3.9 Biological Resources

This supplemental environmental impact report (SEIR) addresses proposed modifications to the B.F. Sisk Dam Safety of Dams Modification Project, which was previously evaluated in the B.F. Sisk Dam Safety of Dams Modification Project Environmental Impact Statement/Environmental Impact Report (2019 EIS/EIR). The project addressed in the 2019 EIS/EIR is referred to herein as the Approved Project; the Approved Project with proposed modifications identified since certification of the 2019 EIS/EIR is referred to herein as the Modified Project.

This section of the SEIR describes the existing biological resources associated with the Modified Project, identifies the applicable regulatory framework, evaluates potential impacts, and describes measures to avoid, minimize, and/or mitigate these impacts. The description of existing conditions and impact analysis focus on the Modified Project (see Section 2.4, Proposed Project Modifications and Clarifications). This includes analysis of the proposed additions to the Approved Project footprint depicted in Figures 2-4A and 2-4B, Modified Project Detail ("additional impact areas"), and change in use of Borrow Areas 12 and 14 (i.e., materials extraction instead of contractor staging area; see Figure 2-3, Approved and Modified Project Footprints). Biological resources within the footprint of the Approved Project (Figure 2-3) are not addressed here unless they are related to resources potentially impacted by proposed modifications associated with the Modified Project (i.e., within additional impact areas) or were not addressed in the 2019 EIS/EIR. These resources are still assumed present (or potentially present) within the Modified Project site but were addressed by the impact analysis and associated mitigation measures in the 2019 EIS/EIR. While the 2019 EIS/EIR addressed terrestrial biological resources and fisheries resources in separate chapters, this SEIR chapter addresses all biological resources for clarity and ease of reference.

3.9.1 Existing Conditions

The information in this section is based on a review of pertinent literature (including the 2019 EIS/EIR and supporting technical reports) and biological resource surveys conducted throughout the Modified Project footprint (also referred to herein as the Modified Project site) (Figures 2-4A and 2-4B) from April to July 2020. The literature review included querying the following sources for special-status species and/or sensitive vegetation communities in the region: California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2019, 2020a, 2020b), U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation online tool (USFWS 2020), and California Native Plant Society Online Inventory of Rare and Endangered Vascular Plants (CNPS 2020a). The Soil Survey Geographic Database for California (USDA 2019) was also reviewed to identify potentially occurring special-status plants based upon known soil associations. Native plant community classifications used in this report follow a Manual of California Vegetation Online (CNPS 2020b) and California Natural Community List (CDFW 2020c). The 2020 surveys were conducted to more thoroughly examine areas identified as potentially supporting sensitive resources in previous reports and to determine the extent of those resources on the Modified Project site to inform regulatory permitting under federal and state laws discussed in Section 3.9.2. Focused surveys or assessments conducted in 2020 include the following:

- Survey for nesting raptors (including Swainson's hawk [*Buteo swainsoni*]) — April 13–15, 20
- Rare plant surveys — April 14–18, 20–24, 27–29; June 4–6, 11–12, 16–19, 22–26
- Multi-species burrow assessment and tricolored blackbird (*Agelaius tricolor*) habitat assessment — May 4–8, 12–15, June 25–26
- Delineation of waters potentially subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code — May 20–21, 26–28; June 26, 30; July 1

- Vegetation community and land cover mapping — June 25–26; September 2–3
- Bat habitat assessment and surveys
  - Reconnaissance survey for roost sites — June 29
  - Mobile acoustic survey — June 29
  - Passive acoustic surveys — June 29–July 2
- Wildlife game camera study — May 22–June 17

3.9.1.1 Vegetation Communities and Land Cover Types

The following eight vegetation communities and/or land cover types occur in the additional impact areas: annual grassland, purple needlegrass grassland, scrub/chaparral, freshwater emergent wetland, valley foothill riparian, lacustrine, eucalyptus woodland, and urban/disturbed (Table 3.9-1). Vegetation alliances and associations mapped by Dudek in 2020 in accordance with the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018) are listed under each general vegetation community. Because freshwater emergent wetland and lacustrine are considered jurisdictional aquatic resources, they are described in the Section 3.9.1.2. The remaining vegetation communities are described below.

Table 3.9-1. Vegetation Communities and Land Cover Types within Additional Impact Areas

Alliance	Association	State Rank[1]	Acres
Annual Grassland			
Gum plant patches (*Grindelia* [*camporum, stricta*]) provisional alliance	Not mapped to association level	S2S3	0.17
Upland mustards and other ruderal forbs (*Brassica nigra–Raphanus* spp.) semi-natural alliance	Not mapped to association level	SNA	3.16
Wild oats and annual brome grasslands (*Avena* spp.–*Bromus* spp.) semi-natural alliance	Not mapped to association level	SNA	80.64
Yellow star-thistle fields (*Centaurea* [*solstitialis, melitensis*]) semi-natural alliance	Not mapped to association level	SNA	1.44
		Annual Grassland Total	*85.40*
Purple Needle Grass Grassland			
Needle grass–melic grass grassland (*Nassella* spp.–*Melica* spp.) alliance	*Nassella pulchra, N. cernua*, and/or *Melica californica*	S3S4*	9.86
		Purple Needle Grass Grassland Total	*9.86*
Scrub/Chaparral			
Coyote brush scrub (*Baccharis pilularis*) alliance	*Baccharis pilularis* / Annual grass–herb	S5	0.83
	Baccharis pilularis–Artemisia californica	S5	0.03
		Scrub/Chaparral Total	*0.86*
Freshwater Emergent Wetland[2]			
Cattail marshes (*Typha* [*angustifolia, domingensis, latifolia*]) alliance	*Typha (latifolia, angustifolia)*	S5	0.06
Mulefat thickets (*Baccharis salicifolia*) alliance	*Baccharis salicifolia*	S5	0.09
		Fresh Emergent Wetland Total	*0.14*

Table 3.9-1. Vegetation Communities and Land Cover Types within Additional Impact Areas

Alliance	Association	State Rank[1]	Acres
Valley Foothill Riparian[2]			
California sycamore woodlands (*Platanus racemosa–Quercus agrifolia*) alliance	*Platanus racemosa–Populus fremontii/ Salix lasiolepis*	S3	0.70
Fremont cottonwood forest (*Populus fremontii–Fraxinus velutina–Salix gooddingii*) alliance	*Populus fremontii–Salix gooddingii*	S3	0.22
	Populus fremontii	S3	0.31
		Valley Foothill Riparian Total	*1.23*
Lacustrine			
Not Applicable	Not Applicable	N/A	6.47
		Lacustrine Total	*6.47*
Eucalyptus Woodland			
Eucalyptus–tree of heaven–black locust groves (*Eucalyptus* spp.*–Ailanthus altissima–Robinia pseudoacacia*) semi-natural alliance	Not mapped to association level	SNA	42.22
Urban/Disturbed			
Not Applicable	Not Applicable	N/A	49.19
		Urban/Disturbed Total	*49.19*
		Grand Total	**195.36**

Notes: N/A = not applicable; CEQA = California Environmental Quality Act.
1 State Ranks of S1–S3 are considered sensitive per CEQA (CDFW 2020c).
2 Considered riparian habitat based on the definition provided by the National Research Council (NRC 2002).
* The alliance is ranked S3S4; all associations within this alliance are considered sensitive.

Annual Grassland

Most of the additional impact areas are composed of annual grassland. The majority of the grassland areas have not been grazed recently and are dominated by tall non-native annual grasses and forbs such as wild oat (*Avena* spp.), brome (*Bromus* spp.), barley (*Hordeum* spp.), fescue (*Festuca* spp.), burclover *(Medicago polymorpha),* dove weed *(Croton setiger*), Australian saltbush (*Atriplex semibaccata*), Russian thistle (*Salsola tragus*), and many others. Trees and shrubs may be present at low cover, including coyote brush (*Baccharis pilularis*) and honey mesquite (*Prosopis glandulosa*) within the additional impact areas. Additional alliances containing upland mustards and other ruderal or native forbs (*Brassica nigra–Raphanus* spp.), gum plant patches (*Grindelia* [*camporum, stricta*]), poison hemlock (*Conium maculatum*) or fennel patches (*Conium maculatum–Foeniculum vulgare*), and yellow star-thistle fields (*Centaurea* [*solstitialis, melitensis*]) are incorporated into the annual grassland vegetation community. Annual grasslands occur in all topographic settings in foothills, waste places, rangelands, and openings in woodlands. Large amounts of standing dead plant material can be found during summer in years of abundant rainfall and light to moderate grazing pressure. Although annual grassland habitats consist largely of non-native annuals, these effectively prevent the reestablishment of native perennials over large areas and are considered climax communities (Kie 1988). The annual grassland vegetation community is not considered sensitive with the exception of areas within the gum plant patches (*Grindelia* [*camporum, stricta*] association).

Purple Needlegrass Grasslands

Purple needlegrass (*Stipa pulchra*) grassland can be found adjacent to small areas of annual grassland habitat within the additional impact areas. Specifically, this community was found in small patches within the additional staging and stockpiling areas. This community is comprised of purple needlegrass (*Nassella pulchra* association), nodding needlegrass (*Nassella cernua* association), and/or Californica melicgrass (*Melica californica* provisional association). Perennial grasses are dominant or characteristically present in the herbaceous layer with a number of non-native grasses and native herbs, including wavyleaf soap plant (*Chlorogalum pomeridianum*), clarkia (*Clarkia* spp.), larkspur (*Delphinium* spp.), bluedicks (*Dipterostemon capitatus*), paintbrush (*Castilleja* spp.), California poppy (*Eschscholzia californica*), and sanicle (*Sanicula* spp.), among others. This alliance generally occurs in all topographic locations. Soils may be deep with high clay content, loamy, sandy, or silty derived from mudstone, sandstone, or serpentine substrates. Perennial grassland stands within the Modified Project site occur as relics within habitats now dominated by annual grasses and forbs. The purple needlegrass grassland association is considered sensitive (CDFW 2020c).

Scrub/Chaparral

The scrub/chaparral community can be found interspersed throughout the annual grassland habitats within the additional impact areas. Specifically, this community was found within the San Luis Creek Day Use Area, and within the additional staging and stockpiling areas. This dominant species within this community is coyote brush (*Baccharis pilularis*), and is comprised of annual grasses and other ruderal forbs. Additional species within this community include California sagebrush, mulefat (*Baccharis salicifolia* ssp. *salicifolia*), black sage (*Salvia mellifera*), tree tobacco (*Nicotiana glauca*), and honey mesquite (*Prosopis glandulosa* var. *torreyana*). In general, this alliance occurs within river mouths, stream sides, terraces, stabilized dunes of coastal bars, spits along the coastline, coastal bluffs, open slopes, and ridges. Soils are variable, sandy to relatively heavy clay. Disturbances such as road cuts or landslides create areas often invaded by scrub communities as light, wind-dispersed seed and tolerance of xeric conditions allow scrub communities to establish in disturbed areas (de Becker 1988). The scrub/chaparral community is not considered sensitive.

Freshwater Emergent Wetland

Freshwater emergent wetlands consist primarily of emergent wetland vegetation communities dominated by cattail (*Typha latifolia*). Some areas are dominated by mulefat. The alliances that comprise the freshwater emergent wetland vegetation community (i.e., cattail marsh and mulefat thicket) are not considered sensitive natural communities by CDFW (2020c). However, freshwater emergent wetland is considered riparian habitat based on the definition provided by the National Research Council (NRC 2002).

Valley Foothill Riparian

The valley foothill riparian community occurs in a small stand on the eastern edge (along O'Neill Forebay) of the proposed campground area within the additional impact areas. Typically in valley foothill riparian vegetation communities Fremont cottonwood (*Populus fremontii*) is dominant or co-dominant (greater than 30% to 50% relative cover) with California sycamore (*Platanus racemosa*) and Goodding's willow (*Salix gooddingii*) in the tree canopy of this community, with a sub-canopy of mulefat and red willow (*Salix laevigata*) (CNPS 2020b). The herbaceous layer consists of bulrush, pale spike rush, stinging nettle, and paleyellow iris (*Iris pseudacorus*), among others. The tree canopy is open to continuous and less than 25 meters (82 feet) in height. The shrub canopy is intermittent to open, and the herbaceous layer is variable. This community generally occurs on floodplains, along low-gradient rivers, perennial or seasonally intermittent streams, springs, in lower canyons in desert mountains, in

alluvial fans, and in valleys with a dependable subsurface water supply that varies considerably during the year (CNPS 2020b). The California sycamore woodlands and Fremont cottonwood forest alliances that comprise the valley foothill riparian community on site are considered sensitive (CDFW 2020c) and marked with a state rarity ranking of 3 (i.e., Vulnerable – At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors) (NatureServe 2020). Valley foothill riparian is also considered riparian habitat based on the definition provided by the National Research Council (NRC 2002).

Eucalyptus Woodland

Eucalyptus woodland is the dominant vegetation community within the San Luis Creek Day Use Area within the additional impact areas. Eucalyptus woodland typically includes one or more Eucalyptus species that dominate the tree canopy. The tree layer forms an open to intermittent canopy at 10 to 15 meters (30 to 50 feet) in height with an understory that usually has a variety of herbaceous species at moderate to high cover. Tree and shrub species that may intermix at low to moderate cover include coast live oak (*Quercus agrifolia*), date palm (*Phoenix dactylifera*), pepper tree species (*Schinus* spp.), and salt-cedar species (*Tamarix* spp.) (CNPS 2020b). Within the San Luis Creek Day Use Area, river redgum (*Eucalyptus camaldulensis*), Tasmanian bluegum (*E. globulus*), redbox (*E. polyanthemos*), red ironbark (*E. sideroxylon*), and black locust (*Robinia pseudoacacia*) were observed. Eucalyptus woodland is an introduced vegetation community and, therefore, is not sensitive.

Urban/Disturbed

Developed/disturbed areas are prevalent within all of the additional impact areas. These areas consist of recreational, commercial, and resource management activity uses. Within the additional impact areas, these area specifically include the road leading up to the proposed campground area and San Luis Creek Day Use Area, existing developed day use/campground areas within the San Luis Creek Day Use Area, the eastern slope of B.F. Sisk Dam that falls within the additional staging and stockpiling areas, and an existing access road/maintenance area within the additional staging and stockpiling area near Basalt Quarry. Much of these urban/disturbed areas are devoid of vegetation due to composition of the substrate (e.g., asphalt) and maintenance activities (e.g., mowing). Landscaped trees and shrubs such as ornamental pines (*Pinus* spp.), coast live oak, and oleander (*Nerium oleander*) formed discontinuous canopies within areas associated with visitor use, such as parking lots and entrance kiosks.

3.9.1.2 Jurisdictional Aquatic Resources

Jurisdictional aquatic resources include waters (i.e., wetlands and non-wetland waters) potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) (hereafter referred to as USACE/RWQCB-jurisdictional waters), as well as streams, rivers, lakes, and other features subject to regulation by CDFW (hereafter referred to as CDFW-jurisdictional waters). USACE/RWQCB-jurisdictional waters were delineated by the Bureau of Reclamation (Reclamation) and California Department of Water Resources (DWR) in 2018 (Reclamation and DWR 2018); CDFW-jurisdictional waters were delineated by Dudek in 2020 (Dudek 2020a). For the purposes of this biological resources analysis, USACE/RWQCB-jurisdictional waters and CDFW-jurisdictional waters are hereafter collectively referred to as jurisdictional aquatic resources. Jurisdictional aquatic resources within the additional impact areas total 7.69 acres and consist of the following five feature types: freshwater emergent wetland, drainage ditch, ephemeral drainage, ephemeral swale, and lacustrine. These features are summarized in Table 3.9-2 and depicted on Figure 3.9-1, Vegetation Communities, Land Cover Types, and Jurisdictional Waters. The jurisdictional aquatic resource feature types are described below.

Freshwater Emergent Wetland

Freshwater emergent wetland features occur within the staging and stockpiling areas south of Gianelli Pumping-Generating Plant (Gianelli Plant), west of Basalt Road, and south of San Luis Reservoir in the vicinity of the access roads to/from Basalt Quarry. Freshwater emergent wetland features may be inundated for short or long periods; the hydrology of several of these features are dependent on (via subsurface connection) the hydrology of San Luis Reservoir. Dominant species within the freshwater emergent wetland features include perennial pepperweed (*Lepidium latifolium*), rushes (*Juncus* sp.) and cattails. This feature type was delineated based on the results of previous USACE jurisdictional delineations along with follow-up field assessment and verification conducted as part of Dudek's 2020 delineation effort. A total of four freshwater emergent wetlands were identified as jurisdictional aquatic resources.

Drainage Ditch

Drainage ditches were mapped where it was apparent that a feature was constructed to channelize flow, and where one or more of the following characteristics were present: defined bed and bank, fluvial indicators such as scour, sediment sorting, hydrophytic vegetation, and wrack. Drainage ditches within the additional impact areas generally convey localized runoff generated during rain events and include roadside ditches, which were characterized by their alignment along a gravel, dirt, or paved road and hydrologic connectivity to an upstream or downstream waterbody. Several drainage ditches were disturbed and/or did not support any vegetation; however, where present, vegetation communities include annual grassland, scrub/chaparral, and freshwater emergent wetland. A total of seven drainage ditches were delineated as jurisdictional aquatic resources.

Ephemeral Drainage

Ephemeral drainages are natural stream channels that convey water during precipitation events and for short periods (less than 14 days) thereafter. These features are naturally occurring rather than human made, and such features exhibited a defined bed and bank and fluvial indicators such as scour, sediment sorting, wrack, hydrophytic vegetation, cut banks, and exposed substrates. Groundwater does not influence the duration of flows in ephemeral drainages after precipitation. Ephemeral drainages within the additional impact areas are primarily fed by accumulated waters (from precipitation events) from surrounding hills. These features primarily support upland vegetation including annual grasses, ruderal forbs, and scrub/chaparral. Ephemeral drainages occur sporadically throughout the Modified Project site and function to collect localized flows. A total of two ephemeral drainages were delineated as jurisdictional aquatic resources.

Ephemeral Swale

One ephemeral swale is present in the additional impact areas at the northern end of the San Luis Creek Day Use Area. This feature is topographically confined and would be expected to convey water if flows were present, but a defined bed and bank and typical fluvial indicators were lacking. The ephemeral swale supported upland vegetation, including annual grasses and ruderal forbs.

Lacustrine

Lacustrine features in the additional impact areas include San Luis Reservoir at the temporary haul road west of the right abutment of the dam, and O'Neill Forebay at the location of the temporary haul road below the State Route (SR) 152 overcrossing; jurisdictional aquatic resources at both areas are based on distinct field indicators of top of bank. The water levels within these features fluctuate seasonally based on rainfall as well as reservoir and forebay operations. The extent of these features was confirmed and mapped based on field observation of fluvial and topographic field indicators.

Table 3.9-2. Jurisdictional Aquatic Resources within the Additional Impact Areas [1]

Aquatic Resource Feature Type	Area (acres)	Length (linear feet)
Drainage Ditch	0.72	7,727
Ephemeral Drainage	<0.01	136
Ephemeral Swale	0.02	342
Freshwater Emergent Wetland	0.36	NA
Lacustrine	6.59	NA
Total	**7.69**	**8,206**

Note:
[1] Includes all jurisdictional aquatic features, not all of which would be impacted during construction. Temporary and permanent impacts are reported in the impact analysis.

Additional Aquatic Resources Not Analyzed in 2019 EIS/EIR

As noted above, a delineation of jurisdictional aquatic resources was conducted in 2020. Based on this delineation work, additional jurisdictional aquatic resources were identified in areas that were encompassed by the 2019 EIS/EIR. These additional aquatic resources consist of the following features:

- One (1) freshwater emergent wetland (0.12 acres)
- Twelve (12) drainage ditches (0.75 acres)
- Six (6) ephemeral drainages (0.15 acres)
- Eleven (11) ephemeral swales (6.00 acres)
- Two (2) riparian areas (0.65 acres)

In summary, approximately 7.69 acres of jurisdictional aquatic resources are present within the additional impact areas (see Table 3.9-2), and approximately 7.67 acres of additional jurisdictional aquatic resources are present within the Approved Project footprint that were not analyzed in the 2019 EIS/EIR.

3.9.1.3 Wildlife Resources

The additional impact areas support habitat for common upland species. Rocky areas (e.g., dam infrastructure), grassland, coastal scrub, woodland, wetland, riparian, and anthropogenic cover types (e.g., disturbed) provide foraging and nesting habitat for migratory and resident birds, and foraging and breeding habitat for reptiles, amphibians, and mammals.

A total of 121 species were observed in the Modified Project site during the 2018 and 2020 surveys, including the additional impact areas (ESA 2018; Dudek 2020b). Of the total species observed, 113 (93%) of these are native wildlife species. Latin and common names of animals follow Crother (2017) for reptiles and amphibians, American Ornithological Society (AOS 2020) for birds, and Wilson and Reeder (2005) for mammals.

Reptiles and Amphibians

Common species of reptiles and amphibians occur in all habitats within the Modified Project site. Common species in upland areas include western fence lizard (*Sceloporus occidentalis*), striped racer (*Coluber lateralis*), gophersnake (*Pituophis catenifer*), and western rattlesnake (*Crotalus oreganus*). Sierran treefrog (*Pseudacris sierra*) is common in areas where suitable aquatic breeding habitat is present.

Birds

A diversity of bird species occurs in all upland, riparian, and wetland habitats within the Modified Project site. Commonly observed species in the additional impact areas include red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), red-winged blackbird (*Agelaius phoeniceus*), killdeer (*Charadrius vociferous*), common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), and western kingbird (*Tyrannus verticalis*).

A colony of cliff swallows (*Petrochelidon pyrrhonota*) was observed nesting underneath the SR-152 bridge at the western end of Borrow Area 6 during field surveys conducted by Dudek in May 2020. Dudek biologists observed a colony of birds actively foraging around the bridge and flying to and from the nests. Approximately 500 cliff swallow mud nests were observed at this location.

Mammals

Several common mammal species were detected widely and in a variety of habitats on the Modified Project site, including black-tailed jackrabbit (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtus californicus*), California ground squirrel (*Spermophilus* [*Otospermophilus*] *beecheyi*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*). Tule elk (*Cervus canadensis nannodes*) was observed in or near additional impact areas south of SR-152. Several bat species have been detected within or near the additional impact areas. Mexican free-tailed bat (*Tadarida brasiliensis*), Yuma myotis (*Myotis yumanensis*), and silver-haired bat (*Lasionycteris noctivagans*) were detected over a wetland south of the proposed campground area (near the access road), and these species and canyon bat (*Parastrellus hesperus*) were detected in the vicinity of the additional staging and stockpiling areas near the right abutment of the dam. Some dam infrastructure and trees within the additional impact areas likely provide bat roosting habitat.

Fishes

All documented fish in San Luis Reservoir are a result of direct human introduction, or by water pumped into the reservoir from the Sacramento–San Joaquin River Delta System via the Delta–Mendota Canal and/or the California Aqueduct (Reclamation and CDPR 2013). Species that have become established within the reservoir and forebay include Sacramento blackfish (*Orthodon microlepidotus*), American shad (*Alosa sapidissima*), threadfin shad (*Dorosoma petenense*), largemouth bass (*Micropterus salmoides*), kokanee salmon (*Oncorhynchus nerka*), green sunfish (*Lepomis cyanellus*), blue gill (*Lepomis macrochirus*), white sturgeon (*Acipenser transmontanus*), and white crappie (*Pomoxis annularis*) (Reclamation and CDPR 2013). These species may occur within the temporary haul road area when inundated, or adjacent to the proposed campground area and the San Luis Creek Day Use Area. Recreationally, the most predominant species found in San Luis Reservoir and O'Neill Forebay is the striped bass (*Morone saxatilis*), an anadromous species.

Although both San Luis Reservoir and O'Neill Forebay are connected to the San Joaquin River system, screened upstream pumps prevent the transport of special-status species and other native species from the California Aqueduct and Delta–Mendota Canal into O'Neill Forebay or San Luis Reservoir (Reclamation and CDPR 2013).

Invertebrates

Although relatively few common invertebrate species have been documented within the Modified Project site, a wide variety of ants, bees, wasps, true bugs, moths, butterflies, beetles, dragonflies and damselflies, spiders, and other invertebrates undoubtedly occur.

3.9.1.4 Sensitive Biological Resources

Sensitive Vegetation Communities

An alliance and/or association is considered sensitive if indicated with a state rarity rank of S1–S3, or if indicated as sensitive without a rarity ranking in the California Natural Community List (CDFW 2020c). Sensitive vegetation communities found within the additional impact areas include the following (see Table 3.9-1, Vegetation Communities and Land Cover Types within Additional Impact Areas):

- Purple needlegrass grasslands (Nassella pulchra, Nassella cernua, and Melica californica associations)
- Gum plant patches (Grindelia [camporum, stricta]) provisional alliance within annual grassland
- Fremont cottonwood forest (Populus fremontii–Fraxinus velutina–Salix gooddingii) alliance within valley foothill riparian habitat
- California sycamore woodlands (*Platanus racemosa*) alliance within valley foothill riparian habitat

Freshwater emergent wetland and valley foothill riparian are considered riparian habitat per the National Research Council (NRC 2002).

Vegetation mapping in 2020 was conducted in accordance with CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). Based on this mapping, additional sensitive vegetation communities were identified in areas previously analyzed in the 2019 EIS/EIR. Sensitive vegetation communities mapped during 2020 surveys outside of the additional impact areas that are not addressed in the 2019 EIS/EIR include the following:

- Gum plant patches
- Tarweed fields (*Holocarpha (heermannii, virgata)*) alliance within annual grassland
- Coyote brush scrub *(Baccharis pilularis)* alliance*, Baccharis pilularis/(Nassella pulchra–Elymus glaucus–Bromus carinatus*) association within scrub/chaparral
- Narrowleaf goldenbush–bladderpod scrub (*Ericameria linearifolia–Cleome isomeris*) alliance, *Ericameria linearifolia* association

Other sensitive vegetation communities already addressed in the 2019 EIS/EIR include purple needlegrass grassland and valley foothill riparian.

Special-Status Plant Species

Special-status plant species include species that meet any of the following criteria (some species may meet several criteria):

- Listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (FESA)
- Listed or candidates for listing as threatened or endangered under the California Endangered Species Act (CESA)
- Species with a California Rare Plant Rank of 1A, 1B, 2A, and 2B, and other species that may be considered endangered, rare, or threatened pursuant to the criteria in the State of California Environmental Quality Act (CEQA) Guidelines, Section 15380[d]

Special-status plant surveys were conducted in April and June 2020 within additional impact areas to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guidelines, Section 15380 (14 CCR 15000 et seq.). Special-status plant species directly observed during focused surveys or known to occur in the surrounding region are described in Table 3.9-3, Special-Status Plant Species' Potential to Occur in Additional Impact Areas. Table 3.9-3 describes their known occurrences or potential to occur within the additional impact areas based on their primary habitat associations, life form, blooming period, and known elevation range.

Spiny-Sepaled Button-Celery

Spiny-sepaled button-celery has a California Rare Plant Rank of 1B.2. Spiny-sepaled button-celery is a dicot, California native annual/perennial herb, and is distributed in the Central Valley. Spiny-sepaled button-celery is found in valley and foothill grassland and vernal pools. This species' blooming period is between April and June. Spiny-sepaled button-celery occurs between 260 feet to 3,200 feet in elevation (CNPS 2020a). There are approximately 0.05 acres of occupied spiny-sepaled button-celery habitat within the additional impact areas. Overall, including areas analyzed in the 2019 EIS/EIR, there are 1.65 acres of occupied spiny-sepaled button-celery habitat within the Modified Project site.

Table 3.9-3. Special-Status Plant Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Primary Habitat Associations/Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Atriplex cordulata var. *cordulata*	Heartscale	None/None/ 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland (sandy); saline or alkaline/annual herb/ Apr–Oct/0–1,835	**Low potential to occur.** Although suitable grassland habitat is present on the Modified Project site, this species is only known from one CNDDB occurrence in the region[2] (CDFW 2020a). This 1937 occurrence, which is now considered possibly extirpated, recorded the species growing northwest of Volta along Highway 33 on alkaline soils in association with alkali heath (*Frankenia* sp.) and pickleweed (*Salicornia* sp.) (CDFW 2020a). Alkaline soils are present within the Modified Project site; however, they only range from slightly alkaline to moderately alkaline (USDA 2020). Heartscale was not observed during 2020 rare plant surveys.
Atriplex coronata var. *vallicola*	Lost Hills crownscale	None/None/ 1B.2	Chenopod scrub, valley and foothill grassland, vernal pools; alkaline/ annual herb/Apr–Sep/ 160–2,080	**Low potential to occur.** Although suitable grassland habitat is present on the Modified Project site, this species appears to be restricted to the Carrisalito Flat area within the region[2] (CDFW 2020a). The two most recent CNDDB occurrences of this species are in the Piedra Azul Conservation Bank on the margins of alkaline badlands habitat (CDFW 2020a). Alkaline soils are present within the Modified Project site; however, they only range from slightly alkaline to moderately alkaline (USDA 2020). Lost Hills crownscale was not observed during 2020 rare plant surveys.
Balsamorhiza macrolepis	Big-scale balsamroot	None/None/ 1B.2	Chaparral, cismontane woodland, valley and foothill grassland; sometimes serpentinite/ perennial herb/Mar–June/145–5,100	**Not expected to occur.** Although suitable grassland habitat is present on the Modified Project site, this species is not known to occur within the region[2] (CDFW 2020a). The closest CNDDB occurrence is located approximately 26 miles west of the Modified Project site on the western side of Pacheco Pass in Coyote Lake County Park (CDFW 2020a). Additionally, serpentine substrates/habitat do not occur within the Modified Project site (Calflora 2020). Big-scale balsamroot was not observed during 2020 rare plant surveys.
Campanula exigua	Chaparral harebell	None/None/ 1B.2	Chaparral (rocky, usually serpentinite)/annual herb/May–June/ 900–4,100	**Not expected to occur.** No suitable chaparral habitat is present within the Modified Project site. Additionally, serpentine substrates/habitat do not occur within the Modified Project site (Calflora 2020). Chaparral harebell was not observed during 2020 rare plant surveys.

Table 3.9-3. Special-Status Plant Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Primary Habitat Associations/Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Caulanthus lemmonii	Lemmon's jewelflower	None/None/ 1B.2	Pinyon and juniper woodland, valley and foothill grassland/annual herb/Feb–May/ 260–5,180	**Low potential to occur.** Although suitable grassland habitat is present on the Modified Project site, this species is only known from one CNDDB occurrence in the region.[2] This 1986 occurrence recorded the species growing on steep slopes above Los Banos Creek (CDFW 2020a). Lemmon's jewelflower was not observed during 2020 rare plant surveys.
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	None/None/ 1B.1	Valley and foothill grassland (alkaline)/ annual herb/ May–Oct(Nov)/0–755	**Not expected to occur.** Although suitable grassland habitat is present on the Modified Project site, this species is not known to occur within the region[2] (CDFW 2020a). The closest CNDDB occurrence is located approximately 37 miles southwest of the Modified Project site near Watsonville (CDFW 2020a). Congdon's tarplant was not observed during 2020 rare plant surveys.
Chloropyron molle ssp. *hispidum*	Hispid bird's-beak	None/None/ 1B.1	Meadows and seeps, Playas, valley and foothill grassland; alkaline/ annual herb (hemiparasitic)/ June–Sep/0–510	**Low potential to occur.** This species is not known to occur within the vicinity of the Modified Project site,[3] but is present within the region[2] (CDFW 2020a). Although suitable grassland habitat is present, the closest presumed extant CNDDB occurrence is located approximately 8 miles northeast of the Modified Project site growing in alkaline upland habitat dominated by saltgrass (*Distichlis spicata*), alkali heath (*Frankenia salina*), and iodine bush (*Allenrolfea occidentalis*) (CDFW 2020a). Alkaline soils are present within the Modified Project site; however, they only range from slightly alkaline to moderately alkaline (USDA 2020). Hispid bird's-beak was not observed during 2020 rare plant surveys.
Delphinium californicum ssp. *interius*	Hospital Canyon larkspur	None/None/ 1B.2	Chaparral (openings), cismontane woodland (mesic), coastal scrub/ perennial herb/ Apr–June/635–3,590	**Low potential to occur.** Marginal scrub habitat, but no cismontane woodland habitat, is present on the Modified Project site. This species is only known from one CNDDB occurrence in the region[2] (CDFW 2020a). This 1995 occurrence is located approximately 9 miles northwest of the Modified Project site in Quinto Creek Canyon along woodland habitat (CDFW 2020a). Hospital Canyon larkspur was not observed during 2020 rare plant surveys.

