

ATTACHMENT 5.4-F: SPECIAL-STATUS AQUATIC WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR

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Species Name (Scientific Name)	Status ¹	Habitat	Potential for Occurrence
<i>Fish</i>			
Chinook salmon – Central Valley fall/late fall-run Evolutionarily Significant Unit (ESU) (<i>Oncorhynchus tshawytscha</i>)	SSC	This population spawns in the Sacramento and San Joaquin rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	Present Seasonally. This species spawns within the mainstem and tributaries of the Sacramento and San Joaquin rivers. Adults and juveniles must pass through the aquatic survey area in route to and from the Pacific Ocean. This species would be considered seasonally present during migratory periods.
Chinook salmon – Central Valley spring-run ESU (<i>Oncorhynchus tshawytscha</i>)	FT, ST	This species run occurs in the Feather River and the Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope, and Beegum creeks. Adults enter the Sacramento River from late March through September. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams from mid-August through early October. Juveniles migrate soon after emergence as young-of-the-year or remain in freshwater and migrate as yearlings.	Present Seasonally. This species spawns within tributaries of the Sacramento and San Joaquin rivers and must pass through the aquatic survey area in route to the Pacific Ocean. This species would be considered seasonally present during migratory periods.
Chinook salmon – Sacramento River winter-run ESU (<i>Oncorhynchus tshawytscha</i>)	FE, SE	This species run occurs in the Sacramento River below Keswick Dam. Spawns in the Sacramento River near the city of Redding, but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees Celsius for spawning. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles typically migrate to the ocean soon after emergence from the gravel.	Present Seasonally. This species spawns within the mainstem of the Sacramento River. Adults and juveniles must pass through the aquatic survey area in route to and from the Pacific Ocean. This species would be considered seasonally present.
Coho salmon – central California coast ESU (<i>Oncorhynchus kisutch</i>)	FE, SE	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	No Potential. This species is considered extirpated from San Francisco Bay and its tributaries (National Marine Fisheries Service (WRA 2023).
Delta smelt (<i>Hypomesus transpacificus</i>)	FT, SE	This species lives in the Sacramento-San Joaquin River Delta estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. They are seldom found at salinities above 10 parts per thousand (ppt) and most often found at salinities below 2 ppt.	Present Year-Round. This species has been documented to occur within Suisun Bay less than 1 mile from the aquatic survey area (WRA 2023). The aquatic survey area is also within the core sections of this species' home range, which are restricted to the Sacramento-San Joaquin River Delta; as such, the species is considered present year-round. This species has been recorded within 1 and 5 miles from the survey area based on CNDDDB records (CDFW 2023c).
Green sturgeon – southern Distinct Population Segment (DPS) (<i>Acipenser medirostris</i>)	FT, SSC	This population spawns in the Sacramento River and the Feather River at temperatures between 8 and 14 degrees Celsius. The preferred spawning substrate is large cobble but can range from clean sand to bedrock.	Present Year-Round. The aquatic survey area is at the terminus of the Sacramento River, where green sturgeon are known to spawn. This species is also known to rear within the greater San Francisco Bay region year-round. As such, the species would be considered present year-round. This species has been recorded within 0.25 mile from the survey area based on CNDDDB records (CDFW 2023c).
Longfin smelt (<i>Spirinchus thaleichthys</i>)	PE, ST, SSC	This species is Euryhaline, nektonic, and anadromous. They are found in open waters of estuaries, mostly in middle or bottom of water column. They prefer salinities of 15 to 30 parts per trillion (ppt) but can be found in completely freshwater to almost pure seawater.	Present Year-Round. This species has been documented to occur within the vicinity of the aquatic survey area, which is also located within the species' core habitat range (CDFW 2023a, 2023b). This species would be considered present year-round. This species has been recorded within 0.25 mile from the survey area based on CNDDDB records (CDFW 2023c).

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Federal listing codes:	State listing codes:
-FE: Federally listed as endangered	-SE: State-listed as endangered
-FT: Federally listed as threatened	-ST: State-listed as threatened
-PE: Proposed to be federally listed as endangered	-SSC: California Department of Fish and Wildlife (CDFW) Species of Special Concern
-PT: Proposed to be federally listed as threatened	-WL: California Watch List species
-BCC: United States (U.S.) Fish and Wildlife (USFWS) Bird of Conservation Concern	
-MMPA: Marine Mammal Protection Act	

