APPENDIX B

Supplemental Information Regarding Biological Resources

APPENDIX C

State Clearinghouse Documentation and Comment Letter

Appendix B. Supplemental Information Regarding Biological Resources

This appendix provides supplemental information regarding biological resources that could be affected by The Nature Conservancy's proposal to restore wildlife habitat along the "Colusa Subreach" between the City of Colusa and the community of Princeton. The proposed project would restore native riparian habitat to approximately 251 acres on seven tracts of land. The environmental effects would generally be beneficial. Some restoration activities, however, such as orchard removal, field preparation, installation of irrigation systems, and vehicle access and use, would have potentially adverse effects to biological resources.

The proposed restoration tracts are entirely within the 100-year floodplain of the Sacramento River between flood control levees. Within these tracts, riparian vegetation has been removed and, to varying degrees, the tracts have been converted to agricultural crops. Portions of each tract are below the ordinary high water level of the river and are subject to inundation with a frequency of 1 to 5 years (Ayres Associates 2008).

The proposed active restoration area at the Colusa-North Tract is the only one of the proposed restoration sites that does not have an existing access road suitable for agricultural equipment. In order to fully implement project activities at the Colusa-North site, construction of an access road to the restoration area on this tract would require the clearing of at least 700 linear feet of remnant riparian vegetation.

The dominant type of land use adjacent to the restoration sites is remnant riparian forest. The remnant riparian forest includes the Great Valley mixed riparian forest and Great Valley cottonwood riparian forest (EDAW 2007) vegetation types (California Department of Fish and Game 2003). Both of these vegetation types are dominated by a diversity of winter deciduous, broadleafed trees and shrubs that provide high-value habitat for many wildlife species, including raptors, migratory songbirds, and bats.

The mixed riparian forest contains a dense multi-layered canopy, including Fremont's cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), western sycamore (*Platanus racemosa*), Goodings's black willow (*Salix gooddingii*), Oregon ash (*Fraxinus latifolia*), and box elder (*Acer negundo*). Native understory shrubs and vines include blue elderberry (*Sambucus mexicana*), wild rose (*Rosa californica*), poison oak (*Toxicodendron diversilobum*), and wild grape (*Vitis californica*). The cottonwood riparian forest is dominated by a canopy of Fremont's cottonwood (*Populus fremontii*) and black willow (*Salix gooddingii*).

Methodology

To assess potential impacts to special-status species, North State Resources, Inc. (NSR) conducted a pre-field investigation to identify special-status species occurring in the area. The following documents, including database query results, were also reviewed:

- *List of Endangered and Threatened Species That May Occur in, or Be Affected by Projects in Colusa County* (U.S. Fish and Wildlife Service 2007).
- California Natural Diversity Database (CNDDB) search for records of special-status plant and wildlife species, and natural plant communities in the following eight USGS quadrangles: *Princeton, Butte City, Moulton Weir, Sanborn Slough, Colusa, Meridian, Arbuckle, and Grimes* (California Department of Fish and Game 2007a).
- *Inventory of Rare and Endangered Plants of California* (California Native Plant Society 2007); one query for documented special-status plant species occurrences in the *Sanborn Slough, California* and the eight surrounding USGS quadrangles, and another for the *Meridian, California* and eight surrounding USGS quadrangles.
- *Endangered and Threatened Animals of California* (California Department of Fish and Game 2006a)
- *Special Animals* (California Department of Fish and Game 2007b),
- *Endangered, Threatened, and Rare Plants of California* (California Department of Fish and Game 2006b)
- *Special Vascular Plants, Bryophytes, and Lichens List* (California Department of Fish and Game 2006c).
- *Colusa Subreach Planning Pest and Regulatory Effects Study, Public Draft Project Report* (EDAW 2007).
- *Mitigation for Tisdale Bypass Rehabilitation Project at Colusa-Sacramento River State Recreation Area* (Jones and Stokes 2007)
- Baseline assessments for each of the seven tracts (Hubbell et al. 2006a, 2006b, 2006c, 2006d, 2006e, 2006f, 2007a, 2007b)

NSR staff also conducted reconnaissance surveys at the proposed restoration tracts on October 22 and November 9, 2007, to assess the suitability of the habitat for 104 special-status species identified in the pre-field investigation. The project sites do not provide suitable habitat (e.g. alkaline soils, vernal pools, breeding habitat) for more than half of the 104 species identified in the pre-field investigation, and these species were not further evaluated.