Table 3.9-3. Special-Status Plant Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Primary Habitat Associations/Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Delphinium recurvatum	Recurved larkspur	None/None/ 1B.2	Chenopod scrub, cismontane woodland, valley and foothill grassland; alkaline/ perennial herb/ Mar–June/ 5–2,590	**Low potential to occur**. Suitable grassland habitat is present on the Modified Project site and this species is known to occur within the region[2] (CDFW 2020a). However, the closest CNDDB occurrence is located approximately 9 miles southeast of the Modified Project site along Salt Creek (CDFW 2020a). Recurved larkspur was not observed during 2020 rare plant surveys.
Eryngium spinosepalum	Spiny-sepaled button-celery	None/None/ 1B.2	Valley and foothill grassland, vernal pools/ annual/perennial herb/ Apr–June/260–3,195	**Present**. Spiny-sepaled button-celery was observed during 2020 rare plant surveys.
Malacothamnus arcuatus	Arcuate bush-mallow	None/None/ 1B.2	Chaparral, cismontane woodland/perennial evergreen shrub/ Apr–Sep/45–1,160	**Not expected to occur**. No suitable chaparral or cismontane woodland habitat is present within the Modified Project site.
Malacothamnus hallii	Hall's bush-mallow	None/None/ 1B.2	Chaparral, coastal scrub/perennial evergreen shrub/ (Apr)May–Sep(Oct)/ 30–2,490	**Low potential to occur**. While this species is known to occur within the region,[2] only marginal scrub habitat is present within the Modified Project site (CDFW 2020a). Hall's bush-mallow was not observed during 2020 rare plant surveys.
Navarretia gowenii	Lime Ridge navarretia	None/None/ 1B.1	Chaparral/annual herb/ May–June/590–1,000	**Not expected to occur**. No suitable chaparral habitat is present on the Modified Project site.
Navarretia nigelliformis ssp. *radians*	Shining navarretia	None/None/ 1B.2	Cismontane woodland, valley and foothill grassland, vernal pools; sometimes clay/ annual herb/ (Mar)Apr–July/ 210–3,280	**Low potential to occur**. Although suitable grassland habitat is present on the Modified Project site, vernal pool habitat is absent within the Modified Project site. The closest CNDDB occurrence is located approximately 4 miles south of the Modified Project site along Billie Wright Road (CDFW 2020a). Shining navarretia was not observed during 2020 rare plant surveys.

Table 3.9-3. Special-Status Plant Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Primary Habitat Associations/Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Puccinellia simplex	California alkali grass	None/None/ 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools; alkaline, vernally mesic; sinks, flats, and lake margins/annual herb/ Mar–May/5–3,050	**Low potential to occur.** Although suitable grassland habitat is present on the Modified Project site, vernal pool habitat is absent within the Modified Project site. The closest CNDDB occurrence recorded in 1986 is located approximately 6.5 miles southeast of the Modified Project site in the vicinity of Los Banos Valley (CDFW 2020a). California alkali grass was not observed during 2020 rare plant surveys.
Sagittaria sanfordii	Sanford's arrowhead	None/None/ 1B.2	Marshes and swamps (assorted shallow freshwater)/perennial rhizomatous herb (emergent)/ May–Oct(Nov)/0–2,130	**Low potential to occur.** Although marginal marsh habitat is present on the Modified Project site, this species is only known from one CNDDB occurrence in the region[2] (CDFW 2020a). This 1948 occurrence is 1 mile east of Gustine near Modesto Properties Gun Club (CDFW 2020a). Sanford's arrowhead was not observed during 2020 rare plant surveys.
Senecio aphanactis	Chaparral ragwort	None/None/ 2B.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/ annual herb/ Jan–Apr(May)/45–2,620	**Low potential to occur.** Although marginal scrub habitat is present on the Modified Project site, this species is only known from one CNDDB occurrence in the region[2] (CDFW 2020a). This 2003 occurrence is west of Origalita Creek approximately 10.5 miles southeast of the Modified Project site (CDFW 2020a). Chaparral ragwort was not observed during 2020 rare plant surveys.
Streptanthus insignis ssp. *lyonii*	Arburua Ranch jewelflower	None/None/ 1B.2	Coastal scrub (sometimes serpentinite)/annual herb/Mar–May/ 750–2,805	**Low potential to occur.** Marginal scrub habitat is present on the Modified Project site, and this species is known to occur within the region[2] (CDFW 2020a). The closest CNDDB occurrence is located approximately 7.5 miles southwest of the Modified Project site in coastal scrub near the South Fork of Los Banos Creek (CDFW 2020a). Additionally, serpentine substrates/habitat do not occur within the Modified Project site (Calflora 2020). Arburua Ranch jewelflower was not observed during 2020 rare plant surveys.

Table 3.9-3. Special-Status Plant Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Primary Habitat Associations/Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Stuckenia filiformis ssp. *alpina*	Slender-leaved pondweed	None/None/ 2B.2	Marshes and swamps (assorted shallow freshwater)/perennial rhizomatous herb (aquatic)/ May–July/980–7,050	**Low potential to occur.** Although marginal marsh habitat is present on the Modified Project site, this species is only known from one CNDDB occurrence in the region[2] (CDFW 2020b). This 1948 occurrence recorded the species growing in a drainage ditch 0.25 miles south of Ingomar (CDFW 2020b). Slender-leaved pondweed was not observed during 2020 rare plant surveys.

Notes: CNDDB = California Natural Diversity Database; USGS = U.S. Geological Survey.

[1] Status Legend:
- FE: Federally listed as endangered
- FT: Federally listed as threatened
- FC: Federal Candidate for listing
- DL: Delisted
- SE: State listed as endangered
- ST: State listed as threatened
- SC: State Candidate for listing
- SR: State Rare
- CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2A: Plants presumed extirpated in California but common elsewhere
- CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
- CRPR 3: Review List: Plants about which more information is needed
- CRPR 4: Watch List: Plants of limited distribution
- .1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

[2] Region is defined as the USGS 7.5 minute San Luis Dam quadrangle in which the Modified Project site is located, and the eight surrounding USGS 7.5-minute quadrangles (Crevison Peak, Howard Ranch, Ingomar, Pacheco Pass, Volta, Mariposa Peak, Los Banos Valley, and Ortigalita Peak N).

[3] Vicinity is defined as the USGS 7.5-minute San Luis Dam quadrangle in which the Modified Project site is located.

Special-Status Wildlife Species

Special-status wildlife species include species that meet any of the following criteria (some species may meet several criteria):

- Listed, proposed for listing, or candidates for listing as threatened or endangered under FESA
- Listed or candidates for listing as threatened or endangered under CESA
- Designated as a Species of Special Concern by CDFW
- Designated as a Fully Protected species by the California Fish and Game Code
- Protected by the federal Migratory Bird Treaty Act
- Bald and golden eagles protected by the federal Bald and Golden Eagle Protection Act
- Bat species designated as Medium or High Priority by the Western Bat Working Group
- Meet the definition of rare, threatened, or endangered as described in CEQA Guidelines, Section 15380

Table 3.9-4 identifies special-status wildlife species evaluated for their potential to occur in the additional impact areas. The potential to occur is based on documented occurrences in the region, life history and general habitat requirements, and overall suitability of the habitat within the additional impact areas to support such species as evaluated during the habitat assessments and surveys described in Section 3.9.1. Special-status wildlife species observed or detected during surveys (Figure 3.9-2, Special-status Species Observations) or with moderate to high potential to occur are discussed in this section.

Table 3.9-4. Special-Status Wildlife Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Habitat	Potential to Occur
Amphibians				
Ambystoma californiense	California tiger salamander	FT/ST, WL/ None	Annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; vernal pools, other ephemeral pools, and (uncommonly) along stream courses and anthropogenic pools if predatory fishes are absent	**Assumed to occur.** The additional staging area northeast of Basalt Hill is within 1.24 miles of suitable aquatic breeding habitat at Basalt Quarry Pond and Willow Spring Pond and is therefore considered potential upland habitat. The additional impact areas west of O'Neill Forebay are also within 1.24 miles of potential breeding sites to the west and are considered potential upland habitat. Known to occur in the region.[2] The nearest CNDDB occurrence is approximately 2.3 miles southeast of the Modified Project site (CDFW 2020b).

Table 3.9-4. Special-Status Wildlife Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Habitat	Potential to Occur
Rana draytonii	California red-legged frog	FT/SSC/None	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	**Assumed present**. Observed in Willow Spring Pond by ESA (2018), near the additional staging area northeast of Basalt Hill. Potential suitable breeding habitat occurs in additional features within 1 mile of the San Luis Creek Day Use Area improvements and the access road to this location.
Spea hammondii	Western spadefoot	None/SSC/ None	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	**High potential to occur**. Suitable seasonal pools present near the DWR maintenance yard are near suitable upland habitat in the additional staging and stockpiling area adjacent to the Gianelli Pumping-Generating Plant. Other suitable pools may occur elsewhere. The nearest CNDDB occurrence is approximately 2.6 miles southeast of the additional impact areas near the right abutment (CDFW 2020b)
Reptiles				
Actinemys marmorata	Western pond turtle	None/SSC/ None	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	**Low potential to occur**. Suitable aquatic habitat is absent from the additional impact areas, but occurs near the additional staging area (Willow Springs Pond), and may occur in other aquatic habitat elsewhere in the vicinity. There are no CNDDB occurrences for this species within 5 miles of the Modified Project site (CDFW 2020b).
Masticophis flagellum ruddocki	San Joaquin coachwhip (=whipsnake)	None/SSC/ None	Open, dry, treeless areas including grassland and saltbush scrub	**High potential to occur**. Suitable habitat (open grassland with no tree cover and abundant small mammal burrows) is present widely in the additional impact areas.
Phrynosoma blainvillii	Blainville's (=coast) horned lizard	None/SSC/ None	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	**Moderate potential to occur**. Suitable scrub and grassland habitats are present throughout the additional areas, but this species is relatively conspicuous and has not been observed during extensive surveys.

Table 3.9-4. Special-Status Wildlife Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Habitat	Potential to Occur
Birds				
Agelaius tricolor (nesting colony)	Tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	**Present.** Dudek observed a nesting colony in spring 2020, adjacent to the Modified Project site, near the additional staging and stockpiling area adjacent to the right abutment. Suitable breeding and foraging habitat occurs in multiple locations near additional impact areas, including the San Luis Creek Day Use Area improvements and the proposed campground area.
Aquila chrysaetos (nesting and wintering)	Golden eagle	BCC/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	**Present.** Dudek observed in the vicinity during surveys for the Gonzaga Ridge Project (Dudek 2019). **High potential for foraging** within or near all of the additional impact areas; **low potential for nesting** anywhere on the Modified Project site based on human disturbance near trees.
Athene cunicularia (burrow sites and some wintering sites)	Burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**High potential to occur.** Not observed, but suitable nesting (ground squirrel burrows) and foraging habitat present within most of the additional impact areas, and known occurrences in vicinity.
Buteo swainsoni (nesting)	Swainson's hawk	BCC/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	**High potential to occur.** Nesting not confirmed but suitable foraging habitat is present throughout much of the additional impact areas. Suitable nesting habitat occurs in the proposed campground area, the San Luis Creek Day Use Area improvements, and adjacent to several other areas near the dam.
Circus hudsonius (nesting)	Northern harrier	None/SSC	Nests in open wetlands (marshy meadows, wet lightly grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs,	**High potential to occur.** Nesting not confirmed but suitable nesting habitat (grassland with adequate ground cover) present at various locations within and adjacent to the additional impact areas.

Table 3.9-4. Special-Status Wildlife Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Habitat	Potential to Occur
			rangelands, emergent wetlands, and other open habitats	
Elanus leucurus (nesting)	White-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	**High potential to occur.** Not observed but suitable nesting trees present in the proposed campground area, the San Luis Creek Day Use Area improvements, and adjacent to several additional impacts areas near the dam.
Gymnogyps californianus	California condor	FE/FP, SE	Nests in rock formations, deep caves, and occasionally in cavities in giant sequoia trees (*Sequoiadendron giganteus*); forages in relatively open habitats where large animal carcasses can be detected	**Moderate potential to occur**. Nesting habitat is not present, foraging habitat is present within the San Luis Reservoir Region. Records from GIS tracking show that movements by this species are concentrated east of the Modified Project site, but multiple individuals have been recorded flying over the Modified Project vicinity since 2018 (USGS 2020).
Haliaeetus leucocephalus (nesting and wintering)	Bald eagle	FDL, BCC/ FP, SE	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	**Present.** Observed foraging on the Modified Project site during 2020 surveys. Suitable foraging habitat occurs on site around large bodies of water and potentially in grasslands where California ground squirrels (*Spermophilus beecheyi*) are present. Low potential to nest near the additional impact areas. One active nest historically presumed to be present at the south end of the San Luis Recreation Area; however, no nests were discovered during Dudek's 2020 surveys.
Lanius ludovicianus (nesting)	Loggerhead shrike	BCC/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches	**Present.** Observed on numerous occasions within and adjacent to the Modified Project site within areas of suitable nesting substrate. Dudek also observed an adult feeding a fledgling near the edge of the Modified Project site, along the south shore of O'Neill Forebay on April 15, 2020.

Table 3.9-4. Special-Status Wildlife Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Habitat	Potential to Occur
Pelecanus erythrorhynchos (nesting colony)	American white pelican	None/SSC	Nests colonially on sandy, earthen, or rocky substrates on isolated islands in freshwater lakes; minimal disturbance from predators; access to foraging areas on inland marshes, lakes, or rivers; winters on shallow coastal bays, inlets, and estuaries	**Not expected to occur (nesting colony).** Observed flying over site by Dudek in 2020. The Modified Project site is outside the species' nesting range, and no nesting habitat is present.
Setophaga petechia (nesting)	Yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	**Moderate potential to occur**. Migrant(s) observed by ESA (2018), but specific location unknown. Marginal nesting habitat in riparian vegetation adjacent to O'Neill Forebay within the proposed campground area, but no evidence of nesting observed by Dudek in 2020.
Mammals				
Antrozous pallidus	Pallid bat	None/SSC/ None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in human-made structures and tree cavities	**High Potential to occur**. Low potential to roost. Foraging habitat occurs throughout the additional impact areas. Detected during acoustic surveys conducted by Dudek (2019) for Gonzaga Ridge Project. CNDDB includes no occurrences within 5 miles (CDFW 2020b).
Cervus elaphus nannodes	Tule elk	None/None/ None	Grasslands and other open country in semi-desert conditions; also require water and cover, especially for calving	**Present.** Species present throughout the Modified Project site north to SR-152. A herd of approximately 700 individuals occupies the area between Interstate 5 and SR-25 in San Benito County, including the Modified Project site.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, human-made structures, and tunnels	**Moderate potential to occur**. No roosting habitat is present in or adjacent to the additional impact areas. However, potentially forages on occasion in much of the additional impact areas.

Table 3.9-4. Special-Status Wildlife Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Habitat	Potential to Occur
Eumops perotis californicus	Western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest, and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	**High potential to occur.** Low potential to roost. Detected during acoustic surveys conducted by Dudek (2019) for Gonzaga Ridge Project. Suitable roosting habitat is probably limited, but may forage on site because of its use of a wide variety of foraging habitats.
Lasiurus blossevillii	Western red bat	None/SSC	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	**Present.** Detected during acoustic survey conducted by ESA (2018) at concrete tunnel northeast of Basalt Quarry on September 12, 2018. Foliage in trees in the proposed campground area and the San Luis Creek Day Use Area improvements, and adjacent to other additional impacts areas near the dam, provide suitable roosting habitat.
Puma concolor	Mountain lion	None/SC/ Specially Protected Mammal	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts	**Low potential to occur.** Mountain lions are unlikely to occur on the Modified Project site due to generally unsuitable habitat.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	**Present.** Observed by Dudek in spring 2020. Potentially occurs in a variety of natural habitats occurring in the additional impact areas.
Vulpes macrotis mutica	San Joaquin kit fox	FE/ST	Grasslands and scrublands, including those that have been modified; oak woodland, alkali sink scrubland, vernal pool, and alkali meadow	**Assumed present.** Presence is assumed based on suitable habitat and prey and nearby occurrences (USFWS 2019). Suitable habitat in the additional impact areas is concentrated south of SR-152. While suitable habitat occurs in the proposed campground area and other grasslands in the Modified Project vicinity north of SR-152, all recent occurrences are from farther south.

Table 3.9-4. Special-Status Wildlife Species' Potential to Occur in Additional Impact Areas

Scientific Name	Common Name	Status[1] (Federal/ State/Other)	Habitat	Potential to Occur
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/PSE	Open grassland and scrub communities supporting suitable floral resources	**Low potential to occur**. Potentially suitable shrubland for nesting and floral resources for foraging occur on Modified Project site, but there are no occurrences in the Modified Project site or vicinity (CDFW 2020b; iNaturalist 2020) and the nearest occurrence is a museum specimen collected in 1952 approximately 22 miles to the southeast. This species may be extirpated from the region.
Branchinecta longiantenna	Longhorn fairy shrimp	FE/None	Sandstone outcrop pools, alkaline grassland vernal pools, and pools within alkali sink and alkali scrub communities	**Not expected to occur.** No seasonal pools occur within any of the additional impact areas.
Branchinecta lynchi	Vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	**Not expected to occur.** No seasonal pools occur within any of the additional impact areas.
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT/None	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*)	**Not expected to occur.** Suitable elderberry shrubs occur near Modified Project site at Basalt Hill, but no adults or exit holes observed to date. No elderberry shrubs were observed in any of the additional impact areas.
Lepidurus packardi	Vernal pool tadpole shrimp	FE/None	Ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, and vernal swales	**Not expected to occur.** No seasonal pools occur within any of the additional impact areas.

Notes: CNDDB = California Natural Diversity Database; DWR= California Department of Water Resources; GIS = geographic information system; SR = State Route; USGS = U.S. Geological Survey.

[1] Status Legend

Federal
FE: Federally Endangered
FT: Federally Threatened
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern

State
SSC: California Species of Special Concern
FP: California Fully Protected Species
SE: State Endangered
ST: State Threatened
SC: State Candidate

SCE: State Candidate for Listing as Endangered
SCT: State Candidate for Listing as Threatened

[2] Region is defined as the USGS 7.5-minute San Luis Dam quadrangle in which the Modified Project site is located, and the either surrounding USGS 7.5-minute quadrangles (Crevison Peak, Howard Ranch, Ingomar, Pacheco Pass, Volta, Mariposa Peak, Los Banos Valley, and Ortigalita Peak N).

[3] Vicinity is defined as the USGS 7.5-minute San Luis Dam quadrangle in which the Modified Project site is located.

Amphibians

California Tiger Salamander

California tiger salamander (*Ambystoma californiense*) occurs within low-elevation grassland and oak woodland communities of the Central Valley, coastal valleys, and bordering foothills from at least Colusa County south to Santa Barbara and Tulare Counties (Shaffer et al. 1993). They require areas that support fossorial rodents, whose burrows provide underground retreats during the dry nonbreeding season, and with ponds, vernal pools, and intermittent streams that hold water during the winter and spring to provide aquatic breeding habitat (Shaffer et al. 1993). Although breeding by tiger salamanders has been documented in permanent ponds, if there are predatory fish or bullfrogs in the pond, breeding will most likely be unsuccessful. Various trapping studies in Monterey and Solano Counties have shown that most nonbreeding California tiger salamanders reside more than 100 yards but within 0.6 to 1.2 miles of breeding ponds (Ford et al. 2013).

California tiger salamander presence within the Modified Project site has not been verified, but the species is assumed to occur (USFWS 2019). Potential California tiger salamander breeding habitat was identified by ESA in two locations near the Modified Project site, including the 0.17-acre Willow Spring Pond north of Basalt Quarry and a 0.04-acre seasonal pond south of Basalt Road and east of the quarry (also referred to as Basalt Quarry Pond). Additional features potentially providing aquatic breeding habitat in the vicinity of the Modified Project site are depicted in Figure 3.9-3, California Tiger Salamander Aquatic Habitat. There are no barriers to salamander movement into or within the Modified Project site from these potential breeding sites. Throughout these areas, it is reasonable to conclude that all life stages of California tiger salamander are present (USFWS 2019). California tiger salamander has been documented four times within 5 miles of the Modified Project site (CDFW 2020b).

Potential California tiger salamander habitat within the additional impact areas includes grassland into which salamanders could move from nearby breeding habitat and occupy burrows during the dry season. The likelihood of California tiger salamander occurrence is highest in the additional staging and stockpiling area and access road improvement areas north of Basalt Hill, due to their proximity to Willow Spring Pond and Basalt Quarry Pond. The additional impact areas west of O'Neill Forebay could also support California tiger salamanders if potential breeding sites to the west were occupied.

California Red-legged Frog

California red-legged frog (*Rana draytonii*) occurs from sea level to elevations near 5,000 feet. It has been extirpated from 70% of its former range and now is found primarily in coastal drainages of Central California, from Marin County south to northern Baja California, Mexico, and in isolated drainages in the Sierra Nevada, northern Coast, and northern Transverse Ranges. Breeding habitat includes freshwater pools and backwaters within streams and creeks, ponds, marshes, springs, and lagoons. They also frequently breed in artificial impoundments such as stock ponds (USFWS 2002). During the nonbreeding season, California red-legged frogs need moist areas in which to take refuge from the heat and predators, such as intermittent or ephemeral streams with dense riparian vegetation, overhanging banks, and rootwads; springs or spring boxes; rodent burrows; and damp leaf litter in riparian woodlands (Ford et al. 2013). USFWS (2002, 2019) considers freshwater habitat and associated upland habitat within 1 mile as red-legged frog breeding, foraging, and dispersal habitat.

California red-legged frog is known to occur in the vicinity of the Modified Project site, and there are several potential aquatic breeding sites on or within 1 mile of the site (Figure 3.9-4, California Red-legged Frog Aquatic Habitat). ESA (2020) observed a population in Willow Spring Pond north of Basalt Quarry in September 2018 and four adults in an off-site stock pond 0.3 miles west of the Modified Project boundary at Basalt Quarry in March 2020. ESA also identified two off-site ponds potentially suitable for breeding: a spring-fed stock pond 0.8 miles east of the Modified Project boundary at Basalt Quarry and a stock pond 1.2 miles west of the Basalt Quarry Project boundary. There are no barriers to frog movement into or within the Modified Project site from potential breeding sites, and ground squirrel burrows in surrounding grassland provide suitable refugia. Throughout these areas, it is reasonable to conclude that all life stages of California red-legged frog are present (USFWS 2019).

Potential California red-legged frog habitat within the additional impact areas includes grassland through which red-legged frogs could move when dispersing between nearby breeding sites. The likelihood of California red-legged frog occurrence is highest in the additional staging and stockpiling area and access road improvement areas north of Basalt Hill, due to their proximity to Willow Spring Pond and Basalt Quarry Pond. The additional impact areas west of O'Neill Forebay could also support California red-legged frog if potential breeding sites to the west were occupied.

Western Spadefoot

Western spadefoot (*Spea hammondii*) ranges from the north end of California's Central Valley near Redding, south, west of the Sierras and the deserts, and into northwest Baja California, Mexico (Jennings and Hayes 1994; Stebbins 2003). It is almost completely terrestrial, entering temporal pools and drainages only to breed. The species aestivates within rodent burrows in upland habitats near aquatic breeding sites (Stebbins 1972). The species prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Stebbins 2003).

This species has high potential to occur within the Modified Project site and additional impact areas. The seasonal pools north and west of the DWR maintenance yard provide suitable breeding habitat. These pools are outside the Modified Project site boundary, but spadefoots could move into the additional staging and stockpiling area west of Gianelli Plant, if present in these pools. There is one CNDDB occurrence for this species approximately 2.2 miles southeast of Basalt Quarry (Occ. No. 1280) (CDFW 2020b).

Reptiles

San Joaquin Coachwhip (=Whipsnake)

San Joaquin coachwhip (*Masticophis flagellum ruddocki*) prefers open, dry, often treeless areas including grassland, chaparral, and scrub habitats within its range in Central and Southern California. This species tends to seek cover in rodent burrows and rock piles.

This species has high potential to occur within the Modified Project site and additional impact areas. The grasslands and scrub, especially those areas with abundant rodent burrows, provide suitable habitat. There is one CNDDB occurrence for this species, approximately 4.9 miles southeast of Basalt Quarry (Occ. No. 19) (CDFW 2020b).

Blainville's (=Coast) Horned Lizard

The Blainville's horned lizard (*Phrynosoma blainvillii*) typically occurs below 6,000 feet in elevation in open areas of sandy soil in valleys, foothills, and semi-arid foothills including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats. It requires loose, fine soils for burrowing, open areas for thermoregulation, and shrub cover for protection from predators and weather (Jennings and Hayes 1994).

This species has moderate potential to occur within the Modified Project site and additional impact areas. Suitable scrub and grassland habitats are present throughout the additional impact areas, but this species is relatively conspicuous and has not been observed during extensive surveys.

Birds

Bald Eagle

In California, most nesting bald eagles (*Haliaeetus leucocephalus*) are found in the northern part of the state, but pairs nest locally south through the Sierra Nevada, coastal counties in Central and Southern California, and on the Channel Islands. Bald eagles typically nest in one of the largest trees available near water and generally situated with a prominent overview of the surrounding area (Buehler 2020). Bald eagles preferentially forage on fish and waterfowl, but their diet varies regionally and seasonally in response to locally available resources, and often includes a variety of mammals as well as carrion, especially in winter (Todd et al. 1982; Stalmaster 1987; Ewins and Andress 1995; Buehler 2020).

Bald eagles were documented on 11 occasions during Dudek's 2020 surveys and were previously documented within the Modified Project site during ESA's 2018 surveys. Most of Dudek's 2020 observations were of individuals hunting over or soaring near San Luis Reservoir.

No active bald eagle nests were observed during Dudek's 2020 surveys; however, subadult birds were documented on several occasions. An active bald eagle nest has historically occurred along a southern finger of the San Luis Reservoir State Recreation Area (SRA) (CDPR 2006); this may be the same nest that ESA observed "near [the off-site pond approximately 1.2 miles west of Basalt Quarry], on the southwest side of [the reservoir] by Lone Oak Bay" during reconnaissance-level surveys for the B.F. Sisk Dam Raise and Reservoir Expansion Project (reservoir expansion project) (SLDMWA and Reclamation 2020) in March 2020 (ESA 2020).

Suitable bald eagle nesting habitat occurs within the Modified Project site in areas with stands of eucalyptus, cottonwoods, pines, and other trees at the base of B.F. Sisk Dam, as well as immediately outside of the Modified Project site along the reservoir and the edges of O'Neill Forebay where several trees were observed during surveys. Basalt Campground provides suitable nesting habitat for bald eagles with forested stands of pines and eucalyptus trees; however, disturbance by the public in this area may deter bald eagles from nesting. Suitable bald eagle foraging habitat occurs throughout the Modified Project site adjacent to San Luis Reservoir and O'Neill Forebay. Additionally, this species may forage irregularly within the grassland habitats on the Modified Project site.

Potential suitable nesting habitat within the additional impact areas includes the stands of eucalyptus and cottonwoods within the proposed campground area and San Luis Creek Day Use Area; however, disturbance by the public in these areas may deter nesting. Suitable foraging habitat occurs throughout the additional impact areas adjacent to San Luis Reservoir and O'Neill Forebay, as well as within grassland habitats within these areas.

There is one CNDDB occurrence for bald eagle near the Modified Project site. In 2011, an active nest was observed approximately 4.6 miles northwest of the Romero Visitor Center area of the Modified Project site (Occ. No. 365) (CDFW 2020b).

Burrowing Owl

Burrowing owl (*Athene cunicularia*) occurs throughout North and Central America west of the eastern edge of the Great Plains south to Panama. In California, it is a year-round resident of lowlands throughout much of the state;

these resident populations may be augmented by migrants from other parts of western North America in the winter (Gervais et al. 2008). Burrowing owl has disappeared as a breeding species from many portions of its former statewide range, especially along the central and southern coasts (Gervais et al. 2008; Wilkerson and Siegel 2010).

Burrowing owls require habitat with three basic attributes, (1) open, well-drained terrain; (2) short, sparse vegetation; and (3) underground burrows or burrow surrogates such as culverts, concrete debris piles, or riprap (Klute et al. 2003). They occupy grasslands, deserts, sagebrush scrub, agricultural areas (including pastures and untilled margins of cropland), earthen levees and berms, coastal uplands, and urban vacant lots, as well as the margins of airports, golf courses, and roads. This species also prefers sandy soils with higher bulk density and less silt, clay, and gravel (Lenihan 2007).

Habitat assessments for burrowing owl were conducted within the Modified Project site in 2018 and 2020, following the guidelines in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). No protocol-level breeding or nonbreeding season surveys[1] have been conducted to date.

Potential suitable habitat within the Modified Project site includes grasslands and open areas adjacent to coyote brush scrub that contain burrows, burrow surrogates, or fossorial mammal dens. Although there is potential suitable habitat within these vegetation communities throughout the Modified Project site, and numerous suitable burrows were detected during transect surveys (including several artificial burrows presumably installed for habitat enhancement in the Medeiros Use Area, no burrowing owls or fresh evidence of burrowing owl presence (e.g., white wash, pellets, feathers, and/or bone fragments in or around burrow entrances) were detected during surveys for this species in 2018 or 2020. Two very old potential burrowing owl burrows were discovered during surveys in 2020 immediately west of Basalt Road, and at the southern end of Borrow Area 14. Old, faint whitewash was observed at both locations; however, no other sign of burrowing owl presence was observed. There is one CNDDB occurrence for this species that overlaps with the eastern portion of the Modified Project site: two wintering owls were observed in December 2003 about 1 mile southeast of the California Department of Forestry and Fire Protection (CAL FIRE) station and east of the intersection of Basalt Road and Gonzaga Road (Occ. No. 859) (CDFW 2020b). There have been seven additional occurrences reported by CNDDB within 5 miles of the Modified Project site. In addition, ESA (2020) observed a single burrowing owl approximately 0.3 miles southwest of the Basalt Quarry Project boundary during reconnaissance-level surveys for the reservoir expansion project in March 2020. Given the presence of high-quality habitat and occurrences in the vicinity, this species has high potential to occur on the Modified Project site in the future if burrows remain available.

Potential suitable habitat within the additional impact areas includes grasslands and open areas adjacent to scrub/chaparral that contain burrows, burrow surrogates, or fossorial mammal dens. These areas predominantly occur within the proposed campground area and San Luis Creek Day Use Area; however, the shaded areas of San Luis Creek Day Use Area combined with the high level of public activity likely deter burrowing owls from using this area.

California Condor

Once on the brink of extinction, captive-bred and some recent wild-bred California condors (*Gymnogyps californianus*) have begun to use portions of their historical range in California, including the Diablo Range (Johnson et al. 2010). Nest sites are typically located in cavities, ledges, and potholes in cliffs and large rock outcrops, and, more rarely, in cavities in giant sequoia trees (*Sequoiadendron giganteum*). Although California condors historically nested over a relatively large portion of the Coast, Transverse, and southern Sierra Nevada

[1] A complete breeding season survey consists of at least four survey visits: at least one between February 15 and April 15 and a minimum of three visits, at least 3 weeks apart, between April 15 and July 15, with at least one of these visits after June 15. A complete nonbreeding season survey consists of at least four visits spread evenly between September 1 and January 31 (CDFG 2012).

Ranges in California (Koford 1953; Meretsky and Snyder 1992), current wild California condor nest sites within the state are located primarily within the Los Padres and Angeles National Forests and Pinnacles National Park, which is approximately 40 miles south/southwest of the Modified Project site.

As large opportunistic scavengers, California condors are evolutionarily adapted for feeding on the carcasses of large ungulates, such as deer and elk, as well as whales, seals, and sea lions that wash up along the coast (Emslie 1987). More recently, condors have adapted to forage on carcasses of cattle, sheep, and other domestic grazing animals. As the availability of large carcasses was often unpredictable, condors developed a wide-ranging search behavior. Foraging flights occurred, and continue to occur, over vast areas encompassing hundreds of linear miles of travel each day, typically in association with foothills and mountainous areas where condors can take advantage of updrafts and prevailing winds (Meretsky and Snyder 1992).

