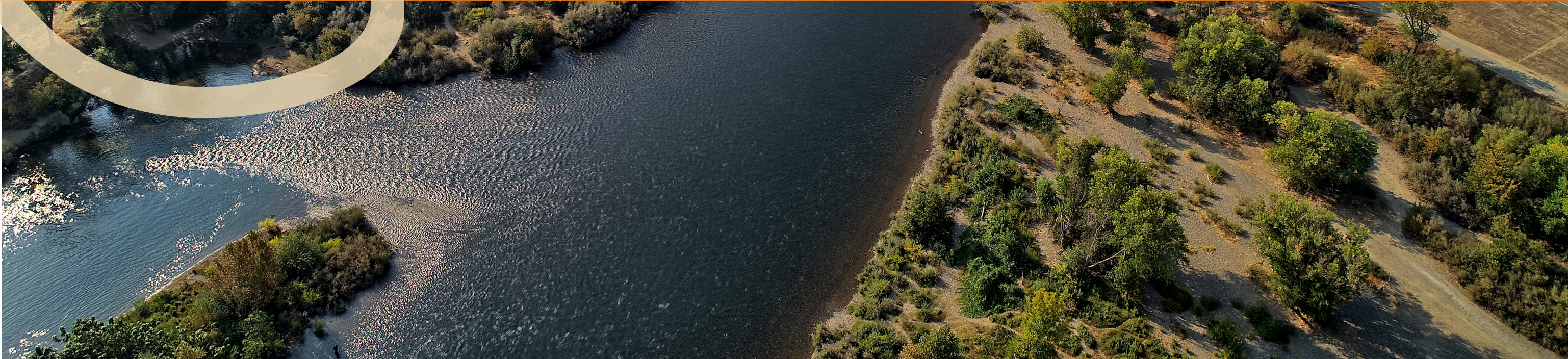




APPENDIX C






SPECIAL-STATUS AND INVASIVE SPECIES IN THE PARKWAY








APPENDIX C

SPECIAL-STATUS SPECIES IN PARKWAY




SPECIAL-STATUS SPECIES OCCURRING OR HAVING THE POTENTIAL TO OCCUR IN THE PARKWAY




Species	Image	Protection Status	Critical Habitat within Parkway?	Habitat Requirements	Documented within Parkway?	Documented and Potential for Occurrences within American River Parkway	Species Able to Reproduce within Parkway?
PLANTS							
Brandegee's clarkia (<i>Clarkia biloba</i> ssp. <i>brandegeae</i>)		CRPR 4.2	No	Brandegee's clarkia is a perennial herb that occurs in chaparral, cismontane woodland, and lower montane coniferous forest, and often in roadcuts. The species is threatened by weed control measures, non-native plants, road maintenance, fire suppression, and development. Brandegee's clarkia occurs in Sacramento County at altitudes of 75-915 m, and blooms in the months of May through July.	No	A nearby occurrence was documented in 1990 in a non-specific area within the Natoma Unit-Folsom Lake State Recreation Area. Brandegee's clarkia may occur in grassy openings in interior live oak and blue oak woodland throughout the Parkway, including Campus Commons, Howe Avenue, Watt Avenue, SARA Park, Arden Bar, River Bend Park, Sarah Court Access, Hoffman County Park, Rossmoor Bar, San Juan Bluffs, Sacramento Bar, Lower Sunrise, Sunrise Bluffs, Upper Sunrise, and Sailor Bar Area Plans.	Yes
dwarf downingia (<i>Downingia pusilla</i>)		CRPR 2B.2	No	Dwarf downingia is an annual herb that occurs in valley and foothill grassland (at mesic sites) and vernal pools along aquatic pool margins with a variety of associated native plant species. The species is threatened by urbanization, development, agriculture, grazing, non-native plants, vehicles, and industrial forestry. Dwarf downingia occurs in Sacramento County at altitudes of 1-490 m and blooms in the months of March through May.	No	There are no documented CNDDDB occurrences of this species within the Parkway. However, there is one presumed extant occurrence from 1976 in Phoenix Park located approximately 0.7 miles northeast of the Parkway. This species has potential to occur in any of the Parkway's Area Plans in areas of grasslands or vernal pools within moist, clay soil.	Yes
Pincushion navarretia (<i>Navarretia myersii</i> ssp. <i>myersii</i>)		CRPR 1B.1	No	Pincushion navarretia is an annual herb that occurs in vernal pools, in clay soils within non-native grasslands. This species is potentially threatened by development. Pincushion navarretia occurs in Sacramento County at altitudes of 45-100 m, and blooms in the months of April through May.	No	This species has potential to occur in any of the Parkway's Area Plans in areas of grasslands or vernal pools within moist, clay soil.	Yes
Sacramento Orcutt grass (<i>Orcuttia viscida</i>)		FE, SE, CRPR 1B.1	No	Sacramento Orcutt grass is an annual herb that occurs in vernal pools. This species is threatened by agriculture, urbanization, overgrazing, vehicles, and non-native plant species. Sacramento Orcutt grass occurs in Sacramento County at altitudes of 15-85 m, and blooms in the months of April through July, though blooming may last until September some years.	No	There are no documented CNDDDB occurrences of this species within the Parkway. However, there are documented occurrences immediately adjacent to the easternmost portion of the Parkway to the north, along Riva Ridge Drive and 5 others approximately 1.2 miles northeast of the easternmost portion of Parkway, within and immediately north of Mississippi Bar. There is no USFWS-designated critical habitat for this species within the Parkway, however there is an area of USFWS-designated critical habitat for this species in Phoenix Park, located approximately 1-mile northeast of the Parkway from the easternmost portion. This species has potential to occur throughout the Parkway in grasslands or vernal pools on areas of moist, clay soil.	Yes
Sanford's arrowhead (<i>Sagittaria sanfordii</i>)		CRPR 1B.2	No	Sanford's arrowhead is a perennial rhizomatous herb occurring in standing or slow-moving freshwater ponds, marshes, and ditches. The species is threatened by grazing, development, recreational activities, non-native plants, road widening, and channel alteration and maintenance. Sanford's arrowhead occurs in Sacramento County at altitudes of 0-605m, and blooms in the months of May through October..	No	Potential habitat for this species occurs within the Discovery Park, Cal Expo, SARA Park, and Ancil Hoffman Park Area Plans within freshwater emergent wetland communities, including Woodlake, Cal Expo, and Paradise Beach Area Plans.	Yes





