Section 3.3
Biological Resources

Introduction

The biological resources impact analysis is qualitative and is not site-specific because of the wide geographical area that comprises the program area. As part of subsequent, project-specific environmental analysis, the County shall identify site-specific study areas for more detailed identification of biological resources at those locations.

This impact analysis assumes that biological resources could be affected directly or indirectly by construction and maintenance activities associated with the proposed roadway improvements. Disturbance could be caused by the following activities:

- stream dewatering or installation of temporary water-diversion structures;
- loss of habitat associated with widening roadways;
- temporary stockpiling of soil or construction materials, and sidecasting of soil and other construction wastes;
- removal of vegetation during construction of temporary staging areas and access roads;
- soil compaction and generation of dust by construction equipment;
- water runoff from the construction area;
- degradation of water quality in wetlands and waterways resulting from road runoff.

Jones & Stokes reviewed the following sources of information to prepare the biological resources section of this chapter.

- The DFG's California Natural Diversity Database (CNDDB) for Monterey, Seaside, and Carmel Valley USGS quadrangles that cover Carmel Valley (California Natural Diversity Database 2006).
- The California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Vascular Plants of California—online edition (2006).
- Species lists provided by the USFWS (Appendix B).

- Previously prepared environmental documents.
- Monterey County General Plan.
- Published and unpublished literature.
- Jones & Stokes file information.

Environmental Setting

Information presented about the existing biological setting of Carmel Valley is general and is not based on site-specific field surveys for the program area. Field surveys would be conducted as needed, and site-specific biological resource information would be evaluated under subsequent project-specific environmental review. A map of the sensitive and common habitats is presented in Figure 3.3-1.

Sensitive Habitats

The following habitat types, known to occur within Carmel Valley, are generally considered to be sensitive habitats for the purpose of this program-level analysis. In general, the DFG associates specific species types to habitats in order to define them as "sensitive"; however, due to the programmatic nature of this analysis, the identification of presence or absence of specific species types to each habitat is not always possible. Consequently, for the purpose of this qualitative analysis the overall habitat type is considered to be sensitive. Where specific species types are known, that information is provided in the habitat descriptions below. However, this identification is not inclusive, and other vegetative associations may exist and subsequent project-specific environmental reviews tiered from this EIR would need to conduct site-specific evaluations to determine the presence or absence of these habitats within a specific project area.

Blue Oak Woodland

In the program area, blue oak woodland can be found in association with mixed chaparral, coastal scrub, annual grassland, and coastal oak woodland. It is often found on rocky, well-drained, infertile soils. In this habitat type, blue oak (*Quercus douglasii*) is the dominant species and is typically characterized by an overstory of scattered trees and an understory of annual grassland on dry ridges and moderate slopes (Mayer and Laudenslayer 1988). This habitat type may have a minor shrub component, especially on rock outcrops. Blue oaks may also occur in denser stands on better quality habitat. Frequently associated arboreal species of this habitat type are coast live oak and valley oak (*Q. lobata*). Common shrub associates are poison-oak (*Toxicodendron diversilobum*), coffeeberry (*Rhamnus californica*), buckbrush (*Ceanothus* spp.), redberry (*Rhamnus* spp.), California buckeye (*Aesculus californica*), and manzanita (*Arctostaphylos* ssp.) Common components of the annual grassland cover are

brome grass (*Bromus* spp.), wild oats (*Avena* spp.), filaree (*Erodium* spp.), fiddleneck (*Amsinckia* spp.*)*, and other grass species. Blue oaks have a high tolerance for drought and thrive in dry hilly areas (Mayer and Laudenslayer 1988). The blue oak- valley oak-coast live oak/grassland association is considered a sensitive community by DFG (2003).

Oak woodlands are important habitats because of their high value to wildlife in the form of nesting sites, cover, and food (Mayer and Laudenslayer 1988). Birds associated with oak woodlands include acorn woodpeckers (*Melanerpes formicivorus*), Nuttall's woodpeckers (*Picoides nuttallii),* western scrub jay (*Aphelocoma californica),* yellow-billed magpie (*Pica nuttalli*), and many warblers and flycatchers. Cavities in oak trees are important nesting sites for American kestrel (*Falco sparverius*), tree swallow (*Tachycineta bicolor*), oak titmouse (*Baeolophus inornatus*), house wren (*Troglodytes aedon*), and western bluebird (*Sialia mexicana*). Oak woodlands provide nesting sites for raptors, such as red-tailed hawks (*Buteo jamaicesis*), red-shouldered hawks (*Buteo lineatus*), and great-horned owls (*Bubo virginianus*) (Zeiner et al. 1990a.). Mammals associated with woodlands include western gray squirrel (*Sciurus griseus*), pallid bat (*Antrozous pallidus*), bobcat (*Lynx rufus*), blacktail deer (*Odocoileus hemionus*), and gray fox (*Urocyon cinereoargenteus*) (Zeiner et al. 1990b). Acorns are an important food source for species such as California quail (*Callipepla californica*), wild turkey (*Meleagris gallopavo*), western gray squirrel, and blacktail deer (Mayer and Laudenslayer 1988).

Monterey Pine Forest

Monterey pine forest habitat occurs in the northwestern portion of the program area, not far from the coast and intermingles mostly with coastal oak woodland. Monterey pine forest habitat usually occurs. Monterey pine stands are considered sensitive natural communities by DFG (2003).

Monterey pine (*Pinus radiata*) is native to Monterey County and can be found along the Carmel River and potentially in the program area. Associates of Monterey pine include coast live oak and madrone. Common shrubs in the understory are buckthorn (*Rhamnus* sp.), poison oak, California huckleberry (*Vaccinum ovatum*), and manzanita (Mayer and Laudenslayer 1988). Bishop pine (*P. muricata*) and knobcone pine (*P. attenuata*) however, also native to Monterey County, are not found along the Carmel River or in the program area as the former occurs close to the coast and the latter occurs much farther south.

A number of game species, including tree squirrels and band-tailed pigeons, and non-game species use this habitat type for feeding and cover.

Montane Hardwood-Conifer

In the program area, montane hardwood-conifer can be found intermingling with mixed chaparral, coastal oak woodland, and annual grassland. Montane

Hardwood-Conifer habitat combines coniferous and hardwood tree species in a double-canopy forest with a poorly developed understory (Mayer and Laudenslayer 1988). One-third of the trees in this community are conifers while another third are broad-leaved. Common associates in this habitat are Douglas-fir (*Pseudotsuga menziesii*), madrone, coast live oak, big leaf maple (*Acer macrophyllum*), tanoak (*Lithocarpus densiflora*), and coast redwood (*Sequoiadendron sempervirens*). This community falls between the dense coniferous forests and more open habitat types such as montane hardwood, mixed chaparral, and open woodland communities (Mayer and Laudenslayer 1988). This habitat type is often found in montane areas with narrow valleys.

A variety of wildlife species utilize montane hardwood-conifer habitat because of variable canopy cover and understory vegetation. As with other habitat types with hardwood trees, this component provides habitat for cavity-nesting birds. Acorns and other nuts are important food sources for both birds and mammals. In areas with moderate moisture, amphibians may be found in leaf litter. There is great variety in wildlife species that may occur in this community type because the vegetation composition of montane hardwood-conifer can vary greatly based on geographic location (Mayer and Laudenslayer 1988.)

Redwood

Redwood habitat can be found along the California coast from San Louis Obispo County north to the California-Oregon border up to 31 miles inland (Mayer and Laudenslayer 1988). This habitat requires mesic conditions where temperatures are relatively stable. These areas are greatly influenced by coastal fog and marine air flows. In the program area, this habitat is often found in association with coastal oak woodland. In Monterey County, it can be found as high as 3,000 feet in elevation. Redwood habitat comprises several coniferous species including coast redwood, the dominant species, Douglas-fir, tan oak, and madrone (*Arbutus menziesii*). Other species that may occur are Bishop pine (*Pinus muricata*), Monterey pine (*P. radiata*), California bay (*Umbellularia californica*), and big-leaf maple. In second growth redwood stands, there is generally little understory vegetation and an open park-like appearance. Old growth stands tend to have a much denser understory component (Mayer and Laudenslayer 1988).

Many species of amphibians, reptiles, birds, and mammals occupy redwood forests, which provide food, cover, and special habitat components such as tree cavities for nesting. Several sensitive wildlife species occupy redwood habitat such as red-legged frog (*Rana aurora*), osprey (*Pandion haliaetus*), marbled murrelet (*Brachyramphus marmoratus*), ringtail (*Bassariscus astutus*), and Pacific fisher (*Martes pennanti pacifica*) (Mayer and Laudenslayer 1988). Some wildlife species (e.g., marbled murrelet and spotted owl [*Strix occidentalis*]) are dependent on old growth redwood forests or show a strong preference for them as breeding habitat (Zeiner et al. 1990a).

Redwood habitat within Carmel Valley is primarily located in the southwest area, outside of the Carmel Valley Road corridor. This habitat is unlikely to be affected by any of the proposed roadway improvements.

Montane Riparian

In the program area, sporadic patches of montane riparian habitat are found aside the Carmel River along the floor of Carmel Valley. Montane riparian habitat often occurs as a narrow dense zone of broad-leaved, winter deciduous trees which occur alongside of rivers, streams, springs, and other water bodies (Mayer and Laudenslayer 1988). At lower elevations, there is little understory and the canopy can reach 30 m. Members of the montane riparian community vary throughout the state. Common species include bigleaf maple, black cottonwood (*Populus balsamifera* ssp. *trichocarpa)*, willow (*Salix* ssp.), and alder (*Alnus* spp.).

Because the vegetation is diverse and well developed, riparian forest provides high-value habitat for wildlife, including several special-status species. Riparian forest habitat provides food, water, and migration and dispersal corridors, as well as escape, nesting and thermal cover for many wildlife species (Mayer and Laudenslayer 1988). Invertebrates, amphibians, and aquatic reptiles live in aquatic and adjacent upland habitats. Raptors, herons, egrets, and other birds nest in the upper canopy. A variety of songbirds use the shrub canopy, and cavity-nesting birds, such as Nuttall's woodpecker, and oak titmouse, occupy dying trees and snags (Zeiner et al. 1990a). Several mammals including raccoons (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunks (*Mephitis mephitis*) are common in riparian habitats (Zeiner et al. 1990b).

Water/Aquatic

Water/aquatic habitat is defined as areas with more than 98 percent total cover by open water and less than 2 percent total cover by vegetation in the continually exposed shore zone (DFG *California Interagency Wildlife Task Group* 2005). Open water habitat in the program area is found in the Carmel River and its tributaries.

Wildlife use of this habitat type is dependent on the extent of emergent and submergent vegetation, and adjacent streamside (riparian) vegetation. Creek channels with well-vegetated areas provide food, water, and migration and dispersal corridors, as well as escape, nesting and thermal cover for many wildlife species (Mayer and Laudenslayer 1988). Wildlife species associated with stream and riparian habitats include western toad (*Bufo boreas*), California newt (*Taricha torosa*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), great egret (*Ardea alba*), belted kingfisher (*Ceryle alcyon*), raccoon, and striped skunk. (Zeiner et al. 1988, 1990a, 1990b). In less-vegetated areas, aquatic species (e.g., fish, invertebrates, and amphibians), are found in the creek channel, and the banks of the channel are often used by species that require

less cover, such as California ground squirrel (*Spermophilus beecheyi*), western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis melanoleucus*), and their predators (e.g., coyotes [*Canis latrans*], raptors).

Common Habitats

Agriculture

In the program area, agricultural land occurs on the valley floor, near the Carmel River, and adjacent to urban areas. Agriculture refers to areas where the native vegetation has been cleared for both irrigated and non-irrigated agricultural use. It is defined by areas having less than 2% total cover by non-wildland vegetation grown for food, fiber, or landscaping, and does not meet criteria for any wildland habitat (DFG *California Interagency Wildlife Task Group* 2005). This can include dryland grain crops, irrigated grain crops, irrigated hayfields, irrigated row and field crops, rice, orchards, and vineyards (Mayer and Laudenslayer 1988).

Agricultural lands are established on fertile soils that historically supported abundant wildlife. The quality of habitat for wildlife is greatly diminished when the land is converted to agricultural uses and is intensively managed. Many species of rodents and birds have adapted to agricultural lands, but they are often controlled by fencing, trapping, and poisoning to prevent excessive crop losses. However, certain agricultural lands have become important habitats for wintering waterfowl and breeding and wintering raptors. In the program area, wildlife species associated with agricultural lands include mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), sandhill crane (*Grus canadensis*), various raptor species, egrets, and many species of rodents (Mayer and Laudenslayer 1988).

Annual Grassland

Annual grassland is found throughout the program area, although primarily in the northern portion. It intermingles with coastal oak woodland, coastal scrub, montane hardwood, and several other communities. Annual grassland is an herbaceous plant community dominated by annual grasses and herbs (Sawyer and Keeler-Wolf 1995). Most annual grasses in California's grasslands are nonnative grasses from the Mediterranean basin. Common introduced species found in this habitat are ripgut brome (*Bromus diandrus*), red brome (*B. rubens*), soft chess (*B. hordeaceus*), Mediterranean barley (*Hordeum hystrix*), wild oats (*Avena barbata* and *A. fatua*), soft brome (*Bromus hordeaceus*), foxtail chess (*B. madritensis*), leporinum barley (*Hordeum murinum* ssP. *leporinum*), Italian ryegrass (*Lolium multiflorum*), rat-tail fescue (*Vulpia myuros*). Common forbs are broadleaf filaree (*Erodium botrys*), redstem filaree (*E. cicutarium*), turkey mullein (*Eremocarpus setigerus*), bur clover (*Medicago minima*), and true clovers

(Mayer and Laudenslayer 1988; California Wildlife Habitat Relationships Staff 2005). Perennial grasses such as purple needlegrass (*Nassella pulchra*) and Idaho fescue (*Festuca idahoensis*), are occasionally found in annual grassland.