Most California condor foraging occurs in open foothill grasslands and oak savannas and occasionally in open scrub vegetation and require fairly open areas in which to access food. California condors prefer areas with relatively steep topography, such as in mountains and hillsides, which, in addition to creating updrafts that provide favorable soaring conditions, also make it easier for condors to take off and land near carcasses (USFWS 1996). The majority of breeding birds forage within 80 to 112 miles of their nesting areas.

Suitable foraging habitat (primarily associated with grassland and oak savanna communities) occurs on the Modified Project site and within the additional impact areas. Condors have never been known to nest within the Modified Project site, additional impact areas, or within the Modified Project vicinity, likely due to a lack of suitable nest habitat (i.e., large rock outcrops and cliffs with appropriate ledges and cavities for nesting).

Based on USFWS/U.S. Geological Survey GPS telemetry data (representing individual condor flights), individual California condors have been documented flying within 10 miles of the Gonzaga Ridge Project, which is located east of the Modified Project Site (Dudek 2019; USGS 2020). Multiple individuals have been recorded flying over the Modified Project vicinity since 2018 (USGS 2020). The nearest documented CNDDB occurrence for California condor is approximately 40 miles south of the Modified Project site within Rock Spring Peak, east of Pinnacles National Park (Occ. No. 11) (CDFW 2020b).

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is a year-round, diurnally active species that is a permanent resident and migrant throughout California. Golden eagles are more common in northeast California and the Coast Ranges than in Southern California and the deserts. Foraging habitat for this species includes open habitats with scrub, grasslands, desert communities, and agricultural areas.

Golden eagles breed from January through August, with peak breeding activity occurring from February through July. Nest building can occur almost any time during the year. This species nests on cliffs, rock outcrops, large trees, and artificial structures such as electrical transmission towers, generally near open habitats used for foraging (Johnsgard 1990; Katzner et al. 2020; Scott 1985). Golden eagles commonly build, maintain, and variably use multiple alternative nest sites in their breeding territories, routinely refurbishing and reusing individual nests over many years. Generally, the nests are large platforms composed of sticks, twigs, and greenery that are often 10 feet across and 3 feet high (Zeiner et al. 1990a). Pairs may build more than one nest and attend to them prior to laying eggs (Katzner et al. 2020). Each pair can have up to 10 nests, but only 2 to 3 are generally used in rotation from one year to the next. Some pairs use the same nest each year, and others use alternate nests year after year, and still others apparently nest only every other year. Succeeding generations of eagles may even use the same nest (Terres 1980).

Golden eagles have been documented on numerous occasions within the Gonzaga Ridge Project site, which is located approximately 3 miles northwest of the Basalt Hill Borrow Area. Over 2 years of avian point count surveys conducted for the Gonzaga Ridge Project (a total of 693 point counts were conducted), individual golden eagles were observed on nine different occasions (Dudek 2019). During the fall periods in 2017 and 2018 (October to November) and spring period in 2018 (March to April), Dudek biologists recorded 48 golden eagle observations over a total 150 surveys conducted for the Gonzaga Ridge Project (Dudek 2019). Most of these observations were documented within the northeastern part of the Gonzaga Ridge Project site, approximately 3.3 miles northwest of the Basalt Hill Borrow Area. Dudek assumed that the majority of these individuals were migratory or non-resident individuals given the low number of eagles observed during the year-round point count surveys (Dudek 2019).

Dudek ground-based and aerial nest territory surveys found multiple occupied territories within 10 miles of the Gonzaga Ridge Project site, but all of the occupied territories were farther west than the Modified Project site (Dudek 2019). No active golden eagle nests or territorial eagles were observed within the Gonzaga Ridge Project site. Golden eagle nest territory surveys conducted for the Gonzaga Ridge Project in 2018 did not encompass any part of the Modified Project site, because the entire area east of San Luis Reservoir was considered not suitable for eagle nesting. However, a May 2020 aerial survey for the Gonzaga Ridge Project covered the Gonzaga Ridge transmission corridor, including portions in the Basalt Hill Borrow Area. No golden eagle nests or territorial eagles were detected (BRC 2020).

Golden eagle was not documented on the Modified Project site during ESA's 2018 surveys or any of Dudek's 2020 surveys. Suitable foraging habitat (i.e., grassland) occurs on the Modified Project site, but regular disturbance near trees precludes nesting. This species also typically prefers to nest in more hilly terrain than occurs over most of the Modified Project site.

Potential suitable foraging habitat for golden eagle within the additional impact areas includes grasslands and open areas, which predominantly occur within the proposed campground area. Small patches of suitable grassland foraging habitat occur within the additional staging and stockpiling areas.

There is one CNDDB occurrence for golden eagle within proximity to the Modified Project site, southwest of Los Banos and approximately 6 miles southeast of Borrow Area 6 within the Medeiros Day Use Area (Occ. No. 120) (CDFW 2020b). This occurrence was an active nesting site in 1987.

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) ranges throughout California in the lowlands and foothills. The largest breeding populations are in portions of the Central Valley, the Coast Ranges, and the southeastern deserts (Humple 2008). The loggerhead shrike is a resident in much of California, and migratory in the north. Winter visitors augment resident populations. Preferred habitats for loggerhead shrikes are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, as well as nearby spiny vegetation or human-made structures (e.g., the top of chain-link fences or barbed wire) that provide a location to impale prey items for storage or manipulation (Humple 2008). Loggerhead shrikes occur most frequently in riparian areas along the woodland edge, grasslands with available perch and butcher sites, scrublands, and open canopied woodlands; they can also occur in agricultural areas and rangelands, as well as developed areas such as mowed roadsides, cemeteries, and golf courses. They rarely occur in heavily urbanized areas. For nesting, the height of shrubs and presence of canopy cover are most important (Yosef 2020). Loggerhead shrikes nest in trees and shrubs, especially thorny or spiny ones. In some cases, tumbleweeds and brush or debris (e.g., discarded rolls of barbed wire) piles may be used for nesting (Ricketts, pers. obs. 2013).

Loggerhead shrike was observed on at least five occasions during Dudek's 2020 field surveys (Figure 3.9-2 and by a few game cameras. Loggerhead shrikes were observed adjacent to Borrow Area 6 within the Medeiros Use Area, adjacent to Gianelli Plant, and within/adjacent to the Basalt Campground. At several locations, evidence of nesting was observed, including fledgling birds being fed by adults, independent juveniles, and territorial behavior by adults. Loggerhead shrikes were also observed within the Approved Project site during ESA's 2018 surveys.

The Modified Project site and additional impact areas provide high-quality nesting and foraging habitat for this species. Nesting habitat occurs in the dense riparian vegetation adjacent to Borrow Area 6 and adjacent to the additional staging and stockpiling areas, and stands of vegetation at the base of the dam west of Basalt Road. Additionally, dense riparian vegetation along O'Neill Forebay within the proposed campground area and San Luis Creek Day Use Area provides high-quality nesting habitat. Grasslands throughout the Modified Project site provide foraging habitat.

The nearest CNDDB occurrence for this species is approximately 13 miles northeast of the Modified Project site within San Luis National Wildlife Refuge (Occ. No. 109) (CDFW 2020b); however, this species is underrepresented in CNDDB.

Northern Harrier

The northern harrier (*Circus hudsonius*) breeds throughout most of Canada and Alaska; south through the northern and central Great Basin, Rocky Mountains, and Great Plains; in the northeastern United States; and in scattered locales from central, coastal, and southwestern California south to Baja California, Mexico (Smith et al. 2020). Northern harriers winter across most of the coterminous United States south through Mexico, Central America, the Bahamas, and Cuba. In California, northern harriers breed in the Central Valley, Great Basin, most of the Coast Ranges, and in some coastal areas from San Luis Obispo County southward (Davis and Niemela 2008). Northern harrier inhabits annual grassland, lodgepole pine, and pine meadow habitats in the Central Valley, Sierra Nevada, and northeastern California (Zeiner et al. 1990a). This species is less common in the Central Valley, and permanently resides on the northeastern plateau and coastal areas. Northern harrier breeds from sea level to 5,700 feet and nests on the ground in shrubby vegetation, within tall grasses, and forbs in wetland (Brown and Amadon 1968). Extensive grazing general precludes nesting by northern harriers, which typically require relatively large tracts of undisturbed habitat (Smith et al. 2020).

Northern harrier was observed on four occasions during Dudek's 2020 field surveys (Figure 3.9-2). On April 13, 2020, one was observed hunting in the grassland south of the proposed campground area on the western side of O'Neill Forebay , and one was observed hunting within the proposed staging and stockpiling area west of Basalt Road. During multi-species burrow mapping surveys in early May 2020, a northern harrier was observed hunting within Borrow Area 6 of the Medeiros Use Area. An additional northern harrier was observed on June 24, 2020, during focused special-status plant surveys near the base of the south valley section of B.F. Sisk Dam. Northern harrier was also observed during ESA's field surveys in September 2018.

No northern harrier nests were discovered during the 2018 or 2020 surveys. Nesting and foraging habitat for this species exists within grasslands throughout the Modified Project site and additional impact areas, including patches of upland mustards and other ruderal forbs.

There are two CNDDB occurrences for northern harrier near the Modified Project site. On June 21, 2001, several adults and juveniles were observed within the O'Neill Forebay Wildlife Area approximately 1.3 miles north of Borrow Area 6 (Occ. No. 41) (CDFW 2020b). On April 25, 2001, a breeding pair was observed within the Lower Cottonwood Wildlife Area north of SR-152 (Occ. No. 42) (CDFW 2020b).

Swainson's Hawk

Swainson's hawk nests in California in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and the Mojave Desert. This species breeds in riparian areas, stands of trees and isolated trees in agricultural environments, oak savannah, and juniper–sage flats. In the San Joaquin Valley, it typically nests in riparian areas and in isolated tree clusters, often near rural residences or other areas with some human disturbance. Alfalfa fields are the favored foraging areas of Swainson's hawk in the Central Valley, but the species also forages in other low-density row crops, undisturbed grasslands, rangelands, and fallow agricultural fields.

Swainson's hawk was observed on 10 occasions during Dudek's 2020 field surveys (Figure 3.9-2). Most of the observations were of individual birds or groups hunting over the grassland areas; however, potential breeding activity was observed within the Basalt Campground. On April 14 and 15, 2020, a pair of Swainson's hawks were observed vocalizing and carrying nesting material (e.g., sticks) within the campground on two separate occasions. An individual Swainson's hawk was observed again in this area on April 20, 2020, but no nests were found, nor were any found on or within 0.5 miles of the Modified Project site.

While Swainson's hawk nesting was not observed within the Modified Project site during Dudek's 2020 field surveys, nesting habitat occurs throughout the Modified Project site within the large stands of eucalyptus, cottonwoods, pines, and other trees. Grasslands that are present throughout the Modified Project site provide suitable foraging habitat for this species.

Potential suitable nesting habitat for Swainson's hawk occurs within trees of suitable size within the additional impact areas, specifically adjacent to several of the additional staging and stockpiling areas, and trees within/along O'Neill Forebay in the proposed campground area and San Luis Creek Day Use Area. Grasslands that are prevalent within and adjacent to these additional impact areas provide suitable foraging habitat for Swainson's hawk.

There are 10 CNDDB occurrences for Swainson's hawk within 5 miles of the Modified Project site, and 3 occurrences, all from 2006, overlap with the Modified Project site or are within 0.5 miles of the Modified Project site (CDFW 2020b). The 3 occurrences in 2006 all involved active nests: 1 in a eucalyptus tree in the Basalt Campground, approximately 0.2 miles south of the proposed contractor use area near the kiosk on Basalt Road (Occ. No. 2492); 1 in an interior live oak tree immediately adjacent to the southwestern boundary of Borrow Area 6 near the intersection of Basalt Road and SR-152 (Occ. No. 2491); and 1 in a eucalyptus tree adjacent to the southeastern boundary of Borrow Area 6 in the Medeiros Use Area (Occ. No. 2490) (CDFW 2020b).

Tricolored Blackbird

Tricolored blackbirds are largely endemic to California, with more than 99% of the global population occurring in the state. Breeding tricolored blackbirds occur in four general areas of the state, the Central Valley, the central coast, the Sierra Nevada foothills, and Southern California. Madera, Merced, and Stanislaus Counties have the greatest numbers of consistently breeding tricolored blackbirds (Meese 2014).

Tricolored blackbirds nest in colonies, primarily in freshwater marshes dominated by dense stands of emergent vegetation such as cattails and bulrushes, but they also nest in willows, blackberries, thistles, and nettles (*Urtica* spp.). They are known to forage up to 5.6 miles from active breeding colonies (UC Davis 2020).

Tricolored blackbird was documented regularly within the Modified Project site during Dudek's April and May of 2020 surveys (Figure 3.9-2). A colony of breeding individuals (approximately 75 birds) was observed west of Basalt Road, immediately east of the proposed expanded embankment and stability berm for the right abutment of the

dam. The colony was occupying a large area of cattail marsh, and nesting behaviors noted included nest building, birds carrying insect prey and nesting materials, and birds persistently visiting potential nest locations deep within the reeds. The colony was intermixed with a colony of red-winged blackbirds. Tricolored blackbird was not documented within the Modified Project site during ESA's 2018 field surveys.

Suitable breeding habitat for this species on site primarily consists of cattail marsh, as well as mixed stands of willows, poison hemlock, and mustard (*Brassica* spp.) that occur throughout the Modified Project site and additional impact areas. Most suitable habitat occurs along the edge of O'Neill Forebay north of Borrow Area 6 in the Medeiros Use Area, as well as along the edge of the forebay in the proposed campground area and San Luis Creek Day Use Area. Suitable habitat also occurs in a few patches at the base of the dam west of Basalt Road (including the observed nesting colony), near the additional staging and stockpiling areas, as well as within the footprint of the northernmost stability berm (i.e., below left abutment of the dam).

There are four CNDDB occurrences for tricolored blackbird in or near the Modified Project site and six additional occurrences within 5 miles. A colony of 100 to 1,000 birds was observed at the same location as Dudek's 2020 observation at the base of B.F. Sisk Dam between 1998 and 2012 (Occ. No. 355) (CDFW 2020b). A colony of 500 birds was observed at the northwestern side of Borrow Area 6 within the Medeiros Day Use Area in 2006 and 2007 (Occ. No. 648) (CDFW 2020b). In April 2005, a colony of 50 breeding adults was observed at Domengine Spring, immediately south of the Basalt Road kiosk (Occ. No. 432) (CDFW 2020b). Finally, a colony of 150 birds was observed along Basalt Road just north of the Basalt Hill Borrow Area in July 1998 (Occ. No. 354) (CDFW 2020b).

White-tailed Kite

White-tailed kite (*Elanus leucurus*) inhabits herbaceous and open cismontane habitats (Zeiner et al. 1990a). It is commonly associated with certain types of agricultural areas (Grinnell and Miller 1944). This species is a year-round resident in coastal and valley lowlands, and forages in open grasslands, meadows, farmlands, and emergent wetlands. It will also use marginal habitats such as freeway edges and medians when foraging for voles and mice. Nests are constructed in a variety of trees, with coast live oak perhaps the most common, and placed high in the crown on thin branches (Peeters and Peeters 2005). Riparian areas adjacent to open space areas are also typically used for nesting, and kites prefer dense, broad-leafed deciduous trees for nesting and night roosting (Brown and Amadon 1968). They also nest in young redwoods (*Sequoia sempervirens*) and mid-sized Douglas firs (*Pseudotsuga menziesi*i) in Northern California.

White-tailed kite was not observed during ESA's 2018 or Dudek's 2020 field surveys. The eucalyptus stands, cottonwoods pines, and other trees within the Modified Project site and additional impact areas provide suitable nesting habitat for this species, and grasslands provide high-quality foraging habitat. There are several eBird (2020) occurrences in the Modified Project vicinity, including an observation of two individuals in the San Luis Creek Day Use Area on March 24, 2019, and an observation near the Basalt Day Use Area boat ramp on August 23, 2011. The nearest CNDDB occurrence for this species is a May 1994 observation in Gilroy, approximately 28 miles west of the Modified Project site (Occ. No. 84) (CDFW 2020b).

Yellow Warbler

Yellow warbler (*Setophaga petechia*) occurs as a migrant and summer resident in California from late March to early October. Despite local declines, yellow warblers currently occupy much of their historic statewide range (i.e., throughout California except for most of the Mojave Desert and the entire Colorado Desert) except for the Central Valley, where it is close to extirpation. It breeds in riparian vegetation along streams and wet meadows from April

to late July. Nests are placed 2 to 16 feet above ground in riparian trees or shrubs such as cottonwoods, willows, and alders (*Alnus* sp.). Riparian woodland or forest used for nesting are typically open or semi-open with a dense shrub understory (Zeiner et al. 1990a; Heath 2008).

ESA observed yellow warbler (presumably a migrant) during their September 2018 surveys; however, Dudek did not observe any during 2020 surveys, which were conducted during the peak of the nesting season. Riparian habitat within the Modified Project site is limited to the small stand of Fremont cottonwood forest southeast of Gianelli Plant; this stand is too small and sparsely vegetated to support nesting by this species. Higher quality habitat occurs along the edges of O'Neill Forebay, adjacent to the proposed campground area and San Luis Creek Day Use Area, but Dudek did not observe yellow warblers in these areas. There are no CNDDB occurrences within 5 miles of the Modified Project site.

Mammals

American Badger

American badger (*Taxidea taxus*) occurs throughout California except for the extreme northwestern coastal area (Zeiner et al. 1990b) and higher elevations of the Sierra Nevada. This species prefers dry, open, treeless areas, as well as grasslands, coastal scrub, agriculture, and pastures, especially with friable soils (Zeiner et al. 1990b). This species is considered somewhat tolerant of human activities (Zeiner et al. 1990b).

American badger was documented within the Modified Project site during Dudek's 2020 surveys (Figure 3.9-2). There were four wildlife camera detections and three direct observations by Dudek staff in the field. On April 15, 2020, Dudek staff documented a deceased American badger (likely due to vehicle strike) south of the eastern end of Borrow Area 6 along SR-152; on May 6, 2020, fresh American badger scat was documented along the northern access road of Borrow Area 6 in the Medeiros Use Area; and on June 23 an individual badger was observed next to a large burrow in the grassland north of Basalt Road east of the Basalt Road kiosk. ESA also observed one badger at the intersection of Basalt Road and Gonzaga Road during spotlighting surveys conducted within the Approved Project site on September 13, 2018.

Potential suitable habitat within the additional impact areas includes grasslands and open areas adjacent to coyote brush scrub that contain burrows, burrow surrogates, or fossorial mammal dens. Suitable grasslands occur throughout the additional impact areas. Numerous suitable American badger burrows were documented during multi-species burrow mapping conducted by Dudek in May 2020.

There are four CNDDB occurrences within or near the Modified Project site. In February 2009, an individual was observed north of SR-152 and south of Lower Cottonwood Creek Wildlife Area, approximately 0.1 miles northeast of the left abutment of the dam (Occ. No. 344) (CDFW 2020b). Individual badgers were also observed in 2005 north of Basalt Road and the Basalt Road kiosk (Occ. No. 483) and east of the access road to Basalt Campground (Occ. No. 484), and in 2006 south of Borrow Area 6 and Gonzaga Road, west of Jasper-Sears Road (Occ. No. 485) (CDFW 2020b). A total of 10 CNDDB occurrences have been documented within 5 miles of the Modified Project site.

Mountain Lion

Mountain lions (*Puma concolor*) are widespread but uncommon throughout most of California except for the Central Valley and regions of the Mojave and Colorado Deserts that do not support mule deer, their preferred food source. The species uses the brushy stages of a variety of habitat types with good cover (Zeiner et al. 1990b).

There are no documented mountain lion occurrences within the Modified Project site or vicinity, and mountain lions are considered to have a low potential for occurrence in all of the additional impact areas. More suitable habitat occurs to the west of the Modified Project site, where the terrain is more rugged and there is more woodland cover.

Pallid Bat

Pallid bat (*Antrozous pallidus*) inhabits grasslands, shrublands, woodlands, and forests in low elevations in California (Zeiner et al. 1990b). This species occurs throughout California in open, dry habitats with rocky areas for roosting. Pallid bat requires protected areas for day roosting, including caves, crevices, and hollow trees, and may roost at night in more open sites, including buildings.

Pallid bat has not been detected within the Modified Project site, including the additional impact areas. However, it was detected during passive acoustic monitoring surveys conducted from February to October 2018 for the Gonzaga Ridge Project, approximately 5.3 miles to the west (Dudek 2019). Suitable roosting habitat occurs in concrete structures near Basalt Quarry. The species has a low likelihood of establishing days roosts in the additional impact areas, but may roost nearby and forage over the additional impact areas, most of which are suitable foraging habitat for this species.

San Joaquin Kit Fox

San Joaquin kit fox (*Vulpes macrotis mutica*) is endemic to California, occurring only on the San Joaquin Valley floor, surrounding foothills and ranges, and smaller, adjacent valleys, from northern Ventura and Santa Barbara Counties north to Contra Costa and San Joaquin Counties. The three core populations for the kit fox are in the Ciervo–Panoche region (western Fresno and Merced Counties and eastern San Benito County), western Kern County, and the Carrizo Plain in San Luis Obispo County (USFWS 2010a).

San Joaquin kit fox occurs in arid lands with scattered shrubby vegetation underlain by loose-textured, sandy soils suitable for burrowing and supporting primary prey (e.g., kangaroo rats). Occupied communities and land covers include valley sink scrub, valley saltbush scrub, upper Sonoran subshrub scrub, annual grassland, grazed grasslands, petroleum fields, and urban areas in the southern portion of their range; valley sink scrub, interior coast range saltbush scrub, upper Sonoran subshrub scrub, annual grassland, and the remaining native grasslands in the central portion of their range; and annual grassland and valley oak woodland in the northern part of their range (USFWS 1998). The Modified Project site, including the additional impact areas, falls within the central portion of the range.

CNDDB includes numerous kit fox occurrences in the Modified Project vicinity from the early 1970s to the early 2000s, with the most recent approximately 0.4 miles south of Basalt Quarry along Billy Wright Road and 2.7 miles southeast of Basalt Quarry in Los Banos Valley (Occ. Nos. 125 and 211, respectively) (CDFW 2020b); both of these occurrences are from 2005 and are associated with the 2005–2007 study by Constable et al. (2009) (see below). An older record, estimated sometime from 1972 to 1975, overlaps with the Modified Project site at the western end of Borrow Area 6 (Occ. No. 875) (CDFW 2020b). Another record from 1989 is located adjacent to and southeast of Borrow Area 6, where an individual kit fox was observed foraging in the Medeiros Use Area on August 19, 1989 (Occ. No. 550) (CDFW 2020b).

The Modified Project site is assumed to be occupied by San Joaquin kit fox, and most of the site supports suitable habitat. USFWS (2019) concludes that the area is likely foraging, denning, breeding, and dispersal habitat due to the presence of suitable habitat and prey, the biology and ecology of the species, and the recent documented occurrences of kit fox in the vicinity. Suitable habitat occurs in grassland throughout the additional impact areas south of SR-152. Suitable habitat also occurs in the proposed campground area. However, based on surveys conducted from 2005 to 2007, researchers from the Endangered Species Recovery Program at California State University concluded that kit fox occurrence north of SR-152 is limited to transient individuals (Constable et al. 2009).

Townsend's Big-eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) occurs throughout California, and forages in a wide variety of habitats, except alpine and subalpine habitats (Zeiner et al. 1990b). It roosts in caves, mines, tunnels, buildings, or other human-made structures, and distribution is "strongly correlated with the availability of caves and cave-like roosting habitats" (WBWG 2017).

Townsend's big-eared bat has not been recorded on the Modified Project site, and no roosting habitat occurs in the additional impact areas. However, it has the potential to roost in the vicinity and forage over any of the additional impact areas. CNDDB includes no occurrences within 5 miles.

Tule Elk

The tule elk was legislatively protected in California in the 1970s, and as a result, reintroduced to a few locations. In the Modified Project vicinity, tule elk was reintroduced in the area that is bounded by Interstate (I) 5, SR-152, and SR-25. First introduced in the south, the original 40 tule elk have now increased their numbers to around 700 and range to SR-152. CDFW provided GPS collar data for several animals that occur within two loose herds in the vicinity. They are good representatives of the ranging of other members of their herds. This subspecies is fairly unique from other elk subspecies in that it does not migrate. Tule elk use nearly the entire area surrounding the reservoir south of SR-152, including the B.F. Sisk Dam facilities. While they are capable of jumping over the fences along SR-152, they apparently do not or rarely cross the highway, instead remaining in areas to the south.

Western Mastiff Bat

Western mastiff bat (*Eumops perotis californicus*) inhabits a wide variety of chaparral, coastal and desert scrub, grasslands, and coniferous and deciduous forest and woodland habitats (Zeiner et al. 1990b). It roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels in San Joaquin Valley and Coastal Ranges from Monterrey County southward to Southern California (WBWG 2017; Zeiner et al. 1990b).

Western mastiff bat has not been detected within the Modified Project site, but it was detected during passive acoustic monitoring surveys for the Gonzaga Ridge Project, approximately 5.3 miles to the west (Dudek 2019). This species is unlikely to roost in the additional impact areas. Concrete structures near Basalt Quarry may provide suitable roosting habitat and western mastiff bats roosting in the vicinity could forage over the additional impact areas.

Western Red Bat

Western red bat inhabits grasslands, shrublands, open woodlands, forests, and croplands throughout California (Zeiner et al. 1990b). This species migrates between summer and winter ranges, and commonly winters in western lowlands and coastal regions south of San Francisco Bay. Western red bat primarily roosts in foliage in trees and shrubs.

Western red bat was detected during a nighttime passive acoustic monitoring survey conducted by ESA near the concrete tunnel northeast of Basalt Quarry on September 12, 2018. Most of the Modified Project site, including the additional impacts areas, is considered suitable foraging habitat for this species. Trees within the San Luis Creek Day Use Area improvements provide suitable roosting habitat, and this species may also roost in trees elsewhere on the Modified Project site and in the vicinity, and forage over any of the additional impact areas.

Invertebrates

Crotch Bumble Bee

Crotch bumble bee (*Bombus crotchii*) is a candidate species for listing as endangered under CESA. The current range of the Crotch bumble bee is nearly limited to California and generally includes most of the state south of Sacramento (Xerces Society et. Al. 2018).

Bumble bees have three basic habitat requirements, including suitable nesting sites for colonies, availability of nectar and pollen from floral resources, and suitable overwintering sites for females. Crotch bumble bee inhabits open grassland and scrub habitats and primarily nests underground (Williams et al. 2014, as cited in Xerces Society et al. 2018). Little is known about the nesting and overwintering sites for Crotch bumble bee; however, similar species typically overwinter in soft, disturbed soil (Goulson 2010, as cited in Xerces Society et al. 2018), or under leaf litter or other debris (Williams et al. 2014, as cited in Xerces Society et al. 2018). Nests are often located underground in abandoned holes made by ground squirrels, mice, and rats, or occasionally abandoned bird nests.

Agricultural intensification and rapid urbanization in the Central Valley are threats that are thought to have impacted Crotch bumble bee (Hatfield et al. 2015). However, the species has been detected in agricultural landscapes in Yolo and Contra Costa Counties in recent years (Hatfield et al. 2015). Bumble bees, generally, are threatened by pesticide use, pathogens, and competition with non-native bees (Hatfield et al. 2015).

Generally, activities that significantly disturb native, fallow, or relatively undisturbed soils could affect colonies or overwintering sites, if they are present. Additionally, activities that remove significant concentrations of flowering plants, especially those known to be used by the species, could impact the insect's ability to find suitable pollen and nectar sources (if there are nearby colonies).

Crotch bumble bees are generalist foragers and require open grassland and scrub habitats with floral resources. The plant families most associated with Crotch bumble bee observations or collections include Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae (Xerces Society et al. 2018).

Crotch bumble bee has not been observed within the Modified Project site or vicinity (CDFW 2020b; iNaturalist 2020). Potentially suitable Crotch bumble bee habitat was identified during vegetation mapping and focused surveys for special-status plant species (Dudek 2020b). Potentially suitable nesting habitat occurs within scrub/chaparral communities, including the *Baccharis pilularis* associations, *Ericameria linearifolia* association, and *Atriplex lentiformis* association. Areas with high floral diversity, defined as greater than 10% relative cover of forbs within the herbaceous layer, were identified as potential foraging habitat. Potentially suitable foraging habitat for this and other bee species occurs throughout most of the Modified Project site, wherever flowering plants provide nectar resources in the spring, summer, and early fall. Bees' use of such resources varies over the year as they become available. Focused surveys for the Crotch bumble bee were not conducted.

Crotch bumble bee has moderate potential to occur within the Modified Project site. The nearest CNDDB occurrence for this species is a museum specimen collected in 1952 approximately 22 miles to the southeast in Dos Palos (Occ. No. 55) (CDFW 2020b). The lack of occurrences in the site vicinity and recent occurrences in Merced County suggests that this species may be extirpated from the region. Given the presence of suitable habitat and recent observations in similar habitat to the north (Hatfield et al. 2015), however, its presence cannot be ruled out without focused surveys.

3.9.1.5 Wildlife Movement

Wildlife movement includes local and regional travels by species intended to satisfy one or more of their needs. Wildlife corridors and habitat linkages help mitigate some of the impacts of habitat fragmentation by facilitating wildlife movement and improving habitat connectivity. Wildlife corridors and habitat linkages are considered sensitive by resource and conservation agencies.

Wildlife corridors are areas that connect suitable wildlife habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of wildlife from high-density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992).

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. The linkage represents a potential route for gene flow and long-term dispersal. Habitat linkages may serve as both habitat and avenues of gene flow for small animals such as passerine birds, small mammals, reptiles, and amphibians. Habitat linkages may be continuous patches of habitat or habitat "islands" that function as "stepping-stones" for dispersal.

The additional impact areas may function as a portion of the home ranges (e.g., foraging for food or water, defending territories, searching for mates, breeding areas, or cover) for wider-ranging species. Such species occurring in the area include San Joaquin kit fox and tule elk. San Joaquin kit fox, listed under ESA and CESA, may travel widely in the Modified Project vicinity, and may occasionally move between occupied areas to the south and suitable habitats to the south. Tule elk, a CDFW-managed species occurring south of SR-152, moves widely across the Modified Project vicinity.

Wildlife Movement and the Modified Project Site

The Modified Project site is located at the boundary of the Diablo Range, which is part of the Coast Ranges, and the San Joaquin Valley at the southern half of the Central Valley. This is a transitional area from steep and rolling foothills to flatter areas associated with ranching and farming. The Modified Project site is situated on the eastern side of San Luis Reservoir and straddles SR-152, which is a major connecting highway between I-5 approximately 3 miles to the east, and Highway 101 approximately 30 miles to the west. O'Neill Forebay abuts SR-152 and, combined with the California Aqueduct, Delta–Mendota Canal, San Luis Wasteway, and I-5, effectively blocks most wildlife movement potential to the north on the eastern side of the reservoir. Some movement potential exists within the Modified Project site on the south side of SR-152 between the O'Neill Forebay connection to San Luis Reservoir and B.F. Sisk Dam. This area is constrained by DWR support facilities, roads, and the dam, leaving a long and linear strip of annual grassland (approximately 200 to 500 feet wide by 2,700 linear feet long) available for wildlife to use and movement. Despite these constraints, camera studies have shown the narrow area at the foot of the dam is used for movement by tule elk (Reclamation 2019). However, this species typically occupies only lands south of SR-152. Also, in a 2019 biological opinion, USFWS (2019) suggested the area along the foot of the dam provided an available link for San Joaquin kit fox dispersing north of SR-152, where they could move along the north side of the O'Neill Forebay crossing to access land west of the forebay. But the biological opinion concluded that San Joaquin kit foxes do not persist in the northern range of the species (which is entirely north of the Modified Project site), and that very few likely attempt to move north of SR-152 (USFWS 2019)

Land is available for wildlife movement along the north shore of the reservoir and south of SR-152 for approximately 5 miles farther northwest. At this point, movement is constrained where an SR-152 causeway crosses Cottonwood Bay at the north end of the reservoir. The slopes on either side of the causeway vary in width between approximately 600 and 2,000 feet, depending on the location and seasonal fluctuation of water levels. The causeway slopes are rocked with riprap that limits movement in the area for most species through this area at high lake levels. To the south and west of the causeway, there are almost no impediments to wildlife movement other than SR-152 to the north.

North of SR-152 and west of O'Neill Forebay, extensive rangeland and other undeveloped lands provide relatively unrestricted wildlife movement for all species. Similarly, the largely undeveloped areas south and southwest of the Modified Project site provide few constraints to wildlife movement. The additional impact areas within the Modified Project site are not readily identifiable as corridors or linkages, because wildlife is not anticipated to normally move through the site due to existing human-made features (e.g., water bodies, roads, facilities, and canals).

3.9.2 Relevant Plans, Policies, and Ordinances

3.9.2.1 Federal

Federal Endangered Species Act

FESA (16 USC 1531 et seq.), as amended, is administered by USFWS, National Oceanic and Atmospheric Administration, and National Marine Fisheries Service (NMFS). This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. As part of this regulatory act, FESA provides for designation of Critical Habitat, defined in FESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and that "may require special management considerations or protection." Critical Habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species." Under provisions of Section 9(a)(1)(B) of FESA, it is unlawful to "take" any listed species. "Take" is defined in Section 3(19) of FESA as, harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct.

Section 7(a)(2) of FESA directs federal agencies to consult with USFWS for any actions they authorize, fund, or carry out that may jeopardize the continued existence of any listed species or result in the destruction or adverse modification of federally designated Critical Habitat. Consultation begins when the federal agency submits a written request for initiation to USFWS or NMFS, along with the agency's Biological Assessment of its proposed action (if necessary), and USFWS or NMFS accepts that sufficient information has been provided to initiate consultation. If USFWS or NMFS concludes that the action is not likely to adversely affect a listed species, the action may be conducted without further review under FESA. Otherwise, USFWS or NMFS must prepare a written Biological Opinion describing how the agency's action will affect the listed species and its Critical Habitat.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act prohibits the intentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the Migratory Bird Treaty Act, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the Migratory Bird Treaty Act's "take" prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds,

their nests, or their eggs; unintentional or accidental take is not prohibited (M-37050). However, in August 2020, a federal court upheld the long-standing interpretation of the Migratory Bird Treaty Act, such that it covers intentional and unintentional take. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). Executive Order 13186 requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect migratory bird species.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into "waters of the United States." The term "wetlands" (a subset of waters) is defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328.3[b]). In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark" (33 CFR 328.3[e]).

Bald and Golden Eagle Protection Act

Bald eagle and golden eagle are federally protected under the Bald and Golden Eagle Protection Act (BGEPA), which was passed in 1940 to protect bald eagles and amended in 1962 to include golden eagles (16 USC 668 et seq.). This act prohibits the take, possession, sale, purchase, barter, offer to sell or purchase, export or import, or transport of bald eagles and golden eagles or their parts, eggs, or nests without a permit issued by USFWS. The definition of "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The definition of "disturb" has been further clarified by regulation as follows: "Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (50 CFR 22.3).

The BGEPA prohibits any form of possession or taking of both eagle species, and the statute imposes criminal and civil sanctions, as well as an enhanced penalty provision for subsequent offenses. Further, the BGEPA provides for the forfeiture of anything used to acquire eagles in violation of the statute. The statute exempts from its prohibitions on possession the use of eagles or eagle parts for exhibition, scientific, or Native American religious uses.

In November 2009, USFWS published the Final Eagle Permit Rule (74 FR 46836–46879) providing a mechanism to permit and allow for incidental (i.e., nonpurposeful) take of bald and golden eagles pursuant to the BGEPA (16 USC 668 et seq.). The previous year, 2008, USFWS adopted Title 50, Part 22.11(a) of the Code of Federal Regulations, which provides that a permit authorizing take under FESA Section 10 applies with equal force to take of golden eagles authorized under the BGEPA. These regulations were followed by issuance of guidance documents for inventory and monitoring protocols and for avian protection plans (USFWS 2010b). In January 2011, USFWS released its Draft Eagle Conservation Plan Guidance aimed at clarifying expectations for acquiring take permits by wind power projects, consistent with the 2009 rule (USFWS 2011a).

On December 16, 2016, USFWS adopted additional regulations regarding incidental take of golden eagles and their nests (81 FR 91494 et seq.). Most of the new regulations address "programmatic eagle nonpurposeful take permits" such as those typically requested by members of the alternative energy industry, including wind farms. For example, the new regulations extend the duration of such permits from 5 to 30 years. In addition, the new

regulations modify the definition of the BGEPA "preservation standard" to mean "consistent with the goals of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations throughout the service range of each species" (81 FR 91496–91497). This process has also resulted in standardizing mitigation options for permitted take.

3.9.2.2 State

California Endangered Species Act

CDFW administers CESA (California Fish and Game Code, Section 2050 et seq.), which prohibits the "take" of plant and animal species designated by the Fish and Game Commission as endangered, candidate, or threatened in the State of California. Under CESA Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA addresses the take of threatened, endangered, or candidate species by stating the following (California Fish and Game Code, Sections 2080–2085):

> No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (California Fish and Game Code, Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001).

Sections 2081(b) and (c) of the California Fish and Game Code authorize take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. In certain circumstances, Section 2080.1 of CESA allows CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately protects the species and is consistent with state law. A Section 2081(b) permit may not authorize the take of "Fully Protected" species, "specially protected mammal" species, and "specified birds" (California Fish and Game Code, Sections 3505, 3511, 4700, 4800, 5050, 5515, and 5517). If a project is planned in an area where a Fully Protected species, specially protected mammal, or a specified bird occurs, an applicant must design the project to avoid take.

California Fish and Game Code

Lake and Streambed Alteration Program

Under California Fish and Game Code, Section 1602, CDFW has authority to regulate work that will substantially divert or obstruct the natural flow of or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake. CDFW also has authority to regulate work that will deposit or dispose of debris, water, or other material where it may pass into any river, stream, or lake. CDFW's regulation of work in these resources takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to any person, state, or local governmental agency or public utility (California Fish and Game Code, Section 1601). CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) defined bed and banks and (2) existing fish or wildlife resources. In practice, CDFW-jurisdictional limits extend to the top of the stream or lake bank or to the outer edge of riparian vegetation, if present. In some cases, CDFW jurisdiction may extend to the edge of the 100-year floodplain. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by Clean Water Act, Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under Section 1602 may encompass a greater area than those regulated under Clean Water Act, Section 404.

Fully Protected Species and Resident and Migratory Birds

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code designate certain birds, mammals, reptiles and amphibians, and fish as Fully Protected species. Fully Protected species may not be taken or possessed without a permit from the Fish and Game Commission. CDFW may not authorize the take of such species except (1) for necessary scientific research, (2) for the protection of livestock, (3) when the species is a covered species under an approved natural community conservation plan, or (4) as legislatively authorized by the passing of a State Assembly Bill.

In addition, the California Fish and Game Code prohibits the needless destruction of nests or eggs of native bird species (California Fish and Game Code, Section 3503), and it states that no birds in the orders of Falconiformes or Strigiformes (birds of prey) can be taken, possessed, or destroyed (California Fish and Game Code, Section 3503.5).

For the purposes of these state regulations, CDFW currently considers an active nest as one that is under construction or in use and includes existing nests that are being modified. For example, if a hawk is adding to or maintaining an existing stick nest in a transmission tower, then it would be considered to be active and covered under these California Fish and Game Code Sections.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (California Fish and Game Code, Sections 1900–1913) directed CDFW to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the Fish and Game Commission the power to designate native plants as "endangered" or "rare," and prohibited take, with some exceptions, of endangered and rare plants. When CESA was amended in 1984, it expanded on the original Native Plant Protection Act, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel FESA. The 1984 amendments to CESA also made the exceptions to the take prohibition set forth in Section 1913 of the Native Plant Protection Act applicable to plant species listed as threatened or endangered under CESA. CESA categorized all rare animals as threatened species under CESA, but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and project proponents.

Porter–Cologne Water Quality Control Act

The intent of the Porter–Cologne Water Quality Control Act is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. All waters of the state are regulated under the Porter–Cologne Water Quality Control Act, including isolated waters that are no longer regulated by USACE. Recent changes in state procedures require increased analysis and mitigation. Developments with impact to jurisdictional waters of the state must demonstrate compliance with the goals of the act by developing stormwater pollution prevention plans, standard urban stormwater mitigation plans, and other measures to obtain a Clean Water Act, Section 401 certification and/or Waste Discharge Requirement.

California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines, Section 15380(b)(1), defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15000 et seq.). A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines, Section 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (e.g., wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

San Luis Reservoir State Recreation Area Resource Management Plan/General Plan

The San Luis Reservoir State Recreation Area Resource Management Plan/General Plan (San Luis Reservoir SRA RMP/GP) was jointly prepared by Reclamation and the California Department of Parks and Recreation to "set forth goals and guidelines for management of the [SRA] and adjacent lands…for the next 25 years" (i.e., until 2038) (Reclamation and CDPR 2013). The 27,000-acre Plan Area includes the water surfaces of San Luis Reservoir, O'Neill Forebay, and Los Banos Creek Reservoir and adjacent recreation lands. The San Luis Reservoir SRA RMP/GP goals and guidelines are organized into five broad planning areas, including (1) Resource Management (RES); (2) Visitor Experience, Interpretation and Education (VIS); (3) Local and Regional Planning (REG); (4) Infrastructure and Operations (OPS); and (5) Water Operations (WA). Resource Management goals encompass all natural and cultural resource or physical elements in the Plan Area, including biological resources.

The San Luis Reservoir SRA RMP/GP identifies a series of policies in the form of goals and guidelines. Goals and guidelines related to the management of biological resources are as follows (Reclamation and CDPR 2013):

Vegetation (RES-V) Goals and Guidelines

Goal RES-V1: Protect, maintain, and, where appropriate, restore the site's locally and regionally important native plant communities.

Guidelines:

- Prepare a vegetation management statement and map.
- Identify tools and techniques to manage vegetation, and define areas requiring rehabilitation.

Goal RES-V2: Document and protect special-status plants and communities and manage for their perpetuation and enhancement.

Guidelines:

- Comply with both the CESA and [F]ESA and other applicable regulations aimed at the protection of special-status plant species when planning and implementing projects or management programs.
- Enhance existing inventories to further document and map locations of special-status species.

- Encourage the continuation of research and seek partnerships with research institutions and regulatory agencies to protect and enhance special-status species.

Goal RES-V3: Manage invasive and nonnative species, and where feasible, restore the Plan Area's native grasslands.

Guidelines:

- Identify invasive and exotic species in the Plan Area and prepare a vegetation management statement to manage and remove these species over time.
- Avoid planting nonnative species. Use locally native species that are defined as indigenous to the Plan Area or closely surrounding areas where possible.
- Incorporate BMPs [best management practices] for native grassland rehabilitation in a vegetation management statement.
- Consult with experts and other agencies for information on the preservation of native grasslands.

Goal RES-V5: Reduce the threat for wildland fire.

Guidelines:

- Develop and implement a focused vegetation management statement that addresses wildland fire, consistent with the National Fire Plan.
- In collaboration with CAL FIRE [California Department of Forestry and Fire Protection], monitor vegetative fuel loads using regional fire weather information and other fire ecology data to understand on-site fire danger.

Goal RES-V6: Identify the most appropriate grazing practices that meet both federal and state policy guidelines (such as Reclamation Directives and Standards LND08-01) and ensure sustainable grazing while protecting watershed conditions and habitats.

Guidelines:

- Study and document the effects of grazing to better understand the potential effects and benefits of allowing grazing in the Plan Area.
- Conduct NEPA and CEQA analysis prior to renewal of the grazing lease if grazing continues at Medeiros Use Area.
- Study the potential for grazing to spread invasive exotic plant species.
- Develop a grazing-rest regime that prevents overgrazing and optimizes grassland health.

Wildlife (RES-W) Goals and Guidelines

Goal RES-W1: Maintain, protect, and enhance wildlife habitat for common, sensitive, and special-status wildlife species.

Guidelines:

- Continue to document and monitor wildlife species and their use patterns across the site.
- Minimize disturbance to critical wildlife habitat areas, including native grasslands, riparian, and native shoreline habitats.

- Before construction of facilities and trails, survey site-specific areas of potential impact for the presence of special-status species.
- Reduce wildlife access to human food and garbage by using wildlife-proof trash containers throughout the site, including administration and residence areas.
- Limit use of rodenticide to the minimum application possible, apply in accordance with state law and CSP [California Department of Parks and Recreation] policy, and explore using residential formulations that comply with 2011 USEPA [U.S. Environmental Protection Agency] requirements and offer increased protection for non-target wildlife (USEPA 2011b [as cited in text]).
- Plan new facilities, land uses, and management activities to minimize habitat fragmentation.
- Explore opportunities that will enhance wildlife movement.
- Where necessary, evaluate special-status species in the Plan Area through focused surveys using USFWS protocol to manage for species protection and the development of a future protection program.
- Minimize potential impacts on special-status species through the maintenance of existing open corridor areas for passage.
- Avoid direct construction-related impacts to special-status species and species of special concern by doing preconstruction surveys where necessary.

Goal RES-W2: Work with Plan Area stakeholders to provide for Plan Area-wide wildlife management planning and consistency with local and regional conservation strategies.

Guideline:

- Review facility plans to minimize habitat degradation and fragmentation.

3.9.2.3 Local

Merced Vision 2030 General Plan

As required by state law, Merced County has adopted a general plan to guide land use decisions within the county. The general plan provides goals, policies, standards, and implementation programs to guide the physical development of a county. At a minimum, the general plan must address the topics of land use, transportation, housing, conservation, open space, noise, and safety. The Merced Vision 2030 General Plan (Merced County General Plan), adopted in 2013, has established the year 2030 as the plan's time horizon. The Natural Resources Element of the Merced County General Plan addresses the protection, preservation, and enhancement of the county's biological resources. The following policies would be applicable to the Modified Project (Merced County 2013):

Natural Resources Element

- **Policy NR-1.1: Habitat Protection**. Identify areas that have significant long-term habitat and wetland values including riparian corridors, wetlands, grasslands, rivers and waterways, oak woodlands, vernal pools, and wildlife movement and migration corridors, and provide information to landowners.
- **Policy NR-1.2: Protected Natural Lands**. Identify and support methods to increase the acreage of protected natural lands and special habitats, including but not limited to, wetlands, grasslands, vernal pools, and wildlife movement and migration corridors, potentially through the use of conservation easements.

- **Policy NR-1.3: Forest Protection**. Preserve forests, particularly oak woodlands, to protect them from degradation, encroachment, or loss.
- **Policy NR-1.4: Important Vegetative Resource Protection**. Minimize the removal of vegetative resources which stabilize slopes, reduce surface water runoff, erosion, and sedimentation.
- **Policy NR-1.5: Wetland and Riparian Habitat Buffer**. Identify wetlands and riparian habitat areas and designate a buffer zone around each area sufficient to protect them from degradation, encroachment, or loss.
- **Policy NR-1.6: Terrestrial Wildlife Mobility**. Encourage property owners within or adjacent to designated habitat connectivity corridors that have been mapped or otherwise identified by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service to manage their lands in accordance with such mapping programs. In the planning and development of public works projects that could physically interfere with wildlife mobility, the County shall consult with the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service to determine the potential for such effects and implement any feasible mitigation measures.
- **Policy NR-1.7: Agricultural Practices**. Encourage agricultural, commercial, and industrial uses and other related activities to consult with environmental groups in order to minimize adverse effects to important or sensitive biological resources.
- **Policy NR-1.8: Use of Native Plant Species for Landscaping**. Encourage the use of native plant species in landscaping, and, where the County has discretion, require the use of native plant species for landscaping.
- **Policy NR-1.9: Rural to Urban Redesignations**. Carefully consider the potential impacts on significant habitats from new development when redesignating land from a rural to an urban use.
- **Policy NR-1.10: Aquatic and Waterfowl Habitat Protection**. Cooperate with local, State, and Federal water agencies in their efforts to protect significant aquatic and waterfowl habitats against excessive water withdrawals or other activities that would endanger or interrupt normal migratory patterns or aquatic habitats.
- **Policy NR-1.11: On-Going Habitat Protection and Monitoring**. Cooperate with local, State, and Federal agencies to ensure that adequate on-going protection and monitoring occurs adjacent to rare and endangered species habitats or within identified significant wetlands.
- **Policy NR-1.12: Wetland Avoidance**. Avoid or minimize loss of existing wetland resources by careful placement and construction of any necessary new public utilities and facilities, including roads, railroads, high speed rail, sewage disposal ponds, gas lines, electrical lines, and water/wastewater systems.
- **Policy NR-1.13: Wetland Setbacks**. Require an appropriate setback, to be determined during the development review process, for developed and agricultural uses from the delineated edges of wetlands.
- **Policy NR-1.14: Temporary Residential Uses**. Ensure that buildings and structures approved for temporary residential use in significant wetland areas are not converted to permanent residential uses.
- **Policy NR-1.15: Urban Forest Protection and Expansion**. Protect existing trees and encourage the planting of new trees in existing communities. Adopt an Oak Woodland Ordinance that requires trees larger than a specified diameter that are removed to accommodate development be replaced at a set ratio.
- **Policy NR-1.16: Hazardous Waste Residual Repository Location**. Require new hazardous waste residual repositories (e.g., contaminated soil facilities) to be located at least a mile from significant wetlands, designated sensitive species habitat, and State and Federal wildlife refuges and management areas.

- **Policy NR-1.17: Agency Coordination**. Consult with private, local, State, and Federal agencies to assist in the protection of biological resources and prevention of degradation, encroachment, or loss of resources managed by these agencies.
- **Policy NR-1.18: San Joaquin River Restoration Program Support**. Monitor the San Joaquin River Restoration Program efforts to ensure protection of landowners, local water agencies, and other third parties.
- **Policy NR-1.19: Merced River Restoration Program Support**. Support the restoration efforts for the Merced River consistent with the Merced River Corridor Restoration Plan.
- **Policy NR-1.20: Conservation Easements**. Encourage property owners to work with land trusts and State and Federal agencies to pursue voluntary conservation easements.
- **Policy NR-1.21: Special Status Species Surveys and Mitigation**. Incorporate the survey standards and mitigation requirements of state and federal resource management agencies for use in the County's review processes for both private and public projects.

3.9.3 Thresholds of Significance

The following significance criteria from the 2019 EIS/EIR are used for the purposes of analysis in this SEIR. These criteria, which have not changed from the 2019 EIS/EIR, are identified in Chapter 15, Terrestrial Resources, of the 2019 EIS/EIR. A significant impact related to biological resources would occur if the Modified Project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as an endangered, threatened, candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, NMFS, or USFWS.
2. Have a substantial adverse effect on any riparian habitat or other sensitive (or special-status) natural community identified in local or regional plans, policies, regulations, or by the CDFW, NMFS, or USFWS.
3. Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the CWA [Clean Water Act] (including, but not limited to, marsh, vernal pool, coast, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or State conservation plan.

3.9.4 Impacts Analysis

This section addresses direct, indirect, and cumulative impacts on biological resources that would result from Modified Project and provides an analysis of significance for each. As mentioned in the introduction to this section, this analysis focuses on impacts that would occur within the additional impact areas and from the change in use of Borrow Areas 12 and 14. Impacts to biological resources in other portions of the Modified Project site (i.e., within the footprint of the Approved Project) were addressed in the 2019 EIS/EIR and are not repeated here unless the same impact would occur from implementation of Modified Project modifications (e.g., proposed activities in the additional impact areas) or were not addressed in the 2019 EIS/EIR.

Direct Impacts

Direct impacts are caused by a project and occur at the same time and place. Direct impacts to vegetation communities and land cover types within the additional impact areas were quantified by overlaying the anticipated limits of ground disturbance on the biological resources map and calculating impacts in a geographic information system. Permanent impacts are those that involve permanent land conversion resulting in the loss of existing biological resources (e.g., vegetation community, species habitat, jurisdictional aquatic resource) and would occur as a result of the Modified Project from construction of the new campground and improvements to the San Luis Creek Day Use Area. Temporary impacts are those that involve disturbance of areas that currently support biological resources but that would be restored to pre-Modified Project conditions after construction is completed. Temporary impacts from the Modified Project would occur from improvements to existing access roads, excavation of fill material from Borrow Areas 12 and 14, construction of the new campground, improvements to the San Luis Creek Day Use Area, and establishment of additional contractor staging and stockpiling areas.

Because vegetation communities and/or land cover types may support multiple biological resources (e.g., wetlands provide habitat for wildlife and are also protected under the CWA), they are not unique to a specific CEQA significance threshold. Direct impacts on vegetation communities and land cover types are therefore presented in Table 3.9-5 for subsequent reference in resource-specific impact discussions, if necessary.

Table 3.9-5. Direct Impacts on Vegetation Communities and Land Cover Types in Additional Impact Areas

Vegetation Community/Land Cover Type	Permanent (acres)	Temporary (acres)	Total (acres)
Annual grassland	38.52	46.50	85.03
Purple needlegrass grasslands	—	9.86	9.86
Scrub/chaparral	0.08	0.75	0.83
Freshwater emergent wetland	—	0.14	0.14
Valley foothill riparian	1.23	0.09	1.31
Lacustrine	0.13	6.34	6.47
Eucalyptus woodland	—	42.22	42.22
Urban/disturbed	3.96	25.62	29.58
Grand Total[1]	**43.92**	**131.43**	**175.35**

Note:
[1] Totals may not sum due to rounding.

Indirect Impacts

Indirect impacts are reasonably foreseeable and caused by a project but occur at a different time and place. Indirect impacts may include short-term, temporary impacts on biological resources outside work areas during construction (i.e., occur at a different place), or long-term, permanent impacts on biological resources inside or outside work areas after project completion (i.e., occur at a different time). Temporary indirect impacts during construction may include increased dust, noise, and human activity that disrupts normal wildlife behavior, and construction-related soil erosion and runoff. All Modified Project grading would be subject to regulations that restrict erosion and runoff, however, including the federal Clean Water Act and National Pollution Discharge Elimination System, as well as preparation of a Stormwater Pollution Prevention Plan. These programs minimize erosion and runoff that could indirectly impact biological resources outside the work area during and after construction. Long-term or permanent indirect impacts to biological resources may include invasion by non-native weeds, effects of toxic chemicals (e.g.,

fertilizers, pesticides, herbicides, and other hazardous materials), soil erosion, litter, fire, and hydrological changes (e.g., changes in groundwater level and quality).

Cumulative Impacts

Cumulative impacts refers to two or more individual effects which, when considered together, are considerable or compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or several separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of a project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. Table 3-1 lists the cumulative projects considered in this SEIR; all but the reservoir expansion project were evaluated in the 2019 EIS/EIR. The Final EIR/SEIS for the reservoir expansion project (SLDMWA and Reclamation 2020) addressed two categories of impacts, including (1) short-term construction-related impacts and (2) long-term operations-related impacts. The construction footprint for the reservoir expansion project is identical to the Modified Project footprint except for the proposed elevation of SR-152 at Cottonwood Bay by 10 feet and proposed relocation of the Dinosaur Point boat ramp facilities, both of which are on the opposite side of San Luis Reservoir from the Modified Project site. Operational impacts would occur from increased inundation associated with changes in facility operations. The analysis in this section therefore focuses on determining if the Modified Project, considered together with the reservoir expansion project and other projects listed in Table 3-1, result in cumulative impacts on biological resources.

Like the other SEIR sections, the following impact analysis is organized by CEQA significance threshold. In contrast to other sections, however, the analysis under each threshold is organized by resource type (e.g., special-status plants, special-status amphibians and reptiles) instead of Modified Project component (e.g., Campground Construction and Day Use Area Improvements, Changes in Borrow Area Location). Within each discussion, a clear statement about the potential impact to each resource type as it relates to the five Modified Project components is provided. Organization of the impact analysis in this manner helps streamline the analysis and eliminate the need for repetition of impact statements that could apply to multiple Modified Project components. Potential impacts that were not addressed in the 2019 EIS/EIR are discussed under their own subheading, where applicable.

Threshold 1

Would the Modified Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as an endangered, threatened, candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, NMFS, or USFWS?

2019 EIS/EIR Impact Determination	Modified Project Impact Determination	New Significant Increase in Impact Severity?
Less than Significant with Mitigation Incorporated	Less than Significant with Mitigation Incorporated	No

The Modified Project would impact vegetation communities or land cover types that provide habitat for special-status plant and wildlife species and could also result in injury or mortality of species individuals. Indirect impacts on special-status species could also occur. Direct and indirect impacts on special-status species or species groups are further discussed below.

Special-Status Plants

This impact analysis focuses on impacts to spiny-sepaled button-celery. Other special-status plants are not expected to occur or have a low potential to occur, therefore impacts to those species would be less than significant.

Direct Impacts

The additional impact areas occur in areas occupied by spiny-sepaled button-celery. Overall, the Modified Project would impact 1.30 acres of occupied spiny-sepaled button-celery habitat.

Campground Construction and Day Use Area Improvements

Campground construction and day use area improvements would directly impact 0.01 acres of occupied spiny-sepaled button-celery habitat.

Changes in Borrow Area Location

The change in use of Borrow Areas 12 and 14 from contractor staging to materials extraction would not result in additional impacts on spiny-sepaled button-celery beyond those identified in the 2019 EIS/EIR. The greater scale of proposed construction activities, including extensive excavation and changes to existing landforms, would not cause any new impacts to spiny-sepaled button-celery.

Minor Additions to Contractor Work Area

Portions of the additional staging and stockpiling areas and expansion of the access roads would directly impact 0.03 acres of occupied spiny-sepaled button-celery habitat.

Additional Construction Assumptions

None of the additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would result in new impacts on special-status plants, including spiny-sepaled button-celery. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

Some activities on off-site compensatory mitigation lands, especially those involving ground disturbance, could result in impacts like those described above. Specifically, direct impacts on special-status plant species could occur where such resources are present on the mitigation sites.

The compensatory mitigation plan would be designed, implemented, and monitored consistent with the terms and conditions of the Clean Water Act Section 404 and Section 401 Permits, California Fish and Game Code Section 1602 Streambed Alteration Agreement, FESA, and CESA as they apply to their jurisdiction and resources on site. Potential impacts on site-specific hydrology and downstream resources would be evaluated as a result of implementation of the restoration-related activity. Site-specific best management practices and a stormwater pollution prevention plan would be implemented as appropriate.

Indirect Impacts

Potential indirect impacts to special-status plants include increased competition with nonnative invasive plants and reduced survival from construction-related dust. Although nonnative plant species are already common on the Modified Project site, additional disturbance associated with construction would create new barren substrates into which such species could expand. Dust generated from construction-related traffic could settle on the leaves of special-status plants growing near access roads, adversely affecting photosynthesis, respiration, and transpiration.

Campground Construction and Day Use Area Improvements, Minor Additions to Contractor Work Area

As suitable spiny-sepaled button celery habitat occurs at the proposed campground area and portions of the road extension areas and additional staging and stockpiling areas, any of the above-mentioned indirect impacts could occur during construction at these areas.

Changes in Borrow Area Location

The change in use of Borrow Areas 12 and 14 from contractor staging to materials extraction would result in increased ground disturbance beyond the levels identified in the 2019 EIS/EIR. The greater scale of proposed construction activities, including extensive excavation and changes to existing landforms, could cause indirect impacts on nearby spiny-sepaled button-celery occurrences.

Additional Construction Assumptions

None of the additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would result in indirect impacts on special-status plants, including spiny-sepaled button-celery. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

Some activities on off-site compensatory mitigation lands, especially those involving ground disturbance, could result in indirect impacts like those described above. Specifically, indirect impacts on special-status plant species could occur where such resources are present on the mitigation sites.

Significance Conclusion

The direct and indirect impacts to special-status plants would be potentially significant because they would constitute a substantial adverse effect, both directly and through habitat modifications, on a special-status species—spiny-sepaled button-celery. The loss of 1.30 acres (79%) of occupied spiny-sepaled button-celery habitat, 0.04 acres of which are within the additional impact areas, could reduce the viability of local populations. In order to mitigate for this impact, mitigation is provided (see Section 3.9.5, Mitigation Measures). **Mitigation Measure TERR-1 (same as TERR-1 in the 2019 EIS/EIR)** would require preconstruction surveys, construction monitoring, and compensatory mitigation, such as preservation or creation of spiny-sepaled button-celery occupied habitat. **Mitigation Measure SEIR-BIO-5b (SEIR-BIO-5 replaces TERR-16 in the 2019 EIS/EIR)** includes a weed control plan that would minimize indirect impacts on special-status plants. Implementation of these measures would reduce impacts to special-status plants to **less than significant with mitigation incorporated**.

Cumulative Impacts

The Final EIR/SEIS for the reservoir expansion project (SLDMWA and Reclamation 2020) acknowledged the potential presence of special-status plants in the project's footprint. SR-152 and Dinosaur Point modifications associated with the reservoir expansion project would impact an additional 8.9 acres of natural habitat potentially suitable for special-status plants due to construction of work and staging areas. Seasonal inundation associated with reservoir expansion project operations would impact an additional 387.8 acres of vegetation communities potentially supporting special-status plants species.

The 2019 EIS/EIR acknowledged that the other cumulative projects listed in Table 3-1 together with the Approved Project could result in significant cumulative impacts on special-status plants. However, with the implementation of mitigation measures, it determined that the Approved Project's contribution to cumulative impacts would not be cumulatively considerable.

Impacts to special-status plants associated with the reservoir expansion project would be mitigated through focused botanical surveys for special status plants, flagging and avoiding identified rare plant populations, minimizing the removal of areas that could support special status plants, and where avoidance is not possible, plant collection and propagation and compensatory mitigation combined with monitoring to ensure the success of newly established plants. Given the compensatory mitigation provided by the reservoir expansion project and the Modified Project, avoidance and minimization measures provided by both projects, and that it was determined that, with the incorporated mitigation measures, the Approved Project would not contribute to a cumulatively considerable impact to special-status plants, the Modified Project's contribution to cumulative impacts would be **less than significant**.

Special-Status Amphibians and Reptiles

This impact focuses on special-status amphibian and reptile species with moderate to high potential to occur in the additional impact areas, including California tiger salamander, California red-legged frog, western spadefoot, coast horned lizard, and San Joaquin whipsnake. Western pond turtle (*Actinemys marmorata*) has a low potential to occur because of the absence of perennial aquatic habitat in the additional impact areas and lack of CNDDB occurrences within 5 miles of the Modified Project site. Therefore, this species is not discussed further.

Direct Impacts

The additional impact areas occur in habitat for special-status amphibians and reptiles, including California tiger salamander, California red-legged frog, western spadefoot, coast horned lizard, and San Joaquin whipsnake. Aquatic breeding habitat for California tiger salamander, California red-legged frog, and western spadefoot is absent from the additional impact areas, but several aquatic features potentially suitable for breeding occur nearby and there are no barriers to amphibian movement from these features onto the Modified Project site. Grassland provides suitable upland habitat for California tiger salamander, California red-legged frog, and western spadefoot, as well as coast horned lizard and San Joaquin whipsnake. Direct impacts on special-status amphibians and reptiles from each Modified Project component are briefly described below.

Campground Construction and Day Use Area Improvements

Campground construction and day use area improvements would directly impact habitat for the above-listed species and could result in injury or mortality of individuals. Campground construction and repaving of the existing access road would impact annual grassland that provides upland habitat, including 37.5 acres of permanent

impacts from construction of the new campground. Ground disturbance (e.g., vegetation removal and grading) and vehicle traffic associated with construction could injure or kill special-status amphibian or reptile individuals, if present within the Modified Project footprint.

Changes in Borrow Area Location

The change in use of Borrow Areas 12 and 14 from contractor staging to materials extraction would not result in additional impacts on special-status species beyond those identified in the 2019 EIS/EIR. The greater scale of proposed construction activities, including extensive excavation and changes to existing landforms, would increase the risk to burrow-dwelling special-status wildlife species (i.e., California tiger salamander, California red-legged frog, burrowing owl, San Joaquin kit fox, and American badger) being injured or killed, but would not cause any new impacts. Implementation of the mitigation measures for these impacts would avoid or minimize injury or mortality of burrow-dwelling special-status wildlife species during construction.