Results

Forty-two special-status species, including wildlife, fish, and plant species, were identified that are known to occur or could occur in the project area. Habitat suitability and potential impacts were identified for each of these 42 species (Table B-1 and Table B-2). The project would have a “less than significant impact” or “no impact” on 22 of the 42 species evaluated, including all of the special-status plants evaluated.

Results of the assessment indicate that vegetation removal or degradation and ground-disturbing activities associated with implementation of the proposed Project could result in significant impacts on 20 special-status species unless mitigation measures are implemented. The regulatory status of each of these species is identified below along with a description of the suitable habitat present on the restoration tracts.

Impacts on all of these species would be less than significant following implementation of mitigation measures.

Invertebrates

- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Federally listed as threatened.

Blue elderberry (*Sambucus mexicana*) and (mountain) red elderberry (*S. racemosa var. microbotrys*) are the host plants for the valley elderberry longhorn beetle (VELB). During the reconnaissance field visits, NSR staff noted blue elderberry with stems greater than 1.0 inch in diameter in low numbers at all the tracts. Some of the tracts have one or two blue elderberry shrub clusters on the perimeter, and other tracts have a few clusters suggestive of relic populations.

No elderberries are planned to be removed as part of the project, but there could be a direct impact on VELB from accidental damage to elderberry shrubs during implementation and maintenance of the restoration plantings. Complete avoidance of VELB host plants may not be practicable, as the planting of native plants and maintenance will need to occur within 100 feet of blue elderberries in order to prevent the establishment of non-native invasive plants. Protocol-level VELB surveys should be conducted at each of the restorations sites no more than 2 years prior to implementation of restoration at a given site.

Fish

- green sturgeon, southern Distinct Population Segment (DPS) (*Acipenser medirostris*). Federally listed as threatened, designated Critical Habitat;
- central valley steelhead (*Onchorhynchus mykiss*). Federally listed as threatened, designated Critical Habitat;
- Chinook salmon, winter-run (*Onchorhynchus tshawytscha*). Federally and state listed as endangered, designated Critical Habitat and Essential Fish Habitat;
- Chinook salmon, spring-run (*Onchorhynchus tshawytscha*). Federally and state listed as threatened, designated Critical Habitat and Essential Fish Habitat;
- river lamprey (*Lampetra ayresii*). State species of special concern;
- hardhead (*Mylopharodon conocephalus*). State species of special concern;
- Chinook salmon, fall-run (*Onchorhynchus tshawytscha*). State species of special concern, designated Essential Fish Habitat;
- Sacramento splittail (*Pogonichthys macrolepidoptus*). State species of special concern.

The fish species listed above are known to occur in the Sacramento River and could occur within the project tracts during overbank flooding. The Sacramento River provides suitable migratory and rearing habitat for all these species, including designated Critical Habitat for threatened salmonids as noted above. Essential Fish Habitat (EFH) is defined by the Magnuson-Stevens Fishery Conservation and Management Act and amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267). EFH refers to those waters and substrates necessary for spawning, breeding, feeding, or growth to maturity. Freshwater EFH for salmon consists of four major components: spawning and incubation habitat; juvenile rearing habitat; juvenile migration corridors; and adult migration corridors and adult holding habitat (Pacific Fishery Management Council 2003).

The project would not involve any work in the active channel or on the bank of the Sacramento River nor would the Project be expected to result in conditions causing entrainment or entrapment of fish above current conditions; thus, no direct impacts to the fish species listed above are anticipated. Potential indirect impacts to these species related to sediment and pollutant contamination of the river could occur as a result of ground-disturbing activities and operation of equipment.

Nesting Raptors

- Cooper's hawk (*Accipiter cooperii*). State species of special concern;
- western burrowing owl (*Athene cunicularia hypugaea*). State species of special concern;
- Swainson's hawk (*Buteo swainsoni*). State listed as threatened;
- white-tailed kite (*Elanus leucurus*). State fully protected;
- bald eagle (*Haliaeetus leucocephalus*). Federally threatened (delisted 2007), state listed as endangered and fully protected;
- osprey (*Pandion haliaetus*). State species of special concern.

Overstory vegetation associated with riparian habitat occurs at all seven tracts in varying proportions and provides suitable nesting habitat for the special-status raptors listed above. In the event that raptors use existing orchards for nesting habitat, orchard removal at some of the tracts could result in a significant direct impact to a nesting raptor if an orchard tree contained an active nest. The Colusa-North Tract is the only site that would require removal of native riparian trees for the full implementation of planned restoration activities. The removal of riparian trees at this site could also result in a direct impact to nesting raptors. In addition, nesting raptors could be indirectly affected by noise from tree removal activities and road construction activities at certain tracts.

Other Nesting Birds

- western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Candidate for federal listing, state listed as endangered;
- California yellow warbler (*Dendroica petechia brewsteri*). State species of special concern;
- yellow-breasted chat (*Icteria virens*). State species of special concern;
- loggerhead shrike (*Lanius ludovicianus*). State species of special concern.

Along the Sacramento River, western yellow-billed cuckoos nest in patches of dense riparian habitat larger than 50 acres that contain willows and cottonwoods (Laymon, 1989 #95). Patches of suitable nesting habitat are present within remnant riparian forests at all of the tracts except Cruise n' Tarry. All of the tracts have riparian habitat of sufficient size and composition to provide nesting habitat for California yellow warbler, yellow-breasted chat, and loggerhead shrike.

The Colusa-North Tract is the only site that would require construction of an access road. Construction of a 700-foot access road on this tract would result in the removal of an estimated one-half acre of native riparian trees for the full implementation of planned restoration activities. This is the only site where nesting birds could be subject to direct impacts resulting from the removal of a tree containing an active nest. Noise related to orchard removal and other mechanized ground-disturbing activities could indirectly affect nesting birds.

Bats

- pallid bat (*Antrozous pallidus*). State species of special concern;
- Townsend's western big-eared bat (*Corynorhinus townsendii*). State species of special concern;

Riparian vegetation occurring within the seven tracts provides varying amounts of suitable roosting habitat for the pallid bat and the Townsend's western big-eared bat. Bats could move into or out of this riparian vegetation at any time. Removal of large oak trees for the construction of the 700-foot temporary access road at the Colusa-North Tract could directly affect a maternity roost.

Table B-1. Special-Status Plant Species Potentially Occurring in the Project Area

Common Name *Scientific Name*	Status[1] (Fed/State/CNPS)	General Habitat Description	Flowering Period	Potential for Occurrence/Potential Impacts[2]
Ferris' milk-vetch *Astragalus tener* var. *ferrisiae*	-/-/1B	Meadows and seeps (vernally mesic), valley and foothill grassland (subalkaline flats); elevation 5–75 meters	April–May	**Unlikely to be present.** No alkaline soils present. **Less-than-significant impact.**
rose-mallow *Hibiscus lasiocarpus*	-/-/2	Freshwater marshes and swamps; elevation 0–120 meters	June–September	**Unlikely to be present.** Suitable aquatic habitat occurs only in the perennial oxbow lake (Boggs Bend Slough) adjacent to the Womble Tract and in the seasonal pond (inlet) at Cruise n' Tarry. There will be no direct impacts on these aquatic features. **Less-than-significant impact.**
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	-/-/2	Meadows and seeps, marshes and swamps, riparian scrub, vernal pools/alkaline; elevation 5–435 meters	May–September	**Unlikely to be present.** No alkaline soils present. **Less-than-significant impact.**
Brazilian watermeal *Wolffia brasiliensis*	-/-/2	Freshwater rivers and streams. (Sacramento River and its tributaries)	April–December	**Unlikely to be present.** Suitable aquatic habitat occurs only in the Sacramento River, the perennial oxbow lake (Boggs Bend Slough) adjacent to the Womble Tract, and the seasonal pond at Cruise n' Tarry. There will be no direct impacts on these aquatic features. **Less-than-significant impact.**

[1] Status notes:

FED = Federal
ST = State
Federal & State Codes:
E = Endangered; T = Threatened; R = Rare

CNPS = California Native Plant Society
CNPS Codes:
List 1B = Rare, Threatened or Endangered in California and elsewhere;
List 2 = Rare, Threatened or Endangered in California, but more common elsewhere

[2] The potential impacts noted in this column are a summary of the determinations made for each of the species in the table. All species for which the project was determined to have a "less than significant impact with mitigation" are discussed further in the Expanded Initial Study.

Table B-2. Special-Status Wildlife Species Potentially Occurring in the Project Area

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Potential for Occurrence/Potential Impacts[2]
Federal or State Listed Species			
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/--	Elderberry shrubs associated with riparian forests that occur along rivers and streams.	**May be present.** Elderberry shrubs are present on or adjacent to all project sites. Protocol-level VELB surveys have not been conducted within the project sites. **Less-than-significant impact with mitigation.**
green sturgeon, southern distinct population segment *Acipenser medirostris*	T/SC	Spawn in Sacramento and Feather rivers; juveniles are thought to rear mainly in the estuary. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock. Spawn in the mainstem Sacramento River when temperatures range between 46-60 °F.	**Present**. Known to occur in the Sacramento River throughout all accessible reaches upstream at least to Anderson-Cottonwood Irrigation District dam near Redding, California. **Less-than-significant impact.**
steelhead, California Central Valley distinct population segment *Oncorhynchus mykiss* Critical Habitat	T/--	Spawn and rear in freshwater rivers and streams. (Sacramento and San Joaquin rivers and their tributaries)	**Present**. Occur in the mainstem Sacramento River and tributary streams. Adults migrate upstream during the fall/winter and spawn from winter to early spring. Juveniles rear in natal areas for 1-2 years before migrating to the ocean. Suitable spawning and rearing habitat exists in the Sacramento River. **Less-than-significant impact.**
Central Valley spring-run evolutionarily significant unit Chinook salmon *Oncorhynchus tshawytscha* Critical Habitat Essential Fish Habitat	T/T	Freshwater rivers and streams. (Sacramento River and its tributaries)	**Present.** Occur in the mainstem Sacramento River and its major perennial tributary streams. Adults migrate upstream during the spring and spawn from mid-August to mid-October. Suitable spawning and rearing habitat exists in the Sacramento River. **Less-than-significant impact.**
Sacramento River winter-run evolutionarily significant unit Chinook salmon *Oncorhynchus tshawytscha* Critical Habitat Essential Fish Habitat	E/E	Freshwater rivers and streams. (Sacramento River and its tributaries)	**Present**. Occur in the mainstem Sacramento River. Adults migrate upstream during the winter and spawn from mid-April to August. Suitable spawning and rearing habitat exists in the Sacramento River. **Less-than-significant impact.**

Table B-2. Special-Status Wildlife Species Potentially Occurring in the Project Area

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Potential for Occurrence/Potential Impacts[2]
California red-legged frog *Rana aurora draytonii*	T/SC	Requires aquatic habitat for breeding, also uses a variety of other habitat types including riparian and upland areas. Adults use dense, shrubby or emergent vegetation associated with deep-water pools with fringes of cattails and dense stands of overhanging vegetation.	**Unlikely to be present.** Boggs Bend Slough is an oxbow lake (perennial pond) adjacent to Womble and Jensen tracts that supports fresh emergent wetland. The slough is a public fishing spot and is known to support warm water fish species and bull frogs, which are predators of California red-legged frog. The abandoned marina at Cruise n' Tarry is a much smaller pond and is seasonal. Neither of these aquatic features provide suitable habitat for California red-legged frog and the nearest CNDDB occurrence is more than 25 miles away. No project activities will occur in either of these aquatic features. **Less-than-significant impact.**
giant garter snake *Thamnophis gigas*	T/T	Freshwater marshes and low-gradient streams with emergent vegetation; adapted to drainage canals and irrigation ditches with mud substrate.	**Unlikely to be present.** High winter flows within flood control levees makes project habitat unsuitable. Giant garter snake requires year-round habitat suitability**.** **Less-than-significant impact.**
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	C/--	Nesting habitat is cottonwood/willow riparian forest. Occurs only along the upper Sacramento Valley portion of the Sacramento River, the Feather River in Sutter Co., the south fork of the Kern River in Kern Co., and along the Santa Ana, Amargosa, and lower Colorado rivers	**May be present**. Known to occur as breeders in the region in late spring and early summer. **Less-than-significant impact with mitigation.**
willow flycatcher *Empidonax traillii*	--/E	Wet meadow and montane riparian habitats; dense willow thickets required for nesting and roosting.	**Absent as breeder**. Rare migrant in spring and summer. **Less-than-significant impact.**
bald eagle *Haliaeetus leucocephalus*	T/E	Forages on live and dead fish and nests in large trees or snags. Requires large bodies of water, including ocean shorelines, lake margins, and large, open river courses for foraging, nesting, and wintering habitat.	**Present**. Incidental observations of eagles foraging over the project area. No nests reported or observed on the site. **Less-than-significant impact with mitigation.**
bank swallow *Riparia riparia*	--/T	Colonial nester on vertical banks or cliffs with fine-textured soils near water.	**May be present**. Known to occur in the region in spring and summer. Nesting habitat is outside of the project area. Forages in both riparian and agricultural habitats. **Less-than-significant impact.**
Other Special-Status Species			
river lamprey *Lampetra ayresii*	--/SC	The biology of river lampreys has not been studied in California, general habitat and life history thought to be similar to Pacific lamprey.	**Present**. Occur in the mainstem Sacramento River and tributary streams. **Less-than-significant impact with mitigation.**

Table B-2. Special-Status Wildlife Species Potentially Occurring in the Project Area

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Potential for Occurrence/Potential Impacts[2]
hardhead *Mylopharodon conocephalus*	--/SC	Quiet deep pools of large, warm, clear streams over rocks or sand.	**Present**. Occur in the mainstem Sacramento River and tributary streams. **Less-than-significant impact.**
Central Valley fall/late-fall run evolutionarily significant unit Chinook salmon *Oncorhynchus tshawytscha* Essential Fish Habitat	--/SC	Freshwater rivers and streams. (Sacramento and San Joaquin rivers and their tributaries)	**Present**. Occur in the mainstem Sacramento River and tributary streams. Adults migrate upstream during the fall and spawn from mid-October to February. Suitable spawning and rearing habitat exists in the Sacramento River. **Less-than-significant impact.**
Sacramento splittail *Pogonichthys macrolepidoptus*	--/SC	Shallow, dead-end sloughs with submerged vegetation.	**Present**. Occur in the mainstem Sacramento River and tributary streams. Adults migrate upstream during the fall and spawn from mid-October to February. Suitable spawning and rearing habitat exists in the Sacramento River. **Less-than-significant impact.**
northwestern pond turtle *Actinemys marmorata marmorata*	--/SC	Slow water aquatic habitat with available basking sites. Hatchlings require shallow water with dense submergent or short emergent vegetation. Require an upland oviposition site in the vicinity of the aquatic site	**May be present**. No work is planned to occur in Boggs Bend Slough, adjacent to the Womble tract, nor in the seasonal pond at Cruise n' Tarry. Any potential impact would be indirect. **Less-than-significant impact.**
western burrowing owl *Athene cunicularia hypugaea*	--/SC	Open habitats, dry grasslands and ruderal habitats with ground squirrel burrows.	**May be present**. Suitable breeding and foraging habitat occurs in the project area. **Less-than-significant impact with mitigation.**
sharp-shinned hawk *Accipiter striatus*	--/SC	Typically nests in dense conifer stands near water, winters in woodlands. Forages in many habitats in winter and migration.	**Absent as breeder**. Species does not breed in project area but may occur as a migrant. **Less-than-significant impact.**
Cooper's hawk *Accipiter cooperi*	--/SC	Nests in woodlands, forages in many habitats in winter and migration.	**May be present**. Suitable breeding and foraging habitat occurs in and adjacent to the project area. **Less-than-significant impact with mitigation.**
short-eared owl *Asio flammeus*	--/SC	Nests on the ground and occurs in open country, including grasslands, wet meadows, and cleared forests.	**Absent as breeder**. Species does not breed in project area but may occur as a migrant. **Less-than-significant impact.**
long-eared owl *Asio otus*	--/SC	Requires wooded areas for roosting and breeding and often frequents riparian habitats. Forages in open habitats, primarily for small rodents	**Absent as breeder**. Species does not breed in project area but may occur as a migrant. **Less-than-significant impact.**
ferruginous hawk *Buteo regalis*	--/SC	Forages in grasslands and occasionally in other open habitats during migration and winter.	**Absent as breeder**. Species does not breed in project area but may occur as a migrant. **Less-than-significant impact.**

Table B-2. Special-Status Wildlife Species Potentially Occurring in the Project Area

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Potential for Occurrence/Potential Impacts[2]
northern harrier *Circus cyaneus*	--/SC	Forages in marshes, grasslands and ruderal habitats; nests in extensive marshes and wet fields.	**Absent as breeder**. Suitable breeding habitat does not occur on the site or adjacent areas within the flood control levees. However, the species may forage in the area. **Less-than-significant impact.**
California yellow warbler *Dendroica petechia brewsteri*	--/SC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	**May be present**. Suitable breeding and foraging habitat occurs in or immediately adjacent to the project area. **Less-than-significant impact with mitigation.**
white-tailed kite *Elanus leucurus*	--/FP	Nests in lowlands with dense oak or riparian stands near open areas, forages over grassland, meadows, cropland and marshes.	**May be present**. Suitable breeding and foraging habitat occurs in or immediately adjacent to the project area. **Less-than-significant impact with mitigation.**
merlin *Falco columbarius*	--/SC	Frequents ocean shorelines, lake margins, and large, open river courses near tree stands for both nesting and wintering habitat. Does not breed in California.	**Absent as breeder**. Suitable breeding habitat does not occur on the site or surrounding area. However, the species may forage in the area. **Less-than-significant impact.**
prairie falcon *Falco mexicanus*	--/SC	Occurs in open habitats such as grasslands, desert scrub, rangelands and croplands. Nests on open cliffs.	**Absent as breeder**. Species does not breed in project area but may occur as a migrant. **Less-than-significant impact.**
American peregrine falcon *Falco peregrinus anatum*	--/E, FP	Forages in many habitats; and is most common near water. Requires cliffs for nesting.	**Absent as breeder**. Suitable breeding habitat not present. **Less-than-significant impact.**
yellow-breasted chat *Icteria virens*	--/SC	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	**May be present**. Suitable breeding and foraging habitat occurs in or immediately adjacent to the project area **Less-than-significant impact with mitigation.**.
loggerhead shrike *Lanius ludovicianus*	--/SC	Prefers open habitats with scatters shrubs and trees throughout the Central Valley of California. Nests in shrubs and trees.	**May be present**. Suitable breeding and foraging habitat occurs in or immediately adjacent to the project area. **Less-than-significant impact with mitigation.**
long-billed curlew *Numenius americanus*	--/SC	Large coastal estuaries, upland herbaceous areas and croplands. Breeds in wet meadow habitat.	**Absent as breeder**. Suitable breeding habitat does not occur on the site or surrounding area. **Less-than-significant impact.**
osprey *Pandion haliaetus*	--/SC	Ocean shorelines, lake margins and large, open river courses for both nesting and wintering habitat.	**Present**. Suitable breeding and foraging habitat occurs in the project area. Nest and bird observed in snag adjacent to Womble tract. **Less-than-significant impact with mitigation.**
double-crested cormorant *Phalacrocorax auritus*	--/SC	Inland lakes; fresh, salt and estuarine waters.	**Absent as breeder**. Suitable breeding habitat does not occur on the site or surrounding area. **Less-than-significant impact.**

Table B-2. Special-Status Wildlife Species Potentially Occurring in the Project Area

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Potential for Occurrence/Potential Impacts[2]
white-faced ibis *Plegadis chihi*	--/SC	Nest in dense marsh vegetation near foraging areas in shallow water or muddy fields.	**Absent as breeder**. Suitable breeding habitat does not occur on the site or surrounding area. However, the species may forage in the area. **Less-than-significant impact.**
pallid bat *Antrozous pallidus*	--/SC	Forages over many habitats; roosts in buildings, large oaks or redwoods, rocky outcrops and rocky crevices in mines and caves, and under bridges. Roosts must protect bats from high temperatures	**May be present.** Suitable breeding and foraging habitat occurs in the project area. **Less-than-significant impact with mitigation.**
ringtail *Bassariscus astutus*	--/FP	Riparian habitats and in brush stands of most forest and shrub habitats. Nests in rock recesses, hollow trees, logs, snags, abandoned burrows or woodrat nests.	**May be present**. Suitable breeding and foraging habitat occurs in the project area. Ringtails are nocturnal and do not occupy denning areas for more than a few days at a time. **Less-than-significant impact.**
Townsend's western big-eared bat *Corynorhinus townsendii*	--/SC	Roosts in colonies in caves, mines, tunnels, or buildings in mesic habitats. The species forages along habitat edges, gleaning insects from bushes and trees. Habitat must include appropriate roosting, maternity and hibernacula sites free from disturbance by humans.	**May be present.** Suitable breeding and foraging habitat occurs in the project area. **Less-than-significant impact with mitigation.**
American badger *Taxidea taxus*	--SC	Herbaceous, shrub, and open stages of most habitats with dry, friable soils.	**Unlikely to be present.** Suitable breeding and foraging habitat does not occur in the project area. **Less-than-significant impact.**

[1] Federal and State Status Codes: E = Endangered; T = Threatened; SC = Species of Special Concern; FP = Fully Protected

[2] The potential impacts noted in this column are a summary of the determinations made for each of the species in the table. All species for which the project was determined to have a "less than significant impact with mitigation" are discussed further in the Expanded Initial Study.