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WILDLIFE							
INVERTEBRATES							
Invertebrates: Crustaceans							
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)		FT	No	Vernal pool fairy shrimp inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools. They are endemic to the grasslands of the Central Valley.	Yes ¹	Critical habitat for this species occurs approximately 2 miles southeast of the Parkway at its nearest point, on Mather Air Force Base. Vernal pool fairy shrimp have potential to occur in vernal pools or seasonal wetlands within the Parkway, including within Woodlake, Cal Expo, and Paradise Beach Area Plans.	Yes
California linderiella (<i>Linderiella occidentalis</i>)		*	No	California linderiella occur within vernal pools throughout California, occurring in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Typically, California linderiella are found in water with very low alkalinity, conductivity, and total dissolved solids.	Yes ¹	This species has potential to occur in seasonal wetlands or vernal pools within the Parkway, including Woodlake, Cal Expo, and Paradise Beach Area Plans.	Yes
Invertebrates: Insects							
Andrenid bee (<i>Andrena subapasta</i>)		*	No	Andrenid bees collect pollen primarily from sandwort (<i>Minuartia californica</i>), but also butter-and-eggs (<i>Triphysaria eriantha</i>) and goldfields (<i>Lasthenia</i> spp.). There is little known about this species' life history, however andrenid bees are known to be solitary ground nesters.	No	This species has potential to occur throughout the Parkway wherever preferred pollen sources may occur.	Yes
Sacramento Valley tiger beetle (<i>Cicindela hirticollis abrupta</i>)		*		Sacramento Valley tiger beetles requires fine to medium sand habitat, along terraced floodplains or low sandywater edge flats. Other important habitat features include fine sand that is damp at, or a few centimeters below, the surface, and sparse or absent vegetation. Sacramento Valley tiger beetle habitat must also not be subject to inundation for more than a few days at a time. Adults hunt mostly near the water's edge, while larvae make shallow burrows in the sand and probably relocate if moisture conditions become suboptimal (NatureServe 2019).	Yes ^{1,2}	Intensive surveys from 2001-2004 of known historic habitat yielded no observations of this subspecies and it is considered extirpated from the region (Knisley and Fenster 2005).	No
Valley elderberry longhorn beetle (VELB) (<i>Desmocerus californicus dimorphus</i>)		FT	Yes	Valley elderberry longhorn beetle occurs only in the Central Valley of California, in association with elderberry (<i>Sambucus</i> spp.). Adult beetles prefer to lay eggs in elderberries 2-8 inches in diameter, with some preference shown for "stressed" elderberries.	Yes ¹	There are documented CNDDDB occurrences in the Discovery Park, Woodlake, Cal Expo, Paradise Beach, directly adjacent to Campus Commons, Howe Avenue, SARA Park, Ancil Hoffman, Sacramento Bar, and Sailor Bar Area Plans. Critical habitat for this species occurs just north of the Woodlake reach, and within the Goethe Park, Ancil Hoffman County Park, Rossmoor Bar, and Lower Sunrise Area Plans (see Section 4.4). Valley elderberry longhorn beetle (VELB) has potential to occur wherever its host plant elderberry (<i>Sambucus</i> spp.) occurs, including Woodlake, Cal Expo, Paradise Beach, Campus Commons, Howe Avenue, SARA Park, Arden Bar, Rossmoor Bar, San Juan Bluffs, Sacramento Bar, Lower Sunrise, Sunrise Bluffs, Upper Sunrise, and Sailor Bar Area Plans.	Yes
FISH							
Fish: Anadromous							

¹ Documented occurrence in CDFW's California Natural Diversity Database, verified occurrence.

² Species considered extirpated from the region.







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Chinook Salmon – Sacramento River Winter Run Evolutionarily Significant Unit (ESU) (<i>Oncorhynchus tshawytscha</i> pop. 7)		FE, SE	No	This ESU of chinook salmon includes all naturally spawned populations of winter-run Chinook salmon in the Sacramento River and its tributaries in California, as well as two conservation programs maintained at the Livingston-Stone National Fish Hatchery. Chinook salmon hatch in freshwater streams and rivers then migrate out to the ocean to feed and grow. Juvenile salmon spend a few years feeding in the ocean and maturing into adults before they return to their natal streams or rivers to spawn. Adult chinook salmon dig out gravel nests (redds) on stream bottoms where they lay their eggs and die after spawning. Juveniles then feed on terrestrial and aquatic insects, amphipods, and other crustaceans, while adults primarily feed on other fish.	No	The winter-run ESU currently consists of only one population that is confined to the upper Sacramento River (spawning downstream of Shasta and Keswick dams) in California's Central Valley. In addition, an artificial propagation program at the Livingston Stone National Fish Hatchery (approximately 150 miles northwest of the westernmost portion of Parkway) produces winter-run salmon that are considered to be part of this ESU (June 28, 2005, 70 FR 37160; NOAA 2005). Most components of the winter-run life history (e.g., spawning, incubation, freshwater rearing) have been compromised by the habitat blockage in the upper Sacramento River (USFWS 2015). Designated critical habitat for this species is outside of the Parkway limits in the Sacramento River immediately downstream of the confluence of the Sacramento and American Rivers. Individuals may occasionally enter waters within the American River and within the Parkway during spawning migrations.	No
Chinook Salmon – Central Valley Spring-Run ESU (<i>Oncorhynchus tshawytscha</i> pop. 6 and Designated Critical Habitat)		FT, ST	Yes	This ESU of chinook salmon includes naturally spawned spring-run Chinook salmon originating from the Sacramento River and its tributaries, as well as spring-run Chinook salmon from the Feather River Hatchery Spring-run Chinook Program. Chinook salmon hatch in freshwater streams and rivers then migrate out to the ocean to feed and grow. Juvenile salmon spend a few years feeding in the ocean and maturing into adults before they return to their natal streams or rivers to spawn. Adult chinook salmon dig out gravel nests (redds) on stream bottoms where they lay their eggs and die after spawning. Juveniles then feed on terrestrial and aquatic insects, amphipods, and other crustaceans, while adults primarily feed on other fish.	No	Critical habitat for this ESU extends west to east through the American River from its confluence with the Sacramento River to the Watt Avenue overpass. Chinook are unlikely to spawn within the Parkway due to the Nimbus Dam blocking fish passage, however smolts and adults may utilize the Parkway for rearing and foraging.	No
Chinook Salmon – Central Valley Fall-Run and Late-Fall Run ESUs (<i>Oncorhynchus tshawytscha</i> pop. 13)		SSC, NMFS-SC	No	The Central Valley fall/late fall-run ESU refers to populations spawning in the Sacramento and San Joaquin Rivers and their tributaries, while the SSC designation refers only to the fall-run. Chinook salmon hatch in freshwater streams and rivers then migrate out to the ocean to feed and grow. Juvenile salmon spend a few years feeding in the ocean and maturing into adults before they return to their natal streams or rivers to spawn. Adult chinook salmon dig out gravel nests (redds) on stream bottoms where they lay their eggs and die after spawning. Juveniles then feed on terrestrial and aquatic insects, amphipods, and other crustaceans, while adults primarily feed on other fish.	No	The extant range of both the fall-run and late-fall run Central Valley ESUs extends west to east through the American River from its confluence with the Sacramento River, stopping at the Sunrise Blvd overpass. Chinook are unlikely to spawn within the Parkway due to the Nimbus Dam blocking fish passage, however smolts and adults may utilize the Parkway for rearing and foraging.	No