Minor Additions to Contractor Work Area

Portions of the additional staging and stockpiling areas west of Gianelli Plant, north of the right abutment of the dam, and northeast of the Basalt Hill Borrow Area support grassland, scrub/chaparral, and freshwater emergent wetland/ditch communities that provide habitat for the same special-status amphibians identified above. Direct impacts on species' habitat within these areas (i.e., grassland, scrub/chaparral, freshwater wetland/ditch) would be temporary because all areas would be restored to pre-Modified Project conditions after construction is completed.

Additional Construction Assumptions

None of the additional construction assumptions (e.g.., dewatering process at base of dam, timing of construction) would result in new impacts on special-status amphibians and reptiles. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

Activities on off-site compensatory mitigation lands, especially those involving ground disturbance, could result in direct impacts on special-status amphibians and reptiles if any occur within the footprint of habitat restoration areas (e.g., created wetlands). Impacts on individuals would be avoided or minimized consistent with the terms and conditions of regulatory permits issued by USFWS and CDFW as applicable to their jurisdiction. Potential impacts would also be evaluated as a result of implementation of the restoration-related activity.

Indirect Impacts

Potential indirect impacts to special-status amphibians and reptiles, including those previously identified in the 2019 EIS/EIR, are effects from nighttime lighting, noise and vibration, increased human presence, vehicle strikes, and trash and food items. Nighttime lighting due to 24-hour construction could disturb special-status amphibians and reptiles during foraging and dispersal activities at night, when they are most active, and could expose them to greater risk of predation. Noise, vibration, and increased human presence from construction could disrupt normal behavioral patterns of any special-status amphibians and reptiles that regularly use or move through affected areas. Traffic from construction could result in vehicle strikes, killing or injuring special-status amphibians and reptiles—particularly because construction will occur during night hours. Trash and food items at construction sites could attract bird species that prey on amphibians and reptiles (e.g., American crow), thus exposing special-status amphibians and reptiles to increased risk of predation.

Campground Construction and Day Use Area Improvements, Minor Additions to Contractor Work Area

As suitable habitat occurs at all of the additional impact areas, including the proposed campground area, the San Luis Creek Day Use Area improvements, the road extension areas, and the additional staging and stockpiling areas, any of the abovementioned indirect impacts could occur during construction at these areas.

Changes in Borrow Area Location

Indirect impacts have been analyzed for the additional borrow areas (12 and 14). Any of the abovementioned indirect impacts to special-status amphibians and reptiles could occur in these areas, even with the lower level of ground disturbance proposed as part of the Approved Project. However, the potential for increased excavation, export of materials, and changes in landform would likely increase the likelihood of these indirect impacts occurring.

Additional Construction Assumptions

No additional indirect impacts to special-status amphibians and reptiles are expected due to the effects from changes related to dewatering or the timing of dam improvement construction. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

Activities on off-site compensatory mitigation lands could result in the abovementioned indirect impacts to special-status amphibians and reptiles if present on such lands. These impacts would be evaluated as a result of implementation of the restoration-related activity.

Significance Conclusion

Impacts to special-status amphibians and reptiles would be potentially significant because they would constitute a substantial adverse effect, both directly and through habitat modifications, on special-status species. The loss of 37.5 acres of grassland habitat would further contribute to ongoing habitat loss for these species and mortality of individuals could reduce the viability of local populations. In order to mitigate for this impact, mitigation is provided (see Section 3.9.5). **Mitigation Measures SEIR-BIO-1 (replaces TERR-3 in the 2019 EIS/EIR)** and **SEIR-BIO-2 (replaces TERR-5 in the 2019 EIS/EIR)** would require preconstruction surveys and species-specific compensation actions such as exclusion fencing for special-status amphibians and reptiles identified in and adjacent to the construction areas. Implementation of these measures would reduce impacts to special-status amphibians and reptiles to **less than significant with mitigation incorporated**.

Cumulative Impacts

The Final EIR/SEIS for the reservoir expansion project (SLDMWA and Reclamation 2020) acknowledged the potential presence of special-status amphibians and reptiles and their habitat in the project's footprint. SR-152 and Dinosaur Point modifications associated with the reservoir expansion project would impact an additional 30.6 acres of potential upland habitat (i.e., annual grassland and blue oak woodland) for special-status amphibians and reptiles due to construction of work and staging areas. Approximately 6.6 acres of this impact would be within designated critical habitat for California red-legged frog at Dinosaur Point. No aquatic habitat would be impacted by construction. Impacts on individuals could also occur, although the Final EIR/SEIS (SLDMWA and Reclamation 2020) concludes that California tiger salamander and California red-legged frog are not expected to occur at the Dinosaur Point construction area due to a lack of nearby aquatic habitat. Seasonal inundation associated with

reservoir expansion project operations would impact one potential California tiger salamander and/or California red-legged frog breeding pond measuring approximately 0.09 acres. Potential upland habitat within the additional 387.8 acres of natural vegetation impacted by reservoir expansion project operations would be permanent lost or seasonally unavailable for use.

The 2019 EIS/EIR acknowledged that the other cumulative projects listed in Table 3-1 together with the Approved Project could result in significant cumulative impacts on special-status amphibians and reptiles. However, with the implementation of mitigation measures, it determined that the Approved Project's contribution to cumulative impacts would not be cumulatively considerable.

Impacts to special-status amphibians and reptiles associated with the reservoir expansion project would be mitigated through preconstruction surveys and biological monitoring, installing exclusion fencing around all construction areas within 100 feet of ponds suitable for special-status amphibian breeding, and providing compensatory mitigation for impacts to aquatic habitat associated with operations. Given the compensatory mitigation provided by the reservoir expansion project and the Modified Project, avoidance and minimization measures provided by both projects, and that it was determined that, with the incorporated mitigation measures, the Approved Project would not contribute to a cumulatively considerable impact to special-status reptiles and amphibians, the Modified Project's contribution to cumulative impacts would be **less than significant**.

Special-Status and Migratory Birds

Special-status bird species that have the potential to occur within the additional impact areas are discussed in Section 3.9.1. The additional impact areas provide suitable nesting and foraging habitat for tricolored blackbird, burrowing owl, Swainson's hawk, northern harrier, white-tailed kite, and loggerhead shrike. Special-status bird species that were determined to have a low potential to nest in these areas include golden eagle, California condor, and bald eagle (Table 3.9-4, Special-Status Wildlife Species' Potential to Occur in Additional Impact Areas); however, these species are likely to use the additional impact areas for foraging. American white pelican has been observed flying over the site but its special-status designation only applies to nesting colonies and there are no such colonies in the Modified Project vicinity; it is therefore not discussed further in this section. Golden eagle, California condor, bald eagle, and yellow warbler are eliminated from further consideration and discussion herein due to the lack of suitable nesting and foraging habitat within the additional impact areas. Although these species may occasionally forage in the additional impact areas, due to the abundant availability of high-quality foraging habitat within the region, and the overall miniscule reduction in foraging habitat from Modified Project activities, the loss of foraging habitat for these species would be **less than significant**.

For the purposes of this SEIR, migratory birds are defined as native bird species protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, even though not all such species are migratory. The 2019 EIS/EIR included migratory birds in its definition of special-status species, and this approach has been retained here. The terms native and migratory are therefore interchangeable in the following discussion.

Direct Impacts

The additional impact areas provide suitable nesting and foraging habitat for tricolored blackbird, burrowing owl, Swainson's hawk, northern harrier, white-tailed kite, and loggerhead shrike. Direct impacts on these potentially nesting special-status bird species from each Modified Project component are described below.

Campground Construction and Day Use Area Improvements

Tricolored Blackbird

Mixed stands of freshwater marsh vegetation containing cattail marsh, willows, poison hemlock, and mustard occur along the edge of O'Neill Forebay within and adjacent to the proposed campground area and improvement areas and provide high-quality nesting habitat for tricolored blackbird. Focused surveys for nesting tricolored blackbirds were not conducted within the additional impact areas by ESA in 2018 or Dudek in 2020; however, breeding colonies of this species have been detected within the Modified Project site and within the immediate region. Grassland habitat adjacent to freshwater vegetation provides suitable foraging habitat for tricolored blackbird. Impacts to tricolored blackbird nesting and foraging habitat would occur if freshwater marsh or grassland habitat areas are directly disturbed or altered during proposed campground construction.

Burrowing Owl

As noted in Section 3.9.1, burrows suitable for use by burrowing owl were documented throughout the proposed campground construction and day use area improvement areas within existing grassland habitats and along roadsides during surveys conducted by Dudek in 2020. Although focused surveys resulted in no observations of burrowing owl or any sign (e.g., white wash, pellets, feathers, and/or bone fragments in or around burrow entrances), the additional impact areas do support potential nest burrow habitat and foraging habitat for this species. In the event that burrowing owls are present on the site at the time of construction, ground-disturbing activities within grassland habitat areas of the proposed campground construction and day use area improvement areas could result in mortality to owls through entombment in burrows or could result in abandonment of nests and destruction of eggs, nests, or nestlings.

Swainson's Hawk

Large trees within and adjacent to the proposed campground area and San Luis Creek Day Use Area provide suitable nesting habitat for Swainson's hawk. Dudek did not find any Swainson's hawk nests on or within 0.5 miles of the Modified Project site during focused surveys in 2020, but individual Swainson's hawks were observed on numerous occasions. The CNDDB has historically documented this species nesting within and adjacent to the Modified Project site (CDFW 2020b). If construction activities within the proposed campground construction and day use area improvement areas remove trees during the nesting season of this species (generally March 1 through August 15), such activities could alter nesting behaviors of adult birds nesting on or in the vicinity such that eggs and young can be left alone for long periods of time, or even abandoned, resulting in harm or mortality to eggs and young.

Grasslands within the proposed campground construction and day use area improvement areas provide suitable foraging habitat for Swainson's hawk. Campground construction activities would result in the loss of grassland foraging habitat for this species, which could result in a reduction in nest productivity if hawks are nesting within the vicinity, and even the loss of hawk territories.

Northern Harrier

Grassland habitat within and adjacent to the proposed campground construction and day use area improvement areas provides suitable nesting and foraging habitat for northern harrier. Nests of this species were not detected during surveys conducted in grassland areas by Dudek in 2020; however, individual northern harriers were observed foraging on several occasions, and breeding pairs have been historically documented within the

immediate region (CDFW 2020b). Ground-disturbing activities within grassland habitat areas of the proposed campground construction and day use area improvement areas could result in abandonment of northern harrier nests and destruction of eggs, nests, or nestlings.

White-Tailed Kite

Large trees within and adjacent to the proposed campground area and San Luis Creek Day Use Area provide suitable nesting habitat for white-tailed kite. Nests of this species were not detected during nesting raptor surveys conducted throughout the Modified Project site by Dudek in 2020, and individual white-tailed kites were not observed. However, there are several eBird (2020) occurrences in the vicinity of the Modified Project site, including observations of this species within the San Luis Creek Day Use Area. If construction activities within the proposed campground construction and day use area improvement areas remove trees during the nesting season of this species (February 1 through September 15), such activities could result in nest abandonment, which could lead to the mortality of eggs or young.

Loggerhead Shrike

Dense riparian vegetation along O'Neill Forebay within the proposed campground area and San Luis Creek Day Use Area provide high-quality nesting habitat for loggerhead shrike. Focused biological surveys to detect loggerhead shrike nesting were not conducted within the additional impact areas by ESA in 2018 or Dudek in 2020; however, as described in Section 3.9.1, this species was observed on at least five occasions during Dudek's 2020 field surveys. At several locations throughout the Modified Project site evidence of loggerhead shrike nesting was observed, including fledgling birds being fed by adults, independent juveniles, and territorial behavior by adults. Additionally, the observations were made during months typically associated with breeding (March and April). Given the availability of suitable habitat and timing of observations within the proposed campground construction and day use area improvement areas, there is a high potential that this species could nest on site and in the vicinity. Ground-disturbing activities within the proposed campground construction and day use area improvement areas could result in loggerhead shrike nest abandonment, which could lead to the mortality of eggs or young if such activities occur during the nesting season (March through July).

Migratory Bird Nests

The additional impact areas contain trees and shrubs suitable for nesting by several native bird species. In addition, several migratory ground-nesting species, such as horned larks (*Eremophila alpestris*) and western meadowlarks (*Sturnella neglecta*), have the potential to nest in grasslands that are present throughout the additional impact areas. Suitable nesting trees within and adjacent to the additional impact areas could potentially be used by nesting birds and common raptor species. Ground-disturbing activities associated with construction within the additional impact areas could result in nest abandonment, which could lead to the mortality of eggs or young if such activities occur during the nesting season (February 1 through September 15) of most common bird species in the region.

Changes in Borrow Area Location

The change in use of Borrow Areas 12 and 14 from contractor staging materials excavation would not result in additional impacts on special-status bird species beyond those identified in the 2019 EIS/EIR. The greater scale of proposed construction activities, including extensive excavation and changes to existing landforms, would increase the risk to burrow-dwelling special-status wildlife species (i.e., California tiger salamander, California red-legged frog, burrowing owl, San Joaquin kit fox, and American badger), but would not cause any new impacts from loss of habitat.

Minor Additions to Contractor Work Area

Portions of the additional staging and stockpiling areas west of Gianelli Plant, north of the right abutment of the dam, and northeast of the Basalt Hill Borrow Area support grassland, scrub/chaparral, and freshwater emergent wetland/ditch communities that provide nesting and foraging habitat for the same special-status bird species identified above. Additionally, the construction of a temporary road to haul materials underneath the existing bridge that crosses O'Neill Forebay north of SR-152 from Borrow Area 6 to the dam raise work area could directly impact ground-nesting migratory bird species. The construction of the temporary roadway is not expected to directly impact the colony of cliff swallows, or other bridge-nesting species, that use the existing bridge for nesting (see Section 3.9.1). Direct impacts on bird species' habitat within the additional staging and stockpiling areas (i.e., grassland, scrub/chaparral, freshwater wetland/ditch) would be temporary because all areas would be restored to pre-Modified Project conditions after construction is completed.

Additional Construction Assumptions

None of the additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would result in new impacts on special-status bird species. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

Activities on off-site compensatory mitigation lands, especially those involving ground disturbance, could result in direct impacts on special-status birds if any occur within the footprint of habitat restoration areas (e.g., created wetlands). Impacts on individuals would be avoided or minimized consistent with the terms and conditions of regulatory permits issued by USFWS and CDFW as applicable to their jurisdiction. Potential impacts would also be evaluated as a result of implementation of the restoration-related activity.

Restoration and enhancement of aquatic resources may result in the permanent conversion of grassland to wetland or riparian habitat. While such activities would be beneficial for special-status riparian species (for example), they would result in a small but measurable loss of upland habitat that could support nesting and foraging by burrowing owl and northern harrier; and foraging by golden eagle and white-tailed kite.

Indirect Impacts

Campground Construction and Day Use Area Improvements

Tricolored Blackbird

Associated noise and the increase in human activity in these areas during construction could result in nest abandonment, which could lead to the mortality of eggs or young if such activities occur during the nesting season (mid-March through August).

Burrowing Owl

Construction noise and increased levels of human activity could result in abandonment of active burrows. Additionally, indirect impacts that could adversely affect burrowing owls foraging on the site during Modified Project operation include the use of rodenticides to control rodent populations, which could result in secondary poisoning to individual burrowing owls should any be moving through the site during a time when rodent control is being implemented.

Swainson's Hawk

Construction noise and increased levels of human activity, particularly within approximately 600 feet of an active nest (SHTAC 2000), could alter nesting behaviors of adult birds nesting on or in the vicinity of the additional impact areas such that eggs and young can be left alone for long periods of time, or even abandoned, resulting in harm or mortality to eggs and young. Additionally, the use of rodenticides as part of a rodent-control program could result in secondary poisoning to individual Swainson's hawks and can also minimize the potential for this species to use the campground areas once construction is completed.

Northern Harrier

Construction noise and increased levels of human activity could result in northern harrier nest abandonment. Additionally, the use of rodenticides as part of a rodent-control program could result in secondary poisoning to individual northern harriers and can also minimize the potential for this species to use the campground areas once construction is completed.

White-Tailed Kite

Construction noise and increased levels of human activity could result in white-tailed kite nest abandonment. Additionally, the use of rodenticides as part of a rodent-control program could result in secondary poisoning to individual white-tailed kites and can also minimize the potential for this species to use the campground areas once construction is completed.

Loggerhead Shrike

Associated noise and the increase in human activity during construction could result in nest abandonment, which could lead to the mortality of eggs or young if such activities occur during the nesting season (mid-March through August).

Migratory Bird Nests

Associated noise and the increase in human activity during construction could result in migratory bird nest abandonment, which could lead to the mortality of eggs or young if such activities occur during the nesting season (February 1 through September 15) of most common bird species in the region.

Changes in Borrow Area Location, Minor Additions to Contractor Work Area

As suitable breeding and foraging habitat occurs at all of the additional impact areas, including the additional borrow areas (12 and 14), proposed campground area, the San Luis Creek Day Use Area improvements, the road extension areas, and the additional staging and stockpiling areas, any of the abovementioned indirect impacts to nesting and foraging special-status bird species could occur during construction at these areas.

Bridge-Nesting Species

Increased noise and human activity associated with the construction of the temporary haul road underneath the SR-152 bridge could result in bridge-nesting bird species (e.g., cliff swallow, black phoebe [*Sayornis nigricans*], white-throated swift [*Aeronautes saxatalis*]) abandoning their nests if they perceive these activities as a threat. This impact, which could lead to the mortality of eggs or young, could occur during any such construction activities conducted during the bird nesting season (February 1 through September 15).

Additional Construction Assumptions

No additional indirect impacts are expected due to the effects from changes related to dewatering or the timing of dam improvement construction. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

Activities on off-site compensatory lands could result in the abovementioned indirect impacts to special-status birds if present on such lands. These impacts would be also be evaluated as a result of implementation of the restoration-related activity.

Significance Conclusion

Tricolored Blackbird

Although the additional impact areas provide some suitable foraging habitat for tricolored blackbird, the loss of foraging habitat due to implementation of the Modified Project within these areas would be **less than significant** as abundant suitable foraging habitat remains in the region. To ensure that impacts to nesting tricolored blackbirds would be completely avoided, preconstruction surveys as described in **Mitigation Measure TERR-10 (TERR-10 in 2019 EIS/EIR)** would be implemented.

Burrowing Owl

The potential loss of individual burrowing owls and/or active nests would be a potentially significant impact on a special-status species and also a violation of state law protecting active bird nests (California Fish and Game Code Sections 3503 and 3503.5). However, such impacts would be mitigated with the implementation of **Mitigation Measure TERR-9 (TERR-9 in 2019 EIS/EIR).**

Swainson's Hawk

Although the additional impact areas provide suitable foraging habitat for Swainson's hawk, the loss of foraging habitat due to implementation of the Modified Project within these areas would be **less than significant** because (1) abundant suitable foraging habitat remains in the region, (2) Swainson's hawks will utilize a vast landscape of suitable habitat to forage within, and (3) only a relatively small percentage of foraging habitat will be impacted on site. The potential loss of individual Swainson's hawk and/or active nests would be a potentially significant impact as well as a potential take pursuant to CESA. However, implementation of **Mitigation Measure TERR-7 (TERR-7 in 2019 EIS/EIR)** would ensure impacts to nesting Swainson's hawk would be avoided, thus reducing this impact to **less than significant with mitigation incorporated**.

Northern Harrier

Although the additional impact areas provide some suitable foraging habitat for northern harrier, the loss of foraging habitat due to implementation of the Modified Project within these areas would be **less than significant** as abundant suitable foraging habitat remains in the region. The potential loss of active northern harrier nests would be a potentially significant impact and a violation of state law protecting active bird nests (California Fish and Game Code Sections 3503 and 3503.5). To ensure that impacts to nesting northern harriers would be completely avoided, preconstruction nesting bird surveys as described in **Mitigation Measure TERR-6 (TERR-6 in 2019 EIS/EIR)** would be implemented. Therefore, impacts to nesting northern harriers would be considered **less than significant with mitigation incorporated.**

White-Tailed Kite

The potential loss of active white-tailed kite nests would be a potentially significant impact and a violation of state law protecting active bird nests (California Fish and Game Code Sections 3503 and 3503.5). To ensure that impacts to nesting white-tailed kites would be completely avoided, preconstruction nesting bird surveys as described in **Mitigation Measure TERR-6 (TERR-6 in 2019 EIS/EIR)** would be implemented. Therefore, impacts to nesting white-tailed kites would be considered **less than significant with mitigation incorporated.**

Loggerhead Shrike

The potential loss of active loggerhead shrike nests would be a potentially significant impact and a violation of state law protecting active bird nests (California Fish and Game Code Sections 3503 and 3503.5). To ensure that impacts to nesting loggerhead shrikes would be completely avoided, preconstruction nesting bird surveys as described in **Mitigation Measure TERR-6 (TERR-6 in 2019 EIS/EIR)** would be implemented. Therefore, impacts to nesting loggerhead shrikes would be considered **less than significant with mitigation incorporated.**

Migratory Bird Nests

In California, active bird nests (with eggs or young) are protected by provisions in Section 3503 of the California Fish and Game Code, therefore the potential loss of active nests due to additional impact area construction would be a potentially significant impact. **Mitigation Measure TERR-6 (TERR-6 in 2019 EIS/EIR)** would ensure that active nests would not be disturbed or destroyed and impacts to nesting birds avoided. Therefore, impacts to migratory nesting birds would be **less than significant with mitigation incorporated.**

Bridge-Nesting Species

Because active cliff swallow nests, and nests of other bridge-nesting species such as black phoebe (with eggs or young), are protected by provisions in Section 3503 of the California Fish and Game Code, any potential loss of active nests due to construction disturbance associated with the temporary haul road underneath the SR-152 bridge would be a potentially significant impact. Additionally, although temporary, long-term use of the area as a haul road may negatively impact the cliff swallow colony population, which would also be a potentially significant impact. **Mitigation Measure SEIR-BIO-6 (new mitigation measure)** would ensure that active bridge-nesting species nests would not be disturbed or destroyed and impacts to nesting swallows and other bridge-nesting species would be avoided. Therefore, impacts to bridge-nesting species would be **less than significant with mitigation incorporated.**

With implementation of the abovementioned mitigation measures, impacts to special-status and migratory bird species would be **less than significant with mitigation incorporated**.

Cumulative Impacts

The Final EIR/SEIS for the reservoir expansion project (SLDMWA and Reclamation 2020) acknowledged the potential presence of special-status birds and their nesting and foraging habitat in the project's footprint. SR-152 and Dinosaur Point modifications associated with the reservoir expansion project would temporarily impact additional nesting and foraging habitat for special-status and migratory birds due to construction of work and staging areas. Construction activities within the additional impact areas for the Modified Project could result in impacts to nesting special-status and migratory birds if construction occurs during the nesting season and/or results in destruction of nesting and foraging habitat. In combination with the impacts on nesting special-status and migratory birds for the reservoir expansion project, the work associated with the additional impact areas could result in significant cumulative impacts on special-status birds.

The 2019 EIS/EIR acknowledged that the other cumulative projects listed in Table 3-1 together with the Approved Project could result in significant cumulative impacts on special-status species and nesting migratory birds. However, with the implementation of mitigation measures, it determined that the Approved Project's contribution to cumulative impacts would not be cumulatively considerable.

Impacts to nesting special-status and migratory birds for the reservoir expansion project and additional construction impact areas for the Modified Project would be mitigated through preconstruction surveys for nesting and special-status birds, avoidance of active bird nests, installation of nest exclusion areas, and biological monitoring as described in **Mitigation Measures TERR-6**, **TERR-7**, **TERR-10**, **SEIR-BIO-3 (replaces TERR-9 in the 2019 EIS/EIRS)**, and **SEIR-BIO-6**. Because most of the additional impacts are short-term and temporary on nesting individuals, it is not expected that any extirpation of local or regional special-status bird populations would occur. Therefore, given the temporary and minimal potential impacts to nesting special-status and migratory birds from the reservoir expansion project, and the mitigation measures provided for the reservoir expansion project and for the Modified Project, no significant cumulative impacts would occur.

Special-Status Mammals

Special-status mammal species that have the potential to occur within the additional impact areas are discussed in Section 3.9.1. The additional impact areas provide suitable habitat for denning, foraging, and movement by San Joaquin kit fox and American badger. In addition, the additional impact areas provide suitable foraging habitat for four special-status bat species, including pallid bat, Townsend's big-eared bat, western mastiff bat, and western red bat, as well as suitable day roosting habitat for western red bat. The extensive open spaces of the Modified Project site and vicinity also provide habitat for approximately 700 tule elk that occupy the area from SR-152 southward between I-5 to the east and SR-25 in San Benito County, to the west. While this reintroduced species is legislatively protected in California, it is not listed under ESA or CESA, and it is not a Fully Protected species or a Species of Special Concern in California. Therefore, it is not a special-status species in the sense of other species discussed in this section. In addition, the Modified Project would not result in permanent impacts within the normal range of the tule elk herd (which is entirely south of SR-152), and the temporary impacts from the additional impact areas would be very small in comparison to the large range of the herd. Therefore, direct and indirect impacts to tule elk are not discussed below. Also, while mountain lion is a specially protected species and a candidate for listing under CESA in the region, it is determined to have a low potential to occur within the additional impact areas, and within the Modified Project site generally, which provide poor habitat for the species. Therefore, impacts to this species are not considered below.

Direct Impacts

All additional impact areas provide suitable habitat for San Joaquin kit fox and American badger, and suitable foraging habitat for special-status bat species, including pallid bat, Townsend's big-eared bat, western mastiff bat, and western red bat. Suitable roosting habitat for tree-roosting bats, especially foliage-roosting bats such as western red bat, occur within the proposed campground area and in the San Luis Creek Day Use Area. Direct impacts on special-status mammal species from each Modified Project component are briefly described below.

Campground Construction and Day Use Area Improvements

San Joaquin Kit Fox

Campground construction and day use area improvements would directly impact habitat for San Joaquin kit fox and could result in injury or mortality of individuals. Although San Joaquin kit fox is not believed to be resident in the Modified Project site and vicinity north of SR-152, the proposed campground area provides suitable habitat in which San Joaquin kit fox may occur on occasion during dispersal. Removal of this habitat would result in removal of habitat available to this species when dispersing between occupied areas of their range. Campground construction,

improvements to the San Luis Creek Day Use Area, and repaving of the existing access road would result in 37.5 acres of permanent impacts and 25.6 acres of temporary impacts to annual grassland currently available to San Joaquin kit fox for dispersal. Although San Joaquin kit fox is a highly mobile species that can avoid construction equipment, any of this species occupying dens at the time of construction could be injured or killed by construction activities.

American Badger

Campground construction and day use area improvements would directly impact habitat for American badger and could result in injury or mortality of individuals. The proposed campground area, portions of the San Luis Creek Day Use Area, and areas adjacent to the access roads provide suitable habitat in which American badgers could establish dens, including natal dens. Within these areas, 37.5 acres of permanent impacts and less than 15 acres of temporary impacts would occur to annual grassland currently available to American badger. Although this species is highly mobile and can avoid construction equipment, any of this species occupying dens at the time of construction— including pups in natal dens—could be injured or killed by construction activities.

Pallid Bat, Townsend's Big-Eared Bat, Western Mastiff Bat

As noted in Section 3.9.1, pallid bat, Townsend's big-eared bat, western mastiff bat are not likely to roost in the additional impact areas, including the proposed campground construction and day use area improvement areas, where roosting habitat is limited to trees. None of these species is likely to establish maternity roosts in trees in these areas. Therefore, activities in the proposed campground construction and day use area improvement areas are not likely to result in impacts to individual pallid bat, Townsend's big-eared bat, or western mastiff bats. All of these species forage in a wide variety of habitats, including the grasslands and tree habitats, that occur in these areas. The Modified Project would result in 39.7 acres of permanent and less than 15 acres of temporary impacts to foraging habitat for these species in the proposed campground construction and day use area improvement areas.

Western Red Bat

Removal of trees within the proposed campground area and the San Luis Creek Day Use Area would result in removal of suitable roosting habitat for western red bats. The proposed campground construction and day use area improvement areas would result in 1.2 acres in permanent impacts. Up to 5 acres could also be disturbed within the San Luis Creek Day Use Area for improvements being conducted there, but it is unclear whether this would result in removal of any trees in that area, where up to 42.2 acres mapped as eucalyptus–tree of heaven would be potentially subject to temporary impacts. These trees may be suitable western red bat roosting habitat. In addition, western red bats roosting in tree foliage in these areas during construction could be injured or killed due to tree removal, and pups could be lost. As with other special-status bat species potentially occurring in the vicinity, western red bat may forage in nearly any habitat type. Activities associated with the proposed campground construction and day use area improvement areas could result in 39.7 acres in permanent and less than 25 acres in temporary impacts to suitable foraging habitat, which also includes the same areas where this species may roost.

Changes in Borrow Area Location

San Joaquin Kit Fox

The change in use of Borrow Areas 12 and 14 from contractor staging to materials extraction would not result in additional impacts to San Joaquin kit fox beyond those identified in the 2019 EIS/EIR. The greater scale of proposed construction activities, including extensive excavation and changes to existing landforms, would increase the risk to burrow-dwelling special-status wildlife species (i.e., California tiger salamander, California red-legged frog, burrowing owl, San Joaquin kit fox, and American badger), but would not cause any new impacts from loss of habitat.

American Badger

The change in use of Borrow Areas 12 and 14 from contractor staging to materials extraction would not result in additional impacts to American badger beyond those identified in the 2019 EIS/EIR. The greater scale of proposed construction activities, including extensive excavation and changes to existing landforms, would increase the risk to burrow-dwelling special-status wildlife species (i.e., California tiger salamander, California red-legged frog, burrowing owl, San Joaquin kit fox, and American badger), but would not cause any new impacts from loss of habitat.

Special-Status Bats

The change in use of Borrow Areas 12 and 14 from contractor staging to materials extraction would not result in additional impacts to special-status bats beyond those identified in the 2019 EIS/EIR. No roosting habitat for any of these species occurs in these areas.

Minor Additions to Contractor Work Area

San Joaquin Kit Fox

Portions of the additional staging and stockpiling areas west of Gianelli Plant, north of the right abutment of the dam, and northeast of the Basalt Hill Borrow Area support grassland communities that provide habitat for San Joaquin kit fox within an area south of SR-152 considered occupied by USFWS. Although the Modified Project would not result in permanent direct impacts in these areas, it would result in temporary impacts to approximately 30.4 acres of grassland habitats suitable for San Joaquin kit fox. However, all areas would be restored to pre-Modified Project conditions after construction is completed. In addition to direct impacts to habitats, San Joaquin kit fox individuals occupying burrows at the time of construction could be injured or killed by construction activities.

American Badger

Portions of the additional staging and stockpiling areas west of Gianelli Plant, north of the right abutment of the dam, and northeast of the Basalt Hill Borrow Area support grassland communities that provide habitat for American Badger. Although the Modified Project would not result in permanent direct impacts in these areas, it would result in temporary impacts to approximately 30.4 acres of grassland habitats suitable for American badger. However, all areas would be restored to pre-Modified Project conditions after construction is completed. In addition to direct impacts to habitats, American badger individuals occupying burrows at the time of construction could be injured or killed by construction activities.

Special-Status Bats

No bat roosting habitat occurs in any of the additional staging and stockpiling areas, and no bats would be disturbed while roosting. As bats are highly mobile and able to avoid construction equipment, they would avoid injury or mortality during construction when they are active at night. In addition, no permanent impacts would occur in these areas. However, construction-related activities in these areas would result in 30.7 acres of temporary impacts to bat foraging habitat.

Additional Construction Assumptions

San Joaquin Kit Fox

None of the additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would result in new direct impacts on San Joaquin kit fox, either through habitat loss or impacts to individual kit foxes. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

American Badger

None of the additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would result in new direct impacts on American badger, either through habitat loss or impacts to individual badgers. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Special-Status Bats

None of the additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would result in new direct impacts on special-status bats, either through habitat loss or impacts to individual bats. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

San Joaquin Kit Fox

Restoration and enhancement of aquatic resources may result in the permanent conversion of grassland to wetland or riparian habitat. While such activities would be beneficial for special-status vernal pool or riparian species (for example), they would result in a small but measurable loss of upland habitat that could support denning, foraging, or movement by San Joaquin kit fox. However, compensatory mitigation requirements for loss of habitat for San Joaquin kit fox and other species would incorporate the loss of upland habitat for mitigating aquatic resources impacts.