Annual grasslands are used by many wildlife species for foraging. Some of these species also breed in annual grassland if special habitat features such as cliffs, caves, ponds, or woody plants are available for breeding, resting, or as escape cover. Reptiles that breed in annual grassland habitats include western fence lizards, common garter snake (*Thamnophis sirtalis*), and western rattlesnake (*Crotalus tigris*). Grasslands provide foraging habitat for wide-ranging species such as red-tailed hawk, turkey vulture (*Cathartes aura*), American kestrel, and northern harrier (*Circus cyaneus*). Mammals typically found in this habitat include California vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), California ground squirrel, blacktail jackrabbit (*Lepus californicus*), coyote, and American badger (*Taxidea taxus*) (Mayer and Laudenslayer 1988). In addition, many species that nest or roost in adjacent woodlands may forage in grasslands, including western bluebird, western kingbird (*Tyrannus verticalis*), and some species of bats.

Barren

In the southeastern portion of the program area, there is a small portion of barren ground along the Carmel River. This habitat is characterized by a lack of vegetation. This includes areas having less than 2 percent total coverage of herbaceous, desert, or non-wildland species, and less than 10 percent tree or shrub cover (Mayer and Laudenslayer 1988). Along rivers, this includes vertical riverbanks and canyon walls.

Because of the lack of vegetation, barren ground has a limited use by wildlife. However, some species, such as western burrowing owl (*Athene cunicularia hypugea*) and California horned lark (*Eremophila alpestris actia*), prefer areas with limited or very low growing vegetation.

Blue Oak-Foothill Pine Woodland

In the program area, a relatively small patch of this habitat type can be found in the southeastern part of the program area intermingling with coastal oak woodland. This woodland type consists of hardwood and conifer species, with blue oak and foothill pine (*Pinus sabiniana*) predominating. Blue oaks tend to be more abundant in this habitat than foothill pine, as foothill pine-dominated stands tend to lose their blue oak members, which are shade-intolerant (Mayer and Laudenslayer 1988). Common associates of these species in the Coast Range are coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), and California buckeye. At lower elevations like those in the program area, blue oak is the dominant species in the canopy, while grasses and forbs tend to make up most of the understory. At higher elevations where foothill pines are the dominants, patches of shrubs will occur along with the grasses and forbs.

A large variety of wildlife species breed in blue oak-foothill pine woodland habitat, although no species is completely dependent on it for breeding, feeding, or cover. Most species utilizing this habitat breed during late winter and early spring (Mayer and Laudenslayer 1988). Blue oak-foothill pine woodland habitat provides forage opportunities for a variety of bird species that feed on acorns, bark, and foliage insects. Primary cavity-nesting birds (e.g., woodpeckers) excavate nest holes in living and dead trees, which are subsequently used by other cavity-nesting species such as the American kestrel, white-breasted nuthatch (*Sitta carolinensis*), and western bluebird. Other species that may occur in this habitat include wild turkey, oak titmouse, and western gray squirrel (Zeiner et al 1990a and 1990b).

Coastal Oak Woodland

Coastal oak woodland comprises the majority of the program area and intermingles with most of the other habitat types in the area. The nature and composition of coastal oak woodland varies throughout the state. The overstory is composed of deciduous and evergreen hardwoods and sometimes coniferous species (Mayer and Laudenslayer 1988; California Wildlife Habitat Relationships Staff 2005). In mesic sites, trees are closely spaced and the canopy is closed while in drier sites, trees are wider-spaced and form an open woodland. Composition of the understory also varies widely depending on the nature of the overstory (open or closed) among other factors. Coast live oak dominates coastal oak woodland from Sonoma County southward and is often the only overstory species in certain coastal regions. Additional species found in coastal oak woodland vary depending on the specific site conditions. In more mesic areas, California bay, madrone, tanbark oak, and canyon live oak (*Quercus chrysolepis*) are commonly members. On drier interior sites, valley oak, blue oak, and foothill pine often associate with coast live oak. Coastal oak woodland can intergrade with chaparral and coastal scrub, in which case the species from the latter communities form the understory. In mesic areas characterized by dense coast live oak forest, shade tolerant shrubs dominate the understory while in drier open sites, grassland species tend to do so (Mayer and Laudenslayer 1988; California Wildlife Habitat Relationships Staff 2005).

Coastal oak woodland has a similar value to wildlife as blue oak woodland described above. Wildlife species associated with coastal oak woodland would be similar to those described for blue oak woodland.

Mixed Chaparral

In the program area, mixed chaparral intermingles with montane hardwood-conifer habitat, coastal oak woodland, coastal scrub, and annual grassland. Mixed chaparral is a shrubland community characterized by drought and fire-adapted evergreen woody shrubs with thick sclerophyllous leaves ranging from 1-4m in height (Hanes 1988). Mature cismontane mixed chaparral is generally a nearly impenetrable shrub community with greater than 80 percent shrub cover

and little herbaceous understory (Mayer and Laudenslayer 1988, Hanes 1988). Dominant species in this habitat type are scrub oak (*Quercus berberidifolia*), ceanothus species (*Ceanothus* spp.), and manzanita species (*Arctostaphylos* spp.). Other common associates are chamise (*Adenestoma fasciculatum*), toyon (*Heteromeles arbutifolia*), coffeeberry (*Rhamnus californica*), madrone (*Arbutus menziesii*), California bay (*Umbellularia californica*), birchleaf mountain-mahogany (*Cercocarpus betuloides*), poison-oak, bush monkey flower, hollyleaf cherry (*Prunus ilicifolia*), and California yerba santa (*Eriodictyon californicum*) (Holland 1986; Mayer and Laudenslayer 1988).

Mixed chaparral provides habitat for a variety of birds and mammals. Numerous rodents, deer, and other herbivores are common in chaparral communities. Rabbits and hares will eat twigs, evergreen leaves, and bark from chaparral in fall and winter when there isn't an abundance of grasses. Shrubby vegetation provides mammals with cover and shade during hot weather and protection from wind in the winter. Chaparral provides seeds, fruits, insects, and protection from predators and the weather, in addition to singing, roosting, and nesting sites for many species of birds (Mayer and Laudenslayer 1988.) California quail, Bewick's wren (*Thryomanes bewickii*), wrentit, California thrasher, blacktail jackrabbit, brush mouse (*Peromyscus boylii*), dusky-footed woodrat (*Neotoma fuscipes*), and blacktail deer are common in chaparral habitats (Zeiner et al. 1990a, 1990b).

Coastal Scrub

The specific structure of coastal scrub habitat varies depending on whether the community is located along the northern, central, or southern coastal region of California (Holland 1986). The program area lies just south of Point Sur, the most southern area in the state supporting northern coastal scrub habitat. The program area thus supports primarily central coastal scrub. Species composition changes as one moves from the northern to the southern coastal scrub communities. While evergreen species prevail in the north, drought-deciduous species become more prevalent as one moves into the central and southern scrub habitats (Mayer and Laudenslayer 1988). Coastal scrub habitat consists of shrubs lower in height than in the mixed chaparral community (0–2 m tall), having semi-woody stems growing from a woody base, a shallow root system, and flexible branches (in de Becker, 1988). The presence of understory is also dependant upon the location of the coastal scrub community. Northern scrubs tend to have a well-developed understory of herbaceous species while southern scrubs tend to lack a significant herb understory. Coastal scrub is often found on steep, south-facing slopes. Typical species in central coast scrub are coastal sage scrub (*Artemesia californica*), coyote brush (*Baccharis pilularis*), bush monkey flower (*Mimulus aurantiacus*), black sage (*Salvia mellifera*), coffeeberry, and coast buckwheat (*Eriogonum latifolium*) (Holland 1986).

Denser shrub habitats provide suitable breeding habitat and/or cover for several species of birds, including California thrasher (*Toxostoma redivivum*), spotted towhee (*Piplio maculatus*), wrentit (*Chamaea fasciata*), and golden-crowned sparrow (*Zonotrichia atricapilla*). Less dense shrub areas provide suitable

breeding habitat and/or cover for northern mockingbird (*Mimus polyglottos*), Brewer's blackbird, Anna's hummingbird, and American robin (*Turdus migratorius*) (Zeiner et al. 1990a.). These more open areas are also suitable for western fence lizards and blacktail jackrabbits, which use the area beneath shrub vegetation for cover (Zeiner et al. 1988, 1990b).

Montane Hardwood

Montane hardwood habitat is characterized by areas with a hardwood tree layer (oaks), a poorly developed shrub layer, and a patchy herbaceous layer (Mayer and Laudenslayer 1988). Canyon live oak is the dominant member of this community. Common associates are foothill pine, tanoak, madrone, and California bay. In the program area, montane hardwood is found in association with mixed chaparral, coastal scrub, and coastal oak woodland. Typical understory vegetation includes Oregon grape (*Berberis aquifolium),* currant, (*Ribes* spp.), wood rose (*Rosa woodsii*), snowberry (*Symphoricarpos* sp.), manzanita, poison oak, and various forbs and grasses (Mayer and Laudenslayer 1988). Montane hardwood habitat is often found on moderate to steep slopes with rocky, coarse, well-drained soils.

Montane hardwood is similar to blue oak woodland and coastal live oak woodland, and therefore has a similar value to wildlife as these vegetation communities. Wildlife species associated with montane hardwood would be similar to those described for blue oak and coastal live oak woodlands.

Urban

Urban habitat is a developed habitat type, which is present in the program area throughout the Carmel Valley along the Carmel River. It includes all areas that are planted and maintained as landscaped areas. These habitats are often host to a wide array of invasive species.

Urban areas have marginal value for wildlife because of human disturbance and a lack of vegetation. Wildlife species that use these areas are typically adapted to human disturbance. Wildlife species associated with urban residential and suburban areas include western scrub jay, northern mockingbird, house finch (*Carpodacus mexicanus*), rock dove (*Columba livia*), raccoon, opossum, striped skunk, western fence lizard, and gopher snake (Mayer and Laudenslayer 1988).

Special-Status Species

Special-status species are plants and animals that are legally protected under the California Endangered Species Act (CESA) and federal Endangered Species Act (ESA) or other regulations, and species that are considered sufficiently rare by

the scientific community to qualify for such listing. Special-status plants and animals are species in the following categories.

- Species listed or proposed for listing as threatened or endangered under the ESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under the ESA (67 FR 40657, June 13, 2002).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations 670.5).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380).
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).
- Plants considered by the CNPS to be "rare, threatened, or endangered in California" (Lists 1B and 2 in California Native Plant Society 2001).
- Plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution (Lists 3 and 4 in California Native Plant Society 2001), which may be included as special-status species on the basis of local significance or recent biological information.
- Animal species of special concern to DFG (California Department of Fish and Game 2006, Remsen 1978 [birds], Williams 1986 [mammals], and Jennings and Hayes 1994 [amphibians and reptiles]).
- Animals fully protected in California (California Fish and Game Code Sections 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).

Other laws that protect wildlife species include the following.

- California Fish and Game Code Sections 3503 and 3503.5, which protect nesting raptors, their nests, and eggs.
- The federal Migratory Bird Treaty Act (MBTA), which protects nesting migratory birds.
- The Bald and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the taking, possession, transportation, export or import, barter, or offers to sell, a bald or golden eagle, alive or dead, or any part, nest, or eagle egg.
- Fish species that are considered commercially valuable under essential fish habitat protection established by the Sustainable Fisheries Act of 1996, which amended the Magnuson-Stevens Fishery Conservation and Management Act.

As described below under *Impacts and Mitigation Measures*, additional field surveys may be conducted as part of the subsequent, project-specific environmental analysis for projects proposed in the roadway improvement program to determine the exact location and distribution of special-status species in the program area.

Special-Status Plant Species

Table 3.3-1, identifies 48 special-status plant species known to occur in and near Carmel Valley that have potential to occur within the program area. The table summarizes the legal status, period of identification, distribution, and habitat for each species. The table was compiled based on the following sources:

- a records search of the CNDDB for the Monterey, Seaside, and Carmel Valley USGS 7.5-minute quadrangles (California Natural Diversity Database 2006),
- USFWS species list for Monterey County (Appendix B), and
- CNPS' *Inventory of Rare and Endangered Plants of California*, online edition (2006).

Thirty-one of the 48 special-status plants identified were determined to have a high potential of occurrence in Carmel Valley based on habitat presence and recorded occurrence in or near the program area. Of these, eight species, Hickman's onion, Eastwood's goldenbush, Carmel Valley bush mallow, Santa Lucia bush mallow, Carmel Valley malacothrix, Yadon's rein orchid, Santa Cruz microseris, and Pacific Grove clover, are known to occur in the program area (California Natural Diversity Database 2006). Three species were determined to have no potential for occurrence based on lack of habitat. Fourteen special-status plants were determined to have a low potential of occurrence based on absence of habitat or the presence of less suitable habitat for a species and/or indications that a species may have been extirpated from the area. The following six species are believed to have been extirpated or have sightings prior to 1950: robust spineflower, jolon clarkia, San Francisco collinsia, fragrant fritillary, marsh microseris, and maple-leaved checkerbloom. In addition, hooked popcorn flower has not been documented since 1962. Two species, Gowen cypress and Monterey cypress, were designated as having low potential because the only known native stands are along the immediate Monterey coastline. However, potential habitat for these species exists in the program area. Both high and low potential species should be surveyed for on a project-by-project basis during the appropriate blooming periods.

