

## **APPENDIX I**

### **Special Status Wildlife Species with Potential to Occur within the Biological Study Area**

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**Table 6: Listed and Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the BSA.**

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
<b>Federal or State Endangered, Rare, or Threatened Species</b>					
Lange's metalmark butterfly	<i>Apodemia mormo langei</i>	FE	Sand dunes; closely associated with naked buckwheat ( <i>Eriogonum nudum</i> ).	A	Suitable habitat is not present and the BSA is outside the species' known range.
Callippe silverspot butterfly	<i>Speyeria zerene myrtleae</i>	FE	Grasslands; closely associated with <i>Viola pedunculata</i> .	A	Species is not expected to breed in the BSA as botanical surveys (CCCI 2012a) did not identify any <i>Viola pedunculata</i> , the larval host plant.
Myrtle's silverspot butterfly	<i>Speyeria zerene myrtleae</i>	FE	Coastal dune or prairie habitat; closely associated with violets ( <i>Viola</i> spp.).	A	Botanical surveys (CCCI 2012a) did not identify any violets, the larval host plant, in the BSA and the BSA is outside the species' known range.
Conservancy fairy shrimp	<i>Branchinecta conservation</i>	FE	Highly turbid, large vernal pools.	HP/SA	Wet-season and dry-season sampling of potentially suitable seasonal wetlands in the BSA detected no conservancy fairy shrimp (CCCI 2013a and b).
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	Grass or mud-bottomed swales in grasslands on old alluvial soils underlain by hardpan.	HP/SA	Wet-season and dry-season sampling of potentially suitable seasonal wetlands in the BSA detected no vernal pool tadpole shrimp (CCCI 2013a and b).
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	Vernal pool crustaceans live in vernal pools, swales, and ephemeral freshwater habitats. None are known to occur in riverine waters or marine waters.	HP/SA	Wet-season and dry-season sampling of potentially suitable seasonal wetlands in the BSA detected no vernal pool fairy shrimp (CCCI 2013a and b).
California freshwater shrimp	<i>Syncaris pacifica</i>	FE	Low elevation, perennial freshwater streams within Marin, Sonoma, and Napa counties.	A	BSA is not within the species' known range.

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT	Elderberry trees in the Central Valley.	HP	Suitable habitat (i.e., elderberry shrubs) is present in the BSA (CCCI 2012a) and the species has been documented approximately 0.05 mi north of the BSA (CNDDDB 2014).
Central Valley spring-run Chinook salmon	<i>Oncorhynchus tshawytscha</i>	FT, ST	Spawn and rear in main-stem Sacramento River and suitable perennial tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat. Spawn in riffles with gravel and cobble substrate.	A	BSA is not within the species' known distribution.
Winter-run Chinook salmon	<i>Oncorhynchus tshawytscha</i>	FE, SE	Cool streams that reach the ocean and that have shallow, partly shaded pools and clear-water sandstone depression pools.	A	BSA is not within the species' known distribution.
Central Valley steelhead	<i>Oncorhynchus mykiss</i>	FT	Spawns in cool, moderately fast flowing water with gravel bottom.	HP	The Central Valley steelhead range overlaps the northeastern-most portion of the BSA (i.e., Ulatis and Alamo Creeks), and a winter steelhead distribution map produced by the CDFW (2014) indicates that anadromous steelhead were observed in 2004 in Alamo Creek and Ulatis Creek.

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
Central California Coast steelhead	<i>Oncorhynchus mykiss</i>	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	HP	The Central California Coast steelhead range overlaps all but the northeastern-most portion of the BSA, and a winter steelhead distribution map produced by the CDFW (2014) indicates that anadromous steelhead were observed in 2004 in Jameson Canyon Creek, Green Valley Creek, and Suisun Valley Creek. Leidy, reports steelhead being observed in Green Valley Creek and Suisun Valley Creek, with observations being made at several locations upstream of I-80 on Green Valley Creek (Leidy et al. 2005, LSA Associates 2008).
Central California Coast coho salmon	<i>Oncorhynchus kisutch</i>	FE, SE	Open ocean, estuaries, and rivers.	A	BSA is not within the species' known range.
Green sturgeon	<i>Acipenser medirostris</i>	FT, CSSC	This DPS includes green sturgeon that spawn in rivers south of the Eel River. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	A	Suitable habitat is not present in the BSA.
Delta smelt	<i>Hypomesus transpacificus</i>	FT, ST	Brackish water habitats along coast, fairly still but not stagnant water and high oxygen levels.	A	Suitable habitat is not present in the BSA.
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE, CSSC	Brackish water habitats along coast, fairly still but not stagnant water and high oxygen levels.	A	Suitable habitat is not present in the BSA.