American Badger

Restoration and enhancement of aquatic resources may result in the permanent conversion of grassland to wetland or riparian habitat. While such activities would be beneficial for special-status vernal pool or riparian species (for example), they would result in a small but measurable loss of upland habitat that could support denning, foraging, or movement by American badger.

Special-Status Bats

Mitigation activities are highly unlikely to result in direct impacts to special-status bats, either through habitat removal or injury or mortality. Mitigation for impacts to aquatic resources is highly unlikely to result in removal of bat roosting habitat, including trees supporting foliage suitable for roosting western red bats. Conversion of upland habitats to wetlands is unlikely to reduce the suitability of habitat for foraging special-status bats.

Indirect Impacts

The Modified Project has the potential to result in indirect impacts to special-status mammal species. Potential indirect impacts to San Joaquin kit fox and American badger, including those previously reviewed in the 2019 EIS/EIR, are effects from nighttime lighting, noise and vibration, increased human presence, vehicle strikes, and trash and food items. Nighttime lighting due to 24-hour construction could disturb kit foxes or badgers during foraging and dispersal activities at night, when they are most active, and could expose San Joaquin kit foxes to greater risk of predation. Noise, vibration, and increased human presence from construction could disturb these species when denning near construction areas, disrupt breeding activities where natal dens are present, and reduce reproductive success. Traffic from construction could result in vehicle strikes, killing or injuring kit foxes or badgers—particularly because construction will occur during night hours. Trash and food items at construction sites could attract San Joaquin kit foxes, thus exposing them to dangers such as increased risk of predation from other carnivores that may also be attracted by these items.

The 2019 EIS/EIR did not specifically analyze indirect impacts to special-status bats, but generally analyzed potential impacts to roost sites. Potential indirect impacts on special-status bats include noise and human presence, which could potentially disturb bats at roost sites. These indirect impacts, as well as nighttime lighting, could also potentially deter bats from using foraging habitat near construction sites. But bats would still be able to feed in undisturbed and abundant foraging habitat in the area, away from construction sites.

Campground Construction and Day Use Area Improvements, Minor Additions to Contractor Work Area

San Joaquin Kit Fox

As suitable habitat occurs at all of the additional impact areas, including the proposed campground area, the San Luis Creek Day Use Area, the road extension areas, and the additional staging and stockpiling areas, any of the abovementioned indirect impacts could occur during construction at these areas.

American Badger

As suitable habitat occurs at the proposed campground area, the San Luis Creek Day Use Area, and the road extension areas, any of the abovementioned indirect impacts could occur during construction at these areas.

Special-Status Bats

As the proposed campground area and the San Luis Creek Day Use Area support suitable roosting habitat, indirect impacts to roosting bats, including maternity roosts of western red bats, could occur due to noise and human presence during construction.

Changes in Borrow Area Location

San Joaquin Kit Fox

Indirect impacts have been analyzed for the additional borrow areas (12 and 14). Any of the abovementioned indirect impacts to San Joaquin kit fox could occur in these areas, even with the lower level of ground disturbance proposed as part of the Approved Project. However, the potential for increased excavation, export of materials, and changes in landform would likely increase the likelihood of these indirect impacts occurring.

American Badger

Indirect impacts have been analyzed for the additional borrow areas (12 and 14). Any of the abovementioned indirect impacts to American badger could occur in these areas, even with the lower level of ground disturbance proposed as part of the Approved Project. However, the potential for increased excavation, export of materials, and changes in landform would likely increase the likelihood of these indirect impacts occurring.

Special-Status Bats

No roosting habitat occurs within Borrow Areas 12 and 14, and indirect impacts to roosting bats are not expected here.

Additional Construction Assumptions

San Joaquin Kit Fox

No additional indirect impacts to San Joaquin kit fox are expected due to the effects from changes related to dewatering or the timing of dam improvement construction. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

American Badger

No additional indirect impacts to American badger are expected due to the effects from changes related to dewatering or the timing of dam improvement construction. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Special-Status Bats

No additional indirect impacts to special-status bats are expected due to the effects from changes related to dewatering or the timing of dam improvement construction. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

San Joaquin Kit Fox

Some activities on off-site compensatory mitigation lands, especially those involving ground disturbance, could result in indirect impacts to San Joaquin kit fox similar to those described above, if the species is present in the mitigation lands. The compensatory mitigation plan would be designed, implemented, and monitored consistent with the terms and conditions of the Clean Water Act Section 401 and Section 404 Permits, California Fish and Game Code Section 1602 Streambed Alteration Agreement, as they apply to the appropriate jurisdictions and resources on site, and would be compliant with FESA and CESA.

American Badger

Some activities on off-site compensatory mitigation lands, especially those involving ground disturbance, could result in indirect impacts to American badger similar to those described above, if the species is present in the mitigation lands. The compensatory mitigation plan for these areas would be designed, implemented, and monitored consistent with the terms and conditions of the Clean Water Act Section 401 and 404 Permits, or California Fish and Game Code Section 1602 Streambed Alteration Agreement, as they apply to the appropriate jurisdiction and resources on site.

Special-Status Bats

Some restoration-related activities for creating compensatory mitigation for impacts to aquatic resources could result in indirect impacts to bat roosts from noise and human presence, as described above, if these activities occur near roosts of special-status bats. The compensatory mitigation plan for these areas would be designed, implemented, and monitored consistent with the terms and conditions of the Clean Water Act Section 401 and 404 Permits, or California Fish and Game Code Section 1602 Streambed Alteration Agreement, as they apply to the appropriate jurisdiction and resources on site.

Significance Conclusion

San Joaquin Kit Fox

Overall, the Modified Project would directly impact habitat for San Joaquin kit fox, including 37.5 acres in permanent impacts and up to approximately 50 acres in temporary impacts. However, with the incorporation of compensatory habitat mitigation via implementation of Mitigation Measure SEIR-BIO-4 (replaces TERR-12 in 2019 EIS/EIR), this impact would be less than significant. Impacts from any loss of individuals during construction could result in the reduction of a small subpopulation at the edge of the species' current range and would be potentially significant. In addition, indirect impacts related to the proposed campground construction and day use area improvement areas and to the minor additions to contractor work areas, increased likelihood of these impacts occurring due to the changes in borrow area locations, and additional indirect impacts from restoration activities at aquatic resources mitigation sites could also result in a reduction of the local subpopulation. These impacts, from noise, vibration, or human presence resulting in loss of reproductive success; from exposure of San Joaquin kit foxes to predation due to Modified Project activities, or their endangerment if attracted to construction sites by trash and food items; or from death or injury from vehicle strikes, would be potentially significant. These impacts would be reduced with implementation of **Mitigation Measures SEIR-BIO-4** and **TERR-15** (**TERR-15 in 2019 EIS/EIR**). Mitigation Measure SEIR-BIO-4 requires preconstruction surveys that would identify the location of any San Joaquin kit fox den, including natal dens, and would require measures to avoid impacts to kit foxes occupying these dens. It would also incorporate the USFWS (2011b) standardized measure for avoiding impacts to San Joaquin kit foxes during construction, thus reducing the potential for both direct and indirect impacts. Mitigation Measure TERR-15 requires contractor environmental awareness training and would implement additional site protection measures, further reducing the potential impacts. Implementation of these measures would reduce direct and indirect impacts to San Joaquin kit fox to **less than significant with mitigation incorporated**.

American Badger

Overall, the Modified Project would directly impact habitat for American badger, including 37.5 acres in permanent impacts and up to approximately 50 acres in temporary impacts. Additional loss of suitable upland habitat could occur from conversion to wetlands as mitigation for impacts to aquatic resources. The 2019 EIS/EIR determined that impacts to American badger from loss of habitat were less than significant, and these relatively limited additional permanent and temporary impacts would not substantially reduce the available habitat for this species and likely would not substantially reduce the size of the location population. In addition, compensatory habitat mitigation for other species, such as San Joaquin kit fox, would benefit American badger. Therefore, this impact would be less than significant. Impacts from any loss of individuals during construction could result in the reduction of a population already present in low densities, and would be potentially significant. In addition, indirect impacts related to the campground construction and day use area improvement areas and to the minor additions to contractor work areas, increased likelihood of these impacts occurring due to the changes in borrow area locations, and activities at the mitigation sites, could also result in a reduction of the local subpopulation. These impacts, from noise, vibration, or human presence resulting in loss of reproductive success, or from death or injury from vehicle strikes, would be potentially significant. These impacts would be reduced with implementation of **Mitigation Measures TERR-13 (TERR-13 in 2019 EIS/EIR)** and **TERR-15 (TERR-15 in 2019 EIS/EIR)**. TERR-13 requires preconstruction surveys that would identify the location of any American badger den and describes measures for avoidance, passive relocation, and collapsing of vacated dens so that badgers cannot reoccupy them prior to initiation of construction. TERR-15 requires contractor environmental awareness training and would implement additional site protection measures, further reducing the potential impacts. Implementation of these measures would reduce direct and indirect impacts to American badger to **less than significant with mitigation incorporated**.

Special-Status Bats

In the 2019 EIS/EIR, impacts to bat roosting and foraging habitat were not considered significant. Permanent impacts to 1.2 acres and the potential removal of some non-native trees within the San Luis Creek Day Use Area would not be a substantial loss of roosting habitat, compared to the remaining available habitat in the area. In addition, the loss of 37.4 acres of natural habitats suitable for foraging by special-status bats, in combination with the loss of 102 acres of such habitats under the Approved Project, would be relatively minor, in comparison to the large areas of undeveloped habitat in the region. Therefore, impacts to special-status bats from loss of roosting and foraging habitat would be less than significant. However, the loss of an active maternity roost could result in reproductive failure and reduce the productivity of a local population. Indirect impacts from noise and human disturbance could similarly result in disturbance of a maternity roost. These impacts would be potentially significant. **Mitigation Measure TERR-11 (TERR-11 in 2019 EIS/EIR)** would reduce this impact by requiring a preconstruction survey for roosting bats, creating no-disturbance buffers around active bat roosts, and permitting removal of roost trees during the season in which roosting bats would be least affected. Implementation of this measure would reduce direct and indirect impacts to special-status bats to **less than significant with mitigation incorporation.**

Cumulative Impacts

The Final EIR/SEIS for the reservoir expansion project (SLDMWA and Reclamation 2020) acknowledged the potential presence of special-status mammals and their habitat in the project's footprint. SR-152 and Dinosaur Point modifications associated with the reservoir expansion project would impact an additional 30.6 acres of potential upland habitat (i.e., annual grassland and blue oak woodland) for special-status mammals due to construction of work and staging areas. Impacts could also occur to individual San Joaquin kit foxes, American badgers, and special-status bats. Seasonal inundation associated with reservoir expansion project operations would impact an additional 387.8 acres of vegetation communities potentially supporting special-status mammal species not considered in the cumulative analysis in the 2019 EIS/EIR.

The 2019 EIS/EIR acknowledged that the other cumulative projects listed in Table 3-1 together with the Approved Project could result in significant cumulative impacts on special-status mammals. However, with the implementation of mitigation measures, it determined that the Approved Project's contribution to cumulative impacts would not be cumulatively considerable.

Impacts to mammals associated with the reservoir expansion project would be mitigated through preconstruction surveys, avoidance buffers, and exclusion measures for non-natal dens and for non-maternity roosts for bats; implementation of standardized protection measures for San Joaquin kit fox; and compensatory habitat mitigation at a ratio of 2:1 for San Joaquin kit fox, which would also benefit American badger and foraging bats. Given the compensatory mitigation provided by the reservoir expansion project and the Modified Project, avoidance and minimization measures provided by both projects, and that it was determined that, with the incorporated mitigation measures, the Approved Project would not contribute to a cumulatively considerable impact to special-status mammals, the Modified Project's contribution to cumulative impacts would be **less than significant**.

Comparison to 2019 EIS/EIR

The additional project components analyzed above would result in less-than-significant impacts with mitigation incorporated and therefore impacts of the Modified Project would not result in a significant increase in the severity of impacts as determined in the 2019 EIS/EIR. Impacts of the Modified Project would remain less than significant with mitigation incorporated (see Section 3.9.5).

Threshold 2

Would the Modified Project have a substantial adverse effect on any riparian habitat or other sensitive (or special-status) natural community identified in local or regional plans, policies, regulations, or by the CDFW, NMFS, or USFWS?

2019 EIS/EIR Impact Determination	Modified Project Impact Determination	New Significant Increase in Impact Severity?
Less than Significant with Mitigation Incorporated	Less than Significant with Mitigation Incorporated	No

The additional impact areas will result in 175.35 acres of permanent and temporary impacts to vegetation communities and land covers. Direct and indirect impacts to annual grasslands that do not support gum plant patches, scrub/chaparral, eucalyptus woodland, and urban/disturbed would be less than significant because these vegetation communities and land covers are not considered sensitive by CDFW and do not constitute riparian habitat.

Sensitive Vegetation and Riparian Habitat

Direct Impacts

Campground Construction and Day Use Area Improvements

Proposed campground construction and day use area improvement areas would directly impact 1.23 acres of valley foothill riparian habitat.

Changes in Borrow Area Location

The change in use of Borrow Areas 12 and 14 from contractor staging to materials extraction would not result in additional impacts to riparian habitat or other sensitive natural communities beyond those identified in the 2019 EIS/EIR.

Minor Additions to Contractor Work Area

Construction of the additional staging and stockpiling areas and San Luis Creek Day Use Area improvements could directly impact up to 0.17 acres of gum plant patches, 9.86 acres of purple needlegrass grassland, 0.06 acres of freshwater emergent wetland, and 0.09 acres of valley foothill riparian. However, the disturbance footprint is larger than actual impacts are expected to be. Direct impacts within these areas would be temporary because all areas would be restored to pre-Modified conditions after construction is completed.

Additional Construction Assumptions

None of the additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would result in new impacts to sensitive vegetation or riparian habitat. The areas that would be affected by minor additional construction assumptions are evaluated in the 2019 EIS/EIR and within the overall evaluation of impacts to biological resources provided in this chapter.

Mitigation Site(s)

Activities on off-site compensatory mitigation lands, especially those involving ground disturbance, could result in direct impacts on sensitive vegetation communities if any occur within the footprint of habitat restoration areas (e.g., created wetlands). It is likely that such communities could be avoided during restoration planning. Potential impacts would also be evaluated as a result of implementation of the restoration-related activity.

Indirect Impacts

Campground Construction and Day Use Area Improvements

Changes to local topography in the proposed campground construction and day use area improvement areas could alter the surface or subsurface hydrology of sensitive vegetation communities and riparian habitats. Hazardous materials associated with construction equipment (e.g., fuel, oil) could adversely affect water quality in wetland and riparian areas.

Changes in Borrow Area Location, Minor Additions to Contractor Work Area

As sensitive vegetation or riparian habitat occurs within the San Luis Creek Day Use Area improvements and the additional staging and stockpiling areas, any of the abovementioned indirect impacts to sensitive vegetation or riparian habitat could occur during construction at these areas.

Additional Construction Assumptions

No additional indirect impacts are expected due to the effects from changes related to dewatering or the timing of dam improvement construction. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

Activities on off-site compensatory mitigation lands are unlikely to result in indirect impacts on sensitive vegetation communities. The compensatory mitigation plan would be designed to preserve existing ecological values on mitigation sites (including native vegetation communities) as much as possible. Site-specific best management practices to avoid indirect impacts (e.g., weed control measures) would be implemented as appropriate.

Additional Impacts Not Analyzed in 2019 EIS/EIR

An additional 6.08 acres of direct impacts to sensitive vegetation communities would occur beyond what was analyzed in the 2019 EIS/EIR, given the updated vegetation map. Annual grassland as mapped in the 2019 EIS/EIR includes gum plant patches (1.63 acres of permanent impact, 2.27 acres of temporary impact) and tarweed fields (0.67 acres of permanent impact, 0.06 acres of temporary impact), which are considered sensitive natural communities by CDFW and were not identified in the 2019 EIS/EIR. In addition, scrub/chaparral as mapped in the 2019 EIS/EIR includes the *Baccharis pilularis*/(*Nassella pulchra–Elymus glaucus–Bromus carinatus*) (0.09 acres of permanent impact, 0.87 acres of temporary impact) and *Ericameria linearifolia* associations (0.08 acres of permanent impact, 0.41 acres of temporary impact), which are considered sensitive natural communities by CDFW and were not identified in the 2019 EIS/EIR. Impacts to purple needlegrass grassland and riparian habitat are addressed in the 2019 EIS/EIR.

Significance Conclusion

The abovementioned impacts would be potentially significant because they would constitute a substantial adverse effect on sensitive vegetation communities and riparian habitat. In order to mitigate for this impact, **Mitigation Measure SEIR-BIO-5a (SEIR-BIO-5 replaces TERR-16 in the 2019 EIS/EIR)** requires monitoring during construction to ensure avoidance of impacts to sensitive natural communities and provides avoidance and minimization measures for sensitive vegetation and riparian habitat, and **Mitigation Measure SEIR-BIO-5b (SEIR-BIO-5 replaces TERR-16 in the 2019 EIS/EIR)** defines compensatory mitigation requirements to offset impacts to jurisdictional sensitive vegetation and riparian habitat, and includes a weed control plan. **Mitigation Measure HAZ-1 (same HAZ-1 in the 2019 EIS/EIR)** (see Section 3.8, Hazards and Hazardous Materials) requires preparation of a Spill Prevention and Response Plan for preventing spills and responding to chemical or hazardous substance spills to address indirect impacts to sensitive vegetation communities and riparian habitat. Implementation of these measures would reduce impacts to sensitive vegetation communities and riparian habitat to **less than significant with mitigation incorporated**.

Cumulative Impacts

The Final EIR/SEIS for the reservoir expansion project (SLDMWA and Reclamation 2020) acknowledged the potential presence of sensitive vegetation communities in the project's footprint. SR-152 and Dinosaur Point modifications associated with the reservoir expansion project would impact 0.9 acres of blue oak woodland due to construction of work and staging areas. Seasonal inundation associated with reservoir expansion project operations would impact an additional 54.3 acres of blue oak woodland as well as 0.4 acres of riparian habitat (California sycamore woodland) and 4 acres of purple needle grassland.

The 2019 EIS/EIR acknowledged that the other cumulative projects listed in Table 3-1 together with the Approved Project could result in significant cumulative impacts on sensitive habitats including wetland and riparian vegetation communities. However, with the implementation of mitigation measures, it determined that the Approved Project's contribution to cumulative impacts would not be cumulatively considerable.

Impacts to sensitive natural communities associated with the reservoir expansion project would be mitigated by surveying work areas, avoiding impacts where possible, and providing compensatory mitigation and revegetation of sensitive natural communities for unavoidable impacts. Given the compensatory mitigation provided by the reservoir expansion project and the Modified Project, avoidance and minimization measures provided by both projects, and that it was determined that, with the incorporated mitigation measures, the Approved Project would not contribute to a cumulatively considerable impact to sensitive vegetation communities, the Modified Project's contribution to cumulative impacts would be **less than significant**.

Comparison to 2019 EIS/EIR

The additional project components analyzed above would result in less-than-significant impacts with mitigation incorporated and therefore impacts of the Modified Project would not result in a significant increase in the severity of impacts as determined in the 2019 EIS/EIR. Impacts of the Modified Project would remain less than significant with mitigation incorporated (see Section 3.9.5).

Threshold 3

Would the Modified Project have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coast, etc.) through direct removal, filling, hydrological interruption, or other means?

2019 EIS/EIR Impact Determination	Modified Project Impact Determination	New Significant Increase in Impact Severity?
Less than Significant with Mitigation Incorporated	Less than Significant with Mitigation Incorporated	No

The additional impact areas would result in 7.57 acres of permanent and temporary impacts to jurisdictional aquatic resources. Threshold 3 only calls out impacts to federally protected wetlands, but in order to be consistent with the 2019 EIS/EIR, impacts to USACE/RWQCB-jurisdictional waters and CDFW-jurisdictional waters are addressed herein. The total extent of impacted jurisdictional aquatic resources within the additional impact areas includes the following: drainage ditches (0.71 acres; 7,533 linear feet), ephemeral drainages (<0.01 acres; 24 linear feet), ephemeral swale (0.02 acres; 342 linear feet), freshwater emergent wetlands (0.24 acres), and lacustrine (6.59 acres). Descriptions of Modified Project impacts by Modified Project component are provided in the subsequent sections.

Direct Impacts

A summary of aquatic resource impacts is identified in Table 3.9-6.

Table 3.9-6. Summary of Direct Impacts on Aquatic Resources in Additional Impact Areas by Feature Type

Aquatic Resource Feature Type	Impacts		
	Permanent (acres)	*Temporary (acres)*	*Total Impact*
Drainage Ditch	0.18	0.53	0.71
Ephemeral Drainage	<0.01	—	<0.01
Ephemeral Swale	—	0.02	0.02
Freshwater Emergent Wetland	0.24	—	0.24
Lacustrine	—	6.59	6.59
Totals	**0.42**	**7.14**	**7.57**

Campground Construction and Day Use Area Improvements

Campground construction and day use area improvements would directly impact 0.64 acres and 7,625 linear feet of jurisdictional aquatic resources. Features impacted include three drainage ditches and one ephemeral swale.

Changes in Borrow Area Location

The change in use of Borrow Areas 12 and 14 from contractor staging to materials extraction would result in additional impacts to jurisdictional aquatic resources beyond those identified in the 2019 EIS/EIR. Four ephemeral swales not previously identified or analyzed are present in these borrow areas and associated staging areas. See Threshold 3 discussion under Additional Impacts Not Analyzed in 2019 EIS/EIR.

Minor Additions to Contractor Work Area

Minor additions to contractor work areas would directly impact 6.91 acres and 275 linear feet of jurisdictional aquatic resources. Features impacted include three drainage ditches, one ephemeral drainage, two freshwater emergent wetlands, and two lacustrine areas.

Additional Construction Assumptions

None of the additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would result in new impacts to jurisdictional aquatic resources. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR and in this threshold discussion.

Mitigation Site(s)

Activities on off-site compensatory mitigation lands are not expected to result in direct impacts on jurisdictional aquatic resources. The compensatory mitigation plan would be designed to preserve existing ecological functions and services of mitigation sites (including avoidance of aquatic resources) and restore/enhance existing aquatic resources to the maximum extent practicable.

Indirect Impacts

Campground Construction and Day Use Area Improvements

Changes to local topography in the proposed campground construction and day use area improvement areas could alter the surface or subsurface hydrology of aquatic resources. Hazardous materials associated with construction equipment (e.g., fuel, oil) could adversely affect water quality in existing aquatic resources within and adjacent to the campground construction and day use area improvement areas.

Changes in Borrow Area Location and Minor Additions to Contractor Work Area

As aquatic resources occur within the San Luis Creek Day Use Area improvements and the additional staging and stockpiling areas, any of the abovementioned indirect impacts to jurisdictional aquatic resources could occur during construction at these areas.

Additional Construction Assumptions

No additional indirect impacts are expected due to the effects from changes related to dewatering or the timing of dam improvement construction. The areas that would be affected by additional construction assumptions are the same as those evaluated in the 2019 EIS/EIR.

Mitigation Site(s)

Activities on off-site compensatory mitigation lands are not expected to result in indirect impacts on jurisdictional aquatic resources. The compensatory mitigation plan would be designed to preserve existing ecological values on mitigation sites (including aquatic resources) as much as possible. Site-specific best management practices to avoid indirect impacts (e.g., weed and erosion control measures) would be implemented as appropriate.

Additional Impacts Not Analyzed in 2019 EIS/EIR

Based on the delineation of aquatic resources conducted in 2020, an additional 6.59 acres of direct impacts to jurisdictional aquatic resources would occur in the Approved Project footprint, beyond what was analyzed in the

2019 EIS/EIR. These direct impacts are a result of the newly identified jurisdictional aquatic resources (0.36 acres of impact to drainage ditches, 0.13 acres of impact to ephemeral drainages, 6.00 acres of impact to ephemeral swales, and 0.10 acres of impact to riparian areas). A total of 14.16 additional acres of direct impacts to jurisdictional aquatic resources within the Modified Project footprint would occur as a result of Modified Project implementation. This total consists of 7.57 acres located within the additional impact areas, and 6.59 additional acres located within the Approved Project footprint that were not previously analyzed in the 2019 EIS/EIR.

Significance Conclusion

The abovementioned impacts would be potentially significant because they would constitute a substantial adverse effect on jurisdictional aquatic resources. In order to mitigate for this impact, **Mitigation Measure SEIR-BIO-5a (SEIR-BIO-5 replaces TERR-16 in the 2019 EIS/EIR)** provides avoidance and minimization measures for impacts to jurisdictional aquatic resources. **Mitigation Measure SEIR-BIO-5b** defines compensatory mitigation requirements to offset impacts to jurisdictional aquatic resources. In addition, **Mitigation Measure HAZ-1 (same HAZ-1 in the 2019 EIS/EIR)** requires preparation of a Spill Prevention and Response Plan for preventing spills and responding to chemical or hazardous substance spills to address indirect impacts to jurisdictional aquatic resources. Implementation of these measures would reduce impacts to jurisdictional aquatic resources to **less than significant with mitigation incorporated**.

Cumulative Impacts

The Final EIR/SEIS for the reservoir expansion project (SLDMWA and Reclamation 2020) acknowledged the presence of jurisdictional aquatic resources in the project's footprint. SR-152 and Dinosaur Point modifications associated with the reservoir expansion project would not result in any impacts on aquatic resources, but seasonal inundation associated with reservoir expansion project operations would impact 3.2 acres of intermittent channel, 0.8 acres of ephemeral channel, 1 acre of freshwater emergent wetland, 0.004 acres of seep, and 12.8 acres of lacustrine resources.

The 2019 EIS/EIR acknowledged that the other cumulative projects listed in Table 3-1 together with the Approved Project could result in significant cumulative impacts on sensitive habitats, including wetland and riparian communities. However, with the implementation of mitigation measures, it determined that the Approved Project's contribution to cumulative impacts would not be cumulatively considerable.

Impacts to aquatic resources associated with the reservoir expansion project would be mitigated by surveying work areas, avoiding impacts where possible, and providing compensatory mitigation for unavoidable impacts. Given the compensatory mitigation provided by the reservoir expansion project and the Modified Project, avoidance and minimization measures provided by both projects, and the determination that, with the incorporated mitigation measures, the Approved Project would not contribute to a cumulatively considerable impact to jurisdictional aquatic resources, the Modified Project's contribution to cumulative impacts would be **less than significant**.

Comparison to 2019 EIS/EIR

The additional project components analyzed above would result in less-than-significant impacts with mitigation incorporated and therefore impacts of the Modified Project would not result in a significant increase in the severity of impacts as determined in the 2019 EIS/EIR. Impacts of the Modified Project would remain less than significant with mitigation incorporated (see Section 3.9.5).

Threshold 4

Would the Modified Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

2019 EIS/EIR Impact Determination	Modified Project Impact Determination	New Significant Increase in Impact Severity?
Less than Significant with Mitigation Incorporated	Less than Significant with Mitigation Incorporated	No

The 2019 EIS/EIR acknowledged temporary impacts to wildlife movement, but determined these to be less than significant. Because these were temporary construction-related impacts, species affected would be able to reoccupy areas abandoned during construction, and the Approved Project would result in no new barriers to movement. However, construction in the additional impact areas would introduce new permanent impacts (from the proposed campground area) and would require a greater area of temporary disturbance. In addition, activities associated with the Modified Project could result in indirect impacts to wildlife movement from vehicle strikes, noise, and human presence.

Direct Impacts

Campground Construction and Day Use Area Improvements

The proposed campground construction and day use area improvement areas would result in permanent impacts from construction of the new campground and temporary impacts from minor improvements within the San Luis Creek Day Use Area and road improvements north of SR-152. Permanent impacts from construction of the new campground at O'Neill Forebay would remove approximately 42 acres of habitat. This habitat loss would occur adjacent to the forebay, at the edge of a large undeveloped habitat area. Therefore, these permanent impacts would not impede any larger or medium-size species, such as tule elk, American badger, and some common species, from accessing habitat blocks elsewhere or limit movement within an existing corridor. The large area west of the proposed campground area would also continue to support common species that may no longer be able to occupy the campground itself. Impacts associated with the San Luis Creek Day Use Area improvements and repaving of the existing access road would be temporary and therefore would not permanently affect wildlife movement. These Modified Project activities may result in temporary impacts to wildlife movement, but these impacts would occur over a period of only 12 to 18 months, rather than over the duration of the Modified Project.

Changes in Borrow Area Location

Although Borrow Areas 12 and 14 would temporarily be unavailable to wildlife accessing these areas, and activities in these areas may result in temporary and local disruptions of wildlife movement, these impacts were analyzed as part of the 2019 EIS/EIR. The change in the nature of the impacts as a result of the Modified Project would not result in new impacts to wildlife movement.

Minor Additions to Contractor Work Area

Construction activities related to the additional staging and stockpiling areas and the temporary haul route west of the right abutment of the dam would result in 34.4 acres of new temporary impacts, including 30.9 acres of natural

habitats currently available for wildlife movement, not analyzed in the 2019 EIS/EIR. These additional impact areas are all small areas surrounded by existing temporary and permanent impacts area associated with the Approved Project. Therefore, larger and medium-size wildlife such as tule elk, American badger, San Joaquin kit fox, and common species would not have access to these areas under the Approved Project, and no new impacts would occur in these areas under the Modified Project. Any smaller common species that may be extirpated from these small areas of habitat would be able to reoccupy them after construction.

Additional Construction Assumptions

The additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would not result in construction activities in previously unaffected areas, and therefore they would not result in new direct impacts to wildlife movement.

Mitigation Site(s)

A small area of upland habitat may be converted to wetlands as compensation for impacts to aquatic resources, but the extent of this area is expected to be limited, and would not greatly reduce the area available for wildlife movement, even if the area no longer provides movement opportunities.

Indirect Impacts

Campground Construction and Day Use Area Improvements

The campground construction and day use area improvement areas could result in new indirect impacts to wildlife moving through adjacent areas during construction. Noise and human presence could deter some wildlife from using these areas during construction. Those not deterred by noise and human presence could be subject to collisions with vehicles moving to and from the site. However, a large area of undeveloped habitat would remain available during construction, to the west of the proposed campground area and the San Luis Creek Day Use Area during construction.

Changes in Borrow Area Location

Construction activities associated with Borrow Areas 12 and 14 would result in noise and human presence potentially deterring use of surrounding habitats during construction, and some wildlife not deterred by these factors could be subject to collisions with vehicles moving to and from the borrow areas. However, these impacts would be similar to those occurring in these areas under the Approved Project, under which these areas were included as staging and stockpiling areas. In addition, extensive undeveloped areas east of Borrow Area 14 would remain available for occupation and movement by such species as tule elk, American badger, and common wildlife species during the construction.

Minor Additions to Contractor Work Area

As noted above under Direct Impacts, the additional staging and stockpiling areas and temporary haul route would occur in small areas surrounded by areas that are part of the Approved Project. Because larger and medium-size species would be excluded from areas surrounding these additional impact areas, the minor additions to the contractor work area would not result in additional indirect impacts to these species.

Additional Construction Assumptions

The additional construction assumptions (e.g., dewatering process at base of dam, timing of construction) would not result in construction activities in previously unaffected areas, and therefore they would not result in new indirect impacts to wildlife movement.

Additional Impacts not Analyzed in 2019 EIS/EIR

The 2019 EIS/EIR determined a less-than-significant impact regarding the effects of construction on tule elk movement, basing this on the assumption that existing fencing would direct tule elk off site. Based on additional information provided by CDFW biologists who have worked with this population for a number of years, it is determined that fencing alone will not address elk usage during construction. The reintroduced tule elk use the entire area around the reservoir south of SR-152 and west of I-5. The individuals form smaller herds, but may rarely intermix from time to time and seasonally. The tule elk herds are accustomed to human disturbance here, and are not hunted, preyed upon, or restricted by seasonal conditions or ability to forage; they generally meander and forage, being able to jump over any of the fences within their territory. Because of this lack of energetic pressure, they have prolonged rut and calving periods. They meander throughout the Modified Project site in fluid mixed, bachelor, and single male/many female herds depending on the season and may range up to the visitor center adjacent to SR-152. It is expected that during construction, tule elk would flush from construction activities. While the effects of construction are not anticipated to affect the health of the general population tule elk, broader movement, or ability to maintain current levels of genetic flow, temporary indirect flushing of smaller herds or individuals toward hazards, including SR-152, would be significant.

Mitigation Site(s)

Indirect impacts to wildlife movement from restoration activities associated with compensatory mitigation for impacts to aquatic resources would be minor, as these areas are expected to be limited in the area affected, and the activities themselves should be relatively short in duration.

Significance Conclusion

Permanent impacts to wildlife movement from the Modified Project would occur only in an area between O'Neill Forebay and a large expanse of undeveloped lands to the west that would continue to be available to a variety of terrestrial wildlife. In addition, impacts associated with campground construction and day use area improvement areas would be temporary compared to other Modified Project impacts; the San Luis Creek Day Use Area improvements would occur within an existing day use area already subject to high levels of human activity; other temporary impacts would occur mostly in small, isolated areas surrounded by areas already subject to impacts of the Approved Project; and impacts associated with the mitigation sites would occur in relatively small areas. Flushing of tule elk towards SR-152 would be potentially significant, however, because it would constitute a substantial adverse effect on movement of tule elk and possibly public safety. In order to mitigate for this impact, **Mitigation Measure SEIR-BIO-7 (new mitigation measure)** requires the preparation of a tule elk management plan to outline methods and procedures for herding elk away from construction activities so that they are not trapped between hazards and construction activities. Implementation of this measure would reduce impacts to elk movement to **less than significant with mitigation incorporated**.

Cumulative Impacts

The Final EIR/SEIS for the reservoir expansion project (SLDMWA and Reclamation 2020) acknowledged the potential temporary disruption of wildlife movement. However, these disruptions are associated more with project activities east of San Luis Reservoir and with the inundation of new areas than with the SR-152 and Dinosaur Point modifications. In general movements along the SR-152 causeway over Cottonwood Bay are presumed to be along the immediate highway shoulder, as the slopes of the causeway are rocked with large riprap. Also, San Joaquin kit fox movement is considered to occur on the east side of the reservoir. Dinosaur Point is a peninsula jutting into San Luis Reservoir, and construction activities related in this area would not substantially limit wildlife movement

opportunities. The 2019 EIS/EIR did not identify any cumulative impacts to wildlife movement from the other projects listed in Table 3-1 and the Approved Project. Given that neither the reservoir expansion nor additional impact areas of the Modified Project would substantially limit wildlife movement, and the determination that the Approved Project would not contribute to any cumulative impacts on wildlife movement, the contribution of the Modified Project to a cumulative impact to wildlife movement would be **less than significant**.

Comparison to 2019 EIS/EIR

The additional project components analyzed above would result in less-than-significant impacts with mitigation incorporated and therefore impacts of the Modified Project would not result in a significant increase in the severity of impacts as determined in the 2019 EIS/EIR. Impacts of the Modified Project would remain less than significant with mitigation incorporated (see Section 3.9.5).

Threshold 5

Would the Modified Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

2019 EIS/EIR Impact Determination	Modified Project Impact Determination	New Significant Increase in Impact Severity?
No Impact	No Impact	No

The San Luis Reservoir SRA RMP/GP (Reclamation and CDPR 2013) includes policies addressing protection of biological resources. Many of the policies in the plan reinforce protections addressed under other CEQA thresholds, such as protection of natural lands and species habitats (Threshold 1), special-status species surveys and mitigation (Threshold 1), wetland and riparian avoidance and protections (Thresholds 2 and 3), terrestrial wildlife mobility (Threshold 4), and consistency with local and regional conservation strategies (Threshold 6), and therefore are addressed under those thresholds. Additional policies of this plan relate to resources or requirements that do not apply to the Approved Project or the Modified Project, including policies to minimize the effects of agricultural practices, including grazing, on the natural environment and to encourage use of native species in landscaping. The San Luis Reservoir SRA RMP/GP does not include a tree preservation policy, or any other special policy protecting biological resources beyond requirements covered within the CEQA thresholds or state and federal regulations addressed in this SEIR. Therefore, the Modified Project would not result in direct or indirect impacts that would conflict with local policies or ordinances. **No impact** would occur.

Comparison to 2019 EIS/EIR

The additional project components analyzed above would result in no impacts and therefore impacts of the Modified Project would not result in a significant increase in the severity of impacts as determined in the 2019 EIS/EIR. The Modified Project would continue to result in no impacts.

Threshold 6

Would the Modified Project conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or State conservation plan?

2019 EIS/EIR Impact Determination	Modified Project Impact Determination	New Significant Increase in Impact Severity?
No Impact	No Impact	No

Merced County, including the San Luis Reservoir region, is within the plan area for Pacific Gas and Electric Company's (PG&E's) San Joaquin Valley Operations and Maintenance Habitat Conservation Plan (PG&E 2006), and there is a PG&E easement under the transmission line that crosses the Modified Project site at Borrow Area 6 and the San Luis Creek Use Area. The habitat conservation plan was prepared to address small-scale temporary effects on threatened and endangered species from PG&E's routine operations and maintenance activities throughout the San Joaquin Valley, including operations and maintenance of their electrical transmission system. The habitat conservation plan's 30-year permit term began in December 2007. Specific activities covered by the habitat conservation plan that may occur within PG&E's easement on the Modified Project site include tower, pole, and equipment inspection; electrical insulator washing by truck or helicopter; outage repair; tower replacement or repair; pole and equipment replacement and repair; and electric line reconductoring.

To compensate for unavoidable impacts on species habitat over the 30-year permit term, the habitat conservation plan includes a conservation strategy focused on the following biological goal and objectives:

Goal: Contribute to the conservation of natural communities (wetlands, woodland, grassland, woody riparian, upland scrub) and their associated covered species in the Plan Area. Conservation of natural communities will be achieved by implementing the following three objectives for each natural-community type:

- Objective 1: Acquire, protect, manage, and maintain lands for the benefit of covered species to achieve compensation for project habitat effects.
- Objective 2: Locate compensation lands with the plan regions (north, central, and south San Joaquin Valley) where project effects occur.
- Objective 3: Purchase or dedicate land near other preserved areas to maximize the conservation values of the land and assist in meeting land protection goals of existing recovery plans.

For the purposes of this SEIR, the Modified Project would result in a significant impact if it would preclude PG&E from achieving any of the above plan objectives (i.e., conflict with the provisions of the plan). One of several compensation mechanisms identified in the habitat conservation plan to help achieve these objectives is the purchase of mitigation credits from existing mitigation banks in the San Joaquin Valley. As described in Section 2.4.5, Mitigation Sites, the Modified Project would also purchase mitigation credits from existing mitigation banks to satisfy compensatory mitigation requirements of the 2019 EIS/EIR. Because mitigation credits within each bank are a finite resource tracked by the bank operator, they cannot be allocated among different project proponents. In a hypothetical scenario where DWR and Reclamation and PG&E sought to purchase mitigation credits from the same bank, any credits purchased by DWR and Reclamation for the Modified Project would be independent of, and separate from, those purchased by PG&E. Therefore, the Modified Project's mitigation requirements would not conflict or interfere with PG&E's mitigation requirements under their San Joaquin Valley operations and maintenance habitat conservation plan. There are no other habitat conservation plans, natural communities

conservation plans, or other approved local, regional, or state conservation plans that cover the Modified Project site. Therefore, the Modified Project would have **no impact** on adopted conservation plans.

Comparison to 2019 EIS/EIR

The additional project components analyzed above would result in no impacts and therefore impacts of the Modified Project would not result in a significant increase in the severity of impacts as determined in the 2019 EIS/EIR. The Modified Project would continue to result in no impacts.

3.9.5 Mitigation Measures

The following mitigation measures would be implemented to avoid, minimize, or compensate for potentially significant impacts on biological resources. As indicated below, mitigation measures either are identical to those identified in the 2019 EIS/EIR or replace previously identified mitigation measures. Mitigation Measures SEIR-BIO-6 and SEIR-BIO-7 are included as new mitigation measures. Mitigation Measures TERR-2, TERR-4, TERR-8, and TERR-14 identified in the 2019 EIS/EIR are not required to reduce biological resources impacts specifically resulting from components of the Modified Project as discussed above, and are therefore not included below. However, Mitigation Measures TERR-2, TERR-4, TERR-8, and TERR-14 identified in the 2019 EIS/EIR remain applicable to the Modified Project as determined by the 2019 EIS/EIR.

TERR-1 (Same as TERR-1 in the 2019 EIS/EIR): Special-status Plant Species and Special-Status Natural Communities. Surveys of the project area for special-status plant species will be conducted during the identifiable blooming period prior to commencement of work. Special-status plants include: Arcuate bush-mallow (blooms April through September), big-scale balsamroot (blooms March through June), California alkali grass (blooms March through May), chaparral harebell (blooms May through June), Congdon's tarplant (blooms May through October), Hall's bushmallow (blooms May through September), Hispid bird's beak (blooms June through September), Hospital Canyon larkspur (blooms March through June), Lemmon's jewelflower (blooms February through May), Lime Ridge navarretia (blooms May through June), round-leaved filaree (blooms March through May), shining navarretia (blooms April through July), and spiny-sepaled button-celery (bloom April through June).

A qualified DWR biologist (qualified biologist) will be present prior to and during construction to ensure avoidance of impacts on special-status plant species and special-status natural communities by implementing one, or more, of the following, as appropriate, per the biologist's recommendation:

a. Flag the population or natural community areas to be protected;
b. Allow adequate buffers; and/or,
c. Time construction or other activities during dormant and/or non-critical life cycle periods.

For unavoidable impacts to special-status plant species, compensatory mitigation may be required based on recommendations of the qualified biologist. If any impacts occur to listed plant species, consultation with USFWS and/or CDFW will be initiated. If deemed necessary based on the type and extent of special-status plant populations affected, compensatory mitigation will entail:

a. The protection, through land acquisition or a conservation easement, of a population of equal or greater size and health. Or,

b. If it is not feasible to acquire and preserve a known population of a special-status plant to be impacted, suitable unoccupied habitat capable of supporting the species will be acquired, and used to create a new population. For population creation, the following considerations will also be met:

- Prior to unavoidable and permanent disturbance to a population of a special-status plant species, propagules shall be collected from the population to be disturbed. This may include seed collection or cuttings, and these propagules will be used to establish a new population on suitable, unoccupied habitat as described above. Transplantation may be attempted but will not be used as the primary means of plant salvage and new population creation.
- Creation of new populations will require identifying suitable locations and researching and determining appropriate and viable propagation or planting techniques for the species. It will also require field and literature research to determine the appropriate seed sampling techniques and harvest numbers for acquisition of seed from existing populations.
- A minimum ten-year monitoring plan with adaptive management will be implemented to document the success of creating new plant populations. Adequate funding for compensatory mitigation will be provided on an agreed-to schedule, following a discussion with the appropriate regulatory agencies, to ensure long-term protection and management of lands acquired or placed under conservation easement.

TERR-6 (Same as TERR-6 in the 2019 EIS/EIR): Nesting Bird Surveys. A qualified biologist would conduct nesting bird surveys prior to construction and supervise avoidance of nests during construction. The generally accepted nesting season extends from February 1 through September 15. If an active nest of a special-status bird is found, construction within 300 feet of the nest (500 feet for raptor nests, excluding Swainson's hawk) would be postponed until the nest is no longer active.

TERR-7 (Same as TERR-7 in the 2019 EIS/EIR): Preconstruction Surveys for and Avoidance of Swainson's Hawk Nests. Prior to construction, surveys for active Swainson's hawk nests will be conducted in and around all potential nest trees within 0.5 mile of construction areas. If known or active nests are identified through preconstruction surveys or other means, a 0.5 mile no-disturbance buffer shall be established around all active nest sites if construction cannot be limited to occur outside the nesting season (February 15 through September 15). Buffer sizes may be reduced if approved by CDFW and active nest sites are monitored during construction by a qualified biologist.

Permanent foraging habitat losses (i.e., grasslands) within one mile of active Swainson's hawk nests shall be compensated by preserving in perpetuity suitable foraging habitat at a ratio of 1:1. This includes permanently disturbed construction sites. The CDFW shall approve the location and types of habitats preserved.

TERR-10 (Same as TERR-10 in the 2019 EIS/EIRS): Tricolored Blackbird. Prior to construction, appropriately timed surveys for tricolored blackbirds would be conducted in areas supporting potentially suitable habitat within 0.25 mile of construction areas. Habitat within 0.25 mile of tricolored blackbird colonies will be avoided during nesting season, which can begin as early as mid-March and extend through August. If colonies cannot be avoided, CDFW shall be consulted to potentially reduce buffer distances with active monitoring during construction by a qualified biologist.

TERR-11 (Same as TERR-11 in the 2019 EIS/EIR): Special-Status Bats. Impacts to special-status bats shall be minimized by performing preconstruction surveys and creating no-disturbance buffers around active bat roosting sites.

Before construction activities (i.e., ground clearing and grading, including trees or shrub removal) within 200 feet of trees that could support special-status bats, a qualified bat biologist shall survey for special-status bats. If no evidence of bats (i.e., direct observation, recorded vocalizations, guano, staining, or strong odors) is recorded, no further mitigation shall be required.

If evidence of bats is observed, the following measures shall be implemented to avoid potential impacts on breeding populations:

- A no-disturbance buffer of 200 feet shall be created around active bat roosts during the breeding season (April 15 through August 15). Bat roosts initiated during construction are presumed to be unaffected by the indirect effects of noise and construction disturbances. However, the direct take of individuals will be prohibited.
- Removal of trees showing evidence of active bat activity shall occur during the period least likely to affect bats, as determined and monitored by a qualified bat biologist (generally between February 15 and October 15 for winter hibernacula, and between August 15 and April 15 for maternity roosts). If the exclusion of bats from potential roost sites is necessary to prevent indirect impacts due to construction noise and human activity adjacent, bat exclusion activities (e.g., installation of netting to block roost entrances) shall also be conducted during these periods. If special-status bats are identified in the dam or special allowances must be made to relocate bats, Reclamation will coordinate the effort in advance with CDFW.

TERR-13 (Same as TERR-13 in the 2019 EIS/EIR): American Badger. Impacts on badgers within annual grasslands and oak woodland at San Luis Reservoir will be minimized through a combination of worker training, preconstruction surveys, and passively or actively relocating animals. Concurrent with other required surveys, during winter/spring months before new project activities, and concurrent with other preconstruction surveys (e.g., kit fox and burrowing owl), a qualified biologist shall perform a survey to identify the presence of active or inactive American badger dens. If this species is not found, no further mitigation shall be required. If badger dens are identified within the construction footprint during the surveys or afterwards, they shall be inspected and closed using the following methodology:

When unoccupied dens are encountered outside of work areas but within 100 feet of proposed activities, vacated dens shall be inspected to ensure they are empty and temporarily covered using plywood sheets or similar materials. If badger occupancy is determined at a given site within the work area, work activities at that site should be halted. Depending on the den type, reasonable and prudent measures to avoid harming badgers will be implemented and may include seasonal limitations on project construction near the site (i.e., restricting the construction period to avoid spring-summer pupping season), and/or establishing a construction exclusion zone around the identified site, or resurveying the den at a later time to determine species presence or absence. Badgers may be passively relocated using burrow exclusion (e.g., installing one-way doors on burrows) or similar CDFW-approved exclusion methods. In unique situations it might be necessary to actively relocate badgers (e.g., using live traps) to protect individuals from potentially harmful situations. Such relocation would be performed with advance CDFW coordination and concurrence.

TERR-15 (Same as TERR-15 in the 2019 EIS/EIR): Contractor Environmental Awareness Training and Site Protection Measures. All construction personnel working in biologically sensitive areas shall attend an environmental education program delivered by a qualified biologist prior to starting work. The training shall include an explanation as how to best avoid the accidental take of special-status plants and wildlife. The field meeting shall include species identification, life history, descriptions, and habitat requirements. The program shall include an explanation of Federal and State laws protecting endangered species, and avoidance and minimization methods being implemented to protect these species. A qualified biologist will be present on the site at all times during construction. The contractor shall provide closed garbage containers for the disposal of all trash items (e.g., wrappers, cans, bottles, food scraps). Work sites shall be cleaned of litter before closure each day, and placed in wildlife-proof garbage receptacles. Construction personnel shall not feed or otherwise attract any wildlife. No pets, excluding service animals, shall be allowed on site or in construction areas.

Nighttime vehicle traffic shall be kept to a minimum on non-maintained roads with a maximum speed of 15 mph.

To minimize disturbance to wildlife, temporary and permanent exterior lighting shall be installed such that:

- lamps and reflectors are not visible from beyond the project site,
- reflective glare will be minimized to the extent feasible;
- illumination of the project and its immediate vicinity is minimized;
- lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated;
- all lighting shall be of minimum necessary brightness consistent with operational safety and security;
- lights in areas not occupied on a continuous basis (such as maintenance areas) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied, and
- the plan complies with local policies and ordinances.

SEIR-BIO-1 (Replaces TERR-3 in the 2019 EIS/EIR): Special-Status Amphibians. Before and after construction:

- The Modified Project proponent shall submit the name and credentials of a California Department of Water Resources (DWR) biologist qualified to act as construction monitor to the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) for approval at least 15 days before construction work begins. General minimum qualifications are a 4-year degree in biological sciences and experience in surveying, identifying, and handling California tiger salamanders and California red-legged frogs. The qualified biologist shall be present at all times during construction. Consultation with the USFWS through the Section 7 process may be required to determine avoidance, conservation, and mitigation measures.
- The USFWS- and CDFW-approved biologist, under the appropriate federal and state authorities (e.g., permitting and consultation), shall survey the work sites 2 weeks before the onset of construction. If California tiger salamanders or California red-legged frogs (or their tadpoles or eggs) are found, the approved biologist shall contact USFWS and CDFW to determine whether moving any of these life stages is appropriate. If USFWS and CDFW approve moving the animals, the biologist shall be allowed sufficient time to move frogs and/or salamanders from the work sites before work begins. If these species are not identified, construction can proceed

at these sites. The biologist shall use professional judgment to determine whether (and if so, when) the California tiger salamanders and/or California red-legged frogs are to be moved. The biologist shall immediately inform the construction manager that work shall be halted, if necessary, to avert avoidable take of listed species.

- The known location of California red-legged frogs and Willow Spring, the water source for the perennial frog pond near the borrow area, shall be avoided during construction with a buffer of 250 feet to avoid modifying aquatic habitat that supports the frog population; or as otherwise approved by the resource agencies.
- Areas impacted by construction shall be monitored during construction to identify, capture, and relocate special-status amphibians, if present.
- Areas beneath construction equipment and vehicles shall be inspected daily, prior to operation, for presence of special-status amphibians under tracks/tires and within machinery. If special-status amphibians are found, a qualified biologist shall capture and relocate animals from work sites.
- Appropriate state and federal permits for handling of special-status species shall be acquired.
- If necessary, a detailed amphibian relocation plan shall be prepared at least 3 weeks before the start of groundbreaking and submitted to CDFW and USFWS for review. The purpose of the plan is to standardize amphibian relocation methods and relocation sites.
- The USFWS- and CDFW-approved biologist shall be present at the active work sites until special-status amphibians have been removed, and habitat disturbance has been completed. Thereafter, compliance with all minimization measures shall be monitored by an individual who has received training from a CDFW- and USFWS-approved biologist, consistent with USFWS requirements.
- The Modified Project proponent and its contractors shall install frog-exclusion fencing (i.e., silt fences) around all construction areas that are within 100 feet of any identified ponds that provide potential special-status amphibian aquatic breeding habitat. During and after rain events, an approved biologist shall monitor work areas for the presence of special-status amphibians.
- The Bureau of Reclamation shall provide compensation for permanent and temporary impacts on California tiger salamander and California red-legged frog aquatic habitat. Compensatory mitigation shall be provided for the loss of aquatic breeding sites that will be filled or otherwise directly affected by the Modified Project, as well as mitigate for any impacts on associated California red-legged frog upland habitat through compensatory mitigation. If possible, compensatory mitigation areas shall be located within a California red-legged Frog Recovery Area, as identified in the 2002 California Red-legged Frog Recovery Plan (USFWS 2002).
- The total area, size, and number of California red-legged frog or California tiger salamander mitigation ponds to be created will be based on a comparable loss of breeding sites (e.g., a minimum 1:1 replacement ratio) as a result of the Modified Project. These ponds shall concurrently satisfy wetland mitigation requirements identified in Mitigation Measure TERR-16 in the 2019 EIS/EIR. To the degree possible, new mitigation ponds that are created for California red-legged frog and California tiger salamander shall be hydrologically self-sustaining and shall not require a supplemental water supply.

SEIR-BIO-2 (Replaces TERR-5 in the 2019 EIS/EIR): Special-Status Reptiles. Before construction activities begin, a qualified biologist shall conduct special-status reptile (i.e., San Joaquin whipsnake and coast horned lizard) surveys 2 weeks prior to construction activities within work sites and within 100 feet of disturbance areas. A qualified biologist shall relocate any special-status reptiles to suitable habitat outside of areas of disturbance. There is possibility of special-status reptiles to move into the work sites after preconstruction surveys have checked the area and some individuals could be subject to mortality. If special-status reptiles are detected in work sites during construction, activities and equipment travel shall cease in the immediate area of detection until the special-status reptile has left work site or has been relocated out of the area by a qualified biologist.

SEIR-BIO-3 (Replaces TERR-9 in the 2019 EIS/EIRS): Burrowing Owl. Prior to construction, surveys for burrowing owls shall be conducted in areas supporting potentially suitable habitat.

Breeding season surveys shall be performed to determine the presence of burrowing owls for the purposes of inventory, monitoring, avoidance of take, and determining appropriate mitigation. In California, the breeding season begins as early as February 1 and continues through August 31. Under the survey guidelines in the California Department of Fish and Wildlife's (CDFW's) Staff Report on Burrowing Owl Mitigation (CDFG 2012)', a biologist shall: 1) perform a habitat assessment to identify essential components of burrowing owl habitat, including artificial nest features; 2) perform intensive burrow surveys in areas that are identified to provide suitable burrowing owl habitat, and; 3) perform at least four appropriately-timed breeding season surveys (four survey visits spread evenly [roughly every 3 weeks] during the peak of the breeding season, from April 15 to July 15) to document habitat use.

Preconstruction surveys (referred to as take avoidance surveys in CDFG [2012]) shall be used to assess the owl presence before site modification is scheduled to begin. Generally, initial preconstruction surveys should be conducted within 7 days, but no more than 30 days prior to ground-disturbing activities. Additional surveys may be required when the initial disturbance is followed by periods of inactivity or the development is phased spatially and/or temporally over the Modified Project area. Up to four or more survey visits performed on separate days may be required to assure with a high degree of certainty that site modification and grading will not take owls. The full extent of the preconstruction survey effort shall be described and mapped in detail (e.g., dates, time periods, area[s] covered, and methods employed) in a biological report that shall be provided for review to CDFW.

In addition to the above survey requirements, the following measures shall be implemented to reduce Modified Project impacts to burrowing owls:

- Construction exclusion areas (e.g., orange exclusion fence or signage) shall be established around occupied burrows, where no disturbance shall be allowed. During the nonbreeding season (September 1 through January 31), the exclusion zone shall extend at least 160 feet around occupied burrows. During the breeding season (February 1 through August 31), exclusion areas shall extend 250 feet around occupied burrows (or farther if warranted to avoid nest abandonment).
- If work or exclusion areas conflict with owl burrows, passive relocation of on-site owls could be implemented as an alternative, but only during the nonbreeding season and only with CDFW approval. The approach to owl relocation and burrow closure will vary depending on the number of occupied burrows. Passive relocation shall be accomplished by installing one-way doors on the entrances of burrows within 160 feet of the Modified Project area. The one-way doors shall

be left in place for 48 hours to ensure the owls have left the burrow. The burrows shall then be excavated with a qualified biologist present. Construction shall not proceed until the Modified Project area is deemed free of owls.

- Unoccupied burrows within the immediate construction area shall be excavated using hand tools, and then filled to prevent reoccupation. The qualified biologist shall be present during construction to continue examination of burrows. If any burrowing owls are discovered during the excavation, the excavation shall cease and the owl allowed to escape. Excavation shall be completed once the biological monitor confirms the burrow is empty.
- Artificial nesting burrows shall be provided as a temporary measure when natural burrows are lacking. To compensate for lost nest burrows, artificial burrows shall be provided outside the 160-foot buffer zone. The alternate burrows shall be monitored daily for 7 days to confirm that the owls have moved in and acclimated to the new burrow.

SEIR-BIO-4 (Replaces TERR-12 in the 2019 EIS/EIR): San Joaquin Kit Fox. San Joaquin kit fox would be affected by construction activities if animals are harmed or killed by equipment, their movement is blocked, or their dens or other habitat is altered or destroyed. Consultation with the U.S. Fish and Wildlife Service (USFWS) through the Section 7 process may be required to determine avoidance, conservation, and mitigation measures. Prior to construction, a qualified biologist shall conduct surveys to identify potential dens more than 4 inches in diameter. A multispecies burrow assessment in 2020 located numerous potential San Joaquin kit fox dens in suitable habitat throughout the Modified Project site (Dudek 2020b). If dens are located within the proposed work area and cannot be avoided during construction activities, a USFWS- and California Department of Fish and Wildlife (CDFW)-approved biologist shall determine if the dens are occupied. If occupied dens are present within the proposed work area, their disturbance and destruction shall be avoided. Exclusion zones shall be implemented following the latest USFWS procedures (USFWS 2011b). The Modified Project proponent shall implement San Joaquin kit fox protection measures.

The following measures, which are intended to reduce direct and indirect Modified Project impacts on San Joaquin kit foxes, are derived from the San Joaquin Kit Fox Survey Protocol for the Northern Range (USFWS 1999) and the Standardized Recommendations for Protection of the San Joaquin Kit Fox (USFWS 2011b). The following measures shall be implemented for construction areas at San Luis Reservoir:

- Preconstruction surveys shall be conducted within 200 feet of work areas to identify potential San Joaquin kit fox dens or other refugia in and surrounding workstations. A qualified biologist shall conduct the survey for potential kit fox dens 14 to 30 days before construction begins. All identified potential dens shall be monitored for evidence of kit fox use by placing an inert tracking medium at den entrances and monitoring for at least 3 consecutive nights. If no activity is detected at these den sites, they shall be closed following guidance established in the USFWS Standardized Recommendations report (USFWS 2011b).
- If kit fox occupancy is determined at a given site during the preconstruction surveys or during the construction period, the construction manager should be immediately informed that work should be halted within 200 feet of the den and the USFWS contacted. Depending on the den type, reasonable and prudent measures to avoid effects to kit foxes could include seasonal limitations on Modified Project construction at the site (i.e., restricting the construction period to avoid spring–summer pupping season), and/or establishing a construction exclusion zone around the identified site, or resurveying the den 1 week later to determine species presence or absence.

- Off-road vehicle and equipment movement shall be limited to the Modified Project footprint.
- To compensate for permanent impacts to grassland, which provides habitat for San Joaquin kit fox, lands shall be acquired and covered by conservation easements or mitigation credits shall be purchased at a 2:1 mitigation ratio, or other compensation ratios approved by USFWS and CDFW.

SEIR-BIO-5 (Replaces TERR-16 in the 2019 EIS/EIR): Mitigation Measures for Special-Status Communities, including Native Grassland, and Jurisdictional Wetlands or Waters and Streambeds and Banks Regulated by CDFW, RWQCB, and USACE.

SEIR-BIO-5a. Final project design shall avoid and minimize the fill of wetlands and other waters to the greatest practicable extent. The following actions shall be performed to protect jurisdictional wetlands:

- The distribution of federal and state jurisdictional wetlands and waters; streambeds and banks regulated by the California Department of Fish and Wildlife (CDFW); and sensitive habitat regulated by CDFW, shall be defined and avoided to the greatest possible extent.
- Prior to construction, a qualified biologist shall delineate the extent of jurisdictional areas to be avoided in the field. The Bureau of Reclamation (Reclamation) shall designate areas to be avoided as "Restricted Areas" and protect them using highly visible fencing, rope, or flagging, as appropriate based on site conditions. No construction activities or disturbance shall occur within restricted areas that are designated to protect wetlands.
- The removal of riparian and wetland vegetation shall be minimized. The disturbance of riparian and aquatic habitat north of the access road to the dam shall be avoided.
- The removal or damage to purple needlegrass grassland, gum plant patches and tarweed fields communities within annual grassland, and *Baccharis pilularis*/(*Nassella pulchra–Elymus glaucus–Bromus carinatus*), and narrowleaf goldenbush communities within scrub/chaparral shall be minimized. Impacts to these communities in the staging area shall be avoided.

SEIR-BIO-5b. Where jurisdictional wetlands and other waters cannot be avoided, to offset temporary and permanent impacts that would occur as a result of the Modified Project, restoration and compensatory mitigation shall be provided as described below. A wetland mitigation and monitoring plan shall be developed in coordination with CDFW, the U.S. Army Corps of Engineers (USACE), and/or the Regional Water Quality Control Board (RWQCB) that details mitigation and monitoring obligations for temporary and permanent impacts to wetlands and other waters as a result of construction activities; and other CDFW-jurisdictional areas. The plan shall quantify the total acreage affected; provide for mitigation as described below to wetland or riparian habitat; annual success criteria; mitigation sites; monitoring and reporting requirements; and site-specific plans to compensate for wetland losses resulting from the Modified Project.

Prior to construction, the aquatic structure of wetland and riparian areas to be disturbed shall be photo-documented, and measurements of width, length, and depth shall be recorded. Reclamation shall recontour and revegetate disturbed portions of jurisdictional areas in areas temporarily affected by construction prior to demobilization by the contractor at the end of Modified Project construction. Creek banks shall be recontoured to a more stable condition if necessary.

Revegetation shall include a palette of species native to the watershed area according to a revegetation plan to be developed by Reclamation and submitted to USACE, CDFW, and RWQCB for approval.

Following removal, woody trees habitat acreage shall be replanted at a minimum 1:1 ratio, or as determined and agreed upon by the permitting agencies. Interim vegetation or other measures shall be implemented as necessary to control erosion in disturbed areas prior to final revegetation.

Wetland and other waters impacts in the construction area shall be compensated at a ratio of 2:1 or at a ratio agreed upon by the wetland permitting agencies. Compensatory mitigation shall be conducted by creating or restoring wetland and aquatic habitat at an agency-approved location on nearby lands or through purchasing mitigation credits at a USACE- and/or CDFW-approved mitigation bank (depending on the resource). If mitigation is conducted on or off-site, a 5-year wetland mitigation and monitoring program for on-site and off-site mitigation shall be developed. Appropriate performance standards may include, but are not limited to a 75% survival rate of restoration plantings; absence of invasive plant species; and a viable, self-sustaining creek or wetland system at the end of 5 years.

A weed control plan to limit the Modified Project's potential to spread noxious or invasive weeds shall be developed. This plan would be consistent with current integrated pest management plans that are already in practice on lands surrounding San Luis Reservoir. Noxious or invasive weeds include those rated as "high" in invasiveness by the California Invasive Plant Council. The plan shall include a baseline survey to identify the location and extent of invasive weeds in the Modified Project area prior to ground-disturbing activity, a plan to destroy existing invasive weeds in the construction area prior to initiation of ground-disturbing activity, weed-containment measures while the Modified Project is in progress, and monitoring and control of weeds following completion of construction.