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Steelhead - Central Valley Distinct Population Segment (DPS) (<i>Oncorhynchus mykiss irideus</i> pop. 11 and Designated Critical Habitat)		FT	Yes	<p>This DPS of steelhead includes all populations of steelhead populations in the Sacramento and San Joaquin rivers and their tributaries.</p> <p>Adult steelhead migrate from the ocean into streams in the late fall, winter, or early spring seeking out deep pools within fast moving water to rest prior to spawning. Steelhead spawn in shallow-water gravel beds.</p> <p>Freshwater spawning sites are those with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development. Most of the available spawning habitat for steelhead in the Central Valley is located in areas directly downstream of dams due to inaccessibility to historical spawning areas upstream and the fact that dams are typically built at high gradient locations.</p> <p>Freshwater rearing sites are those with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and survival; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging LWM, log jams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks. Both spawning areas and migratory corridors comprise rearing habitat for juveniles, which feed and grow before and during their outmigration. Non-natal, intermittent tributaries also may be used for juvenile rearing. Rearing habitat condition is strongly affected by habitat complexity, food supply, and the presence of predators of juvenile salmonids (USFWS 2015)</p>	Yes ¹	<p>USFWS (2015) reports that the Central Valley DPS are persisting ubiquitously throughout their range, in low and declining numbers. Steelhead may be found throughout the Parkway.</p> <p>Critical habitat for the Central Valley DPS extends throughout the entirety of the Parkway from its confluence with the Sacramento River on the west to its terminus at the Hazel Ave overpass, ending at the Nimbus Dam (which serves as an impassable barrier to steelhead).</p>	No
Green sturgeon – (<i>Acipenser medirostris</i> Southern DPS and Designated Critical Habitat)		FT, SSC, NMFS-SC	Yes	<p>Fish that spawn in the Sacramento, Feather, and Yuba River in California belong to the federally threatened southern DPS (sDPS). During spawning runs, adult sDPS fish enter San Francisco Bay between mid-February and early May and migrate rapidly up the Sacramento River.</p> <p>Green sturgeon spawning occurs in cool sections of the upper Sacramento River, with deep, turbulent flows, and clean hard substrate. In fall, these post spawn adults move back down the river and re-enter the ocean. After hatching, green sturgeon larvae and juveniles migrate downstream toward the Sacramento-San Joaquin Delta and estuary. After rearing in the delta and estuary for several years, this species migrate to the ocean to continue growing to reproductive maturity.</p>	No	<p>The extant range of green sturgeon extends west to east within the American River from its confluence with the Sacramento River, to the Sunrise Blvd overpass (UC Davis 2019). Critical habitat for green sturgeon extends west to east within the American River from its confluence with the Sacramento River to the North Sacramento Freeway/Lincoln Highway overpass (NOAA Fisheries 2019).</p> <p>Adult green sturgeon migrate through the American River to reach upstream spawning habitat. Early larval drift and rearing is also likely to occur upstream within the extant range, near spawning sites (USFWS 2015). Adults may spawn and juvenile nurseries may occur in reaches of the American River where water is free of sedimentation and temperatures are moderately cool.</p>	Yes
White sturgeon (<i>Acipenser transmontanus</i>)		SSC	No	<p>White sturgeon can be found in salt water from the Gulf of Alaska south to Ensenada, Mexico. However, spawning only occurs in a few large rivers from the Sacramento-San Joaquin system northward. Self-sustaining spawning populations are currently only known in the Fraser (British Columbia), Columbia (Washington), and Sacramento Rivers (UC Davis 2019).</p> <p>White sturgeon primarily live in the estuaries of large rivers but migrate to spawn in fresh water and complete long ocean migrations between river systems and commonly aggregate in deep, soft-bottomed brackish estuarine habitats, where they move in response to changes in salinity (Kohlhorst <i>et al</i> 1991, UC Davis 2019). Adults respond to</p>	No	<p>The extant range of white sturgeon extends throughout the Parkway. Adults may spawn and juvenile nurseries may occur in reaches of the American River where water is free of sedimentation and temperatures are moderately cool.</p>	Yes

Species	Image	Protection Status	Critical Habitat within Parkway?	Habitat Requirements	Documented within Parkway?	Documented and Potential for Occurrences within American River Parkway	Species Able to Reproduce within Parkway?
				increases in flow to initiate spawning from late February to early June. Spawning takes place at temperatures ranging from 8 to 19°C, peaking in temperatures around 14°C (McCabe and Tracy 1994). Successful incubation requires stream substrates with minimum amounts of sand and silt because siltation of stream sediments may smother embryos.			
Pacific lamprey (<i>Entosphenus tridentate</i>)		SSC	No	Adult Pacific lamprey require cold, clear water (similar to habitat requirements for salmonids) for spawning and incubation. Adults will build nests in graveled areas and hatched ammocoetes (young) utilize soft sedimented substrates to begin rearing, moving to larger grain sized sedimented areas as they mature. Ammocoetes also require slow to moderately flowing water velocities for capturing algal detritus for food. (UC Davis 2019)	No	The extant range of Pacific lamprey extends throughout the entirety of the Parkway (UC Davis 2019). Adults may utilize any clear, cool waters with gravel substrates within the American River for spawning, while ammocoetes may utilize any silt substrates with slower flows for rearing.	Yes
River lamprey (<i>Lampetra ayersi</i>)		SSC	No	Habitat requirements of spawning adult river lamprey and their ammocoetes have not been studied in California. Based on species accounts in British Columbia, adults require clean, gravelly riffles in permanent streams for spawning, while ammocoetes require sandy to silty backwaters or stream edges in which to bury themselves, where water quality is continuously high and temperatures do not exceed 25°C. (UC Davis 2019).	No	The extant range of river lamprey does not include the American River (UC Davis 2019); however, adults may still migrate upstream until the Nimbus Dam northeast of the Parkway. Adults may utilize any clear, cool waters with gravel substrates within the American River for spawning, while ammocoetes may utilize any silt substrates with slower flows for rearing.	Yes
Fish: Freshwater Only							
Sacramento splittail (<i>Pogonichthys macrolepidotus</i>)		SSC		Sacramento splittail occur in slow moving river sections and dead end sloughs, where they require flooded vegetation for spawning and foraging for young.	Yes ¹	This species has been observed east of the confluence of the American River and the Sacramento River upstream through the Sacramento Bar and Lower Sunrise reaches of the Parkway, and as far upstream as the Sunrise Blvd. Bridge. This species may use any slow-moving reaches of the Parkway for both spawning and foraging.	Yes
Sacramento perch (<i>Archoplites interruptus</i>)		SSC	No	The native range of the Sacramento perch was limited to the Sacramento–San Joaquin River watershed, the Pajaro and Salinas River drainages, Clear Lake (Lake County), and Alameda and Coyote creeks. No known populations of Sacramento perch remain in the species' native range, although the dates of population extirpations are generally unknown due to a lack of routine surveys for this species. (Schwartz and May 2008) Their historic habitats were sloughs, slow-moving rivers, and large lakes, including floodplain lakes. Spawning is initiated when water temperatures reach 18 to 28 °C from the end of March through as late as October. Males set up territories in littoral areas usually associated with aquatic vegetation (Crain and Moyle 2011).	No ³	This species is likely extinct according to academic reports (Crain and Moyle 2011, UC Davis 2019).	No
REPTILES							








³ Species considered likely extinct.







Species	Image	Protection Status	Critical Habitat within Parkway?	Habitat Requirements	Documented within Parkway?	Documented and Potential for Occurrences within American River Parkway	Species Able to Reproduce within Parkway?
Western pond turtle (<i>Actinemys marmorata</i>)		SSC	No	Western pond turtles require permanent or nearly permanent bodies of water including ponds, marshes, rivers, streams, and irrigation ditches below 6,000 feet in elevation. The species also requires basking sites, such as submerged rocks, logs, open mud banks, or floating vegetation mats. Adult western pond turtles require basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	Yes ¹	There are CNDDDB documented occurrences within the Ancil Hoffman County Park and Upper Sunrise Area Plans. However, this species has potential to occur through all reaches of the American River, especially where water is slow-moving and provides basking sites.	Yes
Giant gartersnake (<i>Thamnophis gigas</i>)		FT, ST	No	Giant gartersnake utilizes marsh, swamp, riparian scrub, and wetlands. Giant gartersnakes prefer freshwater marsh and low gradient streams but has adapted to drainage canals and irrigation ditches.	No	All nearby documented CNDDDB occurrences of giant gartersnake are localized to an agricultural region approximately 2-5 miles northwest of the Discovery Park Area Plan. This species is unlikely to occur within the Parkway due to the fast velocity of the main channel of the American River and the heavy urbanization bounding canal systems that are confluent with the Parkway; however, it may occasionally occur in slow-moving sections and backwaters.	No
AMPHIBIANS							
Western spadefoot (<i>Spea hammondi</i>)		SSC	No	Western spadefoot occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Adults require vernal pools for breeding and egg-laying.	No	There is one documented occurrence of this species from 1978 to the northwest of the Parkway located in Phoenix Park, Phoenix Field, Fair Oaks; approximately 0.3 m southeast of the intersection between Sunset Avenue and Hazel Avenue. This species has potential to occur within the Parkway in grassland or near vernal pool habitat within any of the Parkway Area Plans.	Yes
BIRDS							
Birds: Raptors							
Cooper's hawk (nesting) (<i>Accipiter cooperii</i>)		WL	No	Cooper's hawks occur throughout California in woodlands, chiefly of open, interrupted or marginal types. Adults nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	Yes ¹	There is one documented CNDDDB occurrence within the Discovery Park Area Plan and confirmed nesting (via Central Valley Bird Club 2019) near the Cal Expo, Paradise Beach, Campus Commons, Howe Avenue, Arden Bar, Goethe Park, Sara Court Access, Ancil Hoffman County Park, Rossmoor Bar, San Juan Bluffs, and Sacramento Bar Area Plans as well as possible nesting within SARA Park. This species has potential to nest in mature trees throughout the Parkway.	Yes
Burrowing owl (burrowing sites and some wintering sites) (<i>Athene cunicularia</i>)		SSC	No	Burrowing owl populations in the northern Central Valley and northern California are more likely to be seasonal breeding populations, however individuals have been known to winter in parts of northern California as well. Burrowing owls typically occur in coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran Desert scrub, and valley and foothill grassland habitats. They are more likely to be documented in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Adult burrowing owls are subterranean nesters, dependent upon burrowing mammals, most notably the California ground squirrel.	No	There are no documented CNDDDB occurrences within the Parkway; however, there are several documented CNDDDB occurrences within close proximity to the Parkway, both to the north and south. This species has potential to occur anywhere annual grassland vegetation is low to the ground and California ground squirrels (<i>Otospermophilus beecheyi</i>) have constructed significant burrow systems.	Yes

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Swainson's hawk (nesting) <i>Buteo swainsoni</i>		ST, BCC	No	Swainson's hawks breed in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. The species requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Yes ⁴	There are documented CNDDDB occurrences within the Discovery Park, Woodlake, Paradise Beach, Howe Avenue, and Ancil Hoffman County Park Area Plans. This species likely forages throughout the Parkway and may utilize several Area Plans for nesting, especially those with mature or nearby mature trees.	Yes
Northern harrier (nesting) <i>Circus hudsonius</i> (Formerly considered conspecific with <i>Circus cyaneus</i> , but treated as separate on the basis of differences in morphology, plumage, and breeding habitat)		SSC	No	Northern harriers are found in coastal scrub, grassland, marsh and swamp, riparian scrub, valley and foothill grassland, and wetland habitats, and are likely to inhabit freshwater marshes. Adults nest and forage in grasslands, placing nests on ground in shrubby vegetation, usually at the marsh edge, and building nests of a large mound of sticks in wet areas.	No	This species may nest within the Discovery Park, Woodlake, Cal Expo, SARA Park, and Arden Bar Area Plans, particularly on the periphery of wetlands within large open areas.	Yes
White-tailed kite <i>Elanus leucurus</i>		FP	No	White-tailed kites are typically found in cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetland habitats. The species is also more likely in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Adults require open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. In the Sacramento Valley, populations have predominantly increased in irrigated agricultural areas where the California vole (<i>Microtus californicus</i>) often occurs.	Yes ⁴	There are documented CNDDDB occurrences within the Woodlake, Cal Expo, Paradise Beach, SARA Park, Goethe Park, Ancil Hoffman County Park, Rossmoor Bar, Sacramento Bar, and Sailor Bar Area Plans of the Parkway. However, this species likely forages and nests throughout the Parkway, especially in areas of well-protected mature trees.	Yes
Peregrine falcon <i>Falco peregrinus</i>		FP, BCC, CDF-S	No	Peregrine falcons utilize scrapes or shallow indentations high a cliff side, or tall human-made structures for perching and nesting. Adults will occasionally use old nests of other birds, such as ravens. Peregrine falcons typically prey on small to medium sized birds, small reptiles, small mammals and occasionally bats. (CDFW 2019) In California, breeding habitats include a variety of locations from cliffs in uninhabited areas to tall buildings or bridges within the urban landscape.	Yes ⁴	The Central Valley Bird Club (2019) noted possible peregrine falcon nesting near the Discovery Park and Cal Expo Area Plans within the Parkway. There is confirmed peregrine falcon nesting in the Club's survey quad immediately adjacent to the south, approximately 2.5 miles south of the Discovery Park Area Plan. Peregrine falcons may nest in areas of the Parkway with high altitude nesting platforms, including bluffs, and may forage throughout the Parkway.	Yes
Bald eagle <i>Haliaeetus leucocephalus</i>		SE, FP, BCC, CDF-S	No	Bald eagles require large bodies of water, or free-flowing rivers with abundant fish adjacent snags or other perches. Adults nest in large, old-growth, or dominant live tree with open branchwork. Bald eagle nesting habitat is mainly in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers.	Yes ⁴	The Central Valley Bird Club (2019) has documented bald eagle nesting near the Sunrise Bluffs, Upper Sunrise, and Sailor Bar Area Plans within the Parkway. Bald eagles have potential to nest and forage throughout the Parkway, particularly near stands of mature trees.	Yes
Osprey <i>Pandion haliaetus</i>		WL, CDF-S	No	Osprey are associated strictly with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitats.	Yes ⁴	The Central Valley Bird Club (2019) has recorded "probable" osprey nesting near the Ancil Hoffman County Park, Rossmoor Bar, San Juan Bluffs, Sacramento Bar, and Lower Sunrise Area Plans within Parkway. Osprey may nest and fish throughout Parkway, particularly in mature trees with ample foliage for nest platforms.	Yes




Birds: Passerines

⁴ Documented occurrence by the Central Valley Bird Club (2019), verified occurrence.

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Loggerhead shrike (<i>Lanius ludovicianus</i>)		SSC, BCC	No	Loggerhead shrikes occur in broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. This species prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	No	This species may forage throughout the Parkway, and also has potential to nest in shrubby habitats within the Cal Expo, Paradise Beach, Campus Commons, Arden Bar, Goethe Park, Ancil Hoffman Park, Rossmoor Bar, Sacramento Bar, and the Lower Sunrise Area Plans.	Yes
Song sparrow (Modesto population) (<i>Melospiza melodia</i>)		SSC	No	The Modesto population of song sparrows remains locally numerous in areas where extensive wetlands remain. The Sacramento–San Joaquin River Delta and Butte Sink areas represent current centers of abundance for this species.	Yes ⁴	The Central Valley Bird Club (2019) has documented nesting near the Cal Expo, Paradise Beach, Campus Commons, and Howe Avenue Area Plans.	Yes
Oregon vesper sparrow (wintering) (<i>Poocetes gramineus affinis</i>)		SSC, BCC	No	Oregon vesper sparrows are a moderate habitat generalist, nesting in dry, open habitats with short, sparse, and patchy herbaceous vegetation; some bare ground; and low to moderate shrub or tall forb cover. In the West, native breeding habitat for Oregon vesper sparrows includes montane meadows, grasslands, prairie, and sagebrush steppe; species favors grasslands with some shrub component, particularly big sagebrush.	No	This species may forage and nest throughout the Parkway, especially in open grassland areas.	Yes
Purple martin (<i>Progne subis</i>)		SSC	No	Purple martins inhabit woodlands and low elevation coniferous forest of Douglas- fir, ponderosa pine, and Monterey pine. Adults nest in old woodpecker cavities mostly, as well as in human-made structures. Purple martin nests are often located in tall, isolated trees and snags.	Yes ⁴	The Central Valley Bird Club (2019) has documented breeding near the Discovery Park, Woodlake, Cal Expo, Paradise Beach, Campus Commons, Howe Avenue, Rossmoor Bar, San Juan Bluffs, and Sacramento Bar Area Plans. This species may forage throughout the Parkway and continue to nest in documented breeding areas.	Yes
Bank swallow (<i>Riparia riparia</i>)		ST	No	Bank swallows are found in riparian scrub, and riparian woodland habitats. This species is a colonial nester, nesting primarily in riparian and other lowland habitats west of the desert. Adult bank swallows require vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, and oceans to dig nesting holes. The major breeding population is confined to the Sacramento and Feather Rivers and their major tributaries.	Yes ¹	There are documented CNDDDB occurrences of this species within the Cal Expo and San Juan Bluffs reaches of the Parkway; however, this species may nest within the Sunrise Bluffs reach of the Parkway, or alternative locales within the Parkway where there is vertical cliffside habitat available.	Yes
Birds: Nightbirds/Hummingbirds/Cuckoos							
Western yellow-billed cuckoo (nesting) (<i>Coccyzus americanus occidentalis</i>)		FT, SE, BCC	No	Western yellow-billed cuckoos are forest nesters, utilizing habitat along the broad, lower flood-bottoms of larger river systems. Adults nest in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape. Western yellow-billed cuckoos occur in small isolated pockets throughout the Central Valley, primarily in the upper Central Valley and Kern County in riparian forests.	No	There is one documented CNDDDB occurrence of this species approximately 1.75 miles southeast of the American River confluence with the Sacramento River. However, this occurrence is from 1877 and the species is very rare and declining in the region (Dettling <i>et al</i> 2015). This species may rarely utilize the Parkway for both foraging and nesting.	Yes
Birds: Landfowl/Waterfowl							
Great blue heron (nesting colonies) (<i>Ardea herodias</i>)		CDF-S	No	Great blue herons are colonial nesters, utilizing tall trees, cliffsides, and sequestered spots on marshes for colonies. Rookery sites are placed near foraging areas: marshes, lake margins, tidal flats, rivers and streams, wet meadows.	Yes ^{1,4}	There are documented CNDDDB occurrences of this species within the Discovery Park, Arden Bar, and Sacramento Bar Area Plans. However, this species likely forages throughout the Parkway and may nest in areas including Campus Commons, Howe Avenue, SARA Park, Arden Bar, Goethe Park, Sara Court Access, Ancil Hoffman County Park, Rossmoor Bar, San Juan Bluffs, Sacramento Bar, Lower Sunrise, Sunrise Bluffs, Upper Sunrise, and Sailor Bar Area Plans (Central Valley Bird Club 2019).	Yes

