

4.2 BIOLOGICAL RESOURCES AND WETLANDS

4.2.1 INTRODUCTION AND METHODOLOGY

This section describes the biological resources, including wetlands, which occur within the SVRTC. Field surveys were initially conducted on July 10 and 11, August 7, October 17, and December 3, 2002 and January 8, 2003 to characterize vegetation communities, jurisdictional waters including wetlands, wildlife corridors, and suitable habitat for “special status” species. Although surveys focused directly on the SVRTC, vegetation communities and incidental sightings of species were recorded for a broader study area encompassing the SVRTC and its vicinity. Additional field surveys were conducted between July 13 and 20, 2004, on July 11, 2005, between September 6 and 8, 2006, and on October 12, 2006. The purpose of these surveys was to characterize changes in vegetation communities, jurisdictional waters including wetlands, wildlife corridors, and suitable habitat for special-status species throughout the SVRTC. Additoional surveys were conducted on April 20, 2007 and May 7, 2007 to evaluate the area of direct project effect, or the area that would be disturbed by construction of either the BEP or SVRTP alternative. Most recently, surveys for Congdon’s tarplant were conducted on September 18th, 2008 during the fall blooming season.

Prior to undertaking the field surveys, team biologists compiled a variety of natural resource information for the corridor by consulting documentary sources, including the California Natural Diversity Database (CNDDDB), the California Native Plant Society (CNPS), and National Wetland Inventory (NWI) maps, as well as environmental documents that have been prepared for other projects in the general SVRTC vicinity. The U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA Fisheries), and California Department of Fish and Game (CDFG) were contacted to request their most recent listings of rare, threatened, endangered, and candidate species that may occur in the SVRTC. These agency letters and/or responses, including species lists, are included in Appendix H, Agency Letters. The most recent information available was used for the assessment in this section.

4.2.2 VEGETATION AND WILDLIFE COMMUNITIES

Biological communities identified in the SVRTC include non-native annual grassland, ruderal/disturbed sites and agricultural fields, seasonal and freshwater emergent wetlands (marshes), and Central Coast cottonwood-sycamore riparian forest. Biotic communities in the SVRTC are highly fragmented, which diminishes their ecological value in most cases. Isolated habitat islands may provide refuge for wildlife, but the habitat value in these areas is degraded and most likely will continue to degrade regardless of the project due to further isolation following urban build out. Historically, the SVRTC falls within the central California coast eco-region, coastal sage scrub community. Coyote bush (*Baccharis pilularis*) is the only shrub species remaining that

is indicative of this community type. The only other native plant community in the SVRTC is the relatively rich Central Coast cottonwood-sycamore riparian forest found in the Upper Penitencia Creek riparian corridor.

A brief description of each biological community is provided in the following paragraphs. Except for ruderal/disturbed and seasonal and freshwater marsh, vegetation community descriptions and nomenclature are in accordance with *Preliminary Descriptions of Terrestrial Natural Communities of California* (Holland, 1986). Plant taxonomy and nomenclature follows *The Jepson Manual* (Hickman, 1993).

Non-Native Grassland

This community is typically found on fine-textured, usually clay soils, which may range from moist, possibly even waterlogged, during the rainy season to very dry during the dry season. It is primarily composed of non-native annual grasses although native, annual forbs may also be present during years of favorable precipitation. Grasslands provide foraging and nesting habitat for a wide variety of wildlife species including raptors, seed eating birds, small mammals, amphibians, and reptiles. The non-native grassland in the SVRTC is similar to non-native grassland communities found in the valleys and foothills throughout much of California. Within the SVRTC, approximately 3.5 acres of non-native grassland was identified in the area south of Calaveras Boulevard adjacent to Wrigley Creek. Non-native grassland in the SVRTC vicinity provides suitable habitat for Congdon's tarplant and alkali milkvetch. Congdon's tarplant has been observed in the area south of Calaveras Boulevard within the SVRTC along the proposed alignment.

Ruderal/Disturbed Including Urban Ornamental Landscape and Agriculture

A distinguishing characteristic of urban habitats is the mixture of native and exotic plant species. Exotic plant species may provide valuable habitat elements such as cover for nesting and roosting, as well as food sources such as nuts or berries. Native and introduced animal species that are tolerant of human activities such as killdeer, mourning doves, California ground squirrel, and even western burrowing owl, often persist in urban habitats.

The majority of the corridor lies within ruderal/disturbed vegetation and most of the area that would be disturbed by BEP and SVRTP alternatives' facilities consists of ruderal/disturbed urban landscape. Some remnant agricultural areas, consisting solely of disked pasture, still persist adjacent to the SVRTC.

Central Coast Cottonwood-Sycamore Riparian Forest

This community is found on relatively fine-grained alluvial soils and clays located in the floodplains of sub-perennial streams along canyons and creeks of the central and south Coast Ranges. Central Coast cottonwood-sycamore riparian forest is a natural community of special concern, which may provide a wide range of resources to wildlife such as movement and migration corridors, cover (nesting, resting, thermal regulation,

etc.), water, and a variety of foraging opportunities (Holland, 1986; CNDDDB, 2007). Approximately 1.4 acres of Central Coast cottonwood-sycamore riparian forest was identified in the immediate SVRTC vicinity along Upper Penitencia creek in the vicinity of the proposed Berryessa Station.

Waters of the U.S. Including Seasonal and Freshwater Emergent Wetlands

In urbanized areas seasonal wetlands, including the aquatic environments that occur on the floor of flood control channels, are often formed when ditches and depressions are excavated. Former marshland that has been partially filled with rock, soil, and debris often develops into seasonal wetlands. Wetland plant species that are either low-growing, tenacious perennials that tolerate disturbance or annuals that tolerate seasonal wetness often colonize seasonal wetlands. Freshwater emergent wetlands are typically dominated by plants that tolerate perennial wetness, including trees, shrubs, and herbs. Freshwater emergent wetlands are among the most productive wildlife habitats in California, and the wetland and riparian areas that exist in the SVRTC are typical of such areas elsewhere in the state. They provide food, cover, and water for various species of birds, mammals, reptiles, and amphibians.

Seasonal and freshwater emergent wetlands occur along the banks of Toroges Creek, Berryessa Creek, Wrigley Creek, Upper Penitencia Creek, Lower Silver Creek, and within the drainage ditches north of Montague Expressway. Patches of freshwater emergent wetlands occur within the streambeds of Coyote Creek, the Guadalupe River, and Los Gatos Creek. While seasonal and freshwater emergent wetlands are not present within the concrete-lined streams, such as Agua Caliente Creek, Agua Fria Creek, Scott Creek, and Calera Creek, the accumulation of silt is present, which makes possible the development of this vegetation community.

As outlined in Table 4.2-1, a total of 5.39 acres of wetlands were delineated in 2006 within the vicinity of the BEP and SVRTP alternatives (Jones and Stokes, 2006). This includes 1.92 acres of wetlands at Wrigley Creek, parallel to the railroad corridor on the west and 0.87 acres of wetlands at Berryessa Creek. The total acreage of wetlands, including seasonal and freshwater emergent wetlands, is also discussed below under *Waters of the U.S. Including Wetlands*.

In 2003, a wetland delineation was conducted for the SVRTC that included a delineation of waters of the United States.¹ A subsequent wetland delineation was completed in the fall 2006 for the area from the planned BART Warm Springs Station to Montague Expressway. This delineation included areas not previously identified in the 2003 delineation.

¹ Parsons Corporation, Biological and Wetlands Resources Technical Report, May 2003 (revised by Santa Clara Valley Transportation Authority, 2003).

Table 4.2-1: Wetlands and Waters of the U.S. in the Silicon Valley Rapid Transit Corridor

Creeks, Siphons and Drainage Ditches Identified	Characterization	Acres^a
Unnamed Ditches north of Agua Caliente Creek—Wetlands	Earthen drainage ditches paralleling railroad corridor.	0.04
Agua Caliente Creek—Water of the U.S.	Concrete-lined trapezoidal channel managed by Alameda County Flood Control and Water Conservation District (ACFCWCD) crossing under UPRR mainline in the NUMMI Railyard at Warm Springs.	0.01
Agua Fria Creek—Water of the U.S.	Concrete-lined open box channel managed by ACFCWCD crossing the UPRR mainline between Mission Boulevard and East Warren Avenue	0.16
Toroges Creek (Line C)—Water of the U.S.	Concrete-lined and earthen trapezoidal channel where it crosses the UPRR mainline; managed by ACFCWCD.	0.04
Unnamed ditch draining to Toroges Creek – Wetlands	Drainage ditch between VTA ROW and UPRR mainline north of Toroges Creek/Line C.	0.06
Unnamed culvert (Line B—1)—Water of the U.S.	Earthen trapezoidal culvert intersecting railroad corridor just south of proposed Locomotive Wye Fremont Option; aboveground where it crosses the railroad corridor on the west and underground from that point east; managed by ACFCWCD.	0.00
Unnamed seasonal wetland north of Scott Creek – Wetlands	Seasonal wetland within VTA ROW north of Scott Creek.	0.01
Unnamed culvert (Line B)—Water of the U.S.	Earthen trapezoidal culvert managed by ACFCWCD crossing railroad corridor approximately 2150 feet north of Kato Road.	0.15
Scott Creek (Line A)—Water of the U.S.	Concrete-lined open box channel culvert crossing under railroad corridor approximately 950 feet north of Alameda–Santa Clara County line. Under the ROW, creek widens into an earthen vegetated ditch. Managed by ACFCWCD.	0.02
Unnamed ditch near Dixon Landing Road – Wetlands	Drainage ditch paralleling railroad corridor south of Dixon Landing Road.	0.37
Calera Creek—Water of the U.S.	Concrete-lined box channel that terminates in an underground sump on west side of railroad corridor. Managed by the SCVWD.	0.09
Berryessa Creek—Water of the U.S.	Concrete box culvert paralleling railroad corridor on west from Calera Creek, crossing under ROW north of UPRR Milpitas Yard and continuing parallel to railroad corridor on east and at Montague Expressway. Managed by SCVWD.	0.87
Unnamed ditches near Wrigley Creek – Wetlands	Drainage ditches paralleling railroad corridor north of Wrigley Creek crossing.	0.48
Wrigley Creek—Water of the U.S. where it crosses under railroad corridor; wetland areas parallel railroad corridor on west.	Earthen bottom channel crossing under railroad corridor north of UPRR Milpitas Yard between the Calaveras Boulevard and Abel Street overcrossings. Managed by City of Milpitas.	1.92
Unnamed Ditches near Montague Expressway—Wetlands	Drainage ditches paralleling railroad corridor managed by City of Milpitas.	0.15

Creeks, Siphons and Drainage Ditches Identified	Characterization	Acres ^a
Lower Penitencia Creek—Siphon	Inverted siphon where Lower Penitencia Creek crosses the railroad corridor, discharging into a drainage ditch maintained by SCVWD.	0.00
Upper Penitencia Creek—Water of the U.S.	Well-defined bed and bank and well-developed riparian woodland fringe where it borders Berryessa Road crossing the railroad corridor.	0.28
Coyote Creek—Water of the U.S.	Natural perennial stream managed by SCVWD with rich riparian woodland where it parallels proposed BART alignment at site of proposed staging and laydown area near Mabury Road.	0.72
Lower Silver Creek—Water of the U.S. ^[2]	Excavated perennial stream managed by SCVWD and programmed for enlargement and habitat restoration.	0.02
Total	n/a	5.39

Notes: ACFCWD = Alameda County Flood Control and Water Conservation District

SCVWD = Santa Clara Valley Water District

^a Rounded to two decimal places.

^b BART would be in a tunnel passing beneath Lower Silver Creek. No adverse effects to this creek are anticipated.

Source: Jones & Stokes, 2008.

Coyote Creek, the Guadalupe River, and Los Gatos Creek are inventoried by USFWS as palustrine forested, temporarily flooded wetlands. These streams were not studied intensively for the SVRTC because proposed facilities would be constructed in a deep underground tunnel that would avoid the potential for adverse effects.

4.2.3 SPECIAL STATUS SPECIES

Special-status species are plants and animals that are legally protected under the California Endangered Species Act (CESA), the federal Endangered Species Act (ESA), or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. Special-status species are defined as:

- Species listed or proposed for listing as threatened or endangered under the ESA (Title 50, Code of Federal Regulations [CFR], Section 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the *Federal Register* [FR] for proposed species);
- Species that are candidates for possible future listing as threatened or endangered under ESA;
- Species that are listed or proposed for listing by the State of California as threatened or endangered under CESA (Title 14, California Code of Regulations [CCR], Section 670.5);

- Plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.);
- Plants considered by CNPS to be “rare, threatened, or endangered in California and elsewhere” (List 1B, 2, and 3) (List 4 species were included and evaluated in the impact analysis to determine whether they should be considered special-status species for the purposes of this document);
- Species that meet the definition of rare or endangered under the State CEQA Guidelines, Section 15380;
- Animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]); or
- Animal species of special concern to CDFG (Remsen, 1978 [birds]; Williams, 1986 [mammals]; and Jennings and Hayes, 1994 [amphibians and reptiles]).

An official species list of rare, threatened, endangered, and candidate species from USFWS was generated online on November 10, 2008 for the SVRTC and surrounding area, which includes the San Jose West, San Jose East, Milpitas, Calaveras Reservoir, Niles, and Cupertino USGS quadrangles. A CDFG species list for the SVRTC was generated from a search of the computerized CNDDDB (August 2008) for the same USGS quadrangles.

Following the database search, an extensive review of literature and environmental documentation prepared for other projects in the SVRTC vicinity was conducted. Field surveys were then undertaken to assess the suitability of habitat in the SVRTC for special status species identified in the USFWS listing. This section reports findings only for those species for which suitable habitat was determined to occur in the immediate vicinity with potential for effect under either the BEP or SVRTP alternative. Special status species found to be present or have suitable habitat in the SVRTC include several fish, amphibians, reptiles, birds, mammals, and plants as listed in Table 4.6-2 and described below.

Steelhead and Chinook salmon are special-status fish species that occur in the SVRTC. The Central California Coast steelhead evolutionarily significant unit (ESU) has been listed as threatened under the ESA (62 FR 159, August 18, 1997). Critical habitat for steelhead is designated for the ESU and includes Guadalupe River, Coyote Creek, and Upper Penitencia Creek (50 FR 226, September 2, 2005). NOAA Fisheries considers the Chinook salmon in the SVRTC to be part of the Central Valley fall and late-fall run Chinook salmon ESU. NOAA Fisheries has determined that the Central Valley fall and late-fall run Chinook salmon ESU does not warrant listing, but the ESU is considered a candidate species (64 FR 50394, September 16, 1999). In addition, study area streams are considered essential fish habitat for Chinook salmon, a commercial species. The Magnuson-Stevens Fishery Conservation and Management Act defines “essential fish habitat” as waters and substrate necessary for fish to spawn, breed, feed, and grow to

maturity. (See Section 4.15, Water Resources, for a discussion of the Magnuson-Stevens Fishery Conservation and Management Act.)

Fish Species

Central California Coast Steelhead

Despite degraded habitat conditions, Coyote Creek and Upper Penitencia Creek support a small viable steelhead fishery (Busby et al., 1996; Leidy, 2000) and the Guadalupe River has the potential to support steelhead as well. The extent to which steelhead spawn and rear in Coyote Creek is not known. Steelhead are reported to be present in Upper Penitencia Creek at the site of the Berryessa Station under both the BEP and SVRTP alternatives. Steelhead spawning was documented in Los Gatos Creek and one adult steelhead was observed on Alamitos Creek, a tributary to the Guadalupe River, in early 2003. Flows and habitat conditions (e.g., water temperature) are believed to be insufficient in all other SVRTC drainages to support self-sustaining steelhead populations.

Fall/Late Fall-Run Chinook Salmon

As is the case for steelhead, Chinook salmon are reported to be present in Upper Penitencia Creek at the site of the Berryessa Station. Chinook salmon are also reported to be present in Lower Silver Creek (potentially affected by the Alum Rock Station), and are known to spawn and rear in portions of Coyote Creek.² Flows and habitat conditions are insufficient in all other SVRTC drainages to support self-sustaining Chinook salmon populations.

Fall-run Chinook salmon have occurred in the Guadalupe River in the last decade. The current Chinook salmon population may be strays from wild or hatchery populations from the Sacramento-San Joaquin River system (SCVWD, 1994). Currently, Chinook salmon migrate up the Guadalupe River and to a lesser extent, Los Gatos and Alamitos creeks, to spawn. The majority of Chinook salmon appear to spawn in and around the downtown San Jose area (Jones & Stokes, 1998).

Wildlife

California Red-legged Frog

The SVRTC is not located within an area designated as critical habitat for the California red-legged frog. However, the riparian and aquatic habitat in Guadalupe River, Coyote Creek, Upper Penitencia Creek, and Lower Silver Creek may provide suitable habitat for California red-legged frog, and some of the smaller streams may function as dispersal corridors for this species when they contain water. H.T. Harvey and Associates (1997) concluded that while the California red-legged frog is not believed to inhabit urbanized areas of San Jose, known occurrences of red-legged frogs in Alum Rock Park indicate that they may potentially be transported downstream during high flows and reach the

SVRTC. Four individuals were observed in July 2000 in Upper Penitencia Creek in Alum Rock Park approximately 4.5 miles east of where the SVRTC crosses Upper Penitencia Creek (CNDDDB, 2007).

Western Pond Turtle

Habitat for the western pond turtle is present in the Guadalupe River, Coyote Creek, Upper Penitencia Creek, and Lower Silver Creek and some of the smaller streams may function as dispersal corridors for this species when they contain water. In September 2001, two adults were observed in Coyote Creek approximately 5.0 miles south of where the SVRTP Alternative crosses Coyote Creek (CNDDDB, 2007).

Western Burrowing Owl

Historically, resident and wintering burrowing owls were common in central and southern California deserts, grasslands, and other open, upland habitats (Small, 1994). Urbanization and agricultural conversion have eliminated large tracts of burrowing owl habitat and fragmented the remainder (Haug et al., 1993; Schulz, 1997; Dechant, 2001); however, burrowing owls exhibit a high level of tolerance to human disturbance and will nest or roost in urban and metropolitan areas (Haug et al., 1993). Considerable effort has gone into burrowing owl conservation in California, including relocation of breeding individuals that occur on sites under threat of construction or other development in the Santa Clara Valley (Delevoryas, 1997; Schulz, 1997). Birds generally exhibit a high degree of site tenacity and this can be problematic when relocated owls return to sites from which they were removed (Feeney, 1997).

It is estimated that 167 nesting pairs (about 1.8 percent of the total California population) occur in the San Francisco Bay Area, which represents a decline of 50 percent since the mid-1980s. Population declines in the Bay Area appear to have abated in recent years (DeSante et al., 1997). Potential breeding and foraging habitats in the SVRTC are located in the ruderal and non-native grasslands.

Cooper's Hawk

The Cooper's hawk is listed as a species of special concern by CDFG and is protected under the federal Migratory Bird Treaty Act (MBTA). Cooper's hawks generally nest in riparian and evergreen forests. The species is tolerant to habitat fragmentation and human disturbance and will nest in suburban and urban areas (Rosenfield and Bielefeldt, 1993). Cooper's hawks prey on small to medium sized birds, such as jays, American robins, European starlings, and northern flicker. Mammalian prey include gray squirrels, California ground squirrels, deer mice, and bats. Potential nesting habitat in the SVRTC occurs in the riparian corridors along the Guadalupe River, Coyote Creek, Upper Penitencia Creek, and Berryessa Creek.

² Per personal communication with Dave Johnston of CDFG on February 4, 2003.

White-tailed Kite

The white-tailed kite is listed as a fully protected species by CDFG, and is protected under the MBTA. White-tailed kites nest in riparian forest and oak woodland habitats and forage in a variety of open habitats such as grasslands and marshes (Dunk, 1995). White-tailed kites feed primarily on small mammals including voles, pocket mice, and harvest mice. Potential nesting habitats in the SVRTC are located in the riparian corridors along the Guadalupe River, Coyote Creek, Upper Penitencia Creek, and Berryessa Creek. Foraging areas located within the SVRTC include riparian areas and non-native grasslands.

Loggerhead Shrike

The loggerhead shrike is a predatory songbird that is resident in the SVRTC. It is listed as a species of special concern by CDFG and is protected under the MBTA. Loggerhead shrikes prefer open habitat characterized by forbs and grasses interspersed with low shrubs, widely spaced trees, and bare ground (Yosef, 1996). Prairies, grasslands, pastures, fencerows or shelterbelts, mowed road ROW, abandoned railroad ROW, cemeteries, golf courses, open woodlands, farmsteads, and old orchards are examples of the types of habitats where loggerhead shrikes most commonly occur. Scattered shrubs or trees, particularly dense, thorny species, are typically used for nesting and hunting perches (Yosef, 1996; Dechant et al., 2001). As opportunistic predators, loggerhead shrikes feed on a wide variety of prey including insects, small mammals and birds, reptiles, amphibians, and occasionally carrion. Loggerhead shrikes are adaptable to urban environments as long as preferred habitat characteristics and abundant prey supplies are present. Loggerhead shrikes were routinely observed at a number of locations within the SVRTC during the field surveys in 2001.

Bat Species

A variety of bat species, such as Yuma myotis, long-legged myotis, Pacific long-eared myotis, and western big-eared bat, may occur in the SVRTC. The underside of bridges and buildings located throughout the SVRTC, and riparian areas of the Guadalupe River, Coyote Creek, Upper Penitencia Creek, and Berryessa Creek offer potential roosting and nursery habitat for bats, as well as foraging habitat. Many bat species that can occur in the SVRTC are federal and state species of concern.

Migratory Birds

Several species of migratory birds, including many raptors, are not currently listed under the federal ESA or California ESA, and are typically not considered to be special status species by CDFG or USFWS. However, the occupied nests and eggs of these birds are protected by federal and state laws, including the MBTA and California Fish and Game Code Sections 3503 (active bird nests) and 3503.5 (active raptor nests). Migratory birds have the potential to nest and forage in all natural and some semi-natural habitats in the corridor. The highest concentration of nesting migratory birds is in the riparian

forests of the Guadalupe River, Coyote Creek, Upper Penitencia Creek, and Berryessa Creek.

Swallows

Cliff swallows, tree swallows, and barn swallows may nest in the SVRTC. Cliff swallows and barn swallows are colonial nesters and build mud nests on the undersides of artificial structures such as bridges. Tree swallows prefer to nest in riparian and other woodland habitats with trees and snags that contain cavities for nesting. Swallow nesting occurs from February to August, and southward migration occurs in September and October. Potential nesting habitat for swallows occurs on the undersides of bridge structures located throughout the SVRTC and in riparian habitat located along the Guadalupe River, Coyote Creek, Upper Penitencia Creek, and Berryessa Creek. These swallow species have no special status under the federal ESA or California ESA. However, the occupied nests and eggs of these birds are protected by federal and state laws, including the MBTA and California Fish and Game Code Sections 3503 (active bird nests and eggs) and Section 3513 (nesting birds).

Plants

Congdon's Tarplant

Congdon's tarplant blooms June through November and is regarded as a member of a group of plants termed spikeweeds and tarplants. Congdon's tarplant has been recently placed in a new genus. It is a prickly composite that blooms yellow-headed ray and disk florets June through November. Congdon's tarplant is often confused with the yellow-headed, weedy, prickly sow thistle, stinkweed, and bristly ox-tongue, which often grow together. The most distinctive feature of Congdon's tarplant is the bracts that subtend the flowering heads. These bracts or modified leaves, known as phyllaries, greatly exceed the yellow rays in length, and form a prickly crown around each flowering head.

A single population of 12 flowering individuals of Congdon's tarplant was observed during the initial project field surveys in Milpitas in 2004, along the east side of the UPRR switching yard, 0.2 miles south of Calaveras Boulevard. In 2005, more than 100 flowering Congdon's tarplants were observed in the same location. No Congdon's tarplants were observed in the ruderal grasslands north of Calaveras Boulevard near this area. In 2006, fewer living Congdon's tarplants were observed, and dead individuals were noted in the same area as seen in 2005. The most recent surveys identified more than 100 Congdon's tarplants at the same site south of Calaveras Boulevard. Therefore, Congdon's tarplant is still present to the extent identified in 2005.

In 2004, Congdon's tarplants were identified at two other locations, which each consisted of 12 or less individuals. Subsequent surveys within the SVRTC have never relocated these two populations and Congdon's tarplant is presumed to no longer exist at these sites.

Alkali Milkvetch

A tiny, annual member of the pea family, alkali milkvetch is a relative of locoweeds. It has pinnately compound leaves, small green legume fruits, and blooms pinkish flowers March through June. The species favors alkali playas, vernal pools, and moist grasslands in heavy clay soils (CNPS, 2007). There are only historical occurrences (1905) of this species in Santa Clara County (CNDDDB, 2008). Based on the lack of known occurrences, the species range, and its association with vernal pools and mesic grasslands – factors not present within the SVRTC vicinity – it is unlikely that alkali milkvetch is present within the SVRTC.

Diamond-Petaled California Poppy

The diamond-petaled California poppy blooms small, diamond-shaped yellow-petaled flowers March through April. The diamond-petaled California poppy is the cousin of *Eschscholzia lemmonii*, a relative of the large, orange-flowered California poppy, the California state flower. The diamond-petaled California poppy is known from small topographic depressions in alkaline heavy clay soils of the Carrizo Plain (CNPS, 2007). Recently, it was identified in the Livermore Valley (CalFlora, 2002). Because this plant is not known to exist in Alameda nor Santa Clara counties and because the habitat is extremely disturbed by plowing/disking and herbicide applications, the diamond-petaled California poppy is unlikely to be present within the SVRTC.

4.2.4 REGULATORY CONSIDERATIONS

Federal Laws and Regulations

Federal Endangered Species Act

The ESA of 1973 protects fish and wildlife species that have been identified by USFWS and/or NOAA Fisheries as threatened or endangered, and their habitats. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range; *threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future. USFWS and NOAA Fisheries administer the ESA. In general, NOAA Fisheries is responsible for protection of ESA-listed marine species and anadromous fishes while other listed species are under USFWS jurisdiction. The following sections summarize provisions of the ESA (Sections 9 and 7) that are relevant to the project.

ESA Prohibitions (Section 9)

ESA Section 9 prohibits the “take” of any fish or wildlife species listed under the ESA as endangered. Take of a threatened species is also prohibited under Section 9 unless otherwise authorized by federal regulations. Take, as defined by the ESA, means “to harass, harm, pursue, hunt, shoot, wound, trap, kill, capture, or collect, or to attempt to engage in any such conduct.” Harm is defined as “any act that kills or injures the species, including significant habitat modification.” In addition, Section 9 prohibits

removing, digging up, cutting, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction.

ESA Authorization Process for Federal Actions (Section 7)

ESA Section 7 provides a means for authorizing take of threatened and endangered species by federal agencies. It applies to actions that are conducted, permitted, or funded by a federal agency. Under Section 7, the federal agency conducting, funding, or permitting an action (the lead agency) must consult with USFWS or NOAA Fisheries, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed project “may affect” a listed species or designated critical habitat, the lead agency is required to prepare a Biological Assessment (BA) evaluating the nature and severity of the expected effect. If the BA concludes that the project “may affect, but is not likely to adversely affect” the species and/or designated critical habitat, then the USFWS or NOAA Fisheries must determine whether or not they concur with that conclusion. If so, then they may issue a Letter of Concurrence (LOC) and specify conditions underlying their concurrence, thereby concluding informal consultation. If, however, the USFWS or NOAA Fisheries do not concur and determine instead that the project “is likely to adversely affect” the species under review, then formal consultation is necessary and USFWS or NOAA Fisheries issues a Biological Opinion (BO), with a determination that the proposed action either:

- may jeopardize the continued existence of one or more listed species (jeopardy finding) or result in the destruction or adverse modification of critical habitat (adverse modification finding), or
- will not jeopardize the continued existence of any listed species (no jeopardy finding) or result in adverse modification of critical habitat (no adverse modification finding).

The BO issued by USFWS or NOAA Fisheries may stipulate discretionary “reasonable and prudent” conservation measures. If the project would not jeopardize a listed species, USFWS or NOAA Fisheries issues an *incidental take statement* to authorize the proposed activity.

Migratory Bird Treaty Act

The MBTA (16 USC 703, 50 CFR Part 21, 50 CFR Part 10) enacts the provisions of treaties between the U.S., Canada, Mexico, Japan, and the former Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. Most actions that result in taking or in permanent or temporary possession of a protected species constitute violation of the MBTA. Examples of permitted actions that do not violate the MBTA include: the possession of a hunting license to pursue specific game birds; legitimate research activities; display in zoological gardens; bird-banding; and other similar activities (Faanes et al., 1992). USFWS is responsible for overseeing compliance with the MBTA, and the U.S. Department of Agriculture's Wildlife Services Officer makes recommendations on related animal protection issues.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with NOAA Fisheries on all actions or proposed actions (permitted, funded, or undertaken by the federal agency) that may adversely affect fish habitats. Under the provisions of the Act, Congress mandated the identification of habitats essential to managed species (e.g., commercial species) and measures to conserve and enhance these habitats. The Act requires cooperation among NOAA Fisheries, Regional Fishery Management Councils, fishing participants, and federal and state agencies to protect, conserve, and enhance "essential fish habitat," defined as those waters and substrate necessary to fish for spawning, breeding, feeding, and growth to maturity.

Federal Clean Water Act

The CWA is the primary law protecting the quality of the nation's surface waters, including lakes, rivers, and wetlands. As such, it empowers U.S. Environmental Protection Agency to set national water quality standards and effluent limitations and establishes permit review mechanisms to enforce them, operating on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit.

Sections 303(d) (Identification of Areas with Insufficient Controls, Maximum Daily Load, Certain Effluent Limitation Revision), 401 (Certification), 402 (National Pollutant Discharge Elimination System) and 404 (Permits for Dredged or Fill Material) of the CWA apply to the BEP and SVRTP Alternatives. Sections 401 and 404 of the CWA are discussed below. Sections 303(d) and 402 are discussed in Section 4.15.5 of the Water Resources section.

Most of the CWA's provisions are at least indirectly relevant to the management and protection of biological resources because of the link between water quality and ecosystem health. The portions of the CWA that are most directly relevant to biological resources management are contained in Section 404, which regulates the discharge of dredged and fill materials into waters of the United States including the following:

- All areas within the ordinary high water mark of a stream, including nonperennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned; and
- Seasonal and perennial wetlands, including coastal wetlands.

Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Part 328.3, 40 CFR Part 230.3).

Section 404 requires project proponents to obtain a permit from ACOE for all discharges of dredged or fill material into waters of the U.S., including oceans, bays, rivers, streams, lakes, ponds, and wetlands, before proceeding with a proposed activity. ACOE may issue either an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. Nationwide Permits (NWP) are a type of general permit issued to cover particular activities. Each NWP specifies conditions that must be met in order for the NWP to apply to a particular project. Compliance with Section 404 requires compliance with several other environmental laws and regulations, including NEPA, the ESA, and the National Historic Preservation Act (NHPA) (see Section 4.4, Cultural and Historic Resources).

Section 404 permits may be issued only if there is no practicable alternative to the proposed discharge that would have less of an adverse effect on the aquatic ecosystem and has no other adverse environmental consequences. In addition, ACOE cannot issue or verify any permit until a state water quality certification, or waiver of certification, has been issued by the RWQCB pursuant to Section 401. Section 401 requires that every applicant for a federal permit or license for an activity that may result in a discharge into waters of the U.S. obtain certification that the activity will comply with state water quality standards.