SEIR-BIO-6 (New mitigation measure): **Avoidance of Bridge-Nesting Birds.** Prior to the construction and removal of the temporary haul road under State Route (SR) 152, surface modification treatment (Polytetrafluoroethylene [PTFE] sheeting) shall be applied to the SR-152 bridge to prevent nesting by species such as cliff swallow, black phoebe, and white-throated swift (if weep holes are present). PTFE sheeting shall be installed vertically at the junctures of vertical and overhead surfaces on the sides and underneath the first 75 feet of the SR-152 bridge extending from the southern abutment of the bridge to the north along the bridge. The treatment shall be applied before the nesting season (February 1). In combination with PTFE sheets, broadcast call units playing distress calls from adult cliff swallows may be used to further deter nesting. If used, distress calls should be played for 26 seconds in duration continuously via broadcast call units installed within the nest exclusion area as described in "Methods for Excluding Cliff Swallows from Nesting on Highway Structures" (UC Davis 2009). During the nesting season, the exclusion treatment shall be supplemented with bi-weekly inspections by a qualified biologist to evaluate treatment integrity, inspect the area for active nests, and subsequently remove any partial nests, as feasible. The 75-foot treatment area has been established as a standard disturbance buffer for cliff swallow, black phoebe, and white-throated swift for work activities that involve heavy machinery and personnel (PG&E 2016).

SEIR-BIO-7 (New mitigation measure): **Elk Avoidance and Minimization.** In order to minimize conflicts between construction activities and tule elk within the Modified Project area, a Tule elk site management plan shall be developed to direct control measures. At a minimum, the plan shall specify that Tule elk shall be directed (herded) from the work area(s) such that they are not confined (trapped) between construction activities and landscape features such as fences, buildings, water bodies, and in particular State Route 152. When herding elk, they should always be provided an escape

route to the general south. The California Department of Fish and Wildlife (CDFW) indicates that Tule elk are readily herded by people or vehicles and quickly associate the need to move with specific people or vehicles; the plan should specify that particular vehicles (choose red trucks, for example) or personnel shall be tasked with herding activities. Once elk have been herded away from the construction zone, they will generally stay a comfortable distance from activities. If Tule elk do re-enter the construction zone, then additional herding efforts shall be required. Additionally, during the March and April periods, lone females shall be provided additional monitoring because they may be birthing, though they quickly rejoin the herd within a few days after birthing. Once developed, the plan shall be reviewed by CDFW elk biologists.

3.9.6 Level of Significance After Mitigation

The Modified Project would result in a potentially significant impact with respect to having a substantial adverse effect to species identified as an endangered, threatened, candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, NMFS, or USFWS. Mitigation Measures TERR-1, TERR-6, TERR-7, TERR-10, TERR-11, TERR-13, TERR-15, SEIR-BIO-1, SEIR-BIO-2, SEIR-BIO-3, SEIR-BIO-4, and SEIR-BIO-6, which require avoidance or minimization of direct impacts to special-status species during construction and compensatory mitigation for impacts on grassland habitat, would reduce impacts to a level below significance.

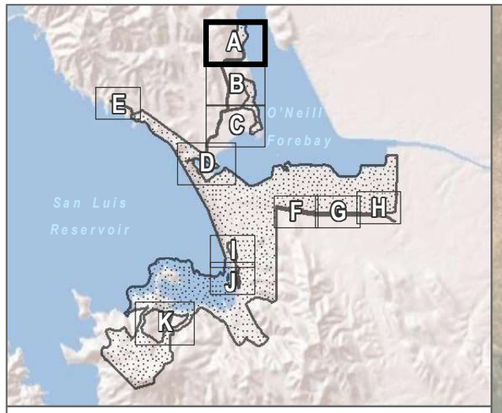
The Modified Project would result in a potentially significant impact with respect to substantial adverse effect on any riparian habitat or other sensitive (or special-status) natural community identified in local or regional plans, policies, regulations, or by the CDFW, NMFS, or USFWS. Mitigation Measures SEIR-BIO-5a, SEIR-BIO-5b, and HAZ-1, which require avoidance and minimization measures for jurisdictional aquatic resources and sensitive riparian and vegetation communities, define compensatory mitigation requirements to offset impacts to jurisdictional aquatic resources, and require preparation of a Spill Prevention and Response Plan, respectively, would reduce impacts to a level below significance.

The Modified Project would result in a potentially significant impact with respect to having a substantial adverse effect on federally protected wetlands. Mitigation Measures SEIR-BIO-5a, SEIR-BIO-5b, and HAZ-1, which require avoidance and minimization measures for impacts to jurisdictional aquatic resources, define compensatory mitigation requirements to offset impacts to jurisdictional aquatic resources, and require preparation of a Spill Prevention and Response Plan, respectively, would reduce impacts to a level below significance.

The Modified Project would result in a potentially significant impact with respect to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. Mitigation Measure SEIR-BIO-7, which requires the development of a Tule elk site management plan, would reduce impacts to a level below significance.

The Modified Project would result in no impact with respect to conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No mitigation is required.

The Modified Project would result in no impact with respect to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state conservation plan. No mitigation is required.



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 200 400 Feet

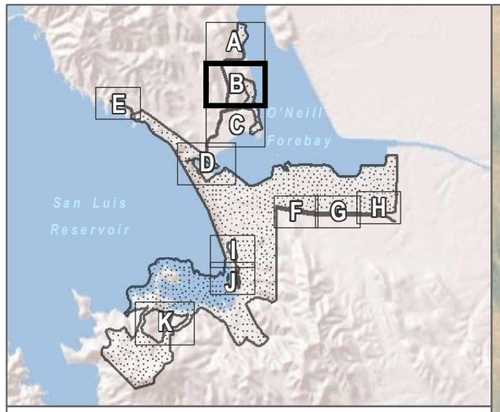
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1A

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 200 400 Feet

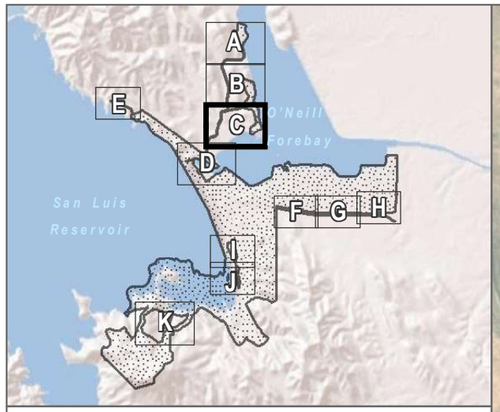
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1B

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 200 400 Feet

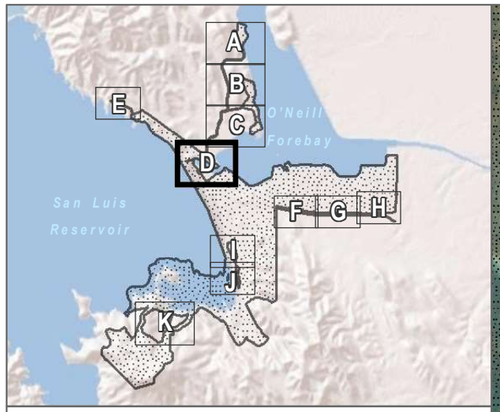
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1C

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 200 400 Feet

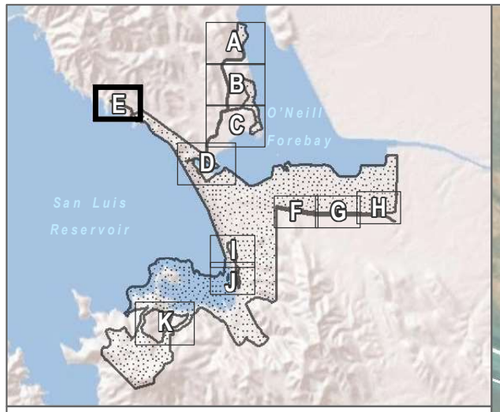
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1D

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 150 300 Feet

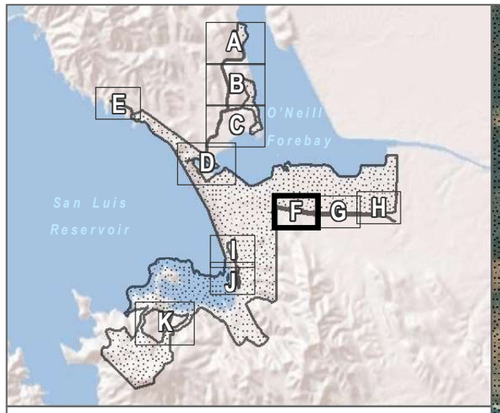
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1E

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 150 300 Feet

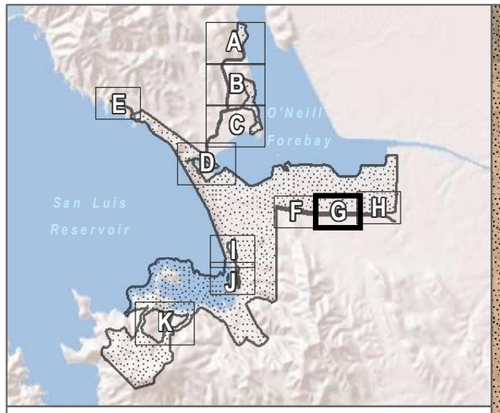
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1F

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 150 300 Feet

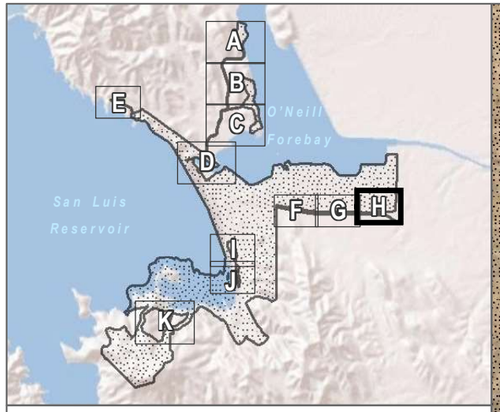
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1G

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 150 300 Feet

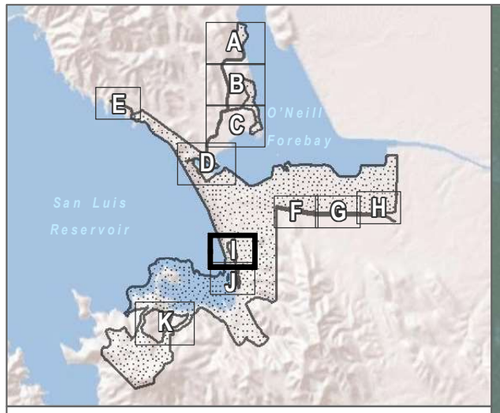
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1H

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Jurisdictional Aquatic Resources

- D, Ditch
- ED, Ephemeral Drainage
- ES, Ephemeral Swale
- FEW, Freshwater Emergent Wetland
- LAC, Lacustrine

Vegetation/Land Cover

- Annual Grassland
- Purple Needlegrass Grasslands
- Scrub/Chaparral
- Eucalyptus Woodland
- Freshwater Emergent Wetland
- Lacustrine
- Valley Foothill Riparian
- Urban/Disturbed

Sensitive Vegetation/Riparian Habitats *

- BASA - Mulefat thickets (Baccharis salicifolia) Alliance, Baccharis salicifolia Association
- GPP - Gum plant patches (Grindelia (camporum, stricta)) Provisional Alliance
- NG-MGG - Needle grass - melic grass grassland (Nassella spp. - Melica spp.) Alliance, Nassella pulchra, Nassella cernua, and Melica californica Associations
- PF-SG - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii - Salix gooddingii Association
- POFR - Fremont cottonwood forest (Populus fremontii - Fraxinus velutina - Salix gooddingii) Alliance, Populus fremontii Association
- PR-PF/SL-SE/SA - California sycamore woodlands (Platanus racemosa) Alliance, Platanus racemosa - Populus fremontii / Salix lasiolepis - Salix exigua / Schoenoplectus americanus Association
- TY - Cattail marshes (Typha (angustifolia, domingensis, latifolia)) Alliance, Typha (latifolia, angustifolia) Association

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 150 300 Feet

* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1I

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK

0 150 300 Feet

* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1J

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20

DUDEK 0 200 400 Feet

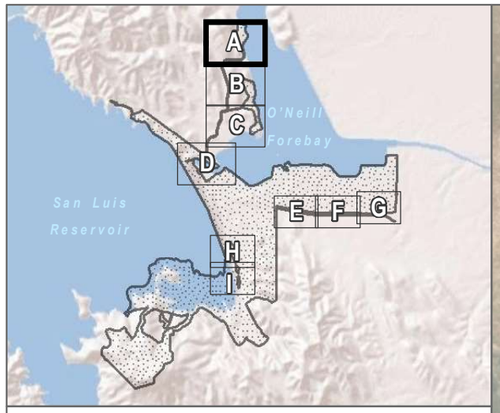
* Sensitive vegetation communities and riparian habitats are based on vegetation mapping conducted in 2020 in accordance with CDFW (2020)

FIGURE 3.9-1K

Vegetation Communities, Land Cover Types, and Jurisdictional Waters

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

- American badger
- Burrowing owl
- California red-legged frog
- Loggerhead shrike

Species Detected (Dudek 2020)*

- American badger
- American white pelican
- Bald eagle
- Loggerhead shrike
- Northern harrier
- Osprey
- Tricolored blackbird
- Swainson's hawk

Special-status Plant Point

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

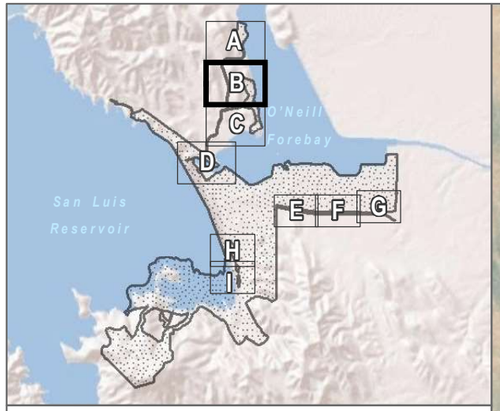
0 200 400 Feet

FIGURE 3.9-2A

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

- American badger
- Burrowing owl
- California red-legged frog
- Loggerhead shrike

Species Detected (Dudek 2020)*

- American badger
- American white pelican
- Bald eagle
- Loggerhead shrike
- Northern harrier
- Osprey
- Tricolored blackbird
- Swainson's hawk

Special-status Plant Point

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

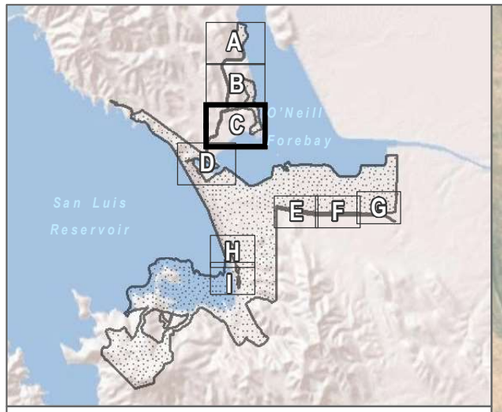
0 200 400 Feet

FIGURE 3.9-2B

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

American badger

Burrowing owl

California red-legged frog

Loggerhead shrike

Species Detected (Dudek 2020)*

American badger

American white pelican

Bald eagle

Loggerhead shrike

Northern harrier

Osprey

Tricolored blackbird

Swainson's hawk

Special-status Plant Point

Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

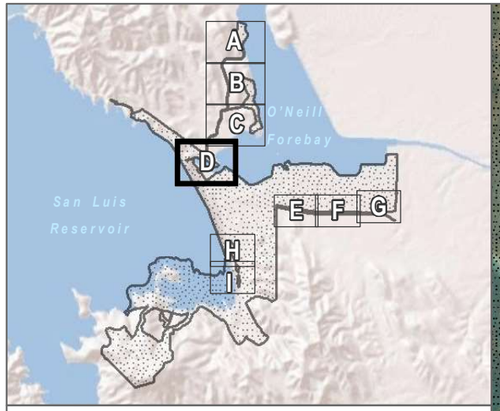
0 200 400 Feet

FIGURE 3.9-2C

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

- American badger
- Burrowing owl
- California red-legged frog
- Loggerhead shrike

Species Detected (Dudek 2020)*

- American badger
- American white pelican
- Bald eagle
- Loggerhead shrike
- Northern harrier
- Osprey
- Tricolored blackbird
- Swainson's hawk

Special-status Plant Point

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

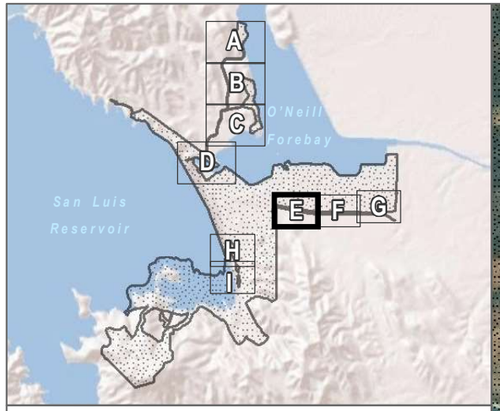
0 200 400 Feet

FIGURE 3.9-2D

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

- American badger
- Burrowing owl
- California red-legged frog
- Loggerhead shrike

Species Detected (Dudek 2020)*

- American badger
- American white pelican
- Bald eagle
- Loggerhead shrike
- Northern harrier
- Osprey
- Tricolored blackbird
- Swainson's hawk

Special-status Plant Point

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

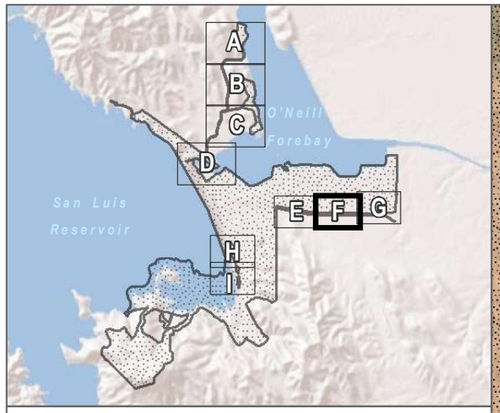
0 150 300 Feet

FIGURE 3.9-2E

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

- American badger
- Burrowing owl
- California red-legged frog
- Loggerhead shrike

Species Detected (Dudek 2020)*

- American badger
- American white pelican
- Bald eagle
- Loggerhead shrike
- Northern harrier
- Osprey
- Tricolored blackbird
- Swainson's hawk

Special-status Plant Point

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

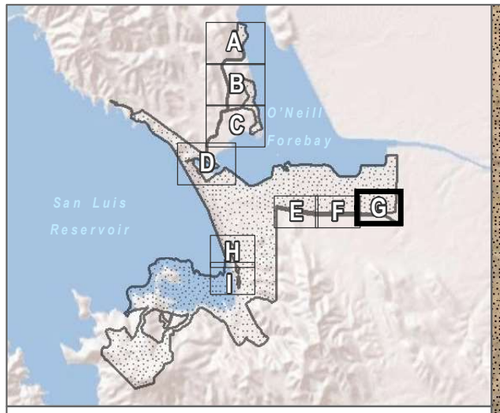
0 150 300 Feet

FIGURE 3.9-2F

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

- American badger
- Burrowing owl
- California red-legged frog
- Loggerhead shrike

Species Detected (Dudek 2020)*

- American badger
- American white pelican
- Bald eagle
- Loggerhead shrike
- Northern harrier
- Osprey
- Tricolored blackbird
- Swainson's hawk

Special-status Plant Point

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

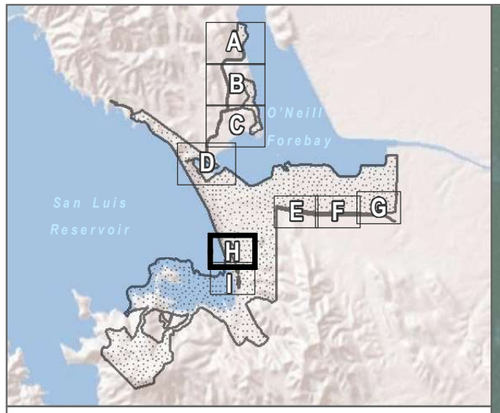
0 150 300 Feet

FIGURE 3.9-2G

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

- American badger
- Burrowing owl
- California red-legged frog
- Loggerhead shrike

Species Detected (Dudek 2020)*

- American badger
- American white pelican
- Bald eagle
- Loggerhead shrike
- Northern harrier
- Osprey
- Tricolored blackbird
- Swainson's hawk

Special-status Plant Point

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

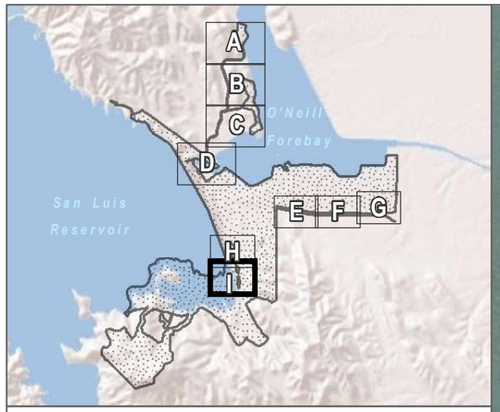
0 150 300 Feet

FIGURE 3.9-2H

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project - Additional Impact Areas

Approved Project (2019 EIS/EIR)

Species Detected (ESA 2018 and 2020)

- American badger
- Burrowing owl
- California red-legged frog
- Loggerhead shrike

Species Detected (Dudek 2020)*

- American badger
- American white pelican
- Bald eagle
- Loggerhead shrike
- Northern harrier
- Osprey
- Tricolored blackbird
- Swainson's hawk

Special-status Plant Point

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

Special-status Plant Area

- Spiny-sepaled button-celery *(Eryngium spinosepalum)*

* With the exception of the tricolored blackbird nesting colony below the dam, all points represent observations of individual animals or sign of recent presence (e.g., badger scat). No active nests were detected during the 2020 surveys.

SOURCE: Basemap: ESRI 2020; Project Boundary: Reclamation, 9/2/20, ESA 2018

DUDEK

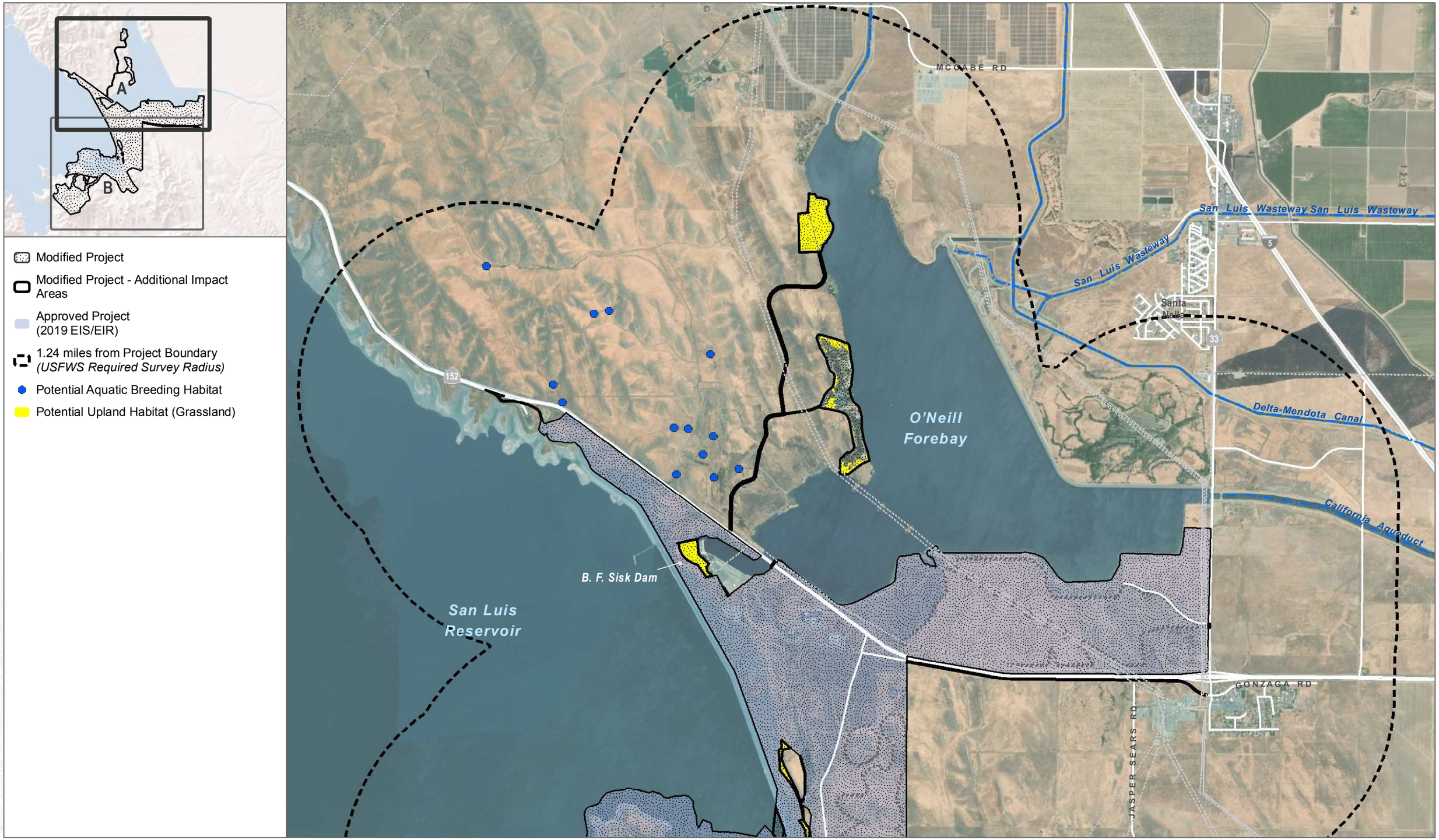
0 150 300 Feet

FIGURE 3.9-2I

Special-status Species Observations

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



SOURCE: Imagery: ESRI World Imagery 2020; Project Boundary & Features: Reclamation, 9/2/2020
Species, ESA 2018 & 2020

DUDEK

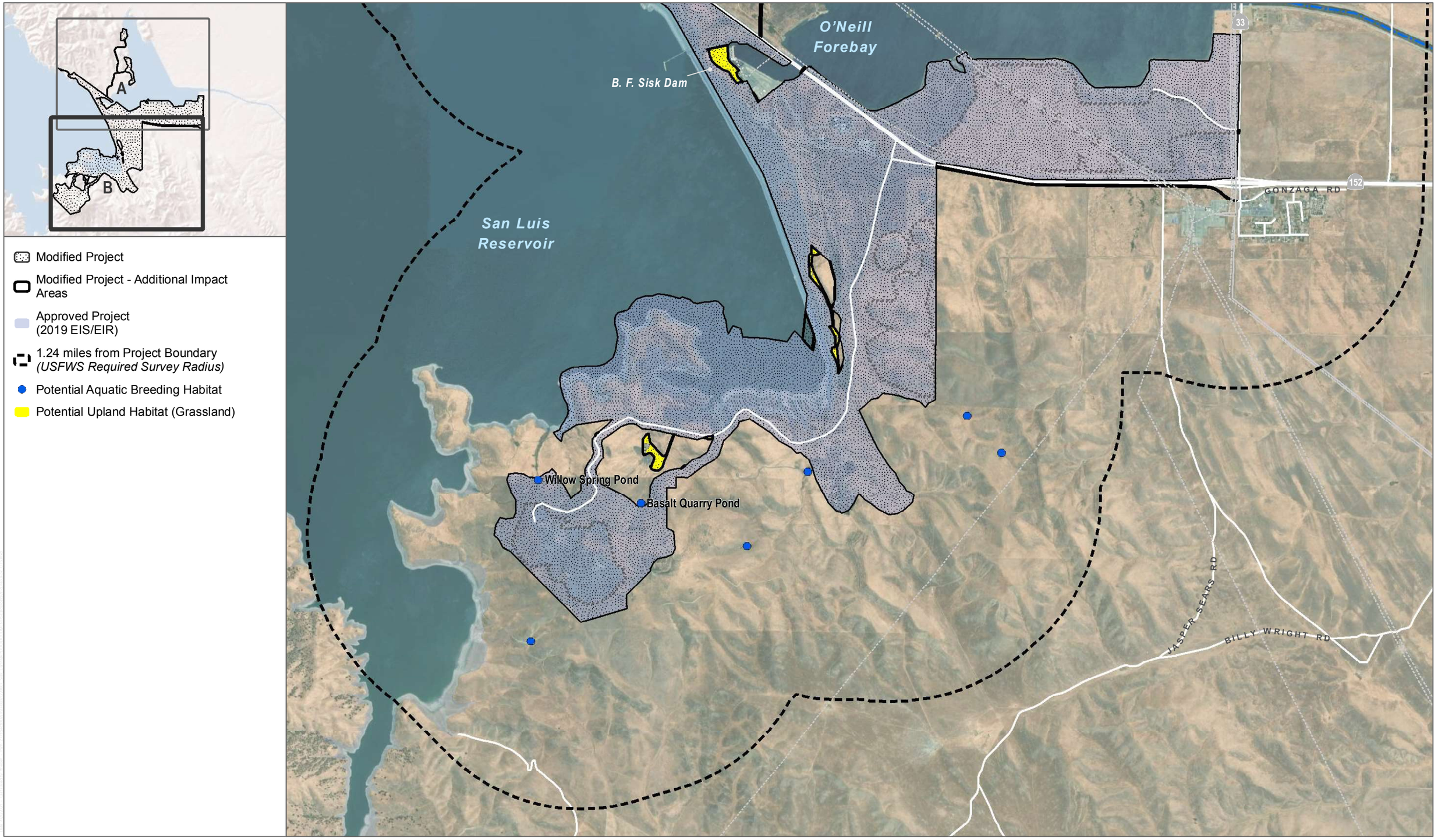
0 1,550 3,100 Feet

FIGURE 3.9-3A

California Tiger Salamander Aquatic Habitat

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



SOURCE: Imagery: ESRI World Imagery 2020; Project Boundary & Features: Reclamation, 9/2/2020
Species, ESA 2018 & 2020

DUDEK

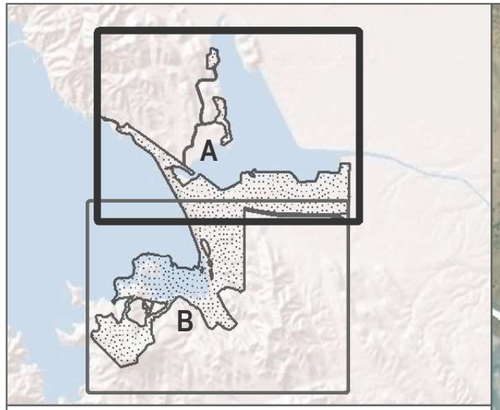
0 1,550 3,100 Feet

FIGURE 3.9-3B

California Tiger Salamander Aquatic Habitat

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project

Modified Project - Additional Impact Areas

Approved Project
(2019 EIS/EIR)

1 miles from Project Boundary
(USFWS Required Survey Radius)

Potential Aquatic Breeding Habitat

Potential Upland Habitat (Grassland)

Species Detected (ESA 2018 and 2020)

California red-legged frog

SOURCE: Imagery: ESRI World Imagery 2020; Project Boundary & Features: Reclamation, 9/2/2020
Species, ESA 2018 & 2020

DUDEK

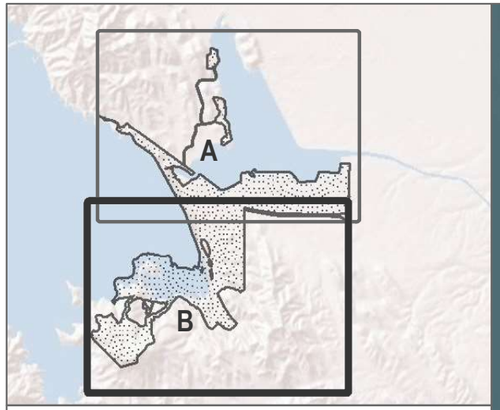
0 1,550 3,100 Feet

FIGURE 3.9-4A

California Red-legged Frog Aquatic Habitat

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK



Modified Project

Modified Project - Additional Impact Areas

Approved Project
(2019 EIS/EIR)

1 miles from Project Boundary
(USFWS Required Survey Radius)

Potential Aquatic Breeding Habitat

Potential Upland Habitat (Grassland)

Species Detected (ESA 2018 and 2020)

California red-legged frog

SOURCE: Imagery: ESRI World Imagery 2020; Project Boundary & Features: Reclamation, 9/2/2020
Species, ESA 2018 & 2020

DUDEK

0 1,550 3,100 Feet

FIGURE 3.9-4B

California Red-legged Frog Aquatic Habitat

B.F. Sisk Dam Safety of Dams Modification Project SEIR

INTENTIONALLY LEFT BLANK