Species	Image	Protection Status	Critical Habitat within Parkway?	Habitat Requirements	Documented within Parkway?	Documented and Potential for Occurrences within American River Parkway	Species Able to Reproduce within Parkway?
Redhead (<i>Aythya americana</i>)		SSC	No	Redhead construct overwater nests in relatively tall, dense emergent vegetation of deeper semi-permanent and permanent marshes. They occur throughout California, breeding primarily within the Central Valley.	No	This species may nest within the Woodlake, Campus Commons, Howe Avenue, Watt Avenue, Arden Bar, Rossmoor Bar, Discovery Park, CalExpo, SARA Park, and Ancil Hoffman Park Area Plans.	Yes
Double-crested cormorant (<i>Phalacrocorax auratus</i>)		WL	No	Double-crested cormorants are rare to fairly common in lacustrine and riverine habitats of the Central Valley and coastal slope lowlands. This species' occurrence is less common in summer, with the exception of being locally common near nesting colonies. (Zeiner <i>et al</i> 1990). Double-crested cormorants are colonial nesters on coastal cliffs, offshore islands, and along lakemargins in the interior of the state. Adults nest along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	Yes ⁵	A biologist with PointBlue Conservation Science documented a rookery site has been documented from Mississippi Bar, on the west side of Lake Natoma, across from Willow Creek access, Folsom Lake State Recreation Area (PBCS 2014). This species is likely to utilize gray pines for nesting.	Yes
MAMMALS							
Mammals: Bats							
Pallid bat (<i>Antrozous pallidus</i>)		SSC, WBWG-H	No	Pallid bats are common throughout low elevations of California. The species prefers deserts, grasslands, shrublands, woodlands and forests. Pallid bats are most common in open, dry habitats with rocky areas for roosting, where roosts must protect bats from high temperatures. This species is very sensitive to disturbance of roosting sites.	No	This species is poorly documented throughout its range. However, pallid bats likely forage and day-roost throughout the Parkway. Small maternity and/or hibernation roosts may occur in dense, mature tree stands, abandoned or rarely used human-made structures, medium to large-sized culverts, or rocky outcrops.	Yes
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)		SSC WBWG-H	No	Townsend's big-eared bats are found throughout California, but details of its distribution are not well known. It is found in all but subalpine and alpine habitats, but is most common in mesic sites. Townsend's big-eared bats roost in the open, hanging from walls and ceilings. Roosting sites limit this species population, and they are extremely sensitive to human disturbance.	No	This species is poorly documented throughout its range. However, Townsend's big-eared bats likely forage and day-roost throughout the Parkway. Small maternity and/or hibernation roosts may occur in dense, mature tree stands.	Yes
Western mastiff bat (<i>Eumops perotis californicus</i>)		SSC WBWG-H	No	Western mastiff bats are found in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. This species roosts in crevices in cliff faces, high buildings, trees and tunnels.	No	This species is poorly documented throughout its range. However, western mastiff bats may forage and day-roost throughout the Parkway (Dudek and ICF 2012). Small maternity and/or hibernation roosts may occur in areas of dense, mature tree stands, abandoned or rarely used human-made structures, medium to large-sized culverts, or rocky outcrops.	Yes
Silver-haired bat (<i>Lasionycteris noctivagans</i>)		WBWG-M	No	Silver-haired bats are primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. This species roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks.	No	This species is poorly documented throughout its range. There are two CNDDB occurrences of this species approximately 4 miles east of the easternmost extent of the Parkway. Silver-haired bats likely forage and day-roost throughout the dense, mature tree stands, abandoned or rarely used human-made structures, medium to large-sized culverts, or rocky outcrops throughout the Parkway. Small maternity and/or hibernation roosts may occur in dense, mature tree stands, abandoned or rarely used human-made structures, medium to large-sized culverts, or rocky outcrops.	Yes

⁵ Documented occurrence by Point Blue Conservation Science, verified occurrence.

Species	Image	Protection Status	Critical Habitat within Parkway?	Habitat Requirements	Documented within Parkway?	Documented and Potential for Occurrences within American River Parkway	Species Able to Reproduce within Parkway?
Hoary bat (<i>Lasiurus cinereus</i>)		WBWG-M	No	Hoary bats occur in open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. This species roosts in dense foliage of medium to large trees and feeds primarily on moths.	No	This species is poorly documented throughout its range. There is one CNDDDB occurrence approximately 2 miles southwest of the westernmost reach of the Parkway. This species likely forages and day-roosts throughout the Parkway. Small maternity and/or hibernation roosts may occur in dense, mature tree stands, abandoned or rarely used human-made structures, medium to large-sized culverts, or rocky outcrops.	Yes
Yuma myotis (<i>Myotis yumanensis</i>)		WBWG-LM	No	Optimal habitats for Yuma myotis are open forests and woodlands with sources of water over which to feed. Distribution of this species is closely tied to bodies of water. Yuma myotis form maternity colonies in caves, mines, buildings or crevices.	No	This species is poorly documented throughout its range. This species likely forages and day-roosts throughout the Parkway. Small maternity and/or hibernation roosts may occur in dense, mature tree stands, abandoned or rarely used human-made structures, medium to large-sized culverts, or rocky outcrops.	Yes
American badger (<i>Taxidea taxus</i>)		SSC	No	American badgers occur throughout California in a variety of habitats. This species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Badgers require sufficient prey, friable soils, and open, uncultivated ground. They primarily prey on burrowing rodents. American badgers excavate for both prey and for in-ground dens, both maternal and non-maternal.	No	There are 3 presumed extant CNDDDB occurrences adjacent to the Parkway to the south. American badgers may occasionally occur within the Parkway, especially along the easternmost portion with available undeveloped migration habitat adjacent to the Parkway.	Yes

STATUS KEY:

Federal

FE: Federally-listed Endangered

FT: Federally-listed Threatened

FPE: Federally Proposed for Listing as Endangered

FPT: Federally Proposed for Listing as Threatened

FPD: Federally Proposed for Delisting

FD: Federally-delisted

FC: Federal Candidate Species

DL: Delisted

State

SE: State-listed Endangered

ST: State-listed Threatened

SCE: State Candidate for Listing as Endangered

SCT: State Candidate for Listing as Threatened

SCD: State Candidate for Delisting

SSC: CDFW Species of Special Concern

WL: CDFW Watch List

FP: CDFW Fully Protected

California Native Plant Society (CNPS)

Rank 1A – Presumed extinct in California;

Rank 1B – Rare, threatened, or endangered in California and elsewhere;

Rank 2A – Plants presumed extirpated in California, but more common elsewhere;

Rank 2B – Rare, threatened, or endangered in California, but more common elsewhere;

Rank 3 – Plants for which more information is needed – A review list; and

Rank 4 – Plants of limited distribution – A watch list.

Additional threat ranks endangerment codes are assigned to each taxon or group as follows:

.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).

.2 – Fairly endangered in California (20-80% occurrences threatened).

.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).

Other

BCC: Bird of Conservation Concern
CDF-S: California Department of Forestry and Fire Protection-Sensitive
WBWG-H: Western Bat Working Group-High Priority
WBWG-M: Western Bat Working Group-Medium Priority
WBWG-LM: Western Bat Working Group-Low/Medium Priority
* California Special Animal (species with no official federal or state status, but are included on the CDFW's Special Animal List due to limited distribution or previous state or federal status)

Image Credits



Brandege's clarkia: Calflora, c/o Matt Berger 2019
Dwarf downingia: Berkeley CalPhotos, c/o Carol W. Witham 2004
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Sacramento Orcutt grass: Berkeley CalPhotos, c/o Carol W. Witham 2004
Sanford's arrowhead: Natomas Basin Habitat Conservation Plan & the Metro Air Park Habitat Conservation Plan
Vernal pool fairy shrimp: Natomas Basin Habitat Conservation Plan & the Metro Air Park Habitat Conservation Plan
California linderiella: University of California Merced
Andrenid bee (Photo is of related species, *Andrena clarkella*): Nikolai Vladimirov
Sacramento Valley tiger beetle (Photo of *Cicindela hirticollis* (not Sacramento subspecies)): Judy Gallagher
Valley elderberry longhorn beetle (VELB): Jon Katz, USFW
Chinook Salmon: NOAA Fisheries
Steelhead: NOAA Fisheries
Green sturgeon: NOAA Fisheries
White sturgeon: CDFW, c/o Mike Healey
Pacific lamprey: USFWS, c/o Jeremy Monroe
River lamprey: USGS, c/o Mike Hayes
Sacramento splittail: Peter Moyle
Sacramento perch: NPS
Western pond turtle: CDFW
Giant gartersnake: USGS, c/o Zarina Sheikh
Western spadefoot: Melinda Mohamed
Cooper's hawk (nesting): Jim Johnson
Burrowing owl (burrowing sites and some wintering sites): Roger Jones
Swainson's hawk (nesting) (*Buteo swainsoni*): Brian Rusnica
Northern harrier (nesting): Stephen Pollard
White-tailed kite: Jason Crotty
Peregrine falcon: NPS, c/o Tim Hauf
Bald eagle: USFWS
Osprey: CDFW
Loggerhead shrike: Michael Smith
Song sparrow (Modesto population): Eric Preston
Oregon vesper sparrow (wintering): Jim Livaudais
Purple martin: Alan MacEachren
Bank swallow: David M. Bell
Western yellow-billed cuckoo (nesting): USFWS
Great blue heron (nesting colonies): Rinus Baak for USFWS
Redhead: Greg Gillson
Double-crested cormorant: NPS
Pallid bat: Ann Froschauer for USFWS
Townsend's big-eared bat: NPS
Western mastiff bat: Lindsay Wildlife Experience
Silver-haired bat: John MacGregor
Hoary bat: William Leonard
Yuma myotis: Daniel Neal
American badger: H. Rieser

APPENDIX C

INVASIVE SPECIES OF PRIMARY CONCERN IN PARKWAY

INVASIVE SPECIES OF PRIMARY CONCERN WITHIN THE PARKWAY




Invasive Plant Species of Primary Concern within the Parkway




Species	Image ¹	CAL-IPC Ranking ²	Description	Blooming Period	Management Method ³
Chinese tallow tree (<i>Triadica sebifera</i>)		Moderate-Alert	Chinese tallow tree is a non-native, perennial deciduous tree that occurs in riparian areas and sandbars. It can rapidly invade and replace existing native vegetation and therefore threatens wildlife habitat. This species is toxic to humans and wildlife and also produces tannins which alter soil chemistry and can prevent the establishment of native seedlings in its immediate vicinity (Maret 2019).	Generally Spring through Summer	<ul style="list-style-type: none"> • Prescribed grazing using sheep and/or goats • Application of herbicides
giant reed (<i>Arundo donax</i>)		High	Giant reed is a non-native monocot and perennial grass. It can reach great heights (30 feet typically) and forms dense stands along riparian areas (CAL IPC 2004). The species is a high risk to riparian ecosystems as it outcompetes native species and is highly water intensive. In smaller riparian areas, this species can alter stream flows and redirect water causing increased bank erosion. The species also increases risk of wildfires, as the woody stems are highly flammable and act as ladder fuel which can cause the destruction of nearby native tree species, as well as human built structures. Giant reed can remain dormant for extended periods of time and return after several years of dormancy.	March through September	<ul style="list-style-type: none"> • Removal of whole plant including all rhizomes by hand or equipment, and disposal in sealed black plastic bags



¹ Photo Credits--CalFlora: <https://www.calflora.org/>; Cal IPC: <https://www.cal-ipc.org/>

² Cal-IPC ratings: **High**—These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically; **Moderate**—These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread; **Alert**—An Alert is listed on species with High or Moderate impacts that have limited distribution in California but may have the potential to spread much further.




³ Invasive species removal is most effective before the species' blooming period. Please reference the following links to view more detailed description of removal techniques: <https://www.cal-ipc.org/plants/inventory/>, <https://wiki.bugwood.org/Invasipedia> and <https://www.cal-ipc.org/resources/library/publications/wwh/>.

<p>red sesbania (<i>Sesbania punicea</i>)</p>		<p>High</p>	<p>Red sesbania is a non-native dicot, deciduous shrub or small tree, growing to four (4) meters maximum. This species commonly occurs in riparian areas where it forms dense monocultures along riverbanks. Red sesbania may displace native vegetation and is toxic to wildlife species. Large stands of red sesbania grow into waterways and impede flows, which can lead to bank erosion and flooding. This species is a major threat to biodiversity of native plants in riparian habitats throughout the Sacramento area (Maret 2019).</p>	<p>June through September</p>	<ul style="list-style-type: none"> • Hand removal • Weed wrench
<p>Spanish broom (<i>Spartium junceum</i>)</p>		<p>High</p>	<p>Spanish broom is an invasive deciduous shrub that grows in dense, woody stands in riparian areas and sandbars. The species is toxic to wildlife. As it matures, it desiccates, creating a high fire risk (CAL IPC 2004). The species is also captures nitrogen in the soil, which can promote growth of other non-native plant species in the vicinity. Spanish broom has a very deep taproot which makes it challenging to remove. It can produce thousands of seeds that can be propelled up to 12 feet from the plant. Seeds can remain dormant in the seed bank for up to 15 years and re-sprout. Dense, desiccated stands of Spanish broom increase risk of wildfires.</p>	<p>April through June</p>	<ul style="list-style-type: none"> • Hand removal • Brush cutters • Large stands require monitoring for up to 15 years to accommodate maximum seed bank dormancy period
<p>yellow star thistle (<i>Centaurea solstitialis</i>)</p>		<p>High</p>	<p>Yellow star thistle is an invasive, annual herb that commonly occurs in open fields. It rapidly disperses and directly competes with the native purple needlegrass. Conversion of grasslands into yellow star thistle monocultures deters wildlife grazing as well.</p>	<p>May through October</p>	<ul style="list-style-type: none"> • Hand removal • Continuous mowing

<p>French broom (<i>Genista monspessulana</i>)</p>		<p>High</p>	<p>French broom is an invasive perennial shrub found in various geographic areas throughout California in coastal scrub, prairie, chaparral, grassland, riparian, cismontane woodland, and forest habitats. Originally introduced as a landscape ornamental with Scotch and Spanish broom, it proved to be an aggressive colonizer and forms dense stands that exclude native flora and fauna. French broom is unpalatable to most livestock (excepting goats) and therefore decreases grazing value in rangelands and increases fire risk. French broom is a leguminous plant, producing many seeds within pods. In addition, the plant may resprout from the root crown if only cut or grazed for removal.</p>	<p>March through May</p>	<ul style="list-style-type: none"> • Removal of whole plant including all roots by hand or equipment
<p>oleander (<i>Nerium oleander</i>)</p>			<p>Oleander is a non-native evergreen shrub or tree that grows in highway medians, roadsides, and in riparian areas. The species has been widely intentionally planted as an ornamental, but may persist long after cultivation due to extensive root systems. All parts of the plant are lethally poisonous, even in small quantities, making control through grazing impossible.</p>	<p>June through September</p>	<ul style="list-style-type: none"> • Hand removal of plant and entire root system • Herbicide
<p>pampusgrass (<i>Cortaderia selloana</i>)</p>		<p>High</p>	<p>Pampasgrass is a large (6-13 ft tall) non-native perennial grass found throughout California, including in the Central Valley. The species favors dunes, bluffs, coastal shrublands and marshes, inland riparian areas, and disturbed areas. Originally introduced as an ornamental plant and for erosion control, each plume produces up to 100,000 seeds that are widely dispersed by wind and develop without fertilization. Pampasgrass quickly colonizes bare ground, but establishment is generally poor where the seedlings must compete with other grasses or sedges.</p>	<p>September through March</p>	<ul style="list-style-type: none"> • Removal of whole plant including all roots by hand or equipment

<p>firethorn (<i>Pyracantha</i> spp.)</p>		<p>Limited</p>	<p>Firethorn are a non-native group of evergreen shrubs of the genus <i>Pyracantha</i>. They form characteristic bright red berries and are frequently found in disturbed areas, along roadsides, coastal scrub, prairie, and riparian areas. Birds, such as cedar waxwings (<i>Bombycilla cedrorum</i>), can disperse fruits/seeds widely. However, the success this dispersal method for firethorn is not well known.</p>	<p>February through June</p>	<ul style="list-style-type: none"> • Grazing • Prescribed burning • Removal through hand weeding, weed wrenches, cutting, and/or heavy equipment removal • herbicide
<p>Scotch broom (<i>Cytisus scoparius</i>)</p>		<p>High</p>	<p>Scotch broom is an invasive perennial shrub that grows between 5-10 feet in height, pea-like flowers, and in sunny sites with dry, sandy soil. It spreads rapidly through pastures, borders of forests, and roadsides. Scotch broom can quickly crowd out native plant species, thereby removing grazing habitat and increasing risk of fire. It has a seed bank that can remain dormant for up to 80 years.</p>	<p>March through May</p>	<ul style="list-style-type: none"> • Hand removal • Cutting • Disking • Goat grazing of resprouts following cutting • Biological control agents (insects)

County of Sacramento Department of Regional Parks Seven Target Species, Invasive Wildlife Species of Primary Concern within the Parkway⁴




Species	Image ⁵	Description	Documented within Parkway?	Potential Species' Habitat within Parkway	Species Able to Reproduce within Parkway?
mute swan (<i>Cygnus olor</i>)		The mute swan is a large, non-native and aggressive bird weighing up to 25 pounds. Adults are white with black facial patches and orange bill. Mute swans commonly occur in waters with plentiful submerged aquatic vegetation (SAV), where they can consume massive quantities of SAV. In doing so, they disrupt SAV habitat, which provides important ecosystem functions to other native species and the general hydrology of the area.	Yes ^{6,7}	<ul style="list-style-type: none"> • Slow-moving waters with SAV • Bank habitat 	Yes
Brown-headed cowbird (<i>Molothrus ater</i>)		Brown-headed cowbirds are a member of the blackbird family. They are approximately 6 to 8.5 inches long with a glossy black body and dark brown head. They are highly mobile and commonly occur in vegetation types with high seed outputs such as grassland or row and field crops. Brown-headed cowbirds parasitize the nests of other native bird species and reduce habitat for sensitive native passerine bird species.	Yes ^{6,6}	<ul style="list-style-type: none"> • Habitat generalist • Wherever native bird species nest within the Parkway. 	Yes
Nutria (<i>Myocastor coypus</i>)		Nutria are large, brown, semi-aquatic rodents. Adults can grow to 15-20 pounds and are commonly found in rivers and streams. Nutria can cause extensive damage by burrowing, clearing large areas of vegetation, transporting pathogens and parasites, and by causing erosion. This species has not been observed in the Parkway; however, it is highly invasive species that is "on watch" for potential sightings, especially within the Central Valley where it has been documented in the Merced region. If nutria are observed in the Parkway, future management actions may be triggered	No	<ul style="list-style-type: none"> • Along entire Parkway 	Yes

⁴ All non-native wildlife species within this table are managed by CDFW and any suspected occurrences must be photographed and reported immediately to CDFW; see <https://wildlife.ca.gov/Conservation/Invasives/Report> for more information.


⁵ Photo Credits: California Department of Fish & Wildlife Invasive Species Program, <https://www.wildlife.ca.gov/Conservation/Invasives>

⁶ Documented in iNaturalist (citizen science database with community verification); [inaturalist.org](https://www.inaturalist.org)

⁷ Documented in eBird (citizen science database); ebird.org/home

Species	Image ⁵	Description	Documented within Parkway?	Potential Species' Habitat within Parkway	Species Able to Reproduce within Parkway?
southern watersnake (<i>Nerodia fasciata</i>)		The southern watersnake is a non-native, wide, aquatic snake reaching up to five (5) feet in length with highly variable body colors (brown, black, yellow-brown, tan, gray, or red). It occurs in slow moving streams and rivers, where it preys on fish and amphibians, threatening some sensitive native species. Southern watersnakes have established populations in multiple locations within Sacramento County, including directly east of the Parkway near Lake Natoma (CDFW 2021d).	No	<ul style="list-style-type: none"> Slow-moving reaches and backwater habitat along the American River Upland can provide migration habitat 	Yes, adults give birth to live young and do not require nesting sites
northern watersnake (<i>Nerodia sipedon</i>)		The northern watersnake is a non-native aquatic snake ranging from two (2) to four (4) feet in length with black, dark brown, or red crossbands that start near the head and fade towards the tail. It occurs in slow moving streams and rivers. Northern watersnakes prey on fish and amphibians, threatening some sensitive native species. This species has been positively identified within the Parkway to SCRCP Staff and is a highly invasive species that is "on watch" for potential sightings.	Yes ⁸	<ul style="list-style-type: none"> Slow-moving reaches and backwater habitat along the American River Upland can provide migration habitat 	Yes, adults give birth to live young and do not require nesting sites
Red-eared slider (<i>Trachemys scriptaelegans</i>)		Red-eared sliders are medium-sized freshwater turtles that have olive colored shell and skin with yellow and orange stripes behind each eye. Their shell is textured and appears serrated. Red-eared sliders can spread bacteria and disease and compete with native wildlife species for food and habitat, specifically with western pond turtle. Professor Michelle Stevens, PhD at California State University Sacramento is currently establishing a program at Bushy Lake to monitor occurrences of red-eared slider and implement humane removal methods to increase the habitat value for the native western pond turtle.	Yes ⁶	<ul style="list-style-type: none"> Slow-moving reaches and backwater habitat along the American River Sandy banks may be used for nesting 	Yes

⁸ Documented by Sacramento County Regional Parks Staff

Species	Image ⁵	Description	Documented within Parkway?	Potential Species' Habitat within Parkway	Species Able to Reproduce within Parkway?
<p>American bullfrog (<i>Lithobates catesbeianus</i>)</p>		<p>American bullfrogs are large frogs with wide heads, long legs, and smooth brown-green skin. They can be identified by their large eardrums, or tympanum, located behind each eye. Bullfrogs are generalized predators, outcompeting native species and consuming other frogs, birds, bats, turtles, snakes, salamanders, and lizards.</p>	<p>Yes⁶</p>	<ul style="list-style-type: none"> Any aquatic habitat, especially slow-moving reaches, incised banks, and backwater habitat Upland habitat with vegetation cover (i.e. Himalayan blackberry) 	<p>Yes</p>