Special-Status Wildlife Species

Table 3.3-2 identifies special-status wildlife species known to occur in and near Carmel Valley. It includes the legal status, distribution, and habitat for each

Table 3.3-1 Special Status Plant Species with Potential to Occur in the CVMP Area[1]

Species	Status[1] USFWS	CDFG	CNPS	Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
Allium hickmanii Hickman's Onion	–	–	1B	Closed-cone coniferous forest, maritime chaparral, coastal prairie, coastal scrub, valley and foothill grassland, generally +/- 150' (5-200m)	Monterey and San Louis Obispo Counties	Sandy loam, damp ground and vernal swales; mostly in grassland though can be assoc. with chaparral or woodland.	April - May	Yes	High, occurrence in CVMP area
Arctostaphylos hookeri ssp. *hookeri* Hooker's manzanita	–	–	1B	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub on sandy substrate, 85-536m	Endemic to Monterey and Santa Cruz Counties	Sandy soils, sandy shales, sandstone outcrops	Jan-June	Yes	High, where sandy soils are present, occurrence recorded in Carmel, and north of closed-cone pine-cypress habitat in CVMP area
Arctostaphylos montereyensis Monterey manzanita	–	–	1B	Chaparral, cismontane woodland, coastal scrub, sandy soils, 30-730m	Monterey and San Louis Obispo Counties	Sandy soil, usually with chaparral assoc.	Feb-Mar	Yes	High, where sandy soils are present, occurrence recorded north of CVMP area between Seaside and Spreckles

[1] Program area = Carmel Valley Master Plan (CVMP) area

Table 3.3-1, continued

Species	Status [1] USFWS	CDFG	CNPS	Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
Arctostaphylos pajaroensis Pajaro manzanita	–	–	1B	Chaparral, 30-760m	Monterey, San Benito, and Santa Cruz* Counties	Sandy soil	Dec-Mar	Yes	High, where sandy soils are present
Arctostaphylos pumila Sandmat manzanita	–	–	1B	Openings in closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub, in sandy areas, 3-205m	Endemic to Monterey County	Sandy soil, usually with chaparral assoc.	Feb-May	Yes	High, where sandy soils are present
Astragalus tener var. *titi* Coastal dunes milk-vetch	E	E	1B	Coastal bluff scrub, coastal dunes, 1-50m	Los Angeles*, San Diego*?, Monterey Counties	Moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean; one site on a clay terrace	March-May	No	None
Centromadia parryi ssp. congdonii Congdon's tarplant	–	–	1B	Valley and foothill grassland; 1-230m	Alameda, Contra Costa, Monterey, Santa Clara, Santa Cruz *, San Luis Obispo, San Mateo, Solano* Counties	Alkaline soils, sometimes described as heavy white clay; tolerates disturbed conditions	May - Oct (Nov)	Yes	High, where alkaline soils are present
Chlorogalum purpureum var. *pupureum* Purple amole	T	–	1B	Chaparral, cismontane woodland, valley and foothill grassland, 205-350m	Monterey and San Louis Obispo Counties	Gravelly, clay soils in grassland	Apr-June	Yes	High, at elevations over 200m (700')
Chorizanthe pungens var. *pungens* Monterey spineflower	T	–	1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland, 3-450m	Monterey, Santa Cruz, San Louis Obispo* Counties	Sandy soils in coastal dunes or more inland within chaparral or other habitats	Apr-Jun (July)	Yes	High

Table 3.3-1, continued

Species	Status [1] USFWS	CDFG	CNPS	Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
Chorizanthe robusta var. *robusta* Robust spineflower	E	–	1B	Coastal bluff scrub, coastal dunes, openings in cismontane woodland, coastal scrub (sandy or gravelly), 3-300m	Alameda*, Monterey, Marin, Santa Clara*, Santa Cruz, San Francisco, San Mateo* Counties	Sandy terraces and bluffs or in loose sand, sandy soil	Apr-Sept	Yes	Low, on sandy soil in woodland openings, possibly extirpated, last seen 1902
Clarkia jolonensis Jolon clarkia	–	–	1B	Cismontane woodland, chaparral, coastal scrub, 20-660m	Endemic to Monterey County		Apr-June	Yes	Low, last sighting in 1947
Collinsia multicolor San Francisco collinsia	–	–	1B	Closed-cone coniferous forest, coastal scrub, 30-250m	Monterey, Santa Clara, Santa Cruz, San Francisco, San Mateo Counties	Sometimes on serpentinite in coastal scrub or decomposed shale mixed with humus	Mar-May	Yes	Low, last seen 1903
Cordylanthus rigidus ssp. littoralis Seaside bird's beak	–	E	1B	Closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, 0-425m	Endemic to Monterey and Santa Barbara Counties	Sandy or disturbed areas in coastal scrub; sandy soils of stabilized dunes in maritime chaparral	Apr-Oct	Yes	High, especially where sandy soils present
Corethrogyne leucophylla Branching beach aster	–	–	3	Closed-cone coniferous forest, coastal dunes, 3-60m	Monterey, Santa Cruz, San Mateo, and San Louis Obispo Counties		May-Dec	Yes	High
Cupressus goveniana ssp. *goveniana* Gowen cypress	T	–	1B	Closed-cone coniferous forest, maritime chaparral, 30-300m	Endemic to Monterey County	Coastal terraces; usually in sandy soils; sometimes w/Monterey pine, bishop pine	NA	Yes	Low, only 3 native stands known, both near the coast

Species	Status [1]			Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
	USFWS	CDFG	CNPS						
Cupressus macrocarpus Monterey cypress	–	–	1B	Closed-cone coniferous forest, 10-30m	Endemic to Monterey County	Granitic soils	NA	Yes	Low, only 2 native stands known, both along the coast
Delphinium hutchinsoniae Hutchinson's larkspur	–	–	1B	Broadleaved upland forest, chaparral, coastal prairie, coastal scrub, 0-400m	Endemic to Monterey County	On semi-shaded, slightly moist slopes, usually west-facing	Mar-June	Yes	Yes
Delphinium umbraculorum Umbrella larkspur	–	–	1B	Cismontane woodland, 400-1600m	Monterey, Santa Barbara, San Luis Obispo, and Ventura Counties	Moist areas	Apr-Jun	Yes	High, where project area is above 400m (1300’)
Ericameria fasciculate Eastwood's goldenbush	–	–	1B	Closed-cone coniferous forest, maritime chaparral, coastal dunes, coastal scrub, 30-275m	Endemic to Monterey County	Sandy openings in coastal scrub	July-Oct	Yes	High, occurrence in CVMP area
Eriogonum nortonii Pinnacles buckwheat	–	–	1B	Chaparral, valley and foothill grassland, 300-975m	Monterey and San Benito Counties	Sandy soils in chaparral; often on recent burns in valley and foothill grassland	May-Aug (Sept)	Yes	High, where CVMP area is above 300m (950')
Erysimum ammophilum Coast wallflower	–	–	1B	Chaparral, coastal dunes, coastal scrub, 0-60m	Monterey, Santa Cruz, and San Mateo Counties, Santa Rosa Island	Sandy soils and openings in maritime chaparral, coastal dunes, and coastal scrub	Feb-June	Yes	High, where sandy soils are present

Table 3.3-1, continued

Species	Status [1] USFWS	CDFG	CNPS	Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
Erysimum menziesii ssp. *menziesii* Menzies' wallflower	E	E	1B	Coastal dunes, 0-35m	Mendocino and Monterey Counties	Localized on dunes and coastal strand	Mar-June	No	None
Erysimum menziesii ssp. *yadonii* Yadon's wallflower	E	E	1B	Coastal dunes, 0-10m	Endemic to Monterey County		May-Sept	No	None
Fritillaria liliacea Fragrant fritillary	–	–	1B	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland, 3-410m	Alameda, Contra Costa, Monterey, Marin, San Benito, Santa Clara, San Francisco, San Mateo, Solano, Sonoma Counties	Often on serpentinite; adobe (clay) soils of interior foothills	Feb-Apr	Yes	Low, possibly extirpated, last seen 1931
Gilia tenuiflora ssp. *arenaria* Sand gilia	E	T	1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, 0-45m	Monterey and Santa Cruz Counties	Sandy soils; in bare, wind-sheltered areas, often near the dune summit or in hind dunes.	Apr-June	Yes	Low, most likely coastal, but may be present in sandy soils
Grindelia hirsutula var. maritime San Francisco gumplant	–	–	1B	Coastal bluff scrub, coastal scrub, valley and foothill grassland	Monterey, Marin, Santa Cruz, San Francisco, San Luis Obispo, and San Mateo Counties	Sandy soils on serpentinite in grassland; generally occurs on slopes or ocean bluffs	June-Sept	Yes	High, where sandy soils on slopes are present
Holocarpha macradenia Santa Cruz tarplant	T	E	1B	Coastal prairie, coastal scrub, valley and foothill grassland, 10-220m	Alameda*, Contra Costa*, Monterey, Marin*, Santa Cruz, and Sonoma* Counties	Often on clay, sandy soils in grassland	Jun-Oct	Yes	High

Table 3.3-1, continued

Species	Status [1]			Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
	USFWS	CDFG	CNPS						
Horkelia cuneata ssp. *sericea* Kellogg's horkelia	–	–	1B	Closed-cone coniferous forest, coastal scrub, maritime chaparral, 10-200m	Alameda*, Monterey, Marin*, Santa Barbara, Santa Cruz, San Francisco*, San Luis Obispo, and San Mateo Counties	Openings on sandy or gravelly soils; on old dunes and coastal sandhills	Apr-Sept	Yes	High, where sandy or gravelly soils present
Lasthenia conjugens Contra Costa goldfields	E	–	1B	Cismontane woodland, valley and foothill grassland, 0-470m (below 700')	Alameda, Contra Costa, Mendocino*, Monterey, Marin, Napa, Santa Barbara*, Santa Clara*, Solano, Sonoma Counties	Alkaline playas and vernal pools and swales, mesic areas	Mar-June	Yes	Low, only present if low-lying mesic areas present
Layia carnosa Beach layia	E	E	1B	Coastal dunes, coastal scrub, 0-60m	Humboldt, Monterey, Marin, Santa Barbara*, and San Francisco* Counties; Hugely reduced in range along California's North Coast dunes.	Sandy soils in coastal scrub; On sparsely vegetated semi-stabilized dunes, usually behind foredunes	Mar-July	Yes	Low, most likely coastal, but may be present in sandy soils in coastal scrub
Leptosiphon croceus Coast yellow leptosiphon	–	–	1B	Coastal bluff scrub, coastal prairie, 10-150m	Monterey, Marin*, San Mateo Counties		Apr-May	No	None
Lupinus tidestromii Tidestrom's lupine	E	E	1B	Coastal dunes, 0-60m	Monterey, Marin, and Sonoma Counties	Partially stabilized dunes, immediately near the ocean	Apr-Jun	No	None
Malacothamnus palmeri var. *involucratus* Carmel Valley bush mallow	–	–	1B	Chaparral, cismontane woodland, coastal scrub, 30-1100m	Monterey and San Louis Obispo Counties	Talus hilltops and slopes; sometimes on serpentinite	May-Aug (Oct)	Yes	High, occurrence in CVMP area

Table 3.3-1, continued

Species	Status [1] USFWS	CDFG	CNPS	Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
Malacothamnus palmeri var. *palmeri* Santa Lucia bush mallow	–	–	1B	Chaparral, 60-360m	Monterey? and San Louis Obispo Counties	Rocky places in chaparral; dry rocky slopes, mostly near summits, but occasionally extending down canyons to the sea	May-July	Yes	High, occurrence in CVMP area
Malacothrix saxatilis var. *arachnoidea* Carmel Valley malacothrix	–	–	1B	Chaparral, 25-335m	Monterey, Santa Barbara, San Benito, San Luis Obispo Counties	Rocky places in chaparral; rock outcrops or steep rocky roadcuts	(Mar)June-Dec	Yes	High, in rocky sites, occurrence in CVMP area
Micropus amphibolus Mt. Diablo cottonweed	–	–	3	Broadleaved upland forest, chaparral, cismontane woodland, valley and foothill grassland, 45-825m	Alameda, Contra Costa, Colusa, Lake (LAK), Monterey, Marin, Napa, Santa Barbara, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, Solano, Sonoma counties	Bare rocky slopes in grassland	Mar-May	Yes	High, especially in rocky sites
Microseris paludosa Marsh microseris	–	–	1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland, 5-300m	Mendocino, Monterey, Marin, San Benito, Santa Cruz), San Francisco*, San Luis Obispo, San Mateo *, Sonoma Counties		Apr-June(July)	Yes	Low, last seen 1942
Monolopia congdonii (listed as *Lembertia congdonii)* San Joaquin woolythreads	E	–	1B	Chenopod scrub, valley and foothill grassland, 60-800m	Fresno, Kings, Kern, Santa Barbara, San Benito, San Luis Obispo, Tulare Counties (Monterey Co. too according to USFWS)	Sandy soil in grassland	Feb-May	Yes	High, where sandy soils occur in grassland