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
California tiger salamander	<i>Ambystoma californiense</i>	FT, SE	Vernal or temporary pools in annual grasslands or open woodlands.	A	No suitable aquatic breeding habitat is present in the BSA (CCCI 2013d), and the BSA is not within the species' known distribution; nearest known record is located approximately 3.5 mi to the east (CNDDDB 2014).
California red-legged frog	<i>Rana draytonii</i>	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	P	Suitable habitat is present, and an individual was observed during protocol-level red-legged frog surveys of the BSA (CCCI 2012c). Extreme southwest end of BSA is located immediately adjacent to critical habitat (i.e., units Sol-1 and Sol-3).
Alameda whipsnake	<i>Masticophis lateralis euryxanthus</i>	FT, ST	Primarily associated with scrub and chaparral. Also may occur in any inner Coast Range plant community.	A	BSA is outside the species' known range.
Giant garter snake	<i>Thamnophis gigas</i>	FT, ST	Freshwater marshes and low gradient streams with emergent vegetation; adapted to drainage canals and irrigation ditches with mud substrate.	A	BSA is outside the species' known range. Although the southern portion of the BSA is near the limits of the species' range, no suitable habitat (perennial marsh or slough) that is connected hydrologically to giant garter snake populations is present in the BSA.
California least tern	<i>Sterna antillarum browni</i>	FE, SE, SP	Nests along the coast on bare or sparsely vegetated, flat substrates. In S.F. Bay, nests in salt pannes and on an old airport runway. Forages for fish in open waters.	A	Suitable habitat is not present in the BSA.

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE, SE, SP	Salt marsh habitat dominated by pickleweed and cordgrass.	A	Suitable marsh habitat is not present in the BSA; nearest record is located approximately 3.3 mi to the southeast (CNDDDB 2014).
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT, CSSC	Sandy beaches on marine and estuarine shores and salt pans in San Francisco Bay saline managed ponds.	A	Species is rare in Solano County (no CNDDDB records are present [CNNDDB 2014]) and suitable habitat is not present in the BSA.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	ST	Coastal and inland marsh habitat, nests primarily in pickleweed-dominated marshes.	A	Suitable marsh habitat is not present in the BSA; nearest record is located approximately 1.8 mi to the southeast (CNDDDB 2014).
Swainson's hawk	<i>Buteo swainsoni</i>	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; forages in adjacent livestock pasture, grassland, or grain fields.	P	Suitable nesting and foraging habitat is present in the BSA and the species was recorded nesting within the BSA, north of Cherry Glen Road, in 2005 and in eucalyptus trees bordering Pine Tree Creek in 1996 through 2006 (CNDDDB 20104).
Bald eagle	<i>Haliaeetus leucocephalus</i>	SE, SP	Occurs mainly along seacoasts, rivers, and lakes; nests in tall trees or on cliffs, occasionally on electrical towers. Feeds mostly on fish.	A	Species has not been recorded breeding in Solano County and no suitable nesting habitat is present in the BSA.
Northern spotted owl	<i>Strix occidentalis caurina</i>	FT	Dense, multi-layered mixed conifer, redwood, and Douglas-fir habitats with large overstory trees.	A	No suitable habitat is present and no CNDDDB records occur within 10 mi of the BSA.
Bank swallow	<i>Riparia riparia</i>	ST (nesting)	Colonial nester on vertical banks or cliffs with fine-textured soils near water.	A	Suitable habitat is not present in the BSA and the nearest recorded occurrence is located over 12 mi to the west (CNDDDB 2014).

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
Willow flycatcher	<i>Empidonax traillii</i>	SE (nesting)	Breeds locally in riparian habitats in mountains and southern deserts.	A	This species occurs as an uncommon migrant in the project vicinity. However, migrant willow flycatchers occurring in the BSA are likely from breeding populations outside the state, and, thus, would not be individuals from the state-listed California population or the federally listed subspecies <i>extimus</i> that resides in riparian habitat of southern California (Unitt 1987).
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	FE, SE, SP	Salt marsh habitat dominated by common pickleweed.	A	Suitable salt or brackish marsh habitat not present in the BSA.
<b>California Species of Special Concern</b>					
River lamprey	<i>Lampetra ayresi</i>	CSSC	Spawn in freshwater rivers and streams with juveniles found in slow-moving current, silty bottom habitats; metamorphosed juveniles migrate through estuaries to the ocean.	A	BSA is outside the species' known range (University of California Davis 2014).
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	CSSC	Shallow, dead-end sloughs with submerged vegetation and backwater slough areas in the lower delta. Prefer low-salinity, shallow water areas.	A	Suitable habitat is not present in the BSA.
Central Valley fall-run Chinook salmon	<i>Oncorhynchus tshawytscha</i>	CSSC	Spawn and rear in the main-stem Sacramento River and suitable perennial tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat. Spawn in riffles with gravel and cobble substrate.	HP	The species has been documented within several drainages that run through the BSA (LSA Associates 2008).

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
Foothill yellow-legged frog	<i>Rana boylei</i>	CSSC	Partially shaded shallow streams and riffles with a rocky substrate. Occurs in a variety of habitats in coast ranges.	A	Suitable habitat not present in the BSA.
Western pond turtle	<i>Actinemys marmorata</i>	CSSC	Permanent or nearly permanent water in a variety of habitats.	P	Suitable habitat is present in the BSA and the species was observed during surveys of the site.
Mountain plover	<i>Charadrius montanus</i>	CSSC (wintering)	Short grass habitats or their equivalents.	A	Nearest known occurrence is over 10 mi east of the BSA and high quality wintering habitat is not present.
Northern harrier	<i>Circus cyaneus</i>	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	HP	Grasslands and agricultural fields in and adjacent to the BSA provide suitable nesting and foraging habitat.
Short-eared owl	<i>Asio flammeus</i>	CSSC (nesting)	Nests on ground in tall emergent vegetation or grasses, forages over a variety of open habitats.	HP	Suitable wintering habitat is present in the BSA; however, the only known breeding population in the region occurs at the Grizzly Island Wildlife Area (Roberson 2008) and the species is not expected to breed in the BSA.
Long-eared owl	<i>Asio otus</i>	CSSC (nesting)	Riparian bottomlands with tall, dense willows and cottonwood stands (also dense live oak and California Bay along upland streams); forages primarily in adjacent open areas.	A	Suitably large areas of dense riparian habitat are not present in the BSA.
Burrowing owl	<i>Athene cunicularia</i>	CSSC	Open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	HP	Suitable habitat is present and the species was recorded within the northern-most portion of the BSA in 2005 (CNDDDB 2014).
Loggerhead shrike	<i>Lanius ludovicianus</i>	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	P	Suitable habitat is present and the species was observed during surveys of the BSA (CCCI 2014).

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
San Francisco common yellowthroat	<i>Geothlypis trichas sinuosa</i>	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	A	BSA is outside the species' known range.
Yellow warbler	<i>Setophaga petechia</i>	CSSC (nesting)	Nests in riparian woodlands.	A	BSA is outside the species' known range (Heath 2008).
Tricolored blackbird	<i>Agelaius tricolor</i>	CSSC (nesting colony)	Nests near fresh water in dense emergent vegetation.	HP	Suitable nesting and foraging habitat is present in the BSA.
Suisun song sparrow	<i>Melospiza melodia maxillaris</i>	CSSC	Nests and forages in tidal marshes in Suisun Bay.	A	Tidal marsh habitat is not present in the BSA.
Grasshopper sparrow	<i>Ammodramus savannarum</i>	CSSC (nesting)	Nests and forages in extensive open grasslands, meadows, fallow fields, and pastures.	HP	Grasslands within the BSA provide suitable nesting and foraging habitat.
Suisun shrew	<i>Sorex ornatus sinuosus</i>	CSSC	Tidal and brackish marshes along the north shore of San Pablo and Suisun bays.	A	Suitable salt or brackish marsh habitat not present in the BSA.
Pallid bat	<i>Antrozous pallidus</i>	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	HP	Eight bridges within the BSA provide suitable roosting habitat. Although no pallid bats were detected during focused surveys of these structures (CCCI 2013c), the surveys were conducted outside the maternity season.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SC, CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	P	Suitable roosting habitat is not present in the BSA; however, the species may forage over the BSA and was detected during focused bat surveys of the area (CCCI 2013c).
Western red bat	<i>Lasiurus blossevillii</i>	CSSC	Roosts in foliage in forest or woodlands, especially in or near riparian habitat.	P	Species was detected at three locations within the BSA during focused surveys for bats (CCCI 2013c).

Common Name	Scientific Name	*Status	General Habitat Description	Habitat Present/Absent	Rationale
American badger	<i>Taxidea taxus</i>	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	HP	Suitable habitat is present in the BSA and surrounding vicinity, as evidenced by the observation of a roadkill individual within the BSA during surveys of the site (2014).
<b>State Fully Protected Species</b>					
California brown pelican	<i>Pelecanus occidentalis californicus</i>	SP (nesting colony and communal roosts)	Undisturbed islands near estuarine, marine, subtidal, and marine pelagic waters.	A	Suitable habitat is not present in the BSA.
White-tailed kite	<i>Elanus leucurus</i>	SP	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	P	Suitable nesting and foraging habitat is present and the species was observed during surveys of the BSA (CCCI 2014).
American peregrine falcon	<i>Falco peregrinus anatum</i>	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	HP/SA	Suitable nesting habitat is not present in the BSA and peregrine falcons are not expected to forage in the BSA due to the proximity of I-80.
Golden eagle	<i>Aquila chrysaetos</i>	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	HP/SA	Suitable nesting habitat is not present in the BSA and golden eagles are not expected to forage in the BSA due to the proximity of I-80. Nearest CNDDB (2014) occurrence is approximately 3.4 mi to the southeast.

**Key to Table Abbreviations:** Absent [A] - no habitat present and no further work needed. Habitat Present/Species Absent [HP/SA] - site conditions consistent with suitable habitat, but for other reasons (e.g., negative focused surveys for species, level of disturbance), the species is not expected to occur. Habitat Present [HP] - habitat is, or may be present. The species may be present.

**Status:** Federal Endangered (FE); Federal Threatened (FT); Federal Candidate (FC); State Endangered (SE); State Threatened (ST); State Protected (SP); State Rare (SR); State Candidate; California Species of Special Concern (CSSC); California Native Plant Society (CNPS).

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