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Pacific lamprey (<i>Entosphenus tridentatus</i>)	SSC	This species spawns between March and July in gravel-bottomed streams in riffle habitat. Their larvae drift downstream to areas of low velocity and fine substrates and are relatively immobile in the stream substrates.	Present Seasonally. This species is known to spawn and rear within tributaries of the Sacramento and San Joaquin rivers. As such, adults and juveniles must migrate through the aquatic survey area when moving to and from spawning streams and would be considered seasonally present.
River lamprey (<i>Lampetra ayresi</i>)	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles. Ammocoetes need sandy backwaters or stream edges, good water quality, and temperatures less than 25 degrees Celsius.	Present Seasonally. This species is known to spawn and rear within tributaries of the Sacramento and San Joaquin rivers. As such, adults and juveniles must migrate through the aquatic survey area when moving to and from spawning streams and would be considered seasonally present.
Sacramento perch (<i>Archoplites interruptus</i>)	SSC	(Only within native range) Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.	No Potential. This species is known to occur within sloughs and slow backwater areas. The aquatic survey area is comprised of swift waters of the Sacramento River. Such areas are too turbulent for the species. This species has been recorded within 1 and 5 miles of the survey area based on CNDDDB records (CDFW 2023c).
Sacramento splittail (<i>Pogonichthys macrolepidotus</i>)	SSC	Formerly endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento Delta, Suisun Bay, and associated marshes. Occurs in slow-moving river sections and dead-end sloughs. Requires flooded vegetation for spawning and foraging for young. A freshwater species, but tolerant of moderate salinity (10 to 18 ppt).	Present Year-Round. This species has a high potential to occur within the sloughs and marshes of Winter Island, which is adjacent to the aquatic survey area. As a result, the species could be found within the aquatic survey area year-round.
Steelhead – central California coast DPS (<i>Oncorhynchus mykiss irideus</i>)	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River, also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. This population segment is designated within watersheds that extend as far inland as the Carquinez Bridge, approximately 20 miles west of the aquatic survey area. Any steelhead present are therefore likely to be Central Valley DPS, not central California coast DPS.
Steelhead – Central Valley DPS (<i>Oncorhynchus mykiss irideus</i>)	FT	Includes all naturally spawned populations (and their progeny) in the Sacramento and San Joaquin rivers and their tributaries, excluding San Francisco and San Pablo bays and their tributaries. Preferred spawning habitat is in cool to cold perennial streams with high dissolved oxygen levels and fast-flowing water. Abundant riffle areas for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.	Present Seasonally. This species is known to spawn and rear within tributaries of the Sacramento and San Joaquin rivers. As such, adults and juveniles must migrate through the aquatic survey area when moving to and from spawning streams and would be considered seasonally present. This species has been recorded within 0.25 mile of the survey area based on CNDDDB records (CDFW 2023c).
Western brook lamprey (<i>Lampetra richardsoni</i>)	SSC	This species is found in large coastal rivers and their tributaries. Ammocoetes are typically found in slackwater areas or pools where they burrow into soft substrate. Larval stage lasts 2 to 4 years in California. Spawning takes place in riffles in the early spring.	Present Seasonally. This species is known to spawn and rear within tributaries of the Sacramento and San Joaquin rivers. As such, adults and juveniles must migrate through the aquatic survey area when moving to and from spawning streams and would be considered seasonally present.
White sturgeon (<i>Acipenser transmontanus</i>)	SSC	This species is found in most estuaries along the Pacific coast. Adults in the San Francisco Bay estuary system spawn in the Sacramento River and are not known to enter freshwater or non-tidal reaches of estuary streams. Spawning takes place from May through June.	Present Year-Round. This species is known to spawn and rear within tributaries as well as the mainstems of the Sacramento and San Joaquin rivers. Adults and juveniles also rear within these rivers year-round. As such, they are considered present year-round.
Mammals			
Pacific harbor seal (<i>Phoca vitulina richardsi</i>)	MMPA	This species is found in coastal and estuarine waters from Alaska to Baja California, Mexico. This species forages year-round within the San Francisco Bay estuary and prefers sandy beaches or rocky substrates to haul out.	Present Year-Round. This species is known to occur year-round within the vicinity of the aquatic survey area. While no haul-outs are known within the vicinity of the aquatic survey area, individual seals are commonly observed moving inland while foraging; As such, they are considered present year-round.
California sea lion (<i>Zalophus californianus</i>)	MMPA	This species is found from Vancouver Island, British Columbia to Baja California, Mexico and can be found in offshore or estuarine environments. In the San Francisco Bay estuary, this species can be found foraging year-round; they routinely venture into the freshwater habitats of the San Joaquin and Sacramento rivers in search of food. They prefer sandy beaches to haul out, but will frequently use man-made structures such as jetties, buoys, and marina docks.	Present Year-Round. This species is known to occur year-round within the vicinity of the aquatic survey area. While no haul-outs are known within the vicinity of the aquatic survey area, individual sea lions are commonly observed moving through these areas of the Sacramento and San Joaquin rivers while foraging; As such, they are considered present year-round.