4.9 Biological Resources

4.9.1 Abstract

Monterey County contains a diverse array of natural communities, ranging from oak woodlands in the Salinas Valley, to beach dunes near Fort Ord, to Elkhorn Slough in North County. Natural vegetation throughout the County is typical of that occurring in the coastal ranges and interior valleys of central California. The two most common types of natural habitat are oak woodland on middle and upper elevations and grassland in lower elevations such as valleys. There are numerous federally listed endangered and threatened species and other CEQA-defined special-status species in the County. More than 70,000 acres in the County are designated as critical habitat by the U.S. Fish and Wildlife Service (USFWS).

Development and land use activities (including agriculture) allowed by the 2007 General Plan in designated growth areas (Community Areas, Rural Centers, and AHOs) as well as in other unincorporated areas would result in the following significant impacts on biological resources:

- **Special Status Species:** Future development anticipated by the 2007 General Plan would result in loss of CEQA-defined "special-status species" habitat and individuals.

  [Note: The 2007 General Plan Glossary defines "special-status species" as species that are listed and protected by the federal and California endangered species acts. This EIR defines "CEQA-defined special-status species" more broadly For this EIR, CEQA-defined special-status species are defined to include both listed and non-listed species that are candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS or that otherwise meet the definitions of rare or endangered under CEQA based on substantial evidence (State CEQA Guidelines Section 15380). Note that this definition is broader than that in the 2007 General Plan, which only includes listed special-status species. Unless otherwise specified, all references in this document are to the broad list of CEQA-defined special-status species, whether listed or not. All CEQA findings in this document refer to both listed and non-listed special status species].

  Mitigation is available that would reduce impacts to less than significant for the 2030 Planning Horizon and for buildout. However, there are uncertainties as to the threats that special-status species may face beyond 2030 and the means to address these new threats. Thus the 2007 General Plan is considered to result in a significant and unavoidable impact to CEQA-defined special-status species for buildout.

- **Sensitive Natural Communities, Riparian Habitat and Wetlands:** Future development anticipated by the 2007 General Plan would result in a net loss

of sensitive natural communities, riparian habitat, and wetlands. Mitigation is available that would, reduce impacts to less than significant for the 2030 Planning Horizon and for buildout. However, there are uncertainties as to the threats that sensitive natural communities, riparian habitat, and wetlands may face beyond 2030 and the means to address these new threats. Thus the 2007 General Plan is considered to result in a significant and unavoidable impact to sensitive natural communities, riparian habitat, and wetlands for buildout.

- **Wildlife Movement Corridors:** Future development anticipated by the 2007 General Plan could result in the creation of impediments to wildlife movement along key river and land wildlife corridors. Mitigation is available that would reduce impacts to less than significant for the 2030 Planning Horizon and for buildout.
- **Consistency with Biological Protection Policies and Adopted Conservation Plans:** Future development anticipated by the 2007 General Plan would be consistent with local tree ordinances. There are no adopted habitat conservation plans (HCPs) or natural communities conservation plans (NCCPs) within the areas covered by the 2007 General Plan. The county is a participant in the development of the HCP for the former Fort Ord and future development permitted by the County within the Fort Ord Master Plan area will be consistent with the HCP (when adopted). This impact is less than significant.

4.9.2 Introduction

In this chapter, the County's biological resources and potential impacts on them arising from development under the 2007 General Plan are described at a program level. The impact analysis is quantitative (where data is reasonably available) and qualitative (otherwise) and is not site-specific because of the wide geographical area covered. This impact analysis assumes that biological resources would be affected directly or indirectly by development under the 2007 General Plan. As part of subsequent, project-specific environmental analysis, the County shall analyze impacts to biological resources at an appropriate level of details, as required under Public Resources Code Section 2100 et seq.

4.9.3 Environmental Setting

Information is presented in this section about the existing biological setting of Monterey County in general.

The sensitive and common plant communities (habitats) present in Monterey are described below; a map of their general distribution is presented in Exhibit 4.9.1. The actual distribution of plant communities is much more detailed than presented in this exhibit. Project-specific environmental reviews that are tiered from this EIR would need to conduct site-specific evaluation to determine the

presence or absence of sensitive and common plant communities within a specific project area.

Exhibit 4.9.1 provides a basis for a general discussion of potential environmental impacts and the location of sensitive communities and CEQA-defined special-status species. Exhibits 4.9.2, 4.9.3, and 4.9.4 identify the common plant communities found within the 2007 General Plan focused developed areas (community areas, rural centers, affordable housing overlays, and the agricultural wine corridors). Table 4.9-2 shows the approximate acres of different vegetation types found within the County (including cities and the coastal area). Table 4.9-3 shows the approximate acres of different vegetation types found within the 2007 General Plan focused development areas.

Monterey County occurs within one of the richest biological regions in North America (Ricketts et al 1999; Abell et al 2000). Monterey County is especially rich in biological resources, primarily because of the diversity of unique physical characteristics: highly varied terrain, large elevation range, extensive coastline, broad range of microclimates, and diverse substrate materials. This variability is reflected in the large array of plant communities and resident plant and animal species. For example, there are almost 3,000 species of plants that occur in Monterey County according to Calflora (2008), a database of California plants. Of these, 101 plant species are considered to be rare or sensitive by the CNPS and are listed in the CNDDB (2007).

Table 4.9-1. Monterey County Vegetation Communities (Estimated for 2006) (Includes Cities and Coastal Areas)

Vegetation Community	Acres
Annual Grassland	726,632
Oak Woodland	426,334
Agriculture	**254,491**
Baccharis Scrub	205,060
Oak Savanna	201,662
Gabilan Scrub	115,146
Urban/Non-Veg	43,579
Sparse Vegetation/Bare Soil	34,098
Mixed Conifer	29,477
Riparian/Wetland	25,970
Redwood Forest	21,738
Maritime Chaparral	12,597
Coastal prairie	6,434
Blue Oak Woodland	5,606
Saltwater Marsh	2,883
Dune Scrub	2,235
Baccharis Chaparral	2,165
Monterey Pine Forest	1,260
Eucalyptus	1,224
Golf Course	584
Coastal Scrub	572
Valley Needlegrass Grassland	392
Dune	326
Freshwater Marsh	317
Coastal Terrace Prairie	212
Native Grassland	85
Total	**2,121,079**

Methodology: No existing mapping for current vegetation coverage for the County was identified. Vegetation community acreages for 2006 were identified by comparing a 1982 base vegetation map to the 2006 FMMP maps for County using GIS. The FMMP covereage was used to identify urban land and important farmland (prime, statewide importance, unique). Where the FMMP maps show grazing land, land is not presumed to be urban or to be intensive agriculture, but is presumed to be original 1982 land cover. A minimum mapping unit of 2.5 acres was used for conversions. See Figure 4.9-1 for 1982 land cover, and Figures 4.9-3 through 4.9-6 for habitat conversions between 1982 and 2006.

Table 4.9-2. Monterey County GP 2007 Natural Communities by New Plan Areas (Estimated Extant as of 2006)

	Annual Grassland	Baccharis and Other Scrub	Coastal Prairie	Baccharis and Maritime Chaparral	Mixed Conifer	Monterey Pine Forest/ Redwood Forest	Native Grassland	Oak Woodland and Savanna	Riparian/ Wetland	Total
Community Areas										
Chualar CA										0
Fort Ord CA	3,320	356		9,805	1		460	4,005	273	18,219
Boronda CA										0
Pajaro CA	0								1	1
Castroville CA	29									29
Community Areas Subtotal	3,349	356	0	9,805	1		460	4,005	273	18,249
Rural Centers										
Pine Canyon RC	427	110			2			28		567
San Lucas RC	15									15
Bradley RC	34								0	34
Lockwood RC	92	6								97
Pleyto RC	359	33								393
San Ardo RC										0
River Road RC	171	25			14			35	26	272
Rural Centers Subtotal	1,098	173	0	0	16		0	63	26	1,377
AHOs										
Carmel Mid-Valley AHO	1									1
Hwy 68/Airport AHO	1		58					12		71
Hwy 68/Reservation AHO	6			1						6
AHOs Subtotal	8	0	58	1	0		0	12	0	79
Total of Focused Growth Areas	4,455	529	58	9,806	18		460	4,080	299	19,706

	Annual Grassland	Baccharis and Other Scrub	Coastal Prairie	Baccharis and Maritime Chaparral	Mixed Conifer	Monterey Pine Forest/ Redwood Forest	Native Grassland	Oak Woodland and Savanna	Riparian/ Wetland	Total
Planning Areas outside the Focused Growth Areas Designated for Development										
Areas designated for Development in Rest of Unincorporated County	93,975	63,620	1,493	377	4,267	317	17	90,613	3,258	257,937
Agricultural Wine Corridors (Note: these areas overlap with some of the Development areas in the Planning Areas)										
Central/Arroyo Seco/River Road Segment	4,364	420			45			93	1,590	6,512
Jolon Road Segment	10,400	3,394			134			1,432	281	15,642
Metz Road Segment	1,877	5			8			11	206	2,106
Agricultural Wine Corridor Subtotal	16,641	3,819	0	0	187		0	1,536	2,077	24,260

Methodology: No existing mapping for current vegetation coverage for the County was identified. Vegetation community acreages for 2006 were identified by comparing a 1982 base vegetation map to the 2006 FMMP maps for County using GIS. The FMMP coverage was used to identify urban land and important farmland (prime, statewide importance, unique). Where the FMMP maps show grazing land, land is not presumed to be urban or to be intensive agriculture, but is presumed to be original 1982 land cover. A minimum mapping unit of 2.5 acres was used for conversions. See Figures 4.9-7 through 4.9-10 for habitats by plan area.

Table 4.9-3. Relationship of natural communities discussed in the 2008 Monterey County General Plan Update to sensitive communities designated by the California Department of Fish and Game's California Natural Diversity Database and CDFG's Vegetation Classification and Mapping Program (VCMP)

	CNDDB Plant Communities[a]		VCMP Vegetation Alliance[b]	
GPU SEIR Mapping Units	CNDDB Community Name	Rarity Rank (Globally and in California)[c]	CDFG Alliance Name	Rarity Rank (Globally and in California)[c]
Dune*	Central Foredunes	G1S1	*Abronia latifolia-Ambrosia chamissonis*	G3S3
	Active Coastal Dunes	G3S2	*Ambrosia chamissonis*	G4S3
Dune Scrub*	Central Dune Scrub	G2S2	*Lupinus chamissonis-Ericameria ericoides*	G3S3
Maritime Chaparral*	Central Maritime Chaparral	G2S2	*Arctostaphylos pajaroensis*	G1S1
			Arctostaphylos pumila	G1S1
Saltwater Marsh*	Northern Coastal Salt Marsh	G3S3	*Salicornia virginica*	G4S4
	Coastal Brackish Marsh	G2S2		
Freshwater Marsh*	Coastal and Valley Freshwater Marsh	G3S2	*Typha* (*angustifolia, domingensis*)	G4S3
			Schoenoplectus spp.–*Typha* spp.	G5S3?
			Schoenoplectus spp.	G4S3 to G5S4
Riparian/Wetland*	Sycamore Alluvial Woodland	G1S1	*Platanus racemosa*	G4S3
	Coastal and Valley Freshwater Marsh	G3S2	*Acer macrophyllum*	G4S3
Native Grassland*	Native Grassland	G3S3	*Nasella pulchra*	G4S3
Valley Needlegrass Grassland*	Valley Needlegrass Grassland	G1S3	*Nasella pulchra*	G4S3
Oak Savanna*	Valley Oak Woodland	G3S2	*Quercus lobata*	G3S3
Mixed Conifer*	Monterey Cypress Forest	G1S1	*Cupressus macrocarpa*	G1S1
	Monterey Pygmy Cypress Forest	G1S1	*Cupressus goviniana*	G1S1
	Northern Bishop Pine Forest	G2S2	*Pinus muricata*	G4S3
Monterey Pine Forest*	Monterey Pine Forest	G1S1	*Pinus radiata*	G3S2
Coastal Terrace Prairie*	Valley Needlegrass Grassland	G1S3	*Danthonia californica*	G4S3
			Festuca idahoensis	G4S3
Oak Woodland*	Blue Oak Woodland	G3S3	*Quercus douglasii*	G4S4
	Black Oak Woodland	G3S3	*Quercus kelloggii*	G4S4
	Valley Oak Woodland	G3S2	*Quercus lobata*	G3S3

	CNDDB Plant Communities[a]		VCMP Vegetation Alliance[b]	
GPU SEIR Mapping Units	CNDDB Community Name	Rarity Rank (Globally and in California)[c]	CDFG Alliance Name	Rarity Rank (Globally and in California)[c]
Blue Oak Woodland*	Blue Oak Woodland	G3S3	*Quercus douglasii*	G4S4
Redwood Forest*	Not listed	—	*Sequoia sempervirens*	G3S3
Agriculture	N/A—not considered a sensitive community			
Annual grassland	N/A—not considered a sensitive community			
Baccharis Chaparral	N/A—not considered a sensitive community			
Baccharis Scrub	N/A—not considered a sensitive community			
Gabilan Scrub	N/A—not considered a sensitive community			
Eucalyptus	N/A—not considered a sensitive community			
Golf Course	N/A—not considered a sensitive community			
Sparse Vegetation/Bare Soil	N/A—not considered a sensitive community			
Urban/Non-Veg	N/A—not considered a sensitive community			

Notes:

= sensitive communities in the 2008 Monterey General Plan Update EIR

[a] Based on California Department of Fish and Game, California Natural Diversity Database (CNDDB) (Version 3.1.0, accessed on January 22, 2008)

[b] Based on the most current California Department of Fish and Game classification approach: *Vegetation Classification and Mapping Program List of California Vegetation Alliances*, October 22, 2007. This classification is currently in development and is a long-term update and refinement of the classification used by the CNDDB. This will bring the California vegetation classification system in line with the National Vegetation Classification System. This system is based on the dominant species and is organized hierarchically; alliances are listed here, at a finer-scale is the association.

[c] Rarity ranking: Global (G) and State (S) rankings are analogous to those given to species in the CNDDB. The ranking is between 1 and 5 using NatureServe's standard heritage program conservation status methodology (http://www.natureserve.org/explorer/ranking.htm#interpret). The ranking presented in this table is for the alliance; it is possible that an association within any alliance may have a rarer ranking than the alliance; additionally, some communities in California are considered rare although the alliance is not. The rankings are interpreted as

1 = **critically imperiled**; at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

2 = **imperiled**; at high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

3 = **vulnerable to extirpation or extinction**; at moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

4 = **apparently secure**; uncommon but not rare; some cause for long-term concern due to declines or other factors

5 = **secure**; demonstrably widespread, abundant, and secure; common; widespread and abundant.

4.9.3.1 Sensitive Vegetation Communities

The vegetation types, or plant communities, described in this section are known to occur within Monterey County and are considered to be "sensitive natural communities" under CEQA. Sensitive plant communities are intrinsically rare (i.e., uncommon plant associations that are of limited distribution) and/or they are habitat for CEQA-defined special-status plant or wildlife species.

There are two state lists of sensitive plant communities; both of which are maintained by CDFG: the CNDDB and the Vegetation Classification and Mapping Program (VCMP). The two lists are closely related to each other; the differences between them are essentially a matter of classification and naming conventions. The VCMP is currently updating the entire vegetation classification system (including rare and common communities) in California to meet the standards set by the National Vegetation Classification (Grossman et al. 1998). The plant community names presented below and in the map in Exhibit 4.9.1 are based on previous draft General Plan Updates and associated environmental review documents, in order to facilitate comparison. However, to make a clear connection between these communities and those listed as sensitive or rare by the CNDDB and the VCMP, a crosswalk is provided in Table 4.9-3.

A general mapping of the distribution of sensitive plant communities within Monterey County is provided in Exhibit 4.9.1 and approximate acreages are presented in Table 4.9-1. Project-specific environmental reviews that are tiered from this EIR would need to conduct site-specific evaluation to determine the presence or absence of sensitive plant communities within a specific project area.

The following sensitive vegetation communities are found within the inland areas covered by the 2007 General Plan (many of these communities are also found within the coastal areas, which are not covered by the 2007 General Plan.

Freshwater Marsh

Freshwater marsh occurs in low-flow water bodies such as ponds, lakes, and estuaries with strong freshwater through-flow. Common dominant species include cattail (*Typha latifolia, T. angustifolia*), tall cyperus (*Cyperus eragrostis*), bulrush and tule species (Sc*hoenoplectus* spp.), rushes (*Juncus* spp.), sedges (*Carex* spp.) and spike rushes (*Eleocharis* spp.). Freshwater marshes support many of the same species as salt marsh, above. In addition, these freshwater wetlands support CEQA-defined special-status species such as the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana aurora draytonii*), and Santa Cruz long toed salamander (*Ambystoma macrodactylum croceum*) in Monterey County.

Riparian/Wetland

Riparian communities occur along rivers, streams and creeks, while wetlands generally refer to plant communities growing in standing water or in areas that are frequently inundated. The marsh communities described above are all types of wetlands. Other types of wetlands include seasonal wetlands in meadows, ditches and areas that retain water in the rainy winter months; and vernal pools which are seasonally wet depressions in meadows with clay soils.

Riparian communities generally grow alongside rivers and streams and are dominated by winter-deciduous trees and shrubs that are adapted to high amounts of water. Common riparian dominant species include willow species (*Salix* spp.), alder (*Alnus rhombifolia, A. rubra*), cottonwood (*Populus* spp.), box elder (*Acer negundo* var. *californicum*), big-leaf maple (*Acer macrophyllum*), and sycamore (*Platanus racemosa*). The understory often consists of dense thickets of poison oak or non-native invasive species such as Himalayan blackberry (*Rubus armeniacus*).

Because the vegetation is diverse and well developed, riparian forest provides high-value habitat for wildlife, including several CEQA-defined 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 many songbirds nest in riparian forest habitat. These areas also important stopover sites during bird migration along the Pacific Flyway and generally serve as important routes for daily movements and dispersal of many species of mammals.

Seasonal wetlands occur in areas with some amount of inundation each year adequate to support plant species adapted to wet conditions. These plants are generally indicative of wetlands, and may include longer-lived perennial species such as cattail and tule, as well as annual species like those found in marshes (listed above). Other species common in seasonal wetlands include iris-leaved rush (*Juncus xiphioides*), toad rush (*Juncus bufonius*), curly dock (*Rumex crispus*), rabbit's foot grass (*Polypogon monspeliensis*), English plantain (*Plantago major*), and bristly ox-tongue (*Picris echioides*). Many of the common seasonal wetland species are non-native and, to some degree, considered invasive.

Vernal pools are seasonally flooded landscape depressions underlain by a subsurface which limits drainage. Vernal Pools are typically formed during winter rains. They result from an unusual combination of soil conditions, summer-dry Mediterreanean climate, topography, and hydrology. These pools dry from the perimeter inward as the summer heat approaches, and characteristic concentric rings of wildflowers and grasses form. Because vernal pools are quite rare, many of the associated plants are also rare. Vernal pool species include Vasey's coyote thistle (*Eryngium vaseyi*), water starwort (*Callitriche* spp.), downingia (*Downingia* spp.), meadowfoam (*Limnanthes* spp.), brass buttons

(*Cotula coronopifolia*), goldfields (*Lasthenia* spp.), water buttercup (*Ranunculus aquatilis* var. *capillaceus*), and flowering quillwort (*Lilaea scilloides*).

Riparian/wetlands are important breeding habitat for CEQA-defined special-status species such as the California tiger salamander, California red-legged frog, western spadefoot (*Scaphiopus hamondii*), and many common species of songbirds and waterbirds. Riparian/wetland areas serve as important stopover sites during long distance migrations for many bird species and provide foraging and roosting habitat for many bat species.

Native Grassland/Valley Needlegrass Grassland

The primary native grassland types that remain in Monterey County are coastal prairie (described below) and valley needlegrass grassland. Valley needlegrass grassland occurs primarily on fine-textured (usually clay) soils that are very moist, even waterlogged, in winter but extremely dry in the summer months. Valley needlegrass has not been comprehensively mapped although Fort Ord is known to contain area of this community. It is dominated by purple needlegrass (*Nasella pulchra*), which is a clump-forming, perennial species that grows to about two feet high. A large number of species may be associated with the purple needlegrass, a very few include nodding needlegrass (*Stipa cernua*), golden stars (B*loomeria crocea*), golden brodiaea (*Triteleia ixiodes*), and soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*).

Perennial native grasslands are threatened throughout their range due to conversion to annual grasses and then loss to development and agricultural uses. Because grasslands in the United Sates have been so thoroughly and rapidly taken over by annual non-native grasses, the details of the original extent and species composition of native grasslands are not known.

Native grasslands are used by many wildlife species for foraging. Some of these species also breed in native grassland if special habitat features such as cliffs, caves, ponds, or woody plants are available for breeding, resting, or as escape cover. Many songbirds only nest in grasslands. Common reptiles that breed in grassland habitats include western fence lizards (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), and western rattlesnake (*Crotalus tigris*). Grasslands provide foraging habitat for wide-ranging species such as red-tailed hawk (*Buteo jamaicesis*), turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), and northern harrier (*Circus cyaneus*). Mammals typically found in this habitat include California vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), and American badger (*Taxidea taxus*) (Mayer and Laudenslayer 1988). Many species that nest or roost in adjacent habitats forage in grasslands, including western bluebird (*Sialia mexicana*), western kingbird (*Tyrannus verticalis*), and some species of bats.

After fire, cover, density, and seedling establishment of purple needlegrass often increase as a result of increased soil temperature, light intensity, and nutrient

release, and decreased standing litter. Even though fire during periods of rapid growth can be detrimental to purple needlegrass, it is generally more damaging to nonnative annuals. Some studies, however, have found fire and/or grazing effects on cover, density, or seedling establishment of purple needlegrass were highly variable or insignificant, suggesting a large influence of climate on purple needlegrass' response to fire (Dyer et al. 1996; Heady et al. 1977).

Coastal Prairie/Coastal Terrace Prairie

The coastal prairie community is dominated by annual and perennial grasses, and by a wide variety of herbaceous species. Dominant species include perennial grasses such as California oatgrass (*Danthonia californica*), Idaho fescue (*Festuca idahoensis*), creeping red fescue (*F. rubra*), purple needelgrass (*Nasella pulchra*), and meadow barley (*Hordeum brachyantherum*). Common herbaceous plant species include Douglas iris *(Iris douglasiana),* blue dicks *(Dichelostemma capitatum),* blue-eyed grass *(Sisyrinchium bellum),* checkerbloom (*Sidalcea malvaeflora*), and suncups (*Cammisonia ovata*).

CEQA-defined special-status species that have been documented in coastal prairie in Monterey County include the federally threatened and state endangered plant, Santa Cruz Tarweed *(Holocarpha macradenia)* and Santa Cruz clover (*Trifolium buckwestiorum*). Wildlife species that occur in Coastal Prairie/Coastal Terrace Prairie are the same as those discussed under *Native Grassland*. This vegetation type is important for CEQA-defined special-status wildlife such as the Smith's blue butterfly along the Big Sur Coast and north toward Fort Ord.

Maritime Chaparral

The vast majority of maritime chaparral within the inland portion of Monterey County covered by the 2007 General Plan is on Fort Ord.

Maritime chaparral occurs on stabilized, ancient sand dunes in coastally-influenced areas with summer fog and strong winds. While maritime chaparral is a drought-tolerant and fire-adapted plant community, it occurs in generally cooler, more humid regions than other forms of chaparral and is likely adapted to less frequent fire cycles and more moisture than other chaparral types. The soil conditions are harsh; sand has low nutrient levels and moisture-retention. Low soil moisture is apparently compensated for by higher humidity levels. Maritime chaparral is dominated by low-growing, evergreen shrubs, many of which are considered rare. These include Monterey manzanita (*Arctostaphylos montereyensis*), sandmat manzanita (*Arctostaphylos pumila*), Pajaro manzanita (*Arctostaphylos pajaroensis*), and Monterey ceanothus (*Ceanothus cuneatus* var. *ridgidus*). Other special-status herbaceous species found in maritime chaparral in Monterey County include Monterey spineflower (*Chorizanthe pungens* var. *pungens*), Yadon's rein-orchid (*Piperia yadonii*), sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*).

Many CEQA-defined special-status wildlife species occur in chaparral habitats including, California horned lizard (*Phrynosoma coronatum frontale*), silvery legless lizard (*Anniella pulchra pulchra*), and big-eared kangaroo rat (*Dipodomys elephantinus*).

Oak Woodland

The nature and composition of oak woodland varies throughout its range. The overstory generally includes deciduous and evergreen hardwoods with a large percentage of oak species, and occasionally some coniferous species. In mesic sites, trees tend to be closely spaced, creating a closed canopy, while in drier sites trees are often widely spaced and form an open woodland (also referred to as oak savannah). Composition of the understory also varies widely depending on the nature of the overstory (open or closed), soil characteristics, microclimate, and other ecological factors. Coast live oak (*Quercus agrifolia*) is often the dominate tree in oak woodlands within Monterey County; additional species vary depending on the specific site conditions. In mesic areas, other trees include California bay (*Umbellularia californica*), madrone (*Arbutus menziesii*), tanbark oak (*Lithocarpus densiflora*), black oak (*Quercus kelloggii*) and canyon live oak (*Quercus chrysolepis*) are common. On drier sites, valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), and foothill pine (*Pinus sabiniana*) are often associated with coast live oak. Oak woodland often intergrades with chaparral and coastal scrub in which case shrubs from these communities often occur in the understory. In mesic areas characterized by dense coast live oak forest, shade tolerant shrubs tend to dominate the understory while in drier open sites, grassland species and herbaceous species are more likely to occur.

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)*, and many warblers and flycatchers. Cavities in oak trees are important nesting sites for American kestrel, tree swallow (*Tachycineta bicolor*), oak titmouse (*Baeolophus inornatus*), house wren (*Troglodytes aedon*), white-breasted nuthatch (*Sitta carolinensis*), and western bluebird. Oak woodlands provide nesting sites for raptors, such as red-tailed hawks, 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 black-tailed deer (Mayer and Laudenslayer 1988).

Blue Oak Woodland

In Monterey County, blue oak woodland occurs in association with mixed chaparral, coastal scrub, annual grassland, and coastal oak woodland. It is often found on rocky, well-drained, infertile soils due to their high tolerance for drought. 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. 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. Some stands of blue oak and foothill pine occur on drier interior hills of California, particularly in the inner coast ranges in the eastern part of the County. Common shrub associates with blue oak woodland include poison-oak (*Toxicodendron diversilobum*), coffeeberry (*Rhamnus californica*), buckbrush (*Ceanothus* spp.), California buckeye (*Aesculus californica*), and manzanita (*Arctostaphylos* spp.).

Blue oak woodland supports the same wildlife species described above under *Oak Woodland*.

Oak Savannah

Valley oaks dominate oak savannah, which is a community of widely spaced trees spread across a grass-dominate landscape. They tend to occur on gently sloping hills and valley bottoms with deep, well developed soils. There are no understory shrubs in oak savannah, and the grassland understory includes a variety of herbaceous flowering species, the diversity of which depends on microsite factors such as the degree of non-native annual grass invasion, soils conditions and geographic location. In general, the valley oaks are not regenerating across California. This community is, therefore, of particularly high priority for preservation. Due to the unique combination of oak woodland and grassland community types found in oak savannah it supports a wide array of wildlife species. Oak savannah includes all of the species discussed above under *Native Grasslands* and *Oak Woodland*. Wildlife species most common in this habitat include, but are not limited to, common garter snake, western rattlesnake, California, western harvest mouse (*Reithrodontomys megalotis*), California ground squirrel, coyote, and American badger (Mayer and Laudenslayer 1988). Oak savannahs are particularly important to many species of songbirds and raptors since they provide both nesting and foraging habitat.

Mixed Conifer

Mixed conifer includes forests dominated by a combination of conifers and hardwood species, and generally occurs at higher elevations in the coast and inner coast ranges. This forest generally requires moist conditions and tends to occur on north facing slopes and steep valleys. It is a diverse forest with a range of species, age classes, and canopy gaps interspersed with closed canopy. The

gaps generally provide areas of ongoing regeneration as saplings can establish in these areas when they are formed by tree-falls and other events. The understory of this forest consists primarily of tree saplings; there is little shrub or herbaceous growth here. In Monterey County, mixed conifer dominant species include Douglas-fir (*Pseudotsuga menziesii*), madrone, coast live oak, big leaf maple (*Acer macrophyllum*), tanoak (*Lithocarpus densiflora*), and coast redwood (*Sequoiadendron sempervirens*). Additional species might include Bishop pine (*P. muricata*), knobcone pine (*P. attenuata*), Coulter pine (*Pinus coulteri*) and ponderosa pine (*Pinus ponderosa*).

Birds associated with conifer woodlands include acorn woodpeckers, Nuttall's woodpeckers, western scrub jay, and many warblers and flycatchers. Conifer woodlands provide nesting sites for raptors, such as red-tailed hawks, red-shouldered hawks, and great-horned owls (Zeiner et al. 1990a.). Mammals associated with woodlands include western gray squirrel (*Sciurus griseus*), bobcat, black-tailed deer, and many species bats (Zeiner et al. 1990b).

Monterey Pine Forest

The Monterey Peninsula is well known for its Monterey pine forest. Although widely planted, there are only three native stands of Monterey pine: at Point Ano Nuevo, Cambria, and on the Monterey Peninsula. These forests occur in rich loamy soils that support an understory of diverse plants. Ferns such as sword fern (*Polystichum munitum*), bracken fern (*Pteridium aquilinum* var. *pubescens*) and wood fern (*Dryopteris arguta*) proliferate and herbaceous flowering species include milkmaids (*Cardamine californica* var. *californica*), yarrow (*Achillea millefolium*), and Douglas iris (*Iris douglasiana*).

Monterey pines are closed cone pines: the cones remain closed protecting the seeds until fire or hot weather expands the cones and throws seeds out away from the parent tree. This is an adaptation to fire that occurs in a number of pine and cypress tree species that have evolved in fire-prone environments.

Monterey pine forest intergrades with Monterey cypress forest, Monterey pygmy forest and northern Bishop forest, all of which are sensitive communities in the CNDDB. Several rare plants occur in the Monterey pine forest, including Monterey manzanita, Yadon's rein orchid, Gowen cypress (*Cupressus goveniana* ssp. *goveniana)*, Monterey cypress (*Cupressus macrocarpa*) and Monterey Pine itself.

Wildlife that occurs in Monterey Pine forest is generally the same as oak woodland and mixed conifer, above.

Redwood Forest

Redwood forest occurs along the coast in Monterey County. Very little of this community is located in areas designated for development.

This community requires moist conditions where temperatures are relatively mild and stable, and require a strong influence of coastal fog and marine air flows. In Monterey County, redwood forest is often found in association with coastal oak woodland and it occurs at elevations as high as 3,000 feet. Redwood forest is dominated by coast redwood, and also can includes several coniferous species including 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 CEQA-defined special-status wildlife species occupy redwood habitat such as California red-legged frog, 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).

Sensitive Vegetation Communities in Coastal Areas

Although the 2007 General Plan does not cover the coastal areas, the following vegetation types are discussed for cumulative impact context.

Dune and Dune Scrub

The sand dunes located at many beach areas of Monterey County include two distinct plant communities: **dune**, located on the beach and foredune areas, and **dune scrub**, which occurs on backdunes just beyond direct influence of the ocean.

Dune communities have limited values for wildlife due to the lack of cover. Dune habitat is important for CEQA-defined special-status species such as the Smith's blue butterfly (*Euphilote enoptes smithi*) and the globnosed dune beetle (*Coelus globosus*). The western snowy plover (*Charadrius alexandrinus nivosus*) nests in the foredune and forages, along with several other shorebird species along the wrack line in the adjacent tidal areas. Other common species that occur in dune habitats include the common raven (*Corvus corax*), raccoon (*Procyon lotor*), and red fox (*Vulpes vulpes*).

Dune scrub occurs landward of the dune community, on inland dunes beyond the reach of storm waves and direct impact of ocean forces. This community is dominated by shrubs interspersed with open sand and herbaceous species Dominant species in the dune scrub include mock heather (*Ericameria ericoides)*, dune lupine (*Lupinus chamissonis)* and lizard tail (*Eriophyllum*

staechadifolium). Dune scrub is included in the CNDDB (2007) as Central Dune Scrub, with four documented locations in the County

Saltwater Marsh and Tidal mudflats

Salt marshes are tidally influenced plant communities that occur along wave-sheltered margins of bays, lagoons and estuaries where they occupy the upper intertidal zone. Most salt marshes in Monterey County are in the sloughs adjacent to Monterey Bay (e.g., Elkhorn Slough, Bennet Slough, etc.). The dominant species in salt marshes is generally pickleweed (*Salicornia virginica*), and sub-dominants include salt grass (*Distichlis spicata*), jaumea (*Jaumea carnosa*) and alkali heath (*Frankenia salina*).

Another type of marsh found in Monterey County and considered rare by the CNDDB is brackish marsh. This marsh type is generally located in areas that have some infrequent tidal influence, enough to cause elevated salinity levels over freshwater marshes. One documented occurrence in Monterey County is near Castroville, in Moro Cojo slough. Brackish marshes are generally dominated by tule (*Scirpus acutus*) and alkali bulrush (*Scirpus robustus*). Both of these communities support CEQA-defined special-status species such as the California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis*), and many other water and shorebirds that move through the Pacific flyway.

Tidal flat habitat includes mudflats, sandflats, and shell flats, and is usually comprised of less than 10% vascular vegetation. This habitat occurs from below Mean Lower Low Tide to Mean Tide Level. Tidal mudflats have a substrate consisting of fine-grained silts and clays that is exposed twice daily during low tide and extend to the extreme low water elevation. Narrow bands of mudflat are also found at the same elevations along the margins of subtidal channels in tidal marshes. In Monterey County, the only substantial areas of tidal mudflat are in Elkhorn Slough and its associated tidal channels.

Tidal mudflats are highly productive and support large populations of benthic organisms, including aquatic worms, crustaceans, and mollusks that are important elements of the estuarine food web. When exposed or covered by shallow water, mudflats provide important foraging areas for migrant and wintering shorebirds, wading birds, and gulls. Some shorebird species that utilize Bay tidal mudflats for feeding include semipalmated plover (*Charadrius semipalmatus)*, black-bellied plover (*Pluvialis squatarola*), American avocet (*Recurvirostra americana*), long-billed curlew (*Numenius americanus*), willet (*Catoptrophorus semipalmatus*), marbeled godwit (*Limosa fedoa*), western sandpiper (*Calidris mauri*), dunlin (*Calidris alpine*), whimbrel (*Numenius phaeopus*), sanderling (*Calidris alba*), greater yellowlegs (*Tringa melanoleuca*), and least sandpiper (*Calidris minutilla*).

4.9.3.2 Other Plant Communities (Habitats)

The following vegetation communities are found in inland areas covered by the 2007 General Plan (as well as in coastal areas not covered by the 2007 General Plan)

Coastal Scrub

The structure and species composition of coastal scrub communities vary along the California coast from north to south. In Monterey County, the primary form is called central coast scrub (also known as coastal sage scrub) and is dominated by drought-tolerant low shrubs, generally less than six feet tall. The understory herbaceous species can vary from slightly dense to non-existent, depending on site conditions. In general, coastal scrub occurs on steep, south-facing slopes with relatively dry, shallow soils where conditions are harsh for most plants. The dominant species in central coast scrub may include coastal sage scrub (*Artemesia californica*), coyote brush (*Baccharis pilularis*), bush monkey flower (*Mimulus aurantiacus*), black sage (*Salvia mellifera*), coffeeberry (*Rhamnus californica*, and coast buckwheat (*Eriogonum latifolium*). Other common species include poison oak (*Toxicodendron diversilobum*) and bush monkey flower (*Mimulus aurantiacus*).

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 (*Euphagus cyanocephalus*), Anna's hummingbird (*Calypte anna*), and American robin (*Turdus migratorius*) (Zeiner et al. 1990a.). These more open areas are also suitable for western fence lizards and jackrabbits, which use the area beneath shrub vegetation for cover (Zeiner et al. 1988, 1990b).

Baccharis Chaparral/Baccharis Scrub/Gabilan Scrub/Mixed Chaparral (Interior Scrub and Chaparral)

Interior scrub and chaparral communities include baccharis chaparral, baccharis scrub and Gabilan scrub, as well as mixed chaparral. These communities generally occur east of the summit of the coastal Santa Lucia mountains and in the interior Gabilan Range and Cholame Hills. They are dominated by various combinations of drought- and fire-adapted shrub species with evergreen leaves, including coyote bush (*Baccharis pilularis*), chamise (*Adenostoma fasciculatum*), manzanita species (*Arctostaphylos* spp), and ceanothus species (*Ceanothus* spp.). Chaparral and interior scrub occupies challenging sites in generally steep terrain with low soil accumulation relative to grassland and woodlands. The plants in these communities are adapted to harsh conditions of low nutrient availability, low soil water and intense seasonal drought. Associated species may include

scrub oak (*Quercus berberidifolia*), toyon (*Heteromeles arbutifolia*), coffeeberry (*Rhamnus californica*), birchleaf mountain-mahogany (*Cercocarpus betuloides*), hollyleaf cherry (*Prunus ilicifolia*), and California yerba santa (*Eriodictyon californicum*), poison oak, and bush monkey flower.

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, brush mouse (*Peromyscus boylii*), dusky-footed woodrat (*Neotoma fuscipes*), and deer are common in chaparral habitats (Zeiner et al. 1990a, 1990b).

Eucalyptus

Eucalyptus groves are generally single species stands of eucalyptus trees (*Eucalytpus globulus*). All species of eucalyptus are non-native in California. These stands are scattered throughout the County and often are expanding. Where they grow, other species are generally unable to co-exist because they eucalyptus leaves and branches contain a chemical that is toxic to most other species. Eucalyptus forests can be strongly invasive where they grow. Eucalyptus is often concentrated near highly populated areas and on agricultural lands where they were planted for windbreaks.

Eucalyptus groves typically support common wildlife species since the often occur in semi-natural or urbanized habitats. These groves can be important stopover sites for migratory songbirds and are the winter roost sites for thousands of Monarch butterflies (*Danaus plexippus*) along the Monterey coast.

Annual Grassland

Annual grassland is found throughout Monterey County; 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. Most annual grasses in California's grasslands are nonnative grasses from the Mediterranean basin. Perennial grasses such as purple needlegrass (*Nassella pulchra*) and Idaho fescue (*Festuca idahoensis*), are occasionally found in annual grassland.

Annual grasslands support the same suite of species discussed above under *Native Grassland*. Important species for this habitat include the San Joaquin kit fox (a listed species), California ground squirrel (important to create burrow

habitat for California tiger salamanders and western burrowing owl and other species), and many species of raptors that forage in grassland habitat.

Agriculture

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).

The quality of habitat for wildlife is 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 affected by fencing, trapping, and poisoning to prevent excessive crop losses.

Certain agricultural lands have become important habitats for wintering waterfowl and breeding and wintering raptors. In the plan area, wildlife species associated with agricultural lands include mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird, sandhill crane (*Grus canadensis*), various raptor species, egrets, and many species of rodents (Mayer and Laudenslayer 1988). Agricultural areas are also important foraging sites for many species of raptors and several mammals, such as the California ground squirrel, San Joaquin kit fox, and coyote use the edges of agricultural fields for hunting and local migrations.

Golf Course

Golf courses are prevelant in certain areas of Monterey County. Golf courses have nesting habitat for several species on migratory songbirds and some waterfowl and typically support dense deer populations. Since golf courses are generally landscaped and heavily managed they are typically devoid of CEQA-defined special-status wildlife.

Sparse Vegetation/Bare Soil

Some areas are 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.

Urban/Non-Vegetated

Urban habitat is a developed habitat type; 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 pigