BRSA, within the search buffer (CDFW 2019b).	High
Raven's lomatium (<i>Lomatium ravenii</i> var. <i>ravenii</i>)	—/—/1B.3	Great Basin scrub. Adobe, clay loam, and alkaline soils. Elevation: 5,300-5,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Ten occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). Four historical CNDDDB occurrences and eight recent occurrences, with five overlapping the BRSA, within the search buffer (CDFW 2019b).	Present
Adobe lomatium (<i>Lomatium roseanum</i>)	—/—/1B.2	Great Basin scrub, lower montane coniferous forest. Openings, gravelly or rocky soils. Elevation: 4,800-7,400 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One occurrence was detected during the 2019 surveys (refer to Attachment D, Botanical Resources Report, for location). Two undated CNDDDB occurrences and three recent occurrences within the search buffer (CDFW 2019b).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Bearded lupine (<i>Lupinus latifolius</i> var. <i>barbatus</i>)	—/—/3.2	Upper montane coniferous forest (mesic). Elevation: 4,900-8,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains coniferous forest. Two historical CNDDDB occurrences within the search buffer, with one overlapping the BRSA (CDFW 2019b).	Moderate
Intermountain lupine (<i>Lupinus pusillus</i> var. <i>intermontanus</i>)	—/—/2B.3	Great Basin scrub (sandy). Elevation: 4,000-6,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Two occurrences were detected during the 2019 surveys (refer to Attachment D, Botanical Resources Report, for location). Two historical CNDDDB occurrences, with one overlapping the BRSA, and five recent occurrences within the search buffer (CDFW 2019b).	Present
Lilliput lupine (<i>Lupinus uncialis</i>)	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Volcanic and gravelly soils. Elevation: 4,300-5,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Twelve recent CNDDDB occurrences, three undated occurrences, and two historical occurrences within the search buffer (CDFW 2019b).	High
Long bluebells (<i>Mertensia longiflora</i>)	—/—/2B.2	Great Basin scrub, lower montane and coniferous forest. Elevation: 5,000-7,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. No CNDDDB occurrences within the search buffer.	Moderate
Broad-nerved hump moss (<i>Meesia uliginosa</i>)	—/—/2B.2	Bogs, fens, meadows, seeps, subalpine coniferous forest, and upper montane coniferous forest. Damp soils. Elevation: 3,900-9,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. One recent occurrence within the search buffer (CDFW 2019b).	High
Beautiful sagebrush bluebells (<i>Mertensia oblongifolia</i> var. <i>amoena</i>)	—/—/2B.2	Great Basin scrub, meadows and seeps. Elevation: 5,300-7,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. Two historical CNDDDB occurrences, with one overlapping the BRSA, within the search buffer (CDFW 2019b).	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur ²
Sagebrush bluebells (<i>Mertensia oblongifolia</i> <i>var. oblongifolia</i>)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, subalpine coniferous forest, meadows and seeps. Usually mesic soils. Elevation: 3,300-9,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. Two occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). Four historical CNDDDB occurrences, with one overlapping the BRSA, and three recent CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Dwarf monolepis (<i>Micromonolepis pusilla</i>)	—/—/2B.3	Great Basin scrub. Alkaline, openings. Elevation: 4,900-7,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Great Basin nemophila (<i>Nemophila breviflora</i>)	—/—/2B.3	Great Basin scrub, upper montane coniferous forest, meadows and seeps. Mesic soils. Elevation: 4,000-7,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. One recent CNDDDB occurrence and two historical occurrences within the search buffer (CDFW 2019b).	High
Slender Orcutt grass (<i>Orcuttia tenuis</i>)	FT/SE/1B.1	Vernal pools. Often gravelly soils. Elevation: 100-1,800 ft	No suitable habitat occurs in the BRSA, and the BRSA is above the known elevation range for this species. No CNDDDB occurrences within the search buffer (CDFW 2019b).	NE
Tall alpine aster (<i>Oreostemma elatum</i>)	—/—/1B.2	Peatlands, marshy areas, wet meadows, and montane forest. Elevation: 3,300-4,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Suksdorf's broom-rape (<i>Orobanche ludoviciana</i> <i>var. arenosa</i>)	—/—/2B.3	Great Basin scrub. Elevation: 6,500-6,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub; however, the BRSA is below the known elevation range for this species. Two undated CNDDDB occurrences, with one overlapping the BRSA, within the search buffer (CDFW 2019b).	Low
Blunt-fruited sweet-cicely (<i>Osmorhiza depauperate</i>)	—/—/2B.3	Lower montane coniferous forest. Elevation: 6,000-6,100 ft	Suitable habitat occurs in the BRSA; the BRSA contains small sections of lower montane coniferous forest; however, the BRSA is below the known elevation range for this species. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Dwarf lousewort (<i>Pedicularis centranthera</i>)	—/—/2B.3	Great Basin scrub (alluvial). Elevation: 4,300-4,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One occurrence was detected during the 2019 surveys (refer to Attachment D, Botanical Resources Report, for location). Six recent CNDDDB occurrences, with one overlapping the BRSA, and two undated occurrences within the search buffer (CDFW 2019b).	Present
Janish's beardtongue (<i>Penstemon janishiae</i>)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Gravelly and volcanic soils. Elevation: 3,500-7,700 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Seven recent CNDDDB occurrences and one historical occurrence within the search buffer (CDFW 2019b).	High
Volcanic beardtongue (<i>Penstemon sudans</i>)	—/—/1B.2	Great Basin scrub, lower montane coniferous forest (openings), pinyon and juniper woodland. Volcanic, rocky, and sometimes roadside soils. Elevation: 4,000-8,000 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Five occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). Ten recent CNDDDB occurrences, with one overlapping the BRSA, and two historical CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Naked-stemmed phacelia (<i>Phacelia gymnoclada</i>)	—/—/2B.3	Chenopod scrub, Great Basin scrub, pinyon and juniper woodland. Gravelly or clay soils. Elevation: 4,000-8,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Playa phacelia (<i>Phacelia inundata</i>)	—/—/1B.3	Great Basin scrub, lower montane coniferous forest, and playas. Alkaline soils. Elevation: 4,400-6,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One recent CNDDDB occurrence within the search buffer and one historical occurrence overlaps the BRSA (CDFW 2019b).	High
Blue alpine phacelia (<i>Phacelia sericea</i> var. <i>ciliosa</i>)	—/—/2B.3	Great Basin scrub and upper montane coniferous forest. Rocky soils. Elevation: 6,900-8,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub; however, the BRSA is below the known elevation range for this species. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Squarestem phlox (<i>Phlox muscoides</i>)	—/—/2B.3	Alpine boulder, rock field, Great Basin scrub, subalpine coniferous forest. Gravelly or rocky soils. Elevation: 4,200-8,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Whitebark pine (<i>Pinus albicaulis</i>)	FC/—/—	Upper red-fir forest to timberline. Elevation: 4,300-12,100 ft	No suitable habitat occurs in the BRSA. No CNDDDB occurrences within the search buffer (CDFW 2019b).	NE
Profuse-flowered pogogyne (<i>Pogogyne floribunda</i>)	—/—/4.2	Meadows, seeps, and vernal pools. Heavy clay soils. Elevation: 3,100-5,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. Two recent CNDDDB occurrences in the search buffer (CDFW 2019b).	High
Fremont's polyctenium (<i>Polyctenium fremontii</i> var. <i>fremontii</i>)	—/—/4.3	Great Basin scrub, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland, and playas. Mesic soils. Elevation: 3,200-6,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub, meadows and seeps, and juniper woodland. Twelve occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Present
Williams's combleaf (<i>Polyctenium williamsiae</i>)	—/—/1B.2	Great Basin scrub, marshes, swamps, pinyon and juniper woodland, playas, and vernal pools. Sandy, volcanic, and lake margins. Elevation: 4,400-8,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. One occurrence was detected during the 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). One historical CNDDDB occurrence within the search buffer and one recent occurrence that overlaps the BRSA (CDFW 2019b).	Present
Spiny milkwort (<i>Polygala subspinosa</i>)	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Gravelly and rocky soils. Elevation: 4,400-5,600 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Seven occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). Thirteen historical CNDDDB occurrences, six undated occurrences, and 29 recent CNDDDB occurrences, with two overlapping the BRSA, within the search buffer (CDFW 2019b).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Modoc County knotweed (<i>Polygonum polygaloides</i> ssp. <i>esotericum</i>)	—/—/1B.3	Great Basin scrub, lower montane coniferous forest, meadows, seeps, and vernal pools. Mesic soils. Elevation: 1,700-2,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub; however, the BRSA is above the known elevation range for this species. One historical CNDDDB occurrence within the search buffer (CDFW 2019b).	Low
Nuttall's ribbon-leaved pondweed (<i>Potamogeton epihydrus</i>)	—/—/2B.2	Marshes and swamps (assorted shallow freshwater). Elevation: 1,200-7,100 ft	Suitable habitat occurs in the BRSA; the BRSA contains freshwater meadows. One recent CNDDDB occurrence and three historical occurrences, with two overlapping the BRSA, within the search buffer (CDFW 2019b).	High
Eel-grass pondweed (<i>Potamogeton zosteriformis</i>)	—/—/2B.2	Marshes and swamps (assorted freshwater). Elevation: 0-6,100 ft	Suitable habitat occurs in the BRSA; the BRSA contains freshwater meadows. Three historical CNDDDB occurrences, with one overlapping the BRSA, within the search buffer (CDFW 2019b).	Moderate
Newberry's cinquefoil (<i>Potentilla newberryi</i>)	—/—/2B.3	Marshes and swamps (drying margins), vernal pools, and wetland riparian habitats. Elevation: 4,300-7,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains freshwater meadows. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Sticky pyrrocoma (<i>Pyrrocoma lucida</i>)	—/—/1B.2	Great Basin scrub, lower montane coniferous forest, meadows and seeps. Alkaline clay soils. Elevation: 2,300-6,400 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. Eighteen recent CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Macoun's buttercup (<i>Ranunculus macounii</i>)	—/—/2B.2	Great Basin scrub, meadows and seeps, pinyon and juniper woodland. Mesic soils. Elevation: 4,600-5,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands, meadows, seeps, and Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Alder buckthorn (<i>Rhamnus alnifolia</i>)	—/—/2B.2	Lower montane coniferous forest, meadows, seeps, riparian scrub, and upper montane coniferous forest. Elevation: 4,500-7,000 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Columbia yellow cress (<i>Rorippa columbiae</i>)	—/—/1B.2	Lower montane coniferous forest, meadows, seeps, playas, vernal pools, and mesic soils. Elevation: 3,900-5,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Winged dock (<i>Rumex venosus</i>)	—/—/2B.3	Great Basin scrub (sandy). Elevation: 3,900-5,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Ten occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). Six recent CNDDDB occurrences and five historical occurrences, with four overlapping the BRSA, within the search buffer (CDFW 2019b).	Present
Bebb's willow (<i>Salix bebbiana</i>)	—/—/2B.3	Marshes and swamps (streambanks and lake margins) and riparian scrub. Elevation: 3,900-7,300 ft	Suitable habitat occurs in the BRSA; the BRSA contains marshes and riparian scrub. One historical CNDDDB occurrence overlaps the BRSA (CDFW 2019b).	Moderate
Bailey's greasewood (<i>Sarcobatus baileyi</i>)	—/—/2B.3	Chenopod scrub. Alkaline, dry lakes, washes and roadside soils. Elevation: 4,900-5,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains roadsides. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Marsh skullcap (<i>Scutellaria galericulata</i>)	—/—/2B.2	Lower montane coniferous forest, meadows, seeps (mesic), marshes and swamps. Elevation: 0-6,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows and seeps. One recent CNDDDB occurrence within the search buffer (CDFW 2019b).	High
Holmgren's skullcap (<i>Scutellaria holmgreniorum</i>)	—/—/3.3	Great Basin scrub and pinyon and juniper woodland. Volcanic and clay soils. Elevation: 4,200-5,700 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub and juniper woodlands. Two historical CNDDDB occurrences within the search buffer, with one overlapping the BRSA (CDFW 2019b).	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Oregon champion (<i>Silene oregana</i>)	—/—/2B.2	Great Basin scrub, subalpine coniferous forest. Elevation: 4,900-8,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Three recent and one historical CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Currant-leaved desert mallow (<i>Sphaeralcea grossulariifolia</i>)	—/—/2B.3	Chenopod scrub and Great Basin scrub. Volcanic soils. Elevation: 3,900-6,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Prairie woundwort (<i>Stachys pilosa</i>)	—/—/2B.3	Great Basin scrub (mesic), meadows and seeps. Elevation: 3,900-5,800 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. One occurrence was detected during the 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). One historical CNDDDB occurrence within the search buffer and two historical occurrences overlap the BRSA (CDFW 2019b).	Present
Green-flowered prince's plume (<i>Stanleya viridiflora</i>)	—/—/2B.3	Great Basin scrub (white ash deposits). Elevation: 4,300-5,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One occurrence was detected during the 2019 surveys (refer to Attachment D, Botanical Resources Report, for location). Four recent CNDDDB occurrences, with two overlapping the BRSA; two historical occurrences, with one overlapping the BRSA; and two undated occurrences within the search buffer (CDFW 2019b).	Present
Woolly stenotus (<i>Stenotus lanuginosus</i> var. <i>lanuginosus</i>)	—/—/2B.2	Great Basin scrub, meadows and seeps, pinyon and juniper woodland. Gravelly loam. Elevation: 4,900-6,300 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands, meadows, seeps, and Great Basin scrub. Two occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). One recent CNDDDB occurrence overlaps the BRSA (CDFW 2019b).	Present
Little ricegrass (<i>Stipa exigua</i>)	—/—/2B.3	Rocky slopes in sagebrush scrub. Elevation: 5,900-7,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains sagebrush scrub; however, the BRSA is below the known elevation range for this species. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur²
Slender-leaved pondweed (<i>Stuckenia filiformis</i> ssp. <i>alpine</i>)	—/—/2B.2	Marshes and swamps (assorted shallow freshwater). Elevation: 1,000-7,000 ft	Suitable habitat occurs in the BRSA; the BRSA contains marsh habitat. One historical CNDDDB occurrence within the search buffer (CDFW 2019b).	Moderate
Western seablite (<i>Suaeda occidentalis</i>)	—/—/2B.3	Great Basin scrub (alkaline, mesic). Elevation: 4,000-4,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. Three undated CNDDDB occurrences overlap the BRSA, and two recent and one historical CNDDDB occurrences within the search buffer (CDFW 2019b).	High
Kitten-tails (<i>Synthyris missurica</i> ssp. <i>missurica</i>)	—/—/2B.3	Lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest. Elevation: 6,600-8,400 ft	Suitable habitat occurs in the BRSA; the BRSA contains small sections of lower montane coniferous forest; however, the BRSA is below the known elevation range for this species. Four historical and four recent CNDDDB occurrences within the search buffer (CDFW 2019b).	Low
Howell's thelypodium (<i>Thelypodium howellii</i> ssp. <i>howellii</i>)	—/—/1B.2	Great Basin scrub, meadows and seeps (alkaline). Elevation: 3,900-6,000 ft	Suitable habitat occurs in the BRSA; the BRSA contains meadows, seeps, and Great Basin scrub. No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Many-flowered thelypody (<i>Thelypodium milleflorum</i>)	—/—/2B.2	Chenopod scrub, Great Basin scrub (sandy). Elevation: 4,000-8,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains Great Basin scrub. One occurrence was detected during the 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). Eleven recent CNDDDB occurrences, with one overlapping the BRSA, and one historical occurrence within the search buffer (CDFW 2019b).	Present
Plummer's clover (<i>Trifolium gymnocarpon</i> ssp. <i>plummerae</i>)	—/—/2B.3	Great Basin scrub, pinyon and juniper woodland. Elevation: 4,900-6,300 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Five occurrences were detected during the 2019 and 2020 surveys (refer to Attachment D, Botanical Resources Report, for location). Five recent CNDDDB occurrences within the search buffer and one historical occurrence overlaps the BRSA (CDFW 2019b).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹ (Federal/State/ CRPR)	Habitat Description	Occurrence	Potential to Occur ²
Greene's tuctoria (<i>Tuctoria greenei</i>)	FE/—/1B.1	Vernal pools. Elevation: 90-3,500 ft	No suitable habitat occurs in the BRSA, and the BRSA is above the known elevation range for this species. No CNDDDB occurrences within the search buffer (CDFW 2019b).	NE
Western valerian (<i>Valeriana occidentalis</i>)	—/—/2B.3	Lower montane coniferous forest (mesic). Elevation: 4,900-5,900 ft	Suitable habitat occurs in the BRSA; the BRSA contains small sections of lower montane coniferous forest. One historical CNDDDB occurrence within the search buffer (CDFW 2019b).	Moderate
Golden violet (<i>Viola purpurea</i> ssp. <i>aurea</i>)	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Sandy soils. Elevation: 3,300-8,200 ft	Suitable habitat occurs in the BRSA; the BRSA contains juniper woodlands and Great Basin scrub. Two occurrences were detected during the 2019 surveys (refer to Attachment D, Botanical Resources Report, for location). One historical CNDDDB occurrence that overlaps the BRSA and two recent CNDDDB occurrences, with one overlapping the BRSA, within the search buffer (CDFW 2019b).	Present

Notes:

1. Status: (FE) Federal Endangered, (FT) Federal Threatened, (FC) Federal Candidate, (SE) State Endangered.

California Rare Plant Rank (CRPR) Codes and Extensions (CNPS 2020):

1B = Plants rare, threatened, or endangered in California and elsewhere.

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

3 = Review list: Plants about which more information is needed

4 = Plants of limited distribution—a watch list.

XX.1 Seriously threatened in California

XX.2 Moderately threatened in California

xx.3. Not very endangered in California

2. Potential to Occur: (NE) Not Expected – species with no range overlap within the BRSA; (Low) Low Potential – species with no or limited suitable habitat within the BRSA; (Moderate) Moderate Potential – species with suitable habitat present and either no publicly available occurrence records or publicly available occurrences records that are historical (i.e., more than 25 years old) within the BRSA; (High) High Potential – species with suitable habitat present and recent (within the last 25 years) publicly available occurrence records within the BRSA; and (Present) Present - species documented within the BRSA during Stantec field surveys.

In the Occurrence column, "recent" refers to occurrence data documented within the last 25 years, while "historical" occurrence data are more than 25 years old.

BRSA = Biological Resources Survey Area

CNDDDB = California Natural Diversity Database

ft = feet

search buffer = 5-mile CNDDDB search buffer around BRSA

Sources: CDFW 2019a; CNPS 2019a, 2020; Jepson Flora Project 2019; USFWS 2020b, c



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

3.3.2 Special Status Wildlife

3.3.2.1 Desktop Analysis

Table 3-5 lists all the special status fish and wildlife species that are known to or have the potential to occur within the BRSA and includes their status, habitat requirements, and potential occurrence. The table includes all species provided on the official USFWS (2020c, b) species lists even if they are not expected to occur within the BRSA.

3.3.2.2 Field Survey

Stantec biologists did not observe pygmy rabbits or their sign during the April 2020 surveys and determined that all big sagebrush habitats in the BRSA are unlikely to support pygmy rabbits for one or more of the following reasons:

- very rocky or sandy soils
- lack of mature or tall shrubs
- insufficient density of shrubs or lack of shrub clusters
- lack of understory
- understory that is too dense
- degradation from grazing or other anthropogenic activities
- western juniper presence
- proximity to high-volume traffic highway

The biologists documented 107 raptor and common raven nests during April 2020 field surveys (Attachment A, Figure A-2). Fifty-five nests were inactive, and 52 were active and attributed to the following species: American kestrel, *Falco sparverius*, (**1**); Canada goose⁶, *Branta canadensis* (**1**); common raven (**18**); great horned owl, *Bubo virginianus* (**2**); red-tailed hawk, *Buteo jamaicensis*, (**28**); and Swainson's hawk (**2**). The Stantec biologists also recorded 74 special status species locations associated with 18 different species (17 birds and 1 mammal). Table 3-5 identifies the special status species observed during the April 2020 field surveys and Attachment A, Figure A-2 shows their locations in or near the BRSA.

Stantec biologists recorded 105 different wildlife species during the April 2020 field surveys, including nine mammals, 93 birds, two reptiles, and one amphibian (Table 3-6).

⁶ Canada goose pair was nesting in an old raptor stick nest.



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Table 3-5: Special Status Fish and Wildlife Species Known to or Have the Potential to Occur in the Biological Resources Survey Area

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Mammals				
American badger (<i>Taxidea taxus</i>)	SSC	Inhabits drier, open stages of shrub, forest, and herbaceous habitat with friable soils for digging burrows and abundant fossorial rodent prey throughout California (Ahlborn 1988). <i>Bitterbrush, sagebrush, montane chaparral, alkali desert scrub annual grassland, perennial grassland, and irrigated hayfield</i>	Open, dry habitats throughout entire BRSA may provide suitable habitat. One badger carcass was observed within the BRSA in Modoc County, and multiple potential burrows were documented in Lassen County (Attachment A, Figure A-2). Three historical CNDDDB occurrences within the search buffer with one overlapping BRSA, and one undated CNDDDB occurrence overlapping BRSA (CDFW 2019b).	Present
California myotis (<i>Myotis californicus</i>)	WBWG	Inhabits desert, chaparral, and forest habitats and roosts in buildings, under tree bark, caves, and mines. Forages low over ground, water, and vegetation. Year-round residents in California and may only move locally between suitable roosting and hibernation structures (Harris 1988a). <i>Jeffrey pine, juniper, aspen, montane chaparral, montane riparian, alkali desert scrub, urban, and barren</i>	The BRSA is in species range (CDFW 2019f), and suitable foraging habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Fringed myotis (<i>Myotis thysanodes</i>)	WBWG	<p>Inhabits pinyon-juniper forest, valley foothill hardwood forest, and hardwood-conifer forest habitats and roosts in caves, mines, and buildings. Forages over water, open habitat, and among foliage. Year-round residents in California and moves locally between suitable roosting and hibernation structures (Harris 1988b).</p> <p>Jeffery pine, juniper, aspen, urban, and barren</p>	<p>The BRSA is in species range (CDFW 2019f), and suitable foraging habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).</p>	Moderate
Gray wolf (<i>Canis lupus</i>)	FE, SE	<p>Inhabits diverse habitats including tundra, forest, grassland, and desert. Habitat use affected by availability and abundance of prey, snow conditions, protected and public land ownership, road density, human presence and conflicts, and topography. Den sites occur in rock crevices, hollow logs, or under roots of trees (Kovacs et al. 2016; CDFW 2019e).</p>	<p>Two historical CNDDDB occurrences overlap the BRSA, one more than 90 years old and the other more than 100 years old (CDFW 2019b). The approximate area of activity in California as of October 2019 (CDFW 2019e) is west of the BRSA in Lassen and Plumas Counties. Not considered to be active in BRSA, therefore, not expected to occur within BRSA.</p>	NE
Hoary bat (<i>Lasiurus cinereus</i>)	WBWG	<p>Inhabits a variety of open or mosaic forest habitats and roosts in dense foliage of medium to large trees. Forages in open or edge habitats. Year-round residents in California; however, their migrations between summer and winter roosting and hibernation sites can be over long distances. Typically hibernates along the coast and in the southern portion of the state (Harris 1988c).</p> <p>Jeffery pine, juniper, aspen, and montane riparian</p>	<p>The BRSA is in species range (CDFW 2019f), and suitable foraging habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).</p>	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Little brown bat (<i>Myotis lucifugus</i>)	WBWG	<p>Inhabits mid to high forest, sagebrush, bitterbrush, alkali desert scrub, wet meadow, and montane chaparral habitats. Forages over water and along forest edges and roosts in buildings, trees, under rock or wood, caves, and mines. Year-round residents in California. Migrations between summer and winter roosting and hibernation sites can be local movements or may be over long distances depending on available habitats and environmental conditions (Harris 1988d).</p> <p>Jeffery pine, juniper, aspen, montane riparian, bitterbrush, sagebrush, montane chaparral, alkali desert scrub, wet meadow, urban, and barren</p>	<p>The BRSA is in species range (CDFW 2019f), and suitable foraging habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).</p>	Moderate
Long-eared myotis (<i>Myotis evotis</i>)	WBWG	<p>Inhabits brush and forest habitats and roosts in buildings, crevices, under tree bark, snags, and caves. Forages along habitat edges, open habitat, and over water. Year-round residents in California and may make local movements between summer and winter roosting and hibernation sites (Harris 1988e).</p> <p>Jeffrey pine, juniper, aspen, montane riparian, bitterbrush, sagebrush, montane, chaparral, urban, and barren</p>	<p>Suitable foraging habitats with nearby roosting structures may provide habitat in the search buffer (Attachment A, Figure A-2). One historical CNDDDB occurrence within the search buffer (CDFW 2019b).</p>	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Long-legged myotis (<i>Myotis volans</i>)	WBWG	<p>Inhabits forest, chaparral, coastal scrub, and Great Basin shrub habitats and roosts in rock crevices, under tree bark, snags, mines, and caves. Forages over water, vegetation, and habitat openings water. Year-round residents in California and may make local movements or short distance migrations between summer and winter roosting and hibernation sites (Harris 1988f).</p> <p><i>Jeffery pine, juniper, aspen, montane riparian, bitterbrush, sagebrush, montane chaparral, urban, and barren</i></p>	<p>The BRSA is in species range (CDFW 2019f), and suitable foraging habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).</p>	Moderate
Mexican free-tailed bat (<i>Tadarida brasiliensis</i>)	WBWG	<p>Inhabits basically all habitat types, with open woodlands, shrublands, and grasslands preferred. Roosts in caves, mines, buildings, and bridges. Forages high above landscape. Year-round residents in California with populations east of the Sierra Nevada Mountain range migrating north in spring and south in fall (Harris 1988g).</p> <p><i>Jeffery pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, annual grassland, perennial grassland, irrigated hayfield, urban, and barren</i></p>	<p>The BRSA is in species range (CDFW 2019f), and suitable foraging habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB records within the search buffer (CDFW 2019b).</p>	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
North American wolverine (<i>Gulo gulo luscus</i>)	FPT, ST, FP	Northern Sierra Nevada population inhabits mixed conifer, red fir, and pine habitats from 4,300 to 7,300 ft and possibly also subalpine conifer, alpine dwarf-shrub, wet meadow, and montane habitats. Prefers habitats with low human disturbances and caves, cliff hollows, logs, rock outcrops, cavities in ground, and burrows in dense forest for den sites. Forages in open to sparse tree habitats. Travels extensively inside and outside home range. Occurs in low population densities and likely not historically common in California (Johnson 1988).	Suitable habitat with low-human disturbance is not present in BRSA. No CNDDDB occurrences within the search buffer (CDFW 2019b). The current range is west of BRSA in the Sierra Nevada foothills of southern Lassen County and northern Sierra County (CDFW 2019f).	NE
Pallid bat (<i>Antrozous pallidus</i>)	SSC, WBWG	Inhabits open, dry habitats with rocky roosting areas in variety of habitats including forests, desert, grasslands, shrublands, and open. Roosts in caves, crevices, mines, hollow trees, bridges, and buildings. Year-round residents in most of their range and may only move locally between summer roosts and winter hibernation sites (Harris 1988h; Bolster 1998). Jeffrey pine, juniper, bitterbrush, sagebrush, alkali desert scrub, annual grassland, perennial grassland, irrigated hayfield, urban, and barren	The BRSA is in species range (CDFW 2019f), and open, dry habitats with nearby roosting structures may provide habitat throughout the entire BRSA (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Pygmy rabbit (<i>Brachylagus idahoensis</i>)	SSC	Occurs in habitats with structurally dense, tall sagebrush providing ample cover, with deep, friable soils for burrowing, grass and forb cover for summer and fall foraging. Highly dependent on big sagebrush to provide both food and shelter throughout the year (Bolster 1998; Heady and Laundré 2005; Hoefler 1988). Sagebrush	The entire BRSA from Lassen County MP 16.0 north to the Oregon border overlaps the pygmy rabbit's range (CDFW 2019f). Two historical CNDDDB occurrences within the search buffer, which do not overlap the BRSA (CDFW 2019b). Targeted surveys conducted during April 2020 did not detect individuals or sign, and sagebrush habitat within the BRSA was marginally suitable (Attachment A, Figure A-2).	Moderate
Sierra Nevada red fox (<i>Vulpes vulpes necator</i>)	FC, ST	Uses a variety of habitats including meadows, rocky areas, conifer forests, and chaparral in alpine and subalpine zones from 3,937 to 11,811 ft elevation. Likely occurs in low population densities throughout range. Three separate areas are within historical range in California: Mt. Shasta to Trinity Mountains; Cascade Mountains around Lassen Peak; and the upper elevation Sierra Nevada Mountain Range from Tulare to Sierra Counties. Two current sighting areas in California: Lassen and Sonora Pass (Perrine et al. 2010; USFWS 2015).	One historical occurrence within the search buffer that is presumed to be this species, but identification has not been conclusively determined (CDFW 2019b). The BRSA falls outside the historical range and current USFWS sighting areas (USFWS 2015).	NE
Sierra Nevada snowshoe hare (<i>Lepus americanus tahoensis</i>)	SSC	Occurs in riparian habitats with thickets of deciduous trees and shrubs and patches of Ceanothus and manzanita chaparral. Bolster (1998) published elevation range is 4,800-8,000 ft, and the CNDDDB records elevation range is 5,200-8,600 ft. Distribution is patchy, and populations are rare to uncommon in California. Range includes southern Lassen County along the western edge of Honey Lake (Bolster 1998).	Rare to uncommon in California. The BRSA runs along the edge of the modeled range of the subspecies near Honey Lake (CDFW 2019f); however, the elevation in this area (4,034-4,208 ft) is well below the species' known elevation (4,800-8,600 ft). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Silver-haired bat (<i>Lasiorycteris noctivagans</i>)	WBWG	<p>Inhabits varies mesic forest habitats including montane conifer forest, valley foothill woodland, pinyon-juniper woodland, and montane riparian. Roosts in snags, buildings, rock crevices, caves, and under tree bark. Forages over streams, ponds, and open brushy areas. Year-round residents in California and may make long-distance migrations between summer and winter roosting and hibernation sites (Harris 1988i).</p> <p><i>Jeffery pine, juniper, aspen, montane riparian, urban, and barren</i></p>	<p>The BRSA is in species range (CDFW 2019f), and suitable grassland and montane conifer habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).</p>	Moderate
Spotted bat (<i>Euderma maculatum</i>)	SSC, WBWG	<p>Inhabits deserts, grasslands, and montane conifer forests. Solitarily roosts in rock crevices and cliffs, typically near water, and occasionally roosts in caves, mines, and buildings. Information on seasonal movements is limited, though data suggest that the species does not migrate long distances to hibernation sites (Harris 1998j; Bolster 1998).</p> <p><i>Jeffery pine, juniper, bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, wet meadow, irrigated hayfield, urban, and barren</i></p>	<p>The BRSA is in species range (CDFW 2019f), and suitable grassland and montane conifer habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).</p>	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Townsend's big-eared bat <i>(Corynorhinus townsendii)</i>	SSC, WBWG	<p>Found throughout California in all habitats except subalpine and alpine habitats. Most abundant in mesic habitats. Roosts in caves, mines, tunnels, buildings, or other human-made structures for roosting. Year-round and relatively sedentary residents in California and may only move locally between summer roosts and winter hibernation sites (Bolster 1998; Harris 1998k).</p> <p>All habitat communities, especially mesic habitats like montane riparian, wet meadow, and riverine</p>	<p>The BRSA is in species range (CDFW 2019f), and suitable foraging habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). One historical CNDDDB occurrence within the search buffer (CDFW 2019b).</p>	Moderate
Western white-tailed jackrabbit <i>(Lepus townsendii townsendii)</i>	SSC	<p>Occurs in open habitats including sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, perennial grassland with scattered shrubs, wet meadow, and early successional stages of various conifer habitats. Migrates to higher areas in summer and descends to lower elevations in winter. An uncommon to rare year-round resident of the crest and upper eastern slope of the Sierra Nevada (Bolster 1998; Duke and Hoefler 1988).</p> <p>Jeffrey pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, wet meadow, and emergent fresh wetland</p>	<p>The BRSA occurs within range (CDFW 2019f), and suitable shrubland, grassland, and woodland habitats may be present throughout the BRSA (Attachment A, Figure A-2). Three historical CNDDDB occurrences overlap the BRSA (CDFW 2019b).</p>	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Yuma myotis (<i>Myotis yumanensis</i>)	WBWG	Inhabits open forests and roosts in buildings, mines, caves, and under bridges. Forages over water. Year-round residents in California and may make local or short-distance migrations between summer and winter roosting and hibernation sites (Harris 1998I). <i>Jeffery pine, juniper, aspen, montane riparian, wet meadow, fresh emergent wetland, riverine, urban, and barren</i>	The BRSA is in species range (CDFW 2019f), and suitable foraging habitats with nearby roosting structures may provide habitat (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b).	Moderate
Birds				
American peregrine falcon (<i>Falco peregrinus anatum</i>)	FP	Occurs in a wide range of habitats including wetlands, deserts, forests, and islands. In California, breeding habitats include a variety of locations from cliffs in uninhabited areas to tall buildings or bridges within the urban landscape (CDFW 2019g). May travel up to 25 miles from nests (Enderson and Craig 1997). <i>All habitat communities</i>	Suitable habitat occurs throughout the BRSA (Attachment A, Figure A-2). No CNDDDB occurrences within the search buffer (CDFW 2019b), but numerous recent eBird (2020) records within the search buffer, including two records within the BRSA. Few breeding territories in project counties (CDFW n.d.), and no nesting substrates within the BRSA. Documented records in BRSA likely hunting or roosting birds.	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
American white pelican (<i>Pelecanus erythrorhynchos</i>)	SSC ⁴	<p>In California, nests on the ground on earthen, sandy, and rocky islands but rarely on peninsulas and locally on floating tulemat islands. Forages in shallow inland waters less than 8.2 ft deep, such as open areas in marshes and along lake or river edges (Shuford 2008a). Breeding season is from March to July (Shuford 2008a).</p> <p><i>Wet meadow, fresh emergent wetlands, and riverine</i></p>	<p>The entire BRSA overlaps their breeding range (Shuford 2008a). No CNDDDB occurrences in the search buffer (CDFW 2019b); however, numerous recent eBird (2020) records within the search buffer, including within the BRSA. The nearest current nesting locations are Clear Lake in Modoc County and Anaho Island in Washoe County, Nevada (40 miles west and 30 miles east of the BRSA, respectively) (Shuford 2008a; NDOW 2019; USFWS 2013). Foraging spots are often 30 or more miles from breeding locations (USFWS 2013). Nesting habitats are absent in the BRSA, but foraging habitat is present. Three observations of small flocks (3 to 5 birds) documented during April 2020 field surveys in Modoc County (Attachment A, Figure A-2).</p>	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Bald eagle (<i>Haliaeetus leucocephalus</i>)	SE, FP, BGEPA	<p>In winter, found at lakes, reservoirs, rivers, and some rangelands. Breeding habitats are mainly in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers. Typically builds their large stick nests in the upper canopy of the tallest trees in the area (CDFW 2019h).</p> <p><i>Jeffrey pine, juniper, aspen, montane riparian, wet meadow, fresh emergent wetland, and riverine</i></p>	<p>Range overlaps the entire BRSA; however, according to CNDDDB, only two known breeding locations are within the search buffer (Buehler 2000; CDFW 2019b, i; eBird 2020). Known breeding locations are in the Goose Lake area—one about 0.75 mile east of Modoc County MP 45.1 and one about 2.2 miles east of Modoc County MP 57.4 (CDFW 2019b). Numerous recent eBird records scattered along the entire search buffer, including records within the BRSA. Unlikely to nest within the BRSA due to lack of potential large trees, but suitable hunting and roosting habitat throughout. No nests recorded within or adjacent to the BRSA during April 2020 field surveys, but one soaring individual recorded in Modoc County (Attachment A, Figure A-2).</p>	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Bank swallow (<i>Riparia riparia</i>)	ST	<p>Migrates to Northern and Central California from Central and South America to breed. Nests in colonies along eroded, vertical banks within river systems with sandy soils. Nesting colonies also found in artificial sites like sand quarries and road cuts. Forages in a variety of aquatic and terrestrial open habitats (BSTAC 2013).</p> <p><i>Nesting: Riverine. Foraging: bitterbrush, sagebrush, alkali desert scrub, annual grassland, perennial grassland, wet meadow, fresh emergent wetland, riverine, irrigated hayfield, and barren</i></p>	<p>The entire BRSA overlaps breeding range; however, suitable nesting habitat limits their distribution in the region to Long Valley Creek near the southern end of the BRSA, Baxter Creek and Susan River near Honey Lake, and the Pit River and its tributaries near Alturas (BSTAC 2013; CDFW 2019b; Garrison 1998,1999). CNDDDB also has a bank swallow colony polygon within the BRSA (recorded 2011) at a sand and gravel operation just east of the BRSA between Lassen County MP 77.6 and MP 78.5 (CDFW 2019b). One other recent (2006) CNDDDB bank swallow colony record overlaps the BRSA between Sierra County MP 0.0 and MP 0.4 (Long Valley Creek). eBird (2020) records are primarily located in the three areas described above; however, additional observations of 1 to 5 birds occurred in several other locations. Suitable foraging habitat is scattered throughout the BRSA, and suitable nesting banks were observed at four locations along Long Valley Creek during field surveys in April 2020, with no current sign of nesting activity (Attachment A, Figure A-2).</p>	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Black tern (<i>Chlidonias niger</i>)	SSC ⁴	<p>In northeastern California, nests semi-colonially in protected areas of marshes dominated by low emergent vegetation. Vegetative cover is usually greater than 80 percent. Also occurs as a migrant (Shuford 2008b). Breeding season is from May to August (Shuford 2008b).</p> <p>Wet meadow, fresh emergent wetland, and riverine</p>	<p>The entire BRSA overlaps breeding range (Shuford 2008b). No CNDDDB occurrences (CDFW 2019b), but there are recent eBird (2020) records within the search buffer, including two within the BRSA. A 2010 breeding inventory of northeastern California did not document nesting within the BRSA (Shuford et al. 2016). The nearest colony to the BRSA was about 5 miles east of Likely; however, the 2010 inventory was conducted after several years of drought, and other nesting areas may occur within 5 miles of the BRSA following wetter years. Nesting habitat not available in or adjacent to the BRSA, but suitable foraging habitat is scattered throughout (Attachment A, Figure A-2).</p>	High
Brewer's sparrow (<i>Spizella breweri</i>)	BCC	<p>Breeds in shrublands, most often associated in areas dominated by big sagebrush (Rotenberry et al. 2020).</p> <p>Bitterbrush, sagebrush, montane chaparral, and alkali desert scrub</p>	<p>The entire BRSA overlaps breeding and migration range (Rotenberry et al. 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b), but there are numerous recent eBird (2020) records scattered along the entire search buffer, including records within the BRSA. Two individuals were detected during April 2020 field surveys. Suitable habitat is scattered throughout the BRSA (Attachment A, Figure A-2).</p>	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Burrowing owl (<i>Athene cunicularia</i>)	SSC ⁴	Breeds in a variety of open arid and semi-arid habitats characterized by the presence of mammal burrows in generally treeless habitats with sparse shrubs and ground vegetation and areas of bare ground. Also breeds in human-modified habitats, such as airports, golf courses, and banks of impoundments (Klute et al. 2003; Poulin et al. 2011). Breeding season is from March to August (Poulin et al. 2011). <i>Bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, irrigated hayfields, and barren</i>	The entire BRSA overlaps their breeding range (Klute et al. 2003; Poulin et al. 2011). Two recent CNDDDB occurrences between 3 and 5 miles east of the BRSA just north of Honey Lake (CDFW 2019b). Scattered recent eBird (2020) records in the search buffer, including one recent and one historical record within the BRSA in Lassen County. Possible breeding birds may occur in any non-aquatic treeless areas with sparse vegetation in the BRSA (Attachment A, Figure A-2).	High
California gull (<i>Larus californicus</i>)	WL ⁵	Breeding colonies are nearly always on islands on natural lakes, rivers or reservoirs, varying from fresh oligotrophic lakes and rivers to saline lakes saturated with dissolved salts at elevations ranging from sea level to more than 9,000 ft. May forage at great distances from colonies (Winkler 2020).	The entire BRSA overlaps breeding range (Winkler 2020). Two recent CNDDDB nesting colony records within the search buffer: one along Goose Lake and associate tributaries and one along Honey Lake (CDFW 2019b). No CNDDDB nesting colony records within the BRSA. eBird (2020) records do not indicate breeding colonies occurring within the BRSA. Despite the range overlaps and nearby records, islands on lakes, rivers, or reservoirs do not occur within the BRSA.	NE
Calliope hummingbird (<i>Selasphorus calliope</i>)	BCC	Typically occupies shrub-sapling stage montane forest/woodland habitats, although may occur at lower elevations (Calder and Calder 2020). <i>Jeffrey pine, aspen, and montane riparian</i>	No CNDDDB occurrence records in the search buffer (CDFW 2019b) and few eBird (2020) occurrence records scattered along the search buffer. Small amounts of suitable breeding habitat within the BRSA, where forest, woodland, or thicket habitats occur in montane areas (Attachment A, Figure A-2).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Cooper's hawk (<i>Accipiter cooperii</i>)	WL ⁵	Coniferous, deciduous, and mixed forests. Increasingly in urban and suburban areas (NatureMapping n.d.; Rosenfield et al. 2020) Jeffrey pine, juniper, aspen, montane riparian, and urban	Year-round range overlaps the entire BRSA (Rosenfield et al. 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b); however, there are numerous eBird (2020) records scattered across the search area, including within the BRSA. Most records are concentrated from the Nevada border to Honey Lake and from Alturas to the Oregon border. Possible habitat occurs in the BRSA in any treed habitats (Attachment A, Figure A-2).	High
Double-crested cormorant (<i>Phalacrocorax auritus</i>)	WL ⁵	Colonies on small rocky or sandy islands on ponds, lakes, slow-moving rivers, and other bodies of water. May also nest on artificial substrates, trees, or vegetation mats in marshes. Uses sites free from ground predators and near foraging areas (Dorr et al. 2020).	No CNDDDB occurrences in the search buffer (CDFW 2019b); however, there are scattered eBird (2020) records in the search buffer, primarily in the Honey Lake and Modoc NWR areas. Nesting habitat is absent within the BRSA, but foraging or non-breeding birds may occur in open water areas within the BRSA.	NE
Eared grebe (<i>Podiceps nigricollis</i>)	BCC	Breeds on shallow lakes and ponds with emergent vegetation and highly productive macroinvertebrate communities. Most winter on the coast, and few winter at inland lakes and reservoirs (Cullen et al. 2020). Fresh emergent wetland and riverine	The BRSA overlaps breeding range (Cullen et al. 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b), but there are eBird (2020) occurrence records concentrated near Honey Lake, Modoc NWR, and Goose Lake areas. eBird records are primarily spring through fall, but there are few winter records also present. One individual was observed foraging in Modoc NWR just outside the BRSA during the April 2020 wildlife survey (Attachment A, Figure A-2).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Ferruginous hawk (<i>Buteo regalis</i>)	WL ⁶ , BCC	Breeds in grassland and shrub-steppe, sometimes on the periphery of pinyon-juniper habitats. Nests in lone trees or artificial structures. Winters in open habitats with abundant small mammal prey (Ng et al. 2020). <i>Bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, and irrigated hayfield</i>	The entire BRSA overlaps year-round range (eBird 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b); however, there are numerous eBird (2020) occurrence records within the search buffer, including within the BRSA. eBird breeding season records are uncommon and concentrated more near agricultural areas, but the species is relatively abundant during winter and migration. Potential habitat is common throughout the BRSA (Attachment A, Figure A-2).	High
Flammulated owl (<i>Psiloscoops flammeolus</i>)	BCC	Breeds in mature to old dry montane conifer or aspen forests, often with oak (<i>Quercus</i> sp.), dense saplings, or other brushy understory. Nests in tree cavities (Linkhart and McCallum 2020). <i>Jeffrey pine and aspen</i>	The BRSA may overlap breeding range in montane coniferous forest areas. No CNDDDB occurrences in the search buffer (CDFW 2019b). There are eBird (2020) records in the search buffer, primarily within the portion of the Warner Mountains just south of the Oregon border, with two additional records near Doyle (Lassen County) and one record near Alturas (Modoc County). Minimal potential breeding habitat within the BRSA (Attachment A, Figure A-2).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Golden eagle (<i>Aquila chrysaetos</i>)	WL ^{5,6} , FP, BGEPA	<p>In California, inhabits a variety of habitats including forests, canyons, shrublands, grasslands, and oak woodlands. Constructs nests on platforms on steep cliffs or in large trees in open areas (CDFW 2019j).</p> <p>Jeffery pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, and perennial grassland</p>	<p>The entire BRSA overlaps year-round range (Kochert et al. 2002). Four recent and four historical CNDDDB occurrences of active nests within the search buffer, with the closest recent record being 0.6 mile west of the BRSA (CDFW 2019b). Many eBird (2020) observation records within or near the BRSA during all seasons. Nesting is unlikely within BRSA due to lack of suitable substrates and their sensitivity to human disturbance, such as US 395 (CDFW 2019j; Tesky 1994). Foraging, perching, or migrating birds could occur in any part of the BRSA. Two adults were observed soaring/foraging during April 2020 field surveys (Attachment A, Figure A-2).</p>	Present
Greater sage-grouse (<i>Centrocercus urophasianus</i>)	SSC	<p>Dependent on sagebrush year-round for food and cover. In summer and early fall, may move to other habitats that are rich in forbs and insects, such as meadows, riparian areas, and croplands (Hall et al. 2008).</p> <p>Year-round: Sagebrush. Summer/early fall: sagebrush, montane riparian, wet meadow, and irrigated hayfield</p>	<p>Year-round range historically overlapped most of the BRSA except between about Lassen MP 25.0 and Lassen MP 79.0, and between about Lassen MP 129.0 and Modoc MP 2.0. The range has contracted, particularly in Modoc County, where the BRSA crosses the current year-round range between about Modoc MP 2.0 and MP 17.0 (Hall et al. 2008). Sixteen CNDDDB records, all in Modoc County, for lekking activity within the search buffer from 1994 (CDFW 2019b). Closest CNDDDB occurrence is 0.4 mile east of the BRSA. Numerous eBird (2020) records within the BRSA and in surrounding areas, mostly concentrated in the Lassen County portion, particularly north of Honey Lake. Suitable sagebrush habitat present throughout much of the BRSA (Attachment A, Figure A-2).</p>	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Greater sandhill crane (<i>Antigone canadensis tabida</i>)	ST, FP	<p>In northeastern California, breeding habitat includes wet meadows with grasses, sedges, rushes (<i>Juncus</i> spp.), spikerush (<i>Eleocharis</i> spp.), hardstem bulrush, and broadleaf cattail. In migration, forages in agricultural fields and roosts in wetlands and shallow areas of waterbodies (Gerber et al. 2014).</p> <p>Wet meadows, fresh emergent wetland, riverine, and irrigated hayfield</p>	<p>Range overlaps nearly the entire BRSA, except about the 20 southernmost miles (Schlorff 2005). Does not overwinter in or near the BRSA. More than 100 CNDDDB occurrences within the search buffer, a large majority of which are concentrated in Modoc County (CDFW 2019b). Numerous eBird (2020) records in and near the BRSA. Breeding and migration stopover habitat present in locations throughout the BRSA. Observed by Stantec within the BRSA at Modoc NWR in September 2019, and 13 observations of one or more birds at several locations within or near the BRSA during the April 2020 field surveys. One active nest was recorded very near the BRSA during the April 2020 surveys (Attachment A, Figure A-2).</p>	Present
Green-tailed towhee (<i>Pipilo chlorurus</i>)	BCC	<p>Breeds in dry, mixed-shrub, and shrub-steppe habitats (Dobbs et al. 2020).</p> <p>Bitterbrush, sagebrush, montane chaparral, and alkali desert scrub</p>	<p>The entire BRSA overlaps the breeding (May to August) range (Dobbs et al. 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b); however, eBird (2020) occurrence records are scattered within the search buffer, including some within the BRSA, in all three project counties. Suitable shrub breeding habitats within the BRSA (Attachment A, Figure A-2).</p>	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Least bittern (<i>Ixobrychus exilis</i>)	SSC ⁴	Nests and forages in freshwater and brackish marshes with tall, dense vegetation (Sterling 2008). Fresh emergent wetland and wet meadow	Breeding (May to August) range overlaps the BRSA near Honey Lake and Modoc NWR (Sterling 2008). No CNDDDB occurrences in the search buffer (CDFW 2019b) and no eBird (2020) records. Probably very rare in northeastern California, given that very few have been observed despite years of waterbird surveys in the region (Sterling 2008). Potential wetland habitat within or adjacent to the BRSA in Honey Lake and Modoc NWR areas (Attachment A, Figure A-2).	Low
Lewis's woodpecker (<i>Melanerpes lewis</i>)	BCC	Breeds in open canopy, forest, and riparian habitats with brushy understory. Typically winters in oak woodlands and orchards (Vierling et al. 2020). Jeffery pine, juniper, aspen, and montane riparian	The entire BRSA overlaps the year-round range (Vierling et al. 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b); however, numerous recent eBird (2020) occurrence records within the search buffer and within the BRSA between the Nevada border and Lassen MP 70.2. Recent eBird records also present near Likely, Alturas, Davis Creek, and New Pine Creek in Modoc County. Two observations of groups of individuals recorded in Lassen County during the April 2020 field surveys (Attachment A, Figure A-2).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Loggerhead shrike (<i>Lanius ludovicianus</i>)	SSC ⁴	<p>In California, breeds mainly in shrublands or open woodlands (e.g., juniper) with a fair amount of grass cover and in areas of bare ground. Requires tall shrubs or trees for nests and perches and may also use fences and power lines for perches (Humple 2008).</p> <p><i>Juniper, montane riparian, bitterbrush, sagebrush, montane chaparral, and alkali desert scrub</i></p>	<p>The entire BRSA overlaps breeding (February to July) range (Humple 2008; Yosef 1996). No CNDDDB occurrences in the search buffer (CDFW 2019b), but there are eBird (2020) records scattered along the BRSA and surrounding areas. Potential breeding habitat common throughout the BRSA. Three observations of adults recorded during the April 2020 field surveys (Attachment A, Figure A-2).</p>	Present
Long-billed curlew (<i>Numenius americanus</i>)	WL ⁵ , BCC	<p>Breeds in flat to rolling open grasslands. Habitats with trees, high density of shrubs, and tall, dense grass generally avoided (Dugger and Dugger 2020; Pampush and Anthony 1993). Also commonly nests in pastures, and rarely in other agricultural fields (Dechant et al. 1999; Dugger and Dugger 2020).</p> <p><i>Breeding: Annual grassland, and perennial grassland</i></p>	<p>The BRSA overlaps breeding range (April to July) (Dugger and Dugger 2020; eBird 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b), but there are numerous recent eBird (2020) records scattered across the search buffer, including within the BRSA, particularly in flatter areas from Honey Lake north to the Oregon border. Potential breeding habitat is present in the BRSA. A flock of 24 were observed in an agricultural field in Modoc County during the April 2020 field surveys (Attachment A, Figure A-2).</p>	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Long-eared owl (<i>Asio otus</i>)	SSC ⁴	Nests in conifer, oak, riparian, pinyon-juniper, and desert woodlands that are either open or are adjacent to open habitats, which they use for foraging (Hunting 2008). Jeffery pine, juniper, aspen, and montane riparian	The entire BRSA overlaps their breeding (February to July) range (Hunting 2008; Marks et al. 1994). Northeastern California may be the center of abundance for the species in California (Hunting 2008). Two recent and two historical CNDDDB breeding records within the search buffer, with the recent record occurring 0.8 mile west of the BRSA (CDFW 2019b). Few eBird (2020) records near the BRSA, mostly in the Honey Lake area. Forests and woodlands in the BRSA may provide breeding habitat, and nearby open areas may provide foraging opportunities (Attachment A, Figure A-2).	Moderate
Marbled godwit (<i>Limosa fedoa</i>)	BCC	During migration, flocks in a variety of wetland types (Gratto-Trevor 2020). Wet meadow, fresh emergent wetland, and riverine	The BRSA overlaps spring and fall migration range (eBird 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b); however, there are scattered recent eBird (2020) records in the search buffer, including the BRSA, during spring and fall in the Honey Lake, Modoc NWR, and Goose Lake areas. Possible migration anywhere in the BRSA where wetland or other waters habitats occur (Attachment A, Figure A-2).	High
Merlin (<i>Falco columbarius</i>)	WL ⁶	Winters in open forests, grasslands, and urban areas (Warkentin et al. 2020). Jeffery pine, juniper, aspen, montane riparian, annual grassland, perennial grassland, irrigated hayfields, and urban	The entire BRSA overlaps winter range (eBird 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b); however, there are recent eBird (2020) records scattered across the search buffer, including within the BRSA. eBird records are most common near Honey Lake and Alturas areas. Potential winter habitat common in the BRSA (Attachment A, Figure A-2).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Northern goshawk (<i>Accipiter gentilis</i>)	SSC	Nests in mature and old-growth forest. Suitable stands occur in a broad range of conifer and conifer-hardwood types, rarely pinyon-juniper (Keane 2008). <i>Jeffery pine, aspen, and montane chaparral</i>	One recent and 16 historical CNDDDB nesting records in the Warner Mountains, the closest of which is 0.5 mile east of the BRSA (CDFW 2019b). Most recent eBird (2020) records within the search area also located in the Warner Mountains. One recent eBird record within the BRSA. Forested areas within the BRSA are limited and likely not mature enough to support the species (Attachment A, Figure A-2).	Low
Northern harrier (<i>Circus hudsonius</i>)	SSC ⁴	Breeds and forages in a variety of treeless habitats, including freshwater marshes; wet meadows; weedy borders of lakes, rivers, and streams; annual and perennial grasslands; weedy fields; ungrazed or lightly grazed pastures; some croplands; sagebrush flats; and desert sinks (Davis and Niemela 2008; Smith et al. 2011). <i>Bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, wet meadow, fresh emergent wetland, and irrigated hayfield</i>	The entire BRSA overlaps breeding range. No CNDDDB occurrences in the search buffer (CDFW 2019b), but there are numerous recent eBird (2020) records during the breeding season within the search buffer, including within the BRSA. Suitable habitat common across most of the BRSA. Nine observations of species across Lassen and Modoc Counties during the April 2020 field surveys (Attachment A, Figure A-2).	Present
Olive-sided flycatcher (<i>Contopus cooperi</i>)	SSC ⁴	Breeds in late-successional conifer forests with open canopies from sea level to timberline. Typically associated with forest openings or edges (Widdowson 2008).	No CNDDDB occurrences in the search buffer (CDFW 2019b). Limited eBird (2020) records in the search buffer are primarily associated with higher elevation forested areas, which are not present within the BRSA. Conifers within the BRSA are younger and unlikely to support nesting birds.	NE



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Osprey (<i>Pandion haliaetus</i>)	WL ⁵	Breeds in a variety of habitats from forests, rivers, and lakes to deserts, but requires access to abundant fish prey and open, elevated natural and artificial nesting structures (Bierregaard et al. 2020). Jeffrey pine, juniper, aspen, salt desert scrub, montane riparian, wet meadow, fresh emergent wetland, and riverine	The entire BRSA overlaps breeding and migration range (Bierregaard et al. 2020; eBird 2020). One recent CNDDDB nesting occurrence within the search buffer (CDFW 2019b). Recent eBird (2020) occurrence records during breeding and migration scattered throughout the search buffer, including within the BRSA, in areas proximal to larger waterbodies. May occur anywhere in or near the BRSA proximal to fish-bearing waterbodies (Attachment A, Figure A-2).	High
Prairie falcon (<i>Falco mexicanus</i>)	WL ⁵ , BCC	Shrublands, grasslands, shrub-grassland mix, tundra, and some agricultural lands. Nests on cliffs and bluffs (Steenhof 2020). Bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, and irrigated hayfield	The entire BRSA overlaps year-round range (eBird 2020; Steenhof 2020). CNDDDB reports 21 historical records and 3 recent records in the search buffer, including 8 historical and 2 recent records overlapping the BRSA (CDFW 2019b). Numerous recent eBird (2020) records across the search buffer, including within the BRSA. Potential year-round habitats common in the BRSA. One adult was observed foraging in Modoc County during the April 2020 field surveys (Attachment A, Figure A-2).	Present
Pinyon jay (<i>Gymnorhinus cyanocephalus</i>)	BCC	Primarily inhabits pinyon-juniper woodland but may breed and forage in shrubland, scrub oak, and chaparral habitats (Johnson and Balda 2020). Juniper, bitterbrush, sagebrush, salt desert scrub, and montane chaparral	The entire BRSA overlaps year-round range (eBird 2020; Johnson and Balda 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b); however, there are scattered recent eBird (2020) records across the search buffer, with some records in the BRSA. Most records occur from Honey Lake south to the Nevada border. May occur locally, not widespread, within the BRSA where preferred habitats occur (Attachment A, Figure A-2).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Redhead (<i>Aythya americana</i>)	SSC ⁴	Breeds in freshwater emergent wetlands with dense stands of cattails and tules and areas of deep, open water (Beedy and Deuel 2008). Fresh emergent wetland	The Lassen and Modoc portions of the BRSA overlap breeding (April to August) range (Beedy and Deuel 2008). No CNDDDB occurrences in the search buffer (CDFW 2019b), but there are recent breeding season eBird (2020) records scattered across the search buffer, including within the BRSA. Regularly breed in high numbers at Modoc NWR, and in smaller numbers at Honey Lake Wildlife Area and other wetland sites in the area (Beedy and Deuel 2008) (Attachment A, Figure A-2).	High
Sage thrasher (<i>Oreoscoptes montanus</i>)	BCC	Breeds in sagebrush habitats, but migration habitat may include other arid shrubland types, grasslands with shrub cover, and open pinyon-juniper woodlands (Reynolds et al. 2020). Breeding: sagebrush. Migration: juniper, bitterbrush, sagebrush, montane chaparral, and alkali desert scrub	The entire BRSA overlaps migration and breeding range (eBird 2020; Reynolds et al. 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b), but there are numerous recent eBird (2020) records throughout the search buffer, including within the BRSA. Sagebrush is one of the more common habitats within the BRSA, making this species a potentially common occurrence. Sixteen observations of 1 to 4 birds recorded during the April 2020 field surveys, including two active nests (Attachment A, Figure A-2).	Present
Sagebrush sparrow (<i>Artemisiospiza nevadensis</i>)	BCC	Prefers big sagebrush (<i>A. tridentata</i>) habitats (Martin and Carlson 2020). Sagebrush	The entire BRSA overlaps breeding and migration range (eBird 2020; Marin and Carlson 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b), but there are recent eBird (2020) records scattered across the search buffer, including within the BRSA. May occur anywhere in BRSA with sagebrush habitat. A pair was recorded in Lassen County during the April 2020 field surveys (Attachment A, Figure A-2).	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Short-eared owl (<i>Asio flammeus</i>)	SSC ⁴	Breeds in open, herbaceous habitats with concentrations of rodents and enough herbaceous cover to conceal ground-based nests. Suitable habitats may include freshwater marshes, irrigated alfalfa or grain fields, and ungrazed grasslands and old pastures (Roberson 2008; Wiggins et al 2006). Fresh emergent wetland, wet meadow, annual grassland, perennial grassland, and irrigated hayfield	All but roughly the southernmost 20 miles of the BRSA overlaps breeding (March to July) range (Roberson 2008; Wiggins et al 2006). No CNDDDB occurrences in the search buffer (CDFW 2019b). Recent breeding season eBird (2020) records within the search buffer, including few within the BRSA, are primarily concentrated in the Honey Lake and Modoc NWR area, though there are a few scattered records in other areas near the BRSA. Potential nesting habitat present in relatively small amounts within the BRSA (Attachment A, Figure A-2).	High
Sharp-shinned hawk (<i>Accipiter striatus</i>)	WL ⁵	Breeds in a variety of forest habitats, usually with at least some conifers. (Bildstein et al. 2020). Jeffery pine, juniper, aspen, and montane riparian	The entire BRSA overlaps year-round range (Bildstein et al. 2020). No CNDDDB occurrences in the search buffer (CDFW 2019b). Numerous recent eBird (2020) records in the search buffer, including with the BRSA, are more concentrated in the Honey Lake, Modoc NWR, and Goose Lake areas. eBird records most common during non-breeding seasons. Forested habitat in the BRSA mostly juniper (Attachment A, Figure A-2).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Swainson's hawk (<i>Buteo swainsoni</i>)	ST	<p>Breeding habitat includes open grasslands and agricultural fields, especially alfalfa crops. Often nests in proximity to riparian systems. Also uses lone trees in agricultural fields or pastures and roadside trees when available and adjacent to suitable foraging habitat. In the Great Basin, occupies juniper-sagebrush communities (CDFW 2019k).</p> <p>Juniper, sagebrush, annual grassland, perennial grassland, irrigated hayfield, and urban</p>	<p>The entire BRSA overlaps breeding and migration range (Bechard et al. 2010). Forty-three CNDDDB breeding records within the search buffer, including 16 records that overlap the BRSA (CDFW 2019b). Also, numerous recent eBird (2020) records in the search buffer, including many within the BRSA. Suitable nesting substrates and foraging habitat present throughout much of the BRSA and surrounding areas. Two active nests were recorded during the April 2020 field surveys, both near the town of Standish. In addition, eight observations of adult birds not associated with a nesting activity were observed in proximity to agricultural areas near Honey Lake and Alturas areas (Attachment A, Figure A-2).</p>	Present
Tricolored blackbird (<i>Agelaius tricolor</i>)	ST, SSC ⁴	<p>Historically, primarily breeds in freshwater wetlands with cattails, tules, willows, and/or nettles, but due to habitat modification, nesting has been increasingly reported in Himalayan blackberry (<i>Rubus discolor</i>), thistles, and silage and grain fields. Forages in wetlands, riparian habitats, and agricultural fields. In winter, forages in grasslands and agricultural fields (Beedy 2008).</p> <p>Nesting: fresh emergent wetland, wet meadow, and irrigated hayfield. Foraging: montane riparian, fresh emergent wetland, wet meadow, annual grassland, perennial wetland, and irrigated hayfield</p>	<p>The BRSA generally overlaps range in the Honey Lake and Modoc NWR areas (Beedy 2008). Five CNDDDB nesting colony records near Honey Lake and one nesting colony record near Modoc NWR (CDFW 2019b). Numerous recent eBird (2020) records in the search buffer concentrated in Honey Lake and Modoc NWR areas, some within the BRSA, with additional records in other locations in or near the BRSA. Potential nesting and foraging habitats within and adjacent to the BRSA in the Honey Lake and Modoc NWR areas. Two observations of flocks and a singing male were recorded between Lassen County MP 88.5 and MP 88.7 during the April 2020 field surveys (Attachment A, Figure A-2).</p>	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Vaux's swift (<i>Chaetura vauxi</i>)	SSC ⁴	Breeds in late successional coniferous and mixed deciduous and coniferous forests, where they nest in tree cavities. Also nests in chimneys or other human-made structures in residential areas (Schwitters et al. 2019). Forages in a variety of habitats, especially over water (Hunter 2008). Jeffrey pine and urban	The BRSA abuts or slightly overlaps edge of breeding (May to August) range along the eastern foothills of the Sierra Nevada between about Lassen County MP 13.0 and MP 51.9, and along the western foothills of the Warner Mountains between about Modoc County MP 34.0 and MP 61.5 (Hunter 2008; Schwitters et al. 2019). No CNDDB occurrences within the search buffer (CDFW 2019b). Few eBird (2020) breeding season records within the search buffer and none within the BRSA. eBird records largely associated with the Honey Lake, Modoc NWR/Alturas, and Goose Lake areas. Minimal potential nesting habitat in the BRSA (Attachment A, Figure A-2).	Low
White-faced ibis (<i>Plegadis chihi</i>)	WL ⁵	Primarily inhabits shallow marshes with islands of emergent vegetation in the interior (Ryder and Manry 2020). Wet meadow and fresh emergent wetland	The entire BRSA overlaps breeding range (Ryder and Manny 2020). One historic CNDDB nesting colony record within the BRSA along Goose Lake and associated tributaries (CDFW 2019b). Numerous recent eBird (2020) records within the search buffer; however, records within and adjacent to BRSA do not indicate presence of nesting colonies. Habitat present throughout BRSA, but colonies unlikely proximal to the high-volume traffic highway (Attachment A, Figure A-2).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
White-headed woodpecker (<i>Dryobates albolarvatus</i>)	BCC	Inhabits montane mixed coniferous forests, typically dominated by pine species, with abundance of mature pine trees, relatively open canopy, availability of snags and stumps, and generally sparse understory (Garrett et al. 2020). <i>Jeffrey pine</i>	The BRSA abuts or slightly overlaps the edge of the range along the eastern foothills of the Sierra Nevada in southern Lassen County and along the western foothills of the Warner Mountains in Lassen and Modoc Counties (eBird 2020; Garrett et al. 2020). No CNDDDB occurrences within the search buffer (CDFW 2019b). Few recent eBird (2020) records in the search buffer, mostly west of Honey Lake in the Sierra Nevada foothills. Minimal potential habitat within the BRSA (Attachment A, Figure A-2).	Low
Williamson's sapsucker (<i>Sphyrapicus thyroideus</i>)	BCC	Inhabits middle to high elevation coniferous and mixed conifer-deciduous forests (Gyug et al. 2020). <i>Jeffrey pine and aspen</i>	The BRSA abuts or slightly overlaps the edge of the range along the eastern foothills of the Sierra Nevada in southern Lassen County and along the western foothills of the Warner Mountains in Lassen and Modoc Counties (eBird 2020; Gyug et al 2020). No CNDDDB occurrences within the search buffer (CDFW 2019b). Few recent eBird (2020) records in the search buffer and none within the BRSA. Minimal potential habitat within the BRSA (Attachment A, Figure A-2).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Willow flycatcher (<i>Empidonax traillii</i>)	SE	Breeds in moist, shrubby areas often with standing or running water. In California, prefers willow thickets. Migration habitat is like breeding habitat (Sedgwick 2000). Montane riparian and riverine	The entire BRSA overlaps breeding and migration range (eBird 2020). One recent CNDDDB occurrence of potential breeding activity 0.9 mile west of the BRSA near the Modoc County and Lassen County border (CDFW 2019b). Few eBird (2020) records in the search buffer, the majority of which are during migration periods and are primarily concentrated in the Honey Lake, Madeline, Modoc NWR, and Goose Lake areas. Refer to Attachment A, Figure A-2 for potential habitats within the BRSA.	Low
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	FT, SE	Uses a variety of riparian habitats. Cottonwood and willow trees are an important foraging habitat in areas where the species has been studied in California (USFWS 2017). Montane riparian and riverine	USFWS (2017) considers the Sacramento Valley the northern extent of their current breeding range in the western coastal states. Appears on the project's IPaC (USFWS 2020b, c) lists; however, they are unlikely to occur within the search buffer. No CNDDDB occurrences within the search buffer (CDFW 2019b) and only one eBird (2020) record for Sierra, Lassen, and Modoc Counties combined, a historical fall migration period recorded about 11 miles west in Sierra County. Riparian habitat present within the BRSA (Attachment A, Figure A-2).	Low



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Yellow-breasted chat (<i>Icteria virens</i>)	SSC ⁴	<p>Nests in early successional riparian habitats with a well-developed shrub layer and an open canopy, usually restricted to the narrow border of streams, creeks, sloughs, and rivers, and rarely extensive tracts. Plants that form dense thickets and tangles are often selected. Taller trees are required for song perches (Comrack 2008).</p> <p><i>Montane riparian and riverine</i></p>	<p>The BRSA overlaps breeding (May to August) range along Secret Creek, which runs within the BRSA from Lassen County MP 92.7 to MP 95.3 (Comrack 2008; eBird 2020). A fire destroyed breeding habitat along Secret Creek (Comrack 2008), but habitat is likely to have returned, as eBird (2020) reports breeding season records along Secret Creek at Lassen County MP 94.4 in 2018, 2019, and 2020. Few additional recent eBird (2020) records in the search buffer, and no CNDDDB occurrences within the search buffer (CDFW 2019b). Refer to Attachment A, Figure A-2 for montane riparian and riverine habitat within the BRSA.</p>	High
Yellow-headed blackbird (<i>Xanthocephalus xanthocephalus</i>)	SSC ⁴	<p>Breeds in wetlands with tall emergent vegetation, such as tules or cattails, over water 1 ft to 2 ft deep. May also forage in uplands, and often in agricultural fields (Jaramillo 2008).</p> <p><i>Fresh emergent wetland, wet meadow, and irrigate hayfield</i></p>	<p>The entire BRSA overlaps breeding (from April to July) range (Jaramillo 2008). No CNDDDB occurrences within the search buffer (CDFW 2019b), but there are numerous recent breeding season eBird (2020) records in the search buffer, including within the BRSA. Many eBird (2020) records are in the Honey Lake and Modoc NWR areas, where the species is a known breeder, but may breed in small to large numbers at other sites in or near the BRSA (Jaramillo 2008). A flock was observed in Lassen County during the April 2020 field surveys (Attachment A, Figure A-2).</p>	Present



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Yellow warbler (<i>Setophaga petechia</i>)	SSC ⁴	Breeds in riparian vegetation, such as willows and cottonwoods (Heath 2008). <i>Montane riparian and riverine</i>	The entire BRSA overlaps breeding (April to July) range (Heath 2008). No CNDDDB occurrences within the search buffer (CDFW 2019b), but there are numerous breeding season eBird (2020) records in the search buffer, including within the BRSA. Refer to Attachment A, Figure A-2 for location of montane riparian habitats within the BRSA.	High
Reptiles				
Western pond turtle (<i>Emys marmorata</i>)	SSC	Occurs in permanent or semi-permanent aquatic habitat with basking sites from sea level to elevations of 4,690 ft. Nests in upland habitats with loose soils, within 300 ft of aquatic habitat. Some populations overwinter in upland burrows. BRSA falls in range in central and southern Modoc County, northern Lassen County, and the Honey Lake area (Morey 1988a; Stebbins and McGinnis 2012; Thomson et al. 2016). <i>Montane riparian, wet meadow, fresh emergent wetland, and riverine</i>	Aquatic features up to 4,690 ft in elevation in portions of Modoc and Lassen Counties may provide suitable aquatic habitat, and surrounding uplands may provide suitable nesting and overwintering habitats (Attachment A, Figure A-2). One recent CNDDDB occurrence overlaps the BRSA (CDFW 2019b).	High
Amphibians				
Foothill yellow-legged frog (<i>Rana boylei</i>)	ST ⁷	Inhabits low gradient, shallow, perennial rivers and streams in forest and chaparral habitats with varying degrees of open and shaded banks from sea level to 6,365 ft. Requires reduced flow sections with cobble, boulders, and gravel for breeding sites. Adults and juveniles inhabit a variety of stream habitats, including riffles, pools, and glides, as well as upland habitat typically within 9.8 ft of stream (Thomson et al. 2016; CDFW 2019I).	Two historical CNDDDB occurrences within the search buffer (CDFW 2019b); however, these are considered extirpated, and the BRSA is not included in the designated population boundaries (CDFW 2019I).	NE



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Northern leopard frog (<i>Lithobates pipiens</i>)	SSC	Breeds and overwinters in permanent and semi-permanent aquatic habitats including ponds; lakes; wetlands; and shallow, slow streams with abundant aquatic and shoreline vegetation in moist grasslands, brushlands, forests, and pasture lands. Uses uplands for foraging and migration and can migrate up to 2.0 miles from aquatic habitat. Introduced in many locations in California, though presumed to be native to the northeastern corner of the state (Dodd, Jr. 2013; Morey 1988b; Stebbins and McGinnis 2012). Montane riparian, wet meadow, fresh emergent wetland, riverine, Jeffrey pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, annual grassland, perennial grassland, and irrigated hayfield	One historical CNDDDB occurrence more than 100 years old overlaps the BRSA (CDFW 2019b). Aquatic features in the BRSA in east central Modoc County south of Goose Lake may provide habitat; however, native population status in California is unknown, and the species is possibly extirpated (Dodd, Jr. 2013; Stebbins and McGinnis 2012) (Attachment A, Figure A-2).	Low
Oregon spotted frog (<i>Rana pretiosa</i>)	FT, SSC	Extremely aquatic species that inhabits wetlands, wet meadows, lakes, ponds, and slow streams and rivers with abundant aquatic vegetation in subalpine forests from 3,280 to 4,760 ft. Moves between seasonally saturated or flooded areas for breeding and deeper water for overwintering and dry periods (Simon 1988; Stebbins and McGinnis 2012; Thomson et al. 2016).	One historical CNDDDB occurrence more than 100 years old that is within the search buffer (CDFW 2019b); however, all known localities in California are possibly extirpated (Thomson et al. 2016).	NE



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Sierra Nevada yellow-legged frog (<i>Rana sierrae</i>)	FE, ST	Occurs in rivers, streams, ponds, wetlands, and lakes with abundant bank vegetation in chaparral, coniferous forest, and mountain meadow habitats from 4,500 to 11,980 ft. Uses banks and uplands within 9.8 ft of aquatic habitats (Dodd, Jr. 2013; Morey 1988c; Stebbins and McGinnis 2012).	One recent CNDDDB occurrence is within the search buffer (CDFW 2019b); however, the BRSA falls outside of the species' range in California, which extends from Plumas County to Fresno County (Morey 1988c).	NE
Southern long-toed salamander (<i>Ambystoma macrodactylum sigillatum</i>)	SSC	Breeds in semi-permanent (low elevation only) and permanent ponds and lakes in arid grassland, sagebrush, forest, and alpine meadow habitats. Adults and juveniles are highly fossorial and spend most of the year in mammal burrows and rock fissures, typically within 3,280 ft of aquatic habitat (Basey and Morey 1988; Stebbins and McGinnis 2012; Thomson et al. 2016). Montane riparian, wet meadow, fresh emergent wetland, Jeffrey pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, annual grassland, and perennial grassland	Two recent CNDDDB occurrences and one historical occurrence are within the search buffer (CDFW 2019b). Aquatic features in the BRSA near Goose Lake may provide suitable aquatic habitat, and surrounding uplands may provide suitable migration and fossorial habitats (Attachment A, Figure A-2).	Moderate
Fishes				
Goose Lake lamprey (<i>Entosphenus tridentatus</i> ssp. 1)	SSC	Inhabits shallow, alkaline Goose Lake; in streams with gravel and riffles for spawning; and in muddy backwaters for ammocoetes. May travel up to 12-19 miles upstream for spawning. Endemic to Goose lake and its tributaries (Moyle et al. 2015). Riverine	One recent CNDDDB occurrence overlaps the BRSA, and one historical CNDDDB spawning and resident stream occurrence overlaps the BRSA (CDFW 2019b). Goose Lake tributaries that cross the BRSA in Modoc County may provide habitat (Attachment A, Figure A-2).	High



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Goose Lake redband trout (<i>Oncorhynchus mykiss</i> ssp. 1)	SSC	Endemic to Goose Lake and its tributaries. Two life history strategies influence habitat use: lake-strategy and headwater-strategy. Lake-strategy fish reside in Goose Lake and spawn in associated tributaries. Headwater-strategy fish inhabit and spawn in small, cool, high-elevation tributaries of Goose Lake and Upper Pit River (Moyle et al. 2015). Riverine	One historical CNDDDB occurrence overlaps the BRSA and one historical CNDDDB spawning and resident stream occurrence overlaps the BRSA (CDFW 2019b). Goose Lake tributaries and Upper Pit River that cross the BRSA in Modoc County may provide habitat (Attachment A, Figure A-2).	Moderate
Goose Lake sucker (<i>Catostomus occidentalis lacusansepinus</i>)	SSC	Endemic to Goose Lake and its tributaries. Spawns in tributaries with moderate to slow waters, varying substrates, and little aquatic vegetation (Moyle et al. 2015). Riverine	One historical CNDDDB occurrence overlaps the BRSA, and one historical CNDDDB stream occurrence overlaps the BRSA (CDFW 2019b). Goose Lake tributaries that cross the BRSA in Modoc County may provide habitat (Attachment A, Figure A-2).	Moderate
Goose Lake tui chub (<i>Siphateles bicolor thalassinus</i> or <i>S. thalassinus thalassinus</i>)	SSC	Occurs in Goose Lake and associated low-elevation tributaries and Everly Reservoir in Modoc County. Prefers streams with pools and slow water and below 4,728 ft in elevation in California (Moyle et al. 2015). Riverine	One historical CNDDDB occurrence overlaps the BRSA, and one historical CNDDDB stream occurrence overlaps the BRSA (CDFW 2019b). Goose Lake tributaries that cross the BRSA in Modoc County may provide habitat (Attachment A, Figure A-2).	Moderate
Hardhead (<i>Mylopharodon conocephalus</i>)	SSC	Occurs in low- to mid-elevation large streams, rivers, and reservoirs with high water quality, pools and runs with deep water, sand-gravel substrates, slow velocities, and well-oxygenated. Range extends from the Pit River (south of the Goose Lake drainage) in Modoc County to Kern River in Kern County (Moyle et al. 2015). Riverine	Two recent CNDDDB occurrences are within the search buffer (CDFW 2019b). Pit River drainage low- and mid-elevation streams south of Goose Lake that cross the BRSA in Modoc County may provide habitat (Attachment A, Figure A-2).	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Lahontan cutthroat trout (<i>Oncorhynchus clarkii henshawi</i>)	FT	Occurs in relatively clear, cold waters of large freshwater and alkaline lakes, major rivers, and small streams. Spawns in streams and may migrate up to 100 miles to spawning habitat. Historically thought to occur in BRSA in Honey-Eagle Lakes watershed in southern Lassen County and northeastern Sierra County (USFWS 2009).	No CNDDDB occurrences within the search buffer (CDFW 2019b). Current occupied streams not within the BRSA (USFWS 2009); possibly extirpated from the BRSA.	NE
Mountain sucker (<i>Catostomus platyrhynchus</i>)	SSC	Inhabits low-gradient, small streams and large rivers, lakes, and reservoirs from sea level to 10,000 ft elevation. Spawns in streams with riffles and gravel substrates. Range in California is along the eastern and central border with Nevada (Belica and Nibbelink 2006). Riverine	Two historical CNDDDB occurrences overlap the BRSA (CDFW 2019b). Waterways in BRSA portion within Honey-Eagle Lakes watershed in eastern and southern Lassen County may provide habitat (Attachment A, Figure A-2).	Moderate
Northern California brook lamprey (<i>Entosphenus folletti</i>)	SSC	Occurs in small, cool, tributary streams with fine substrates and beds of aquatic vegetation. Only known occurrences are from Willow and Boles Creeks above Clear Lake Reservoir and Fall Creek (Moyle et al. 2015). Riverine	One historical CNDDDB occurrence overlaps the BRSA (CDFW 2019b). Sections of Willow and Boles Creeks that cross the BRSA may provide habitat (Attachment A, Figure A-2).	Moderate
Pit-Klamath brook lamprey (<i>Entosphenus lethophagus</i>)	SSC	Found in clear, cool rivers and streams with fine substrates, beds of aquatic vegetation, gravel riffles for spawning, and muddy backwaters for ammocoetes. Current range is the Pit River-Goose Lake basin, upper Klamath basin, and upstream of Klamath lakes (Moyle et al. 2015). Riverine	One historical CNDDDB occurrence overlaps the BRSA and one historical CNDDDB occurrence is within the search buffer (CDFW 2019b). Waterways crossing BRSA in Pit River-Goose Lake basin may provide habitat (Attachment A, Figure A-2).	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Northern or Pit roach (<i>Lavinia mitrulus</i>)	SSC	Occurs in streams with spring pools, swampy reaches, and vegetated margins. Also found in an isolated spring pond. In California, restricted to tributaries of the upper Pit River (Moyle et al. 2015). Riverine	One recent CNDDDB occurrence overlaps the BRSA and one recent occurrence is within the search buffer (CDFW 2019b). Tributaries of the upper Pit River crossing the BRSA may provide habitat (Attachment A, Figure A-2).	High
Invertebrates				
Carson wandering skipper (<i>Pseudocopaedeus eunus obscurus</i>)	FE	Found in lowland grassland habitats with alkaline substrates, elevation lower than 5,000 ft. Requires saltgrass host plant for egg laying and larval development and nearby nectar plants and springs or other water sources. Current range in California is restricted to one extant population center in Lassen County (USFWS 2012). Alkali desert scrub and perennial grassland	Eleven recent CNDDDB occurrences overlap the BRSA and four recent CNDDDB occurrences are within the search buffer (CDFW 2019b). Saltgrass habitat in BRSA around Honey Lake may provide habitat (Attachment A, Figure A-2).	High
Suckley's cuckoo bumble bee (<i>Bombus suckleyi</i>)	SCE	Inhabits meadows and grasslands and is brood parasite of western bumble bee and possibly other bumble bee species. Generalist forager using a wide variety of flowering plants and small mammal burrows for overwintering (Xerces Society 2018). Listed as SCE June 12, 2019 (CFGC 2019). Annual grassland and perennial grassland	No CNDDDB occurrences within the search buffer (CDFW 2019b). Northern portion of the BRSA falls within the current range (Xerces Society 2018). Refer to Attachment A, Figure A-2 for location of grassland habitats within the BRSA.	Moderate



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name (Scientific Name)	Status ¹	Habitat Description ²	Occurrence	Potential to Occur ³
Western bumble bee (<i>Bombus occidentalis</i>)	SCE	Occurs in meadows and grasslands with abundant flowering plants from later winter to fall for foraging and small mammal burrows for nesting and overwintering (Xerces Society 2018). Listed as SCE June 12, 2019 (CFGC 2019). <i>Annual grassland and perennial grassland</i>	One historical CNDDDB occurrence more than 50 years old overlaps the BRSA (CDFW 2019b). Current range may not include the BRSA (Xerces Society 2018). Refer to Attachment A, Figure A-2 for location of grassland habitats within the BRSA.	Low

Notes:

1. Status: (FE) Federal Endangered; (FT) Federal Threatened; (FC) Federal Candidate; (FPT) Federal Proposed Threatened; (BGEPA) Bald and Golden Eagle Protection Act; (SE) State Endangered; (ST) State Threatened; (SCE) State Candidate Endangered; (SCT) State Candidate Threatened; (SSC) State Species of Special Concern; (FP) Fully Protected; (WL) State Watch List; (BCC) USFWS Bird of Conservation Concern; and (WBWG) WBWG Priority High and/or Medium.
2. CWHR habitat communities within the BRSA that may be used by the species are identified in bold italics in the "Habitat Description" column.
3. Potential to Occur: (NE) Not Expected – species with no range overlap within the BRSA; (Low) Low Potential – species with no or limited suitable habitat within the BRSA; (Moderate) Moderate Potential – species with suitable habitat present and either no publicly available occurrence records or publicly available occurrences records that are historical (i.e., more than 25 years old) within the BRSA; (High) High Potential – species with suitable habitat present and recent (within the last 25 years) publicly available occurrence records within the BRSA; and (Present) Present - species documented within or adjacent to the BRSA during Stantec field surveys.
4. SSC status corresponds to breeding season only.
5. WL status corresponds to nesting season.
6. WL status corresponds to winter.
7. Closest designated population boundary for foothill yellow-legged frog to the BRSA is the Feather River population which was listed as threatened under CESA on March 10, 2020 (CFGC 2020).

In the Occurrence column, "recent" refers to occurrence data documented within the last 25 years, while "historical" occurrence data are more than 25 years old.

BRSA = Biological Resources Survey Area

CNDDDB = California Natural Diversity Database

CWHR = *California Wildlife Habitat Relationships*

search buffer = 5-mile CNDDDB search buffer around BRSA

ft = feet

MP = mile post

NWR = National Wildlife Refuge

US 395 = U.S. Route 395

USFWS = U.S. Fish and Wildlife Service

WBWG = Western Bat Working Group

Sources: CDFW 2019c; USFWS 2008, 2020b, c; WBWG 2020



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Table 3-6: Species Observed During April 2020 Wildlife Field Surveys

Common Name	Scientific Name
Mammals	
American Badger	<i>Taxidea taxus</i>
Black-tailed Jackrabbit	<i>Lepus californicus</i>
Bobcat	<i>Lynx rufus</i>
California Ground Squirrel	<i>Otospermophilus beecheyi</i>
Coyote	<i>Canis latrans</i>
Mountain Cottontail	<i>Sylvilagus nuttallii</i>
Mule Deer	<i>Odocoileus hemionus</i>
Muskrat	<i>Ondatra zibethicus</i>
Pronghorn	<i>Antilocapra americana</i>
Birds	
American Avocet	<i>Recurvirostra americana</i>
American Coot	<i>Fulica americana</i>
American Goldfinch	<i>Spinus tristis</i>
American Kestrel	<i>Falco sparverius</i>
American Pipit	<i>Anthus rubescens</i>
American Robin	<i>Turdus migratorius</i>
American White Pelican	<i>Pelecanus erythrorhynchos</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Band-tailed Pigeon	<i>Patagioenas fasciata</i>
Barn Swallow	<i>Hirundo rustica</i>
Bewick's Wren	<i>Thryomanes bewickii</i>
Black-billed Magpie	<i>Pica hudsonia</i>
Black-necked Stilt	<i>Himantopus mexicanus</i>
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Brewer's Sparrow	<i>Spizella breweri</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Bufflehead	<i>Bucephala albeola</i>
California Quail	<i>Callipepla californica</i>
California Scrub-Jay	<i>Aphelocoma californica</i>
Canada Goose	<i>Branta canadensis</i>
Canyon Wren	<i>Catherpes mexicanus</i>
Caspian Tern	<i>Hydroprogne caspia</i>



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name	Scientific Name
Cassin's Finch	<i>Haemorhous cassinii</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Chipping Sparrow	<i>Spizella passerina</i>
Cinnamon Teal	<i>Anas cyanoptera</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Common Raven	<i>Corvus corax</i>
Double-crested Cormorant	<i>Phalacrocorax auritus</i>
Eared Grebe	<i>Podiceps nigricollis</i>
Eurasian Collared-Dove	<i>Streptopelia decaocto</i>
European Starling	<i>Sturnus vulgaris</i>
Forster's Tern	<i>Sterna forsteri</i>
Gadwall	<i>Mareca strepera</i>
Golden Eagle	<i>Aquila chrysaetos</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Egret	<i>Ardea alba</i>
Great Horned Owl	<i>Bubo virginianus</i>
Greater White-fronted Goose	<i>Anser albifrons</i>
Green-winged Teal	<i>Anas carolinensis</i>
Hairy Woodpecker	<i>Leuconotopicus villosus</i>
Horned Lark	<i>Eremophila alpestris</i>
House Finch	<i>Haemorhous mexicanus</i>
House Sparrow	<i>Passer domesticus</i>
Killdeer	<i>Charadrius vociferus</i>
Lark Sparrow	<i>Chondestes grammacus</i>
Lesser Goldfinch	<i>Spinus psaltria</i>
Lesser Scaup	<i>Aythya affinis</i>
Lewis's Woodpecker	<i>Melanerpes lewis</i>
Lincoln's Sparrow	<i>Melospiza lincolni</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
Long-billed Curlew	<i>Numenius americanus</i>
Mallard	<i>Anas platyrhynchos</i>
Marsh Wren	<i>Cistothorus palustris</i>
Mountain Bluebird	<i>Sialia currucoides</i>
Mountain Chickadee	<i>Poecile gambeli</i>
Mourning Dove	<i>Zenaida macroura</i>
Northern Flicker	<i>Colaptes auratus</i>



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name	Scientific Name
Northern Harrier	<i>Circus hudsonius</i>
Northern Shoveler	<i>Spatula clypeata</i>
Oregon Junco	<i>Junco hyemalis</i>
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Prairie Falcon	<i>Falco mexicanus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ring-billed Gull	<i>Larus delawarensis</i>
Ring-necked Duck	<i>Aythya collaris</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Rock Pigeon	<i>Columba livia</i>
Rough-legged Hawk	<i>Buteo lagopus</i>
Ruby-crowned Kinglet	<i>Regulus calendula</i>
Ruddy Duck	<i>Oxyura jamaicensis</i>
Sage Thrasher	<i>Oreoscoptes montanus</i>
Sagebrush Sparrow	<i>Artemisiospiza nevadensis</i>
Sandhill Crane	<i>Antigone canadensis</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Say's Phoebe	<i>Sayornis saya</i>
Song Sparrow	<i>Melospiza melodia</i>
Sora	<i>Porzana carolina</i>
Spotted Towhee	<i>Pipilo maculatus</i>
Steller's Jay	<i>Cyanocitta stelleri</i>
Swainson's Hawk	<i>Buteo swainsoni</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Tricolored Blackbird	<i>Agelaius tricolor</i>
Turkey Vulture	<i>Cathartes aura</i>
Western Kingbird	<i>Tyrannus verticalis</i>
Western Meadowlark	<i>Sturnella neglecta</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
White-faced Ibis	<i>Plegadis chihi</i>
Willet	<i>Tringa semipalmata</i>
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>
Yellow-rumped Warbler	<i>Setophaga coronata</i>
Amphibians	
Sierran Treefrog	<i>Pseudacris sierra</i>



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Biological Resources Study Results

Common Name	Scientific Name
<i>Reptiles</i>	
Great Basin Fence Lizard	<i>Sceloporus occidentalis longipes</i>
Western Yellow-bellied Racer	<i>Coluber constrictor mormon</i>



ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

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