Executive Order 11990—Protection of Wetlands

Executive orders are laws issued by the President of the United States that pertain to all federal agencies. Executive Order 11990 (May 24, 1977) is an overall wetland policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state and local projects. It requires federal agencies to follow procedures for avoidance, mitigation, and preservation, with public input, before proposing new construction in wetlands. When federal lands are proposed for lease or sale to nonfederal parties, Executive Order 11990 requires that the lease or conveyance contain restrictions to protect and enhance the wetlands on the property. The restrictions of this executive order apply to wetlands on military installations proposed for closure. In this capacity, Executive Order 11990 can affect the sale of federal lands with wetlands. Compliance with Section 404 permit requirements may constitute compliance with the requirements of Executive Order 11990.

Executive Order 13112—Invasive Species

Executive Order 13112 (February 3, 1999) directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species.

When issuing permits, the USFWS and ACOE would be responsible for ensuring that the project complies with Executive Order 13112 and does not contribute to the spread of invasive species.

State Laws and Regulations

California Endangered Species Act

The CESA protects wildlife and plants listed as threatened and endangered under the Act by the California Fish and Game Commission. It is administered by CDFG. The CESA prohibits all persons from taking species that are state-listed as threatened or endangered except under certain circumstances; the CESA definition of *take* is any action or attempt to “hunt, pursue, catch, capture, or kill.”

Section 2081 of the Act provides a means by which agencies or individuals may obtain authorization for incidental take of state-listed species, except for certain species designated as “fully protected” under the California Fish and Game Code. Take must be incidental to, and not the purpose of, an otherwise lawful activity. Requirements for a Section 2081 permit are similar to those used in the ESA Section 7 process. They include identification of adverse effects on listed species; development of mitigation measures that minimize and fully mitigate adverse effects; development of a monitoring plan; and assurance of funding to implement mitigation and monitoring.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) prohibits importation of rare and endangered plants into California; take of rare and endangered plants; and sale of rare and endangered plants. CESA prohibits take of listed plants except as otherwise authorized by the CNPPA, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA.

Removal of plants for performance of a public service by a public agency or a publicly or privately owned public utility is exempt from CNPPA. Accordingly, some activities associated with the BEP or SVRTP alternative may be considered exempt from the CNPPA. However, evaluation of the potential for adverse effects on state-listed plant species is required pursuant to CEQA Guidelines, Section 15380(c)(1).

California Fish and Game Code

Protections for Individual Species

The California Fish and Game Code provides protection from take for a variety of species, defining *take* as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

Certain species are considered *fully protected*, meaning that the regulations explicitly prohibit all take of individuals of these species, except for take required for scientific research, which may be authorized by CDFG in some situations. Sections 3511, 4700, 5515, and 5050 of the Fish and Game Code lists fully protected birds, mammals, fishes, and amphibians and reptiles, respectively.

The regulations provide less stringent protection for other species, prohibiting most take but permitting CDFG to issue regulations authorizing take under some circumstances. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) under Sections 3513 and 3503.5, birds of prey under Section 3503.5, migratory non-game birds under Section 3800, and other specified birds under Section 3505.

Lake or Streambed Alteration Agreements (Section 1600 to 1616)

The Fish and Game Code, Section 1600 to 1616, regulates activities that interfere with the natural flow of, or substantially alter the channel, bed, or bank of a lake, river, or stream. Lakebed and streambed alteration activities are covered under Section 1602 for public and private entities. Requirements to protect the integrity of biological resources and water quality are often conditions of Lake or Streambed Alteration Agreements.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in part, implements the federal CWA to provide a mechanism for protecting the quality of the state’s waters through the State

Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). Section 4.15, Water Resources, describes the provisions of the Porter-Cologne Act.

The SWRCB and San Francisco Bay RWQCB have taken the position that the Porter-Cologne Act and basin plans developed pursuant to the Act provide independent authority to regulate discharge of fill material to wetlands outside the jurisdiction of ACOE. This applies specifically to isolated wetlands considered non-jurisdictional based on the *Solid Waste Agency of Northern Cook County (SWANCC) v. United States Army Corps of Engineers* decision (121 S.Ct. 675, 2001), which limited ACOE's jurisdiction over isolated wetlands. The SWRCB and RWQCB also regulate activities on creek banks that are above the ordinary high water mark. For example, clear span bridges with abutments above the ordinary high water mark would not need a Section 401 permit, but may require issuance of waste discharge requirements from RWQCB. In addition, SWRCB recently adopted General Waste Discharge Requirements for activities that occur in waters of the state that are outside of ACOE jurisdictional waters. Coverage under these requirements can be obtained by filing an NOI with RWQCB.

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