Table 3.3-1, continued

Species	Status [1] USFWS	CDFG	CNPS	Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
Pinus radiate Monterey Pine	–	–	1B	Closed-cone coniferous forest, cismontane woodland, 25-185m	Monterey, Santa Cruz, San Luis Obispo, San Mateo, Baja California, Isla Guadalupe - Baja	Dry bluffs and slopes	NA	Yes	High, occurrence in CVMP area
Piperia yadonii Yadon's rein orchid	E	–	1B	Coastal bluff scrub, closed-cone coniferous forest, maritime chaparral, 10-510m	Endemic to Monterey County	On sandstone and sandy soil, but poorly drained and often dry.	May-Aug	Yes	High, where sand soils occur in closed-cone coniferous forest, occurrence in CVMP area
Plagiobothrys uncinatus Hooked popcorn-flower	–	–	1B	Chaparral, cismontane woodland, valley and foothill grassland, 300-760m	Monterey, San Benito, Santa Clara, San Luis Obispo, Stanislaus Counties	Sandy areas; sandstone outcrops and canyon sides; often in burned or disturbed areas	Apr-May	Yes	Low, last seen 1962
Potentilla hickmanii Hickman's cinquefoil	E	E	1B	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, freshwater marshes and swamps, 10-135m	Monterey, San Mateo, and Sonoma* Counties	Freshwater marshes, seeps, and small streams in open areas in coastal bluff scrub or coniferous forest along the coast	Apr-Aug	Yes	Low, mostly coastal
Rosa pinetorum Pine rose	–	–	1B	Closed-cone coniferous forest, 2-300m	Monterey, Santa Cruz, and San Mateo? Counties		May-July	Yes	High
Sidalcea malachroides Maple-leaved checkerbloom	–	–	1B	Broadleaved upland forest, coastal prairie, coastal scrub, North Coast coniferous forest (Redwood & Douglas-fir forests), riparian woodland, 2-730m	UK	Woodland and clearings near coast, often disturbed areas	Apr-July (Aug)	Yes	Low, may have been extirpated, last sighting 1880s

Table 3.3-1, continued

Species	Status [1]			Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area
	USFWS	CDFG	CNPS						
Stebbinsoseris decipiens Santa Cruz microseris	–	–	1B	Broad-leaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, valley and foothill grassland, 10-500m	Monterey, Marin, Santa Cruz, San Francisco, San Luis Obispo, San Mateo Counties	Open areas in loose or disturbed soil, usually sandstone, shale, or serpentinite on seaward slopes	Apr-May	Yes	High, occurrence in CVMP area
Trifolium buckwestiorum Santa Cruz clover	–	–	1B	Broad-leaved upland forest, cismontane woodland, margins of coastal prairie, 105-610m	Mendocino, Monterey, Santa Cruz, and Sonoma Counties	Moist grassy areas on margins of broad-leaved upland forest, cismontane woodland, and coastal prairie, sometimes in disturbed areas	Apr-Oct	Yes	High
Trifolium polyodon Pacific Grove clover	–	R	1B	Closed-cone coniferous, coastal prairie, meadows and seeps, valley and foothill grassland, 5-120m	Endemic to Monterey County	Mesic areas, along small seeps and springs in grassy openings	Apr-June	Yes	High, occurrence in CVMP area
Trifolium tirchocalyx Monterey clover	E	E	1B	Closed-cone coniferous forest, 30-240m	Endemic to Monterey County	Sandy, openings in burned areas; poorly drained, low nutrient soil w/hardpan underneath	Apr-June	Yes	Low, most soils are well-drained

Species	Status [1] USFWS	CDFG	CNPS	Habitat	California Distribution	Microhabitat	Blooming Period	Habitat Present?	Potential to Occur in CVMP Area

Notes

* Extirpated in this County

? Uncertainty regarding location of population within County

Legal Status Definitions

– No Listing

Federal

E = Listed as "endangered" (legally protected) under the federal Endangered Species Act

T = Listed as "threatened" (legally protected) under the federal Endangered Species Act

State

E = Listed as "endangered" under the state Endangered Species Act

T = Listed as "threatened" under the state Endangered Species Act

SCC = Species of special concern in California

FP = Fully protected under the California Fish and Game Code

R = Listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation

California Native Plant Society

List 1A species = Presumed extinct in California

List 1B species = Rare, threatened, or endangered in California and elsewhere

List 2 species = Rare, threatened, or endangered in California but more common elsewhere

List 3 species = Plants about which more information is needed to determine their status.

List 4 species = Plants of limited distribution

Table 3.3-2. Special-Status Wildlife Species with Potential to Occur in the CVMP Area[1]

Common and Scientific Name	Status Federal/State	California Distribution	Habitats	Occurrence in CVMP Area
Longhorn fairy shrimp *Branchinecta longiantenna*	E/--	Eastern margin of central Coast Ranges from Contra Costa County to San Luis Obispo County; disjunct population in Madera County	Small, clear pools in sandstone rock outcrops of clear to moderately turbid clay- or grass-bottomed pools	Suitable habitat may be present; no occurrences in the CVMP area (CNDDB 2006; Eriksen & Belk 1999)
Conservancy fairy shrimp *Branchinecta conservatio*	E/--	Disjunct occurrences in Solano, Merced, Tehama, Ventura, Butte, and Glenn Counties	Large, deep vernal pools in annual grasslands	Suitable habitat may be present; no occurrences in the CVMP area (CNDDB 2006; Eriksen & Belk 1999)
Vernal pool fairy shrimp *Branchinecta lynchi*	T/--	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools	Suitable habitat may be present; no occurrences in the CVMP area (CNDDB 2006; Eriksen & Belk 1999)
Smith's blue butterfly *Euphilotes enoptes smithi*	E/--	Localized populations along the immediate coast and in coastal canyons of Monterey County; single populations reported in Santa Cruz and San Mateo Counties	Coastal dunes and hillsides that support seacliff buckwheat (*Eriogonum parvifolium*) or coast buck-wheat (*Eriogonum latifolium*); these plants used as a nectar source for adults and host plant for larvae	Suitable habitat is present and many CNDDB (2006) records for occurrences in the CVMP area
Monarch butterfly (overwintering habitat) *Danaus plexippus*	--/--	Adults migrate from August-October, and winter along the California coast and in central Mexico.	Open habitats including fields, meadows, weedy areas, marshes, and roadsides. Monarch butterflies roost in wind-protected tree groves (such as eucalyptus) with nectar and water sources nearby. Caterpillar host plants are milkweeds.	Suitable overwintering habitat may be present; two CNDDB (2006) records for occurrences west and southwest of the CVMP area

[1] Program area = Carmel Valley Master Plan (CVMP) area.

Table 3.3-2, continued

Common and Scientific Name	Status Federal/State	California Distribution	Habitats	Occurrence in CVMP Area
California tiger salamander *Ambystoma californiense*	T/SSC	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy	Suitable aquatic and upland habitat likely present; three CNDDB (2006) records for occurrences within 1-mile of the CVMP area
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	E/E, FP	Three metapopulations and breeding sites in coastal areas of southern Santa Cruz County and northern Monterey County	Lifetime spent mostly underground in willow groves, coastal scrub, coast live oak, or riparian habitats; migrates to breeding ponds in early to late winter, and juveniles disperse from the pond in September	CVMP area is outside of species known range
Arroyo toad *Bufo californicus*	E/SSC	Along the coast and foothills from San Luis Obispo County to San Diego County and inland to San Bernardino County	Sandy riverbanks, washes, and arroyos with open riparian vegetation. Prefers shallow, exposed streamside, quiet water stretches, or overflow pools with silt-free sandy or gravelly bottoms for breeding. Adults and young use nearby damp sandy terraces with scattered vegetation for shelter and burrow sites.	CVMP area is outside of species known range
California red-legged frog *Rana aurora draytoni*	T/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County	Permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods	Suitable aquatic and upland habitat present; several CNDDB (2006) records for occurrences throughout the Carmel River in the CVMP area
Southwestern pond turtle *Clemmys marmorata pallida*	--/SSC	Occurs along the central coast of California east to the Sierra Nevada and along the southern California coast inland to the Mojave and Sonora Deserts; range overlaps with that of the northwestern pond turtle throughout the Delta and in the Central Valley	Occupies aquatic habitats, such as ponds, marshes, or streams, with rocky or muddy bottoms in woodlands, grasslands, and open forests. Also requires aquatic vegetation for cover and food. Nests in upland adjacent to aquatic habitat.	Suitable aquatic habitat present; no occurrences in the CVMP area (CNDDB 2006)

Table 3.3-2, continued

Common and Scientific Name	Status Federal/State	California Distribution	Habitats	Occurrence in CVMP Area
Blunt-nosed leopard lizard *Gambelia (=Crotaphytus) silus*	E/E	San Joaquin Valley from Stanislaus County through Kern County and along the eastern edges of San Luis Obispo and San Benito Counties	Open habitats with scattered low bushes on alkali flats, and low foothills, canyon floors, plains, washes, and arroyos; substrates may range from sandy or gravelly soils to hardpan	CVMP area is outside of species known range
Black legless lizard *Anniella pulchra nigra*	--/SSC	Monterey Bay region	Coastal dunes with native vegetation or chaparral, pine-oak woodland, or riparian areas with loose soil for burrowing	Suitable habitat not present
California brown pelican (nesting colony and communal roosts) *Pelecanus occidentalis californicus*	E/E, FP	Along the entire California coast; rare to uncommon on the Salton Sea; breeds on the Channel Islands	Estuarine, marine, subtidal, and marine pelagic waters along the coast. Rests on water, inaccessible rocks, mudflats, sandy beaches, wharfs, and jetties.	Suitable habitat not present
California condor *Gymnogyps californianus*	E/E, FP	Historically, rugged mountain ranges surrounding the southern San Joaquin Valley; currently, most individuals are in captive populations, but a few birds were recently released in the rugged portions of the Los Padres National Forest	Requires large blocks of open savanna, grasslands, and foothill chaparral with large trees, cliffs, and snags for roosting and nesting	CVMP area is outside of species known range
White-tailed kite *Elanus leucurus*	--/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging	Suitable nesting habitat likely present; no CNDDB (2006) records for nests in the CVMP area
Bald eagle *Haliaeetus leucocephalus*	T/E, FP	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean	Suitable nesting habitat may be present along Carmel River; no CNDDB (2006) records for nests in the CVMP area

Table 3.3-2, continued

Common and Scientific Name	Status Federal/State	California Distribution	Habitats	Occurrence in CVMP Area
Sharp-shinned hawk *Accipiter striatus*	--/SSC	Permanent resident in the Sierra Nevada, Cascade, Klamath, and north Coast Ranges at mid elevations and along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties. Winters over the rest of the state except at very high elevations	Dense canopy ponderosa pine or mixed-conifer forest and riparian habitats	Suitable nesting habitat present; no CNDDB (2006) records for nests in the CVMP area
Cooper's hawk *Accipiter cooperii*	--/SSC	Throughout California except high altitudes in the Sierra Nevada. Winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range	Nests in a wide variety of habitat types, from riparian woodlands and digger pine-oak woodlands through mixed conifer forests	Suitable nesting habitat present; no CNDDB (2006) records for nests in the CVMP area
California clapper rail *Rallus longirostris obsoletus*	E/E, FP	Marshes around the San Francisco Bay and east through the Delta to Suisun Marsh	Restricted to salt marshes and tidal sloughs; usually associated with heavy growth of pickle-weed; feeds on mollusks removed from the mud in sloughs	Suitable habitat not present
Western snowy plover (coastal populations) *Charadrius alexandrinus nivosus* (nesting)	T/SSC	Population defined as those birds that nest adjacent to or near tidal waters, including all nests along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries. Twenty breeding sites are known in California from Del Norte to Diego County	Coastal beaches above the normal high tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent	Suitable habitat not present
California least tern (nesting colony) *Sterna antillarum browni*	E/E, FP	Nests on beaches along the San Francisco Bay and along the southern California coast from southern San Luis Obispo County south to San Diego County	Nests on sandy, upper ocean beaches, and occasionally uses mudflats; forages on adjacent surf line, estuaries, or the open ocean	Suitable habitat not present
Marbled murrelet *Brachyramphus marmoratus*	T/E	Nesting sites from the Oregon border to Eureka and between Santa Cruz and Half Moon Bay; winters in nearshore and offshore waters along the entire California coastline	Mature, coastal coniferous forests for nesting; nearby coastal water for foraging; nests in conifer stands greater than 150 years old and may be found up to 35 miles inland; winters on subtidal and pelagic waters often well offshore	Suitable habitat may be present; no CNDDB (2006) records for occurrences in the CVMP area

Table 3.3-2, continued

Common and Scientific Name	Status Federal/State	California Distribution	Habitats	Occurrence in CVMP Area
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	C/E	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant	CVMP area is outside of species known range
Western burrowing owl *Athene cunicularia hypugea*	--/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows	Suitable habitat may be present; no CNDDB (2006) records for occurrences in the CVMP area
Black swift *Cypseloides niger* (nesting)	--/SSC	Breeds very locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto mountains, and in coastal bluffs from San Mateo county south to near San Luis Obispo county	Nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons	Suitable nesting habitat may be present in canyons; no CNDDB (2006) records for occurrences in the CVMP area
Purple martin *Progne subis*	--/SSC	Coastal mountains south to San Luis Obispo County, west slope of the Sierra Nevada, and northern Sierra and Cascade ranges. Absent from the Central Valley except in Sacramento. Isolated, local populations in southern California	Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges	Suitable nesting habitat likely present; no CNDDB (2006) records for nests in the CVMP area
Least Bell's vireo *Vireo bellii pusillus*	E/E	Small populations remain in southern Inyo, southern San Bernardino, Riverside, San Diego, Orange, Los Angeles, Ventura, and Santa Barbara Counties	Riparian thickets either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons	CVMP area is outside of species known range
Yellow warbler *Dendroica petechia brewsteri* (nesting)	--/SSC	Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes along the eastern side of the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties. Two small permanent populations in San Diego and Santa Barbara Counties	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses	Suitable nesting habitat likely present; no CNDDB (2006) records for nests in the CVMP area

Table 3.3-2, continued

Common and Scientific Name	Status Federal/State	California Distribution	Habitats	Occurrence in CVMP Area
Tricolored blackbird *Agelaius tricolor*	--/SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony	Suitable nesting habitat may be present; no CNDDB (2006) records for nests in the CVMP area
Pallid bat *Antrozous pallidus*	--/SSC	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts	May roost, forage. and drink in the CVMP area
Monterey dusky-footed woodrat *Neotoma fuscipes luciana*	--/SSC	Occurs throughout Monterey and northern San Luis Obispo Counties where appropriate habitat is available	Coast live oak woodland and chaparral habitats with moderate canopy cover and moderate to dense understory and abundant deadwood for nest construction	Suitable habitat present along the Carmel River and other drainages; no CNDDB (2006) records for nests in the CVMP area
San Joaquin kit fox *Vulpes macrotis mutica*	E/T	Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County	Saltbush scrub, grassland, oak, savanna, and freshwater scrub	CVMP area is outside of species known range
Southern sea otter *Enhydra lutris nereis*	T/FP	Occurs approximately from the vicinity of Half Moon Bay south to Gaviota, California. Approximately 20 otters, including pups, are at San Nicolas Island as a result of translocation efforts to establish an experimental population	Coastal waters, typically within 1 km of shoreline. Often associated with kelp beds	Suitable habitat not present
South Central California Coast Steelhead *Oncorhynchus mykis*s	T/---	The distinct population segment is located in coastal streams from Aptos Creek (Santa Cruz County) to Grover Beach in San Luis Obispo	Coastal streams	Suitable migratory and rearing habitat located in Carmel River. Spawning habitat upstream.

Common and Scientific Name	Status Federal/State	California Distribution	Habitats	Occurrence in CVMP Area
American badger *Taxidea taxus*	—/SSC	Throughout California, except for the humid coastal forests of northwestern California in Del Norte and the northwestern Humboldt Counties	Requires sufficient food, friable soils, and relatively open uncultivated ground; preferred habitat includes grasslands, savannas, and mountain meadows near timberline	Suitable habitat may be present; no CNDDB (2006) records for occurrences in the CVMP area

Notes

Legal Status Definitions

Federal

– = No status

E = Listed as "endangered" under the federal Endangered Species Act

T = Listed as "threatened" under the federal Endangered Species Act

C = Candidate for threatened or endangered status

FPD = Federally proposed for delisting

State

– = No status

E = Listed as "endangered" under the state Endangered Species Act

T = Listed as "threatened" under the state Endangered Species Act

SCC = Species of special concern in California

FP = Fully protected under the California Fish and Game Code

special-status wildlife species within the program area. The table was compiled based on the following sources:

- USFWS species list for Monterey County (U.S. Fish and Wildlife Service 2006) (Appendix B),
- a records search of the CNDDB for the Monterey, Seaside, Carmel Valley USGS 7.5-minute quadrangles (California Natural Diversity Database 2006), and
- a review of previously prepared environmental documents for projects in the vicinity.

Thirty-four special-status wildlife species were identified as having the potential to occur within the program area. Thirteen of these species would not occur in the program area because suitable habitat for these species is not present within the program area (coastal marine/habitat) and/or the program area is located outside of the species' known range. Of the remaining 21 species, there are CNDDB records for occurrences of two wildlife species (Smith's blue butterfly and California red-legged frog) in the program area (California Natural Diversity Database 2006). In addition, there are records for monarch butterfly, California tiger salamander, and tricolored blackbird within 1-mile of the program area boundary. Although there are no CNDDB records for occurrences of the remaining species, it is expected that suitable habitat for these species is present in the program area, based on the plant communities/habitat types present. A portion of the program area is located within designated critical habitat for California red-legged frog (50 FR 19244-19346, April 13, 2006). The program area does not contain designated critical habitat for any other federally listed wildlife species.

Special-Status Fish Species

Table 3.3-2 includes special-status fish species known to occur in and near Carmel Valley. It includes the legal status, distribution, and habitat preference for special-status fish species within the program area. Only one special status fish species was identified as having the potential to occur within the program area, South-Central California Coast District Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*). This DPS includes all naturally spawned populations of steelhead in California streams from Aptos to south of Grover City. The Carmel River is designated critical habitat (FR 70: 52488) for steelhead. Steelhead are anadromous (sea-run) rainbow trout that spawn in freshwater, spend the first year (or years) of life in freshwater, and then migrate to the ocean where they continue to grow and mature before returning to spawn.

Introduction of Noxious Weeds

For the purpose of this analysis and future project-specific assessments, a noxious weed is defined as a plant that could displace native plants and natural

habitats, affect the quality of forage on rangelands, or affect cropland productivity. The California Department of Food and Agriculture (CDFA) lists weeds and assigns ratings (A–C) to each species on the list. The ratings reflect CDFA's view of the statewide importance of the pest, the likelihood that eradication or control efforts would be successful, and the present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances. The rating system is explained below.

- A: an organism of known economic importance subject to state (or commissioner, when acting as a state agent) enforced action involving eradication, quarantine, containment, rejection, or other holding action.
- B: an organism of known economic importance subject to eradication, containment, control, or other holding action at the discretion of the individual county agricultural commissioner, or an organism of known economic importance subject to state-endorsed holding action and eradication only when found in a nursery.
- C: an organism subject to no state-enforced action outside of nurseries except to retard spread at the discretion of the commissioner, or an organism subject to no state-enforced action except to provide for pest cleanliness in nurseries.

Noxious weeds in Monterey County were not inventoried for this program-level analysis because target weeds would differ widely from project to project, depending on the sensitivity of the site to infestation, the nature of the proposed project, and the type of weeds in the immediate area. In subsequent project-specific environmental review, a qualified botanist would develop a target list of noxious weeds that present a risk to the specific program area. The target list would include all A-rated weed species. Some B- and C-rated species would be included on project-specific target lists if they are identified as target noxious weeds by the county agricultural commission. Weeds would also be included in target lists if they are considered to have great potential for displacing native plants and damaging natural habitats but are not considered too widespread to be controlled effectively.

An Executive Order on invasive species (February 3, 1999) directs weed control (see "Regulatory Setting" below). As part of project-specific environmental analyses, the Monterey County Agricultural Commissioner would be contacted to discuss noxious weed infestation and dispersal on private and public rights-of-way.

Regulatory Setting

This section describes the federal, state, and local plans, policies, and regulations that are relevant to biological resources within the program area.

Federal Regulations

This discussion focuses on the federal requirements associated with subsequent CEQA compliance for the proposed program. Additional federal requirements would apply to project-specific components of the program that receive federal funding or otherwise affect federal lands and decision-making. The additional federal requirements do not apply to the proposed program or this program EIR, but they would need to be addressed if federal funding or another federal action (e.g., if federal lands were crossed or a federal permit were required) were triggered at the time of consideration and approval of a specific project.

Endangered Species Act

The ESA protects fish and wildlife species, and their habitats, that have been identified by USFWS or National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) as threatened or endangered. *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.

The ESA is administered by USFWS and NMFS. In general, NMFS is responsible for protection of ESA-listed marine species and anadromous fishes, whereas listed, proposed, and candidate wildlife and plant species and commercial fish species are under USFWS jurisdiction. *Take* of listed species can be authorized through either the Section 7 consultation process for actions by federal agencies or the Section 10 permit process for actions by nonfederal agencies. Federal agency actions include activities that are:

- on federal land,
- conducted by a federal agency,
- funded by a federal agency, or
- authorized by a federal agency (including issuance of federal permits and licenses).

Under Section 7, the federal agency conducting, funding, or permitting an action (the federal lead agency) must consult USFWS or NMFS, 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. In response, USFWS issues a biological opinion (BO) with a determination that the proposed action:

- 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 may stipulate discretionary "reasonable and prudent" conservation measures. If the project would not jeopardize a listed species, USFWS issues an incidental take statement to authorize the proposed activity.

In cases where a nonfederal entity is undertaking an action that does not require federal authorization, the take of listed species must be permitted by USFWS through the Section 10 process. If the proposed project would result in the incidental take of a listed species, the applicant must first obtain a Section 10(a)(1)(B) incidental take permit (ITP). Incidental take under Section 10 is defined as take of federally listed fish and wildlife species "that is incidental to, but not the purposes of, otherwise lawful activities". To receive an ITP, the nonfederal entity is required to prepare a Habitat Conservation Plan (HCP). The HCP must include conservation measures that avoid, minimize, and mitigate the project's impact on listed species and their habitat.

Migratory Bird Treaty Act

The MBTA (16 USC 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10, 21). Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. Examples of permitted actions that do not violate the MBTA are the possession of a hunting license to pursue specific game birds, legitimate research activities, display in zoological gardens, bird-banding, and other similar activities. USFWS is responsible for overseeing compliance with the MBTA, and the U.S. Department of Agriculture's (USDA's) Animal Damage Control Officer makes recommendations on related animal protection issues.

Clean Water Act

The CWA was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The following discussion gives background information as relevant to biological resources; additional discussion of the CWA is provided in Section 3.2, *Hydrology and Water Quality*.

Waters of the United States are areas subject to federal jurisdiction pursuant to Section 404 of the CWA. *Waters of the United States* are typically divided into two types: *wetlands* and *other waters of the United States*.

Wetlands

Wetlands are "areas that are inundated or saturated by surface or groundwater 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 § 328.3[b], 40 CFR § 230.3). To be considered subject to federal jurisdiction, a wetland must normally support hydrophytic vegetation, hydric soils, and wetland hydrology (Environmental Laboratory 1987).

Other Waters of the United States

Other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high water mark but lack positive indicators for the three wetland parameters (33 CFR 328.4).

Permits for Fill Placement in Waters and Wetlands (Section 404)

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States.

Applicants must obtain a permit from the Corps for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. The Corps 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 (NWPs) are a type of general permit issued to cover particular fill activities. Each NWP specifies particular conditions that must be met for the NWP to apply to a particular project. Waters of the United States in the program area are under the jurisdiction of the San Francisco District of the Corps.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. The Corps cannot issue an individual permit or verify the use of a general permit until the requirements of NEPA, ESA, and the National Historic Preservation Act (NHPA) have been met. In addition, the Corps cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

Executive Order 13112 (Prevention and Control of Invasive Species)

Executive Order 13112 (February 3, 1999) directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. It established a national Invasive Species Council comprising federal agencies and departments and a supporting Invasive Species Advisory Committee comprising state, local, and private entities. The Invasive Species Council and Invasive Species Advisory Committee has prepared a National Invasive Species Management Plan (2001) that recommends objectives and measures to implement the Executive Order and prevent the introduction and spread of invasive species. The Executive Order and directives from FHWA require consideration of invasive species in NEPA analyses, including identification and distribution, potential impacts, and prevention or eradication measures.

State Regulations

California Endangered Species Act

California implemented CESA in 1984. It prohibits the take of endangered and threatened species; however, habitat destruction is not included in the state's definition of take. CESA Section 2090 requires state agencies to comply with endangered species protection and recovery, and to promote conservation of these species. DFG administers CESA and authorizes take through Section 2081 agreements (except for species designated as fully protected).

For rare plant species, CESA defers to the California Native Plant Protection Act of 1977, which prohibits importing, taking, or selling rare and endangered plants. State-listed plants are protected mainly in cases in which state agencies are involved in projects under CEQA. In such cases, plants that are listed as rare under the California Native Plant Protection Act are not protected under CESA but can be protected under CEQA.

California Fish and Game Code

Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as *fully protected species*. Section 5050 lists protected amphibians and reptiles. Section 3515 prohibits take of fully protected fish species. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) under Sections 3503.5 and 3513, birds of prey under Section 3503.5, and fully protected birds under Section 3511. Migratory non-game birds are protected under Section 3800. Mammals are protected under Section 4700. The California Fish and Game Code defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited. There are two fully protected species, white-tailed kite and bald eagle, which have the potential to occur in the program area.

Streambed Alteration Agreements (Section 1602 et seq.)

DFG has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under California Fish and Game Code Sections 1602. DFG has the authority to regulate all work under the jurisdiction of California that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

In practice, DFG marks its jurisdictional limit at the top of the stream or lake bank or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by CWA Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under Section 1600 may encompass a greater area than those regulated under CWA Section 404.

DFG enters into a Streambed Alteration Agreement (SAA) with an applicant and can request conditions to ensure that no net loss of wetland values or acreage will be incurred. The streambed or lakebed alteration agreement is not a permit but, rather, a mutual agreement between DFG and the applicant.

Sections 3503 and 3503.5

Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests.

Local Policies and Regulations

This section summarizes local policies and regulations that pertain to biological resources that could affect or be affected by the proposed roadway improvements.

Tree Protection

The County has an ordinance for the protection of trees within its jurisdiction. Tree protection within the County varies in accordance with different areas and master plans, which provide specific policies relative to the protection of specific types of trees. Within the Carmel Valley Master Plan (CVMP) area, a protected tree is defined as any oak, madrone, or redwood tree having a trunk diameter equal to or greater than 6-inches in diameter at 2-feet above ground. In addition, policies governing the removal of landmark oak trees are applied on a countywide basis and are subject to approval by the Director of Monterey County Resource Management Agency – Planning Department. The County defines landmark oak trees as "those trees which are twenty-four (24) inches or more in diameter when measured two feet above the ground, or trees which are visually significant, historically significant, or exemplary of their species" (16.60.030).

As a condition of permit approval, any applicant seeking to remove a protected tree from a property within County jurisdiction is required to relocate or replace each removed protected tree at a one-to-one ratio. Removal of more than three protected trees from a single lot over a one-year period requires submission of a Forest Management Plan and approval of a Use Permit by the Monterey County Planning Commission. The Forest Management Plan is to be prepared at the applicant's expense by a qualified professional forester (16.60.040).

Several tree removal activities are exempted from the provisions of the County tree ordinance. These include certain commercial timber operations; any governmental or utilities-related tree removal that occurs within public rights-of-way; and any construction-related tree removal that is included in an approved subdivision, Use Permit, or similar discretionary permit (16.60.040).

Wildlife Habitat

The County has numerous policies in place to protect sensitive wildlife habitat from development. The General Plan requires careful planning near areas with limited plant communities, areas with particular value for wildlife, and areas with high value for wildlife reproduction (Monterey County General Plan Policies 7.1 and 9.1). Within the CVMP area, development in or adjacent to areas of biological significance is strictly controlled but may be allowed under certain conditions provided impacts on the resources are minimized. In addition to the redwood community of Robinson Canyon and the riparian community and redwood community of Garzas Creek, the CVMP identifies the following as

areas of biological significance: wetlands, including marshes, seeps, and springs; native bunchgrass and natural meadows; cliffs, rock outcrops and unusual geologic substrates; and Ridgelines and wildlife migration routes (7.1.1.1 [CV]).

General Plan habitat guidelines are implemented through the Monterey County Zoning Ordinance. For all proposed development within a known sensitive habitat or within 100-feet of the habitat, the zoning ordinance requires a biological survey performed by a qualified biologist. Development within the habitat or the 100-foot buffer, including vegetation removal, excavation, grading, filling, and road construction is prohibited except for resource dependent uses. Only development with adequate mitigations or no significant or cumulative impacts to long-term maintenance of habitat may occur (21.66.020).

When proposed development within the CVMP area is either in or adjacent to a rare or endangered plant community, the County requires the project applicant to provide a botanical report prepared by a qualified botanist. The report includes a description of the habitat to be affected by the project, an assessment of the project's potential for impacting rare and endangered species, and suggestions for mitigation of project impacts. In any cases where a rare or endangered species is found onsite, development cannot proceed until an Incidental Taking Permit or exclusion is obtained and the State Department of Fish and Game is notified, pursuant to Fish and Game Code Chapter 10 Section 1913c (11.1.1.1 [CV]).

Floodplain Management

The County's floodplain management policies protect riparian habitat and streams by prohibiting the building of structures within the floodplain. The General Plan prohibits all new discretionary development including filling, grading, and construction within 200-feet of riverbanks or within the 100-year floodway except as permitted by ordinance. (16.2.3). The CVMP requires a permit for development within 200-feet of the Carmel River bank or 30-feet from any tributary bank (16.2.3 [CV]), and the County's Zoning Ordinance prohibits thinning or removal of riparian vegetation within 200-feet of the Carmel River without a use permit (21.64.130).

Criteria for Determining Significance

- In accordance with State CEQA Guidelines, applicable federal and state regulations, and local plans and policies, the proposed program would be considered to result in a significant impact if it would:have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by DFG or USFWS;
- have a substantial adverse effect on wetlands through direct removal, filling, hydrological interruption, or other means;

- interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- result in introduction of new noxious weed species or the spread of noxious weed species in the program area.
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance including the removal of any healthy native oak, madrone, or redwood trees.
- remove any landmark oak trees, defined as those "having a trunk diameter more than 24 inches measured above the ground at 2 feet, visually or historically significant; or
- conflict with the provisions of an adopted habitat conservation plan, natural communities conservation plan, or other approved local, regional, or state habitat conservation plan.

Standard professional practice was also used to determine whether an impact on biological resources would be significant. The proposed program would likely cause a significant impact if it resulted in:

- documented resource scarcity and sensitivity, both locally and regionally;
- decreased local and regional distribution of common and sensitive biological resources;
- long-term degradation of a sensitive plant community because of substantial alteration of land forms or site conditions (e.g., alteration of wetland hydrology);
- substantial loss of a plant community and associated wildlife habitat;
- fragmentation or isolation of wildlife habitats, especially riparian and wetland communities;
- substantial disturbance of wildlife because of human activities;
- disruption of natural wildlife movement corridors;
- substantial reduction in local population size attributable to direct mortality or habitat loss, lowered reproductive success, or habitat fragmentation of:
  - species qualifying as rare and endangered under CEQA,
  - species that are state or federally listed as threatened or endangered, or
  - portions of local populations that are candidates for state or federal listing and state species of concern; or
  - substantial reduction or elimination of species diversity or abundance.

Impacts and Mitigation Measures

A. Impacts on Vegetation

Impact BIO-1: Potential Disturbance or Loss of Sensitive Vegetation Types (Less than Significant with Mitigation)

There are several sensitive woodland and forest habitats within the program area; however, the majority of these habitats are not located within the proposed roadway improvement areas. These include blue oak woodland, Monterey pine forest, montane hardwood-conifer forest, and redwood forest. However, proposed roadway improvements could require encroachment onto these areas for construction staging or other construction activities. The disturbance or loss of these habitats is considered potentially significant because they may be native, in which case they are or would be considered sensitive habitats by DFG. Implementation of **Mitigation Measures BIO-1.1, BIO-1.2, and BIO-1.3** would reduce this impact to a **less-than-significant level**.

Mitigation Measure BIO-1.1: Conduct Focused Biological Surveys of Sensitive Vegetation Areas

The County shall retain a qualified biologist to conduct focused biological surveys to determine the presence of sensitive vegetation habitats within subsequent project-specific areas where roadway improvements will occur. Focused biological surveys shall be conducted according to relevant federal, state, and local policies and regulations and in coordination with regulatory agencies. The results of the surveys shall be summarized in a biological resources report used to inform subsequent environmental analyses, and shall be submitted to federal, state, and local agencies with jurisdiction over the project for review and approval, prior to commencement of any construction activities.

Mitigation Measure BIO-1.2: Avoid Impacts on Sensitive Woodland and/or Forest Habitats

If site-specific biological surveys identify presence of sensitive woodland and/or forest habitats within a specific project area, these habitats shall be protected from temporary construction disturbance by installing environmentally sensitive area fencing (orange construction barrier fencing) around the sensitive habitat(s). The environmentally sensitive area fencing shall be installed at least 20 feet from the edge of the population where feasible. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.

Mitigation Measure BIO-1.3: Conserve Sensitive Woodland and/or Forest Habitats to Mitigate for Loss of a Potentially Native Stand

If it is not feasible to avoid affecting sensitive woodland and/or forest habitats, the County shall mitigate for the loss by preservation of the specific woodland or forest habitat that may be removed elsewhere at a 1:1 or greater ratio. Priority will be given to sites that are closest to the specific project area and that are connected to similar intact woodland or forest habitats, in order to protect local genetic diversity and preserve areas with greater habitat value. Preservation shall occur through a reserve designation, conservation easement, or similar mechanism.

Impact BIO-2: Potential Disturbance or Loss of Sensitive Riparian and/or Water/Aquatic Habitat including Wetlands (Significant and Unavoidable)

Construction activities associated with the proposed roadway improvements could result in the disturbance or removal of montane riparian habitat along Carmel River and its tributaries, specifically where the river runs adjacent to Carmel Valley Road in the mid-valley area (see Figure 3.3-1). Project-related improvements could result in long-term degradation of sensitive plant communities, fragmentation or isolation of an important wildlife habitat, or disruption of natural wildlife movement corridors or important rearing habitat for juvenile steelhead.

Construction activities associated with the proposed roadway improvements could also result in the disturbance or loss of waters of the United States, including the Carmel River and its tributaries; other water/aquatic habitats including unnamed streams; vernal pools; freshwater marshes; and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities.

This impact is considered potentially significant because it could result in long-term degradation of a sensitive plant community, fragmentation or isolation of an important wildlife habitat, and disruption of natural wildlife movement corridors. This impact could also result in a loss of fish habitat for spawning and/or rearing. The extent of project-specific impacts and types of affected communities have not been determined. Implementation of **Mitigation Measures BIO-2.1 to BIO-2.6** would reduce these impacts, but not necessarily to a less-than-significant level for all roadway improvement projects. Therefore, this impact is considered **significant and unavoidable**.

Mitigation Measure BIO-2.1: Identify and Document Riparian Habitat

The County shall retain a qualified botanist to document the location, type, extent, and habitat functions and values for riparian habitat that

occurs in the program area. This information shall be mapped and documented as part of subsequent CEQA and/or NEPA environmental review (if required). **Mitigation Measures BIO-2.2 and BIO-2.3** shall be implemented concurrently.

Mitigation Measure BIO-2.2: Avoid or Minimize Disturbance of Riparian Habitats

To the extent possible, the County shall avoid impacts on riparian habitats by implementing the following measures.

- Each specific project will be redesigned or modified to avoid significant direct and indirect impacts on riparian habitats, if feasible.
- Installing environmentally sensitive area fencing around the affected habitat as stipulated by the Monterey County Zoning Ordinance and the CVMP will protect riparian habitats that occur near a specific project site. Depending on site-specific conditions, this buffer may be narrower or wider than 30 feet to protect the area from erosion. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced environmentally sensitive area.
- The potential for long-term loss of riparian vegetation will be minimized by trimming vegetation rather than removing the entire shrub where feasible. Shrub vegetation shall be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting shall be limited to a minimum area necessary within the construction zone. Additional requirements may apply if special-status species are associated with riparian vegetation that would be removed as part of the proposed program.

Mitigation Measure BIO-2.3: Compensate for the Loss of Riparian Habitat

If riparian habitat is removed as part of proposed roadway improvement projects, the County shall compensate for the loss of riparian vegetation to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, NMFS, and the Corps). Compensation shall be provided at a minimum ratio of 1 acre restored or created for every 1 acre removed. Compensation may comprise restoration/creation, off-site restoration, or mitigation credits (or a combination of these elements). The County shall develop and implement a restoration and monitoring plan for specific projects that describes how riparian habitat shall be enhanced or recreated, then monitored over a minimum period of time, as determined by the appropriate state and federal agencies.

Mitigation Measure BIO-2.4: Identify and Delineate Waters of the United States, Including Wetlands

As part of project-specific environmental review, the County shall retain a botanist to identify areas that could qualify as waters of the United States, including wetlands. Wetlands shall be identified using both the Corps and USFWS/DFG definitions of wetlands. Corps jurisdictional wetlands shall be delineated using the methods outlined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987). The jurisdictional boundary for other waters of the United States shall be identified based on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]).

This information shall be mapped and documented as part of subsequent CEQA and/or NEPA environmental review reports (if required), and wetland delineation reports. Mitigation Measures BIO-2.5 and BIO-2.6 shall be implemented concurrently.

Mitigation Measure BIO-2.5: Avoid or Minimize Disturbance of Waters of the United States, Including Wetland Communities

To the extent possible, the County shall avoid or minimize impacts on wetlands and other waters of the United States (creeks, steams, and rivers) by implementing the following measures.

- Each project shall be redesigned or modified to avoid significant direct and indirect impacts on wetland habitats, if feasible.
- Installing environmentally sensitive area fencing around the affected habitat as stipulated by the Monterey County Zoning Ordinance and the CVMP will protect wetland habitats that occur near a specific project site. Depending on site-specific conditions and permit requirements, this buffer may be narrower or wider than 30 feet to prevent erosion and sedimentation impacts on wetland habitats (e.g., 250 feet for seasonal wetlands that are considered special-status shrimp habitat). The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced environmentally sensitive area.
- Installation activities shall be avoided in saturated or ponded wetlands during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, protective practices, such as use of padding or vehicles with balloon tires, shall be used.

- Where determined necessary by resource specialists, geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) shall be used in saturated conditions to minimize damage to the substrate and vegetation.
- Exposed slopes and streambanks shall be stabilized immediately on completion of installation activities. Other waters of the United States shall be restored in a manner that encourages vegetation to reestablish to its pre-project condition and reduces the effects of erosion on the drainage system.
- In highly erodible stream systems, banks shall be stabilized using a nonvegetative material that binds the soil initially and breaks down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, geotextile mats, excelsior blankets, or other soil stabilization products will be used.
- During construction, trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high-water mark of drainages in a manner that minimizes disturbance of the drainage bed and bank will be removed.
- These measures shall be incorporated into contract specifications and implemented by the construction contractor. In addition, the County shall ensure that the contractor incorporates all permit conditions into construction specifications.

Mitigation Measure BIO-2.6: Compensate for the Loss of Wetland Habitat

If wetlands are permanently filled or disturbed as part of a specific project, the County shall compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, and the Corps). The compensation shall be at a minimum ratio of 1 acre restored or created for every 1 acre filled. Compensation may comprise onsite restoration/creation, off-site restoration, or mitigation credits (or a combination of these elements). The County will develop and implement a project restoration and monitoring plan that describes how wetlands shall be created and monitored over a minimum period of time.

Impact BIO-3: Potential Disturbance or Loss of Special Status Plant Populations (Significant and Unavoidable)

Construction and maintenance activities associated with the proposed roadway improvements could result in the direct loss or indirect disturbance of special-status plant species that are known to occur or that could grow in the program area (Table 3.3-1). Impacts on special-status plant species could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. This impact is considered potentially significant because

the county cannot guarantee that special-status plant species can be avoided as part of future improvements. Implementation of the following mitigation measures would reduce this impact, but possibly not to a less-than-significant level for all improvements; the degree of reduction would depend on the plant species (listed versus unlisted) and the extent of impact. Therefore, this impact is considered **significant and unavoidable**.

Mitigation Measure BIO-3.1: Document Special-Status Plant Species Populations

As part of the environmental review process for individual projects, the County shall retain a qualified botanist to document the presence or absence of special-status plant species before implementing a specific project. The following steps shall be taken to document special-status plant species for each project:

1. **Review existing information:** The botanist shall review existing information to develop a list of special-status plant species that could occur in a specific project area. Sources of information consulted shall include the CNDDB, previously prepared environmental documents, city and county general plans, and the CNPS electronic inventory.
2. **Coordinate with agencies:** The botanist shall coordinate with the appropriate agencies (DFG, USFWS) to discuss botanical resource issues and determine the appropriate level of surveys necessary to document special-status plant species.
3. **Conduct field studies:** The botanist shall evaluate existing habitat conditions for each project and determine what level of botanical survey is required. The type of botanical survey shall depend on species richness, habitat type and quality, and the probability of special-status species occurring in a particular habitat type. Depending on these factors and the proposed construction activity, one or more of the following levels of survey may be required.
4. **Habitat assessment:** A habitat assessment determines whether suitable habitat is present. This type of assessment can be conducted at any time of year. It is used to assess and characterize habitat conditions and determine whether return surveys are necessary. If no suitable habitat is present, no additional surveys shall be required.
5. **Species-focused surveys:** Species-focused surveys (or target species surveys) shall be conducted if suitable habitat is present for special-status plant species. The surveys shall focus on special-status plant species that could grow in the region. It would be conducted during a period that the target species are evident and identifiable.
6. **Floristic protocol-level surveys:** Floristic surveys that follow the CNPS botanical survey guidelines (revised from Nelson 1987; approved by the CNPS board on June 2, 2001; included in California Native Plant Society 2001) shall be conducted in areas that are

relatively undisturbed and/or have a moderate to high potential to support special-status plant species. The guidelines require that all species be identified to the level necessary to determine whether they qualify as special-status plant species, or are species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plant species that could occur in the area are evident and identifiable. To account for different special-status plant identification periods, one or more series of field surveys may be required in spring and summer.

Special-status plant populations identified during the field surveys shall be mapped and documented as part of subsequent CEQA and/or NEPA environmental review reports (if required). The County shall implement **Mitigation Measure BIO-3.2** concurrently.

Mitigation Measure BIO-3.2: Avoid or Minimize Impacts on Special-Status Plant Species Populations by Redesigning the Project, Protecting Populations, and Developing a Transplantation Plan (if Necessary)

The County shall implement the following measures to avoid or minimize impacts on special-status plant species.

- A specific project will be redesigned or modified to avoid significant direct and indirect impacts on special-status plant species, if feasible.
- Special-status plant species near a specific project site will be protected by installing environmentally sensitive area fencing (orange construction barrier fencing) around special-status plant species populations as stipulated by the Monterey County Zoning Ordinance and the CVMP. Depending on site-specific conditions, this buffer may be narrower or wider than 100 feet. Where special-status plant populations are located in wetlands, silt fencing shall also be installed. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.
- The County will coordinate with the appropriate resource agencies and local experts to determine whether transplantation of special-status plant species is feasible. If the agencies concur that it is a feasible mitigation measure, the botanist shall develop and implement a transplantation plan in coordination with the appropriate agencies. The transplantation plan shall involve identifying a suitable transplant site, moving the plant material and seed bank to the transplant site, collecting seed material and propagating it in a nursery, and monitoring the transplant sites to document recruitment and survival rates.

Impact BIO-4: Potential Disturbance or Loss of Common Vegetation Habitats (Less than Significant)

There are several common vegetation habitats within the program area that may be disturbed or lost as a result of implementing the proposed roadway improvements. These include agricultural lands, annual grassland, barren lands, blue oak-foothill pine woodlands, coastal oak woodland, mixed chaparral, coastal scrub, montane hardwood, and urban habitats. The loss of these common habitats is considered less than significant because this habitat type is not a sensitive natural community, and because similar habitat of equivalent or greater value is abundant in the region. Furthermore, loss of these common habitats is not expected to contribute to the destruction or deterioration of an individual, population, or habitat for special-status species. Therefore, this impact is considered **less-than-significant**. No mitigation is required.

Impact BIO-5: Potential Loss of Protected Trees (Less than Significant with Mitigation)

Construction activities associated with the proposed roadway improvements could result in the disturbance or loss of individual protected trees, defined in the Monterey County ordinance as oak, madrone or redwood trees six inches or more in diameter two feet above ground level. Protected trees could be removed or affected during staging, trimming for equipment access, and other construction-related activities. The loss of trees could conflict with the County tree ordinance. This impact is considered potentially significant. Implementation of **Mitigation Measure BIO-5.1** would reduce this impact to a **less-than-significant** level.

Mitigation Measure BIO-5.1: Redesign Specific Projects or Compensate for Removal of Protected Trees

Measures will be taken to avoid impacts to protected trees, as detailed in the County tree ordinance. If a specific project cannot be redesigned to avoid impacting the protected trees, then appropriate compensation will occur. Tree replacement ratios shall be determined in consultation with the County. Any trees planted as remediation for failed plantings shall be planted as stipulated by the replacement ratios for original plantings, and shall be monitored for a period of five years following installation. Tree replacement shall occur after project construction.

Impact BIO-6: Potential Introduction or Spread of Noxious Weeds (Less than Significant with Mitigation)

Construction activities associated with the proposed roadway improvements could introduce noxious weeds or result in their spread into currently uninfested areas, possibly resulting in the displacement of special-status plant species and degradation of habitat for special-status wildlife species. Plants or seeds may be dispersed via construction equipment if appropriate measures are not implemented. This impact is considered potentially significant because the

introduction or spread of noxious weeds could result in a substantial reduction or elimination of species diversity or abundance. Implementation of **Mitigation Measures BIO-6.1 and BIO-6.2** would reduce this impact to a **less-than-significant** level.

Mitigation Measure BIO-6.1: Conduct a Noxious Weed Survey and Document Noxious Weed Infestation

As part of project-specific environmental review, the County shall retain a qualified botanist to address noxious weed impacts. The botanist shall determine whether noxious weeds are an issue for the project and whether they could displace native plants and natural habitats, affect the quality of forage on rangeland, or affect cropland productivity. If the botanist determines that noxious weeds are an issue, the County shall review the county agricultural commission's noxious weed list, CDFA's lists of noxious weeds, and the California Exotic Pest Plant Council's list of pest plants of ecological concern. These lists shall be used to identify weeds that will be targeted during field surveys by the botanist. Surveys shall focus on target weed species that are considered locally important for documentation and control purposes.

If noxious weed infestations are located during the field surveys, they shall be mapped and documented as part of subsequent CEQA and/or NEPA reviews (if required). The County shall implement **Mitigation Measure BIO-6.2** concurrently.

Mitigation Measure BIO-6.2: Avoid or Minimize the Dispersal of Noxious Weeds Into Uninfested Areas

To avoid or minimize the introduction or spread of noxious weeds into uninfested areas, the County shall incorporate the following measures into roadway improvement plans and specifications.

- Certified, weed-free, imported erosion-control materials (or rice straw in upland areas) will be used.
- The County will coordinate with the county agricultural commissioner and land management agencies to ensure that the appropriate BMPs are implemented.
- Construction supervisors and managers will be educated about noxious weed identification and the importance of controlling and preventing their spread.
- Equipment will be cleaned at designated wash stations after leaving noxious weed infestation areas.

B. Impacts on Wildlife

Impact BIO-7: Potential Disturbance or Loss of Special Status Wildlife Species and Their Habitats (Significant and Unavoidable)

Construction and maintenance activities associated with the proposed roadway improvements could result in the direct loss or indirect disturbance of special-status wildlife species or their habitats that are known to occur, or have potential to occur, in the program area (Table 3.3-2). Impacts on special-status wildlife species or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special-status wildlife species associated with the proposed roadway improvements include, but are not limited to:

- direct mortality from the collapse of underground burrows, resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through the program area;
- increased mortality resulting from higher numbers of automobiles on new or widened roads in migration corridors or important habitat areas;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of woodland/forest habitat;
- loss of breeding and foraging habitat resulting from the filling of water/aquatic habitats;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants or nest trees;
- abandoned eggs or young and subsequent nest failure for special-status nesting birds, including raptors, resulting from construction-related disturbance;
- loss of suitable foraging habitat for special-status raptor species; and
- loss of migration corridors resulting from the construction of permanent building structures or features.

This impact is considered potentially significant because the County cannot guarantee that special-status wildlife species can be avoided. Implementation of the following mitigation measures would reduce this impact, but not necessarily to a less-than-significant level for all projects; the degree of reduction would

depend on the wildlife species (listed versus unlisted) and the extent of impact. Therefore, this impact is considered **significant and unavoidable**.

Mitigation Measure BIO-7.1: Document Special-Status Wildlife Species and Their Habitats

As part of project-specific environmental review, the County shall retain a qualified wildlife biologist to document the presence or absence of suitable habitat for special-status wildlife species in the specific project area. The following steps shall be implemented to document special-status wildlife species and their habitats for each project.

1. **Review existing information:** The wildlife biologist shall review existing information to develop a list of special-status wildlife species that could occur in the project area. Sources of information would include the USFWS special-status species list and designated critical habitat for the Carmel Valley region, the CNDDB, previously prepared environmental documents, city and county general plans, applicable HCPs and Natural Community Conservation Plans (NCCPs), and USFWS-issued biological opinions and programmatic agreements for previous projects.
2. **Coordinate with state and federal agencies:** The wildlife biologist shall coordinate with the appropriate agencies (including DFG, USFWS, and Caltrans) to discuss wildlife resource issues in the Carmel Valley region and determine the appropriate level of surveys necessary to document special-status wildlife species and their habitats.
3. **Conduct field studies:** The wildlife biologist shall evaluate existing habitat conditions and determine what level of biological survey is required. The type of survey required shall depend on species richness, habitat type and quality, and the probability of special-status species occurring in a particular habitat type. Depending on the existing conditions in the project area and the proposed construction activity, one or more the following levels of survey may be required:
    - **Habitat assessment:** A habitat assessment determines whether suitable habitat is present. This type of assessment can be conducted at any time of year. It is used to assess and characterize habitat conditions and to determine whether return surveys are necessary. If no suitable habitat is present, no additional surveys shall be required.
    - **Species-focused surveys:** Species-focused surveys (or target species surveys) shall be conducted if suitable habitat is present for special-status wildlife species and if it is necessary to determine whether the species is present in the project area. The surveys shall focus on special-status wildlife species that have the potential to occur in the region. The surveys shall be conducted during a period when the target species are present or active.

- **Protocol-level wildlife surveys:** The County shall comply with protocols and guidelines issued by responsible agencies for certain special-status species. USFWS and DFG have issued survey protocols and guidelines for several special-status wildlife species that could occur in the Carmel Valley region, including vernal pool branchiopods, California red-legged frog, California tiger salamander, western burrowing owl, and marbled murrelet. The protocols and guidelines may require that surveys be conducted during a particular time of year and/or time of day when the species is present and active. Many survey protocols require that only biologists that have experience with the particular species may conduct the surveys and some require the biologist to have a valid 10(a)(1)(A) recovery permit to conduct surveys. The County shall coordinate with the appropriate state or federal agency biologist before initiating protocol-level surveys to ensure that the surveys are necessary and the results will be accepted. Because some species can be difficult to detect or observe, multiple field techniques may be used during a survey period, and multiple surveys may be required in subsequent seasons or years, as outlined in the protocol or guidelines for each species.

  Special-status wildlife or suitable habitat identified during the field surveys shall be mapped and documented as part of subsequent CEQA and/or NEPA environmental review reports (if required). The County shall implement a combination of the following mitigation measures to avoid or minimize significant impacts on special-status wildlife species.

Mitigation Measure BIO-7.2: Avoid or Minimize Impacts on Special-Status Wildlife Species by Redesigning Specific Projects, Protecting Special-Status Wildlife Habitat, and Developing a Mitigation Monitoring Plan (if Necessary)

This mitigation measure focuses on avoiding or minimizing all direct and indirect impacts on special-status wildlife species and their habitats. The County shall implement the following measures.

- Specific projects will be redesigned or modified to avoid significant direct and indirect impacts on special-status wildlife species or their habitats, if feasible.
- Special-status wildlife species and their habitat near the specific project site will be protected by installing environmentally sensitive area fencing around habitat features, such as seasonal wetlands, burrows, and nest trees. The environmentally sensitive area fencing or staking shall be installed at a minimum distance from the edge of the resource as determined through coordination with state and federal agency biologists (DFG and USFWS). The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications

shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced environmentally sensitive area.

- Construction-related activities will be restricted to the nonbreeding seasons of special-status wildlife species that could occur in the project area where feasible. Timing restrictions may vary depending on the species and could occur during any time of the year.
- The County will coordinate with the appropriate resource agencies to determine whether a monitoring plan for special-status wildlife species is necessary as part of all proposed roadway improvement projects. If a monitoring plan is required, it shall be developed and implemented in coordination with appropriate agencies and shall include:
  - a description of each of the wildlife species and of suitable habitat for species that could occur at the specific project site,
  - the locations of known occurrences of special-status wildlife species within the specific project site,
  - the location and size of no-disturbance zones in and adjacent to environmentally sensitive areas for wildlife,
  - directions on handling and relocating special-status wildlife species found on the specific project site that are in immediate danger of being destroyed, and
  - notification and reporting requirements for special-status species that are identified on the specific project site.

Mitigation Measure BIO-7.3: Coordinate with Resource Agencies and Develop Appropriate Compensation Plans for State- and Federally Listed Wildlife Species

If construction activities would result in significant impacts on federal- or state-listed wildlife species after the implementation of the above mitigation measure, either a compensation plan shall be developed in coordination with the appropriate resource agency, or agency-approved compensation guidelines shall be followed to reduce the impact to a less-than-significant level. Compensation guidelines have been identified for several special-status wildlife species, including vernal pool branchiopods and western burrowing owl. The amount of compensation shall vary depending on the type of habitat loss (e.g., aquatic habitat vs. upland habitat), if the loss is permanent or temporary, and the amount and quality of habitat loss, or degree of habitat disturbance anticipated. The compensation plan shall be developed and implemented in coordination with the appropriate state or federal agency and may involve one or more of the following: identifying an agency-approved mitigation bank or other compensation site (on- or off-site); transplanting obligate host plants, recreating (burrows and vernal pools), and/or preserving habitat for special-status wildlife species; monitoring the

compensation site; and funding the management of the compensation site.

- Mitigation Measure BIO-2.2: Avoid or Minimize Disturbance of Riparian Habitats
- Mitigation Measure BIO-2.5: Avoid or Minimize Disturbance of Waters of the United States, Including Wetland Communities

Impact BIO-8: Potential Disturbance and Loss of Common Wildlife Species and Wildlife Migration (Less than Significant)

Construction activities associated with the proposed roadway improvements could temporarily disturb habitat for many common wildlife species within the program area. Also, some habitat for common wildlife species would be removed because of increasing paved surfaces within the program area, but the amount would be small relative to the amount of habitat available to these common species in the Carmel Valley region. In addition to habitat loss, many species would move away from project sites to nearby habitat areas. Inevitably, some individuals would be lost as a result of construction activities. However, this loss of individual animals would not result in a significant impact on common wildlife species because it would not lead to a substantial reduction or elimination of species diversity or abundance in the Carmel Valley region. Loss or disturbance of habitats could also disrupt migration of common wildlife species. However, as discussed above, the amount of disturbed areas would be small relative to the amount of habitat available to common wildlife species in the region, and the proposed roadway improvements do not comprise major highways or interchanges that could contribute to substantial new impediments to wildlife movement in the Carmel Valley region. This impact is considered **less-than-significant**. No mitigation is required.

Impact BIO-9: Potential Loss or Disturbance of Nesting Migratory Birds and Raptors (Less than Significant with Mitigation)

Woodland, forest, scrub, grassland, aquatic and riparian habitats in and adjacent to the program area provide suitable nesting habitat for special-status birds including white-tailed kite, bald eagle, sharp-shinned hawk, Cooper's hawk, marbled murrelet, western burrowing owl, black swift, purple martin, yellow warbler, and tricolored blackbird. These habitats also provide suitable nesting habitat for non-special-status migratory birds, including red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*B. jamaicensis*), Nuttall's woodpecker (*Picoides nuttallii)*, black phoebe (*Sayornis nigricans*), California thrasher (*Toxostoma redivivum*), spotted towhee (*Pipilo maculatus*), wrentit (*Chamaea fasciata*), Anna's hummingbird (*Calypte anna*) and red-winged black bird

(*Agelaius phoeniceus*). The loss or disturbance of these habitats is considered potentially significant to nesting migratory birds and raptors.

If construction occurs within the program area during the breeding season (generally between March 1 and August 30), such activities (e.g., vegetation removal, grading, noise, etc.) could result in nest abandonment and subsequent loss of eggs or developing young at active nests located in or near the program area. This impact is considered potentially significant if the subsequent population declines affected the viability of the local population. Disturbance that results in nest abandonment and death of young or loss of reproductive potential at active nests would also violate California Fish and Game Code Sections 3503 (active bird nests) and the MBTA.

Implementation of the **Mitigation Measure BIO-9.1** would reduce these impacts to a **less-than-significant level** and avoid violating the MBTA and California Fish and Game Code.

Mitigation Measure BIO-9.1: Remove Vegetation During the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate

Clearing and grading a future roadway improvement site for construction may result in the removal of trees and shrubs that provide suitable nesting habitat for migratory birds. The County will ensure that construction contractors will remove trees and shrubs only during the nonbreeding season for migratory birds (generally September 1 to February 28). Where nesting migratory birds are determined to be present, removal of woody vegetation during the nonbreeding season will ensure that active nests will not be destroyed by removal of trees supporting or adjacent to active nests. In addition, removal of vegetation or filling of ponds or wetlands in a specific roadway improvement area should also take place during the nonbreeding season to avoid impacts to nesting birds in these areas, where feasible. Migratory birds and raptors in and adjacent to the specific project area may be disturbed by noise and activity associated with construction. To minimize these impacts, one of the following options will be implemented:

- If construction activities are scheduled to occur during the breeding season (generally between March 1 and August 30), a qualified wildlife biologist shall be retained by the County to conduct focused nesting surveys in and adjacent to the specific project area. The surveys should be conducted within 1 week prior to initiation of construction activities and at any time between March 1 and August 30. If no active nests are detected during surveys, then no additional mitigation is required. If surveys indicate that migratory bird or raptor nests are found in any areas that would be directly affected by construction activities, a no-disturbance buffer shall be established around the site to avoid disturbance of the nest site until after the breeding season or after a wildlife biologist determines that the young have fledged (usually late-June to mid-July). The extent of these buffers shall be determined by a wildlife biologist and shall

depend on the level of noise or construction disturbance, line of site between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors should be analyzed in order to make an appropriate decision on buffer distances.

- If construction activities begin prior to the breeding season (i.e., if construction activity begins between September 1 and February 28), then construction can proceed until it is determined that an active migratory bird or raptor nest is subject to abandonment as a result of construction activities. Construction activities should be in full force, including at a minimum, grading of the site and development of infrastructure. A minor activity that initiates construction but does not involve the full force of construction activities shall not qualify as "pre-existing construction." If any birds or raptors nest in the vicinity of the project under this pre-existing construction condition, then it is assumed that they are or will habituate to the construction activities. Under this scenario, a nesting bird survey should still be conducted on or after March 1 to identify any active nests in the vicinity, and active sites should be monitored by a wildlife biologist periodically until after the breeding season or after the young have fledged (usually late-June to mid-July). If active nests are identified on or immediately adjacent to the project site, then all non-essential construction activities (e.g., equipment storage, meetings, etc) should be avoided in the immediate vicinity of the nest site; however, construction activities can proceed.

Implementing the following mitigation measures would also reduce potentially significant impacts related to the loss or disturbance of habitat supporting nesting migratory birds to a **less-than-significant** level.

- Mitigation Measure BIO-1.1: Conduct Focused Biological Surveys of Woodland and Forest Habitats
- Mitigation Measure BIO-1.2: Avoid Impacts on Sensitive Woodland and/or Forest Habitats
- Mitigation Measure BIO-1.3: Conserve Sensitive Woodland and/or Forest Habitats to Mitigate for Loss of a Potentially Native Stand
- Mitigation Measure BIO-2.2: Avoid or Minimize Disturbance of Riparian Habitats
- Mitigation Measure BIO-5.1: Redesign Specific Projects or Compensate for Removal of Protected Trees
- Mitigation Measure BIO-7.2: Avoid or Minimize Impacts on Special-Status Wildlife Species by Redesigning Specific Projects, Protecting Special-Status Wildlife Habitat, and Developing a Mitigation Monitoring Plan (if Necessary).

C. Impacts to Fisheries

Impact BIO-10: Temporary and Permanent Impacts to Steelhead Trout and other Carmel River Fish (Less than Significant with Mitigation)

Proposed roadway improvements could adversely affect special-status fish species. Impacts on aquatic systems could result from an increase in sediment and/or contaminant input, diversion of water flow, and removal of riparian vegetation as a result introduction of new impervious surfaces. Construction activities adjacent to waterways could disturb soils and cause sediment to be transported into and through the channel, which would result in temporary increases in turbidity and sedimentation downstream of construction sites. Periods of localized, high suspended sediment concentrations and turbidity owing to channel disturbance can result in a reduction of feeding opportunities for sight-feeding fish and clogging and abrasion of gill filaments. Increased sediment loading can degrade food-producing habitat downstream of specific project areas. Finally, sediment can interfere with photosynthesis of aquatic flora and result in the displacement of aquatic fauna.

Fuel and concrete could spill into the waterway during construction. Various contaminants, such as fuel oils, grease, and other petroleum products used in construction activities, could be introduced into the system either directly or through surface runoff. Contaminants may be lethal or sublethally toxic to fish and other aquatic organisms, or may change the rate at which oxygen is diffused; as a result, they may reduce the survival and growth rates of aquatic species.

In-water construction often requires the alteration of stream flow, either through a culvert of a constructed channel or through part of the original channel. This can result in increased water velocities surrounding the project site. Water velocities that are too high can prevent or substantially reduce fish movement.

Removal of riparian vegetation could weaken the streambank by loosening the soil, thus increasing the bank's susceptibility to erosion. Alteration of fish habitat would occur if the channel bed and banks were disturbed (e.g., if riprap were placed there) or if sites that have been disturbed mechanically were further disturbed by high-flow events before they are stabilized. Riparian vegetation provides cover for juvenile rearing, shade to reduce temperatures, and food input (i.e., terrestrial invertebrates), and is considered a very valuable component of fish habitat. The removal of woody riparian vegetation may affect fish directly by removing habitat. Fish use complex woody debris structure to avoid predators and conceal themselves from prey. Woody debris in the waterway reduces water velocity, providing resting habitat as well.

Because roadway improvement activities could result in avoidance by fish of biologically important habitat for substantial periods, this impact is considered potentially significant. Fish avoidance of important habitat may increase mortality, reduce reproductive success, or substantially reduce local population

size. Implementation of **Mitigation Measure BIO-10.1 and BIO-10.2** would reduce this impact to a **less-than-significant** level.

Mitigation Measure BIO-10.1: Assess and Document Habitat for Special-Status Fish Species

As part of project-specific environmental review, the County shall retain a qualified fisheries biologist to locate and identify streams that could support special-status fish habitat, including Steelhead trout and other Carmel River fish species. Habitat shall be mapped and documented as part of the subsequent CEQA and/or NEPA environmental review and biological assessment reports (if required) that are prepared for specific projects. The County shall implement **Mitigation Measure BIO-10.2** concurrently.

Mitigation Measure BIO-10.2: Avoid or Minimize Impacts on Special-Status Fish Species and Their Habitat

The County shall implement the following measures to avoid or minimize impacts on special-status fish and their habitats.

- For each project, a SWPPP will be developed and implemented that includes BMPs to minimize the potential for impacts on special-status fish and their habitat. The SWPPP shall include measures to control the transport of sediment to streams, promote the restoration of construction areas to preconstruction conditions, and avoid the potential for spills of hazardous substances. The SWPPP shall include pollution prevention measures (erosion and sediment control measures and measures to control nonstormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a BMP monitoring and maintenance schedule. A staging and storage area shall be provided away from the waterway for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants. The contractor shall conduct periodic maintenance of erosion and sediment control measures. Soil exposure shall be minimized through the use of BMPs, ground cover, and stabilization practices. Exposed dust-producing surfaces shall be sprinkled daily until wet while avoiding the production of runoff. Paved streets shall be swept daily after construction activities.
- Each project will be constructed during periods that avoid the sensitive life stages of special-status fish species. Construction activities shall be scheduled so that they do not interfere with the reproductive cycles of fish species. Work in most of the systems shall take place between June 1 and October 15. Construction in this time frame would avoid causing impacts on the majority of the adult and juvenile migration stages of the Steelhead trout and other Carmel River fish species.

- Design all stream crossings to facilitate fish passage in accordance with CDFG and NMFS guidance and consultation.

Implementing the following mitigation measures would also reduce potentially significant impacts related to the loss or disturbance of habitat supporting Steelhead trout and other Carmel River fish species to a less-than-significant level.

- Mitigation Measure BIO-2.2: Avoid or Minimize Disturbance of Riparian Habitats.
- Mitigation Measure BIO-2.5: Avoid or Minimize Disturbance of Waters of the United States, Including Wetland Communities.

D. Other Impacts

Impact BIO-11: Conflicts with Local Policies or Ordinances that Protect Biological Resources (Less than Significant with Mitigation)

Construction activities associated with the proposed roadway improvements could result in conflicts with local policies or ordinances that protect locally significant biological resources, including heritage or native trees. (See also discussion under Impact BIO-5, above). This impact is considered significant. Implementation of **Mitigation Measure BIO-11.1** would reduce this impact to a **less-than-significant** level.

Mitigation Measure BIO-11.1: Review Local County Policies, Ordinances, and Conservation Plans, and Comply with Requirements

As part of project-specific environmental review, the County shall ensure that projects comply with general plans, policies, ordinances, and conservation plans (including HCPs; NCCPs; and other local, regional, and state plans). Review of these documents and compliance with their requirements shall be demonstrated in project-specific environmental documentation. The County shall ensure that roadway improvements comply with all policies, ordinances, and plans that exist at the time of project-specific review, regardless of whether they existed during the program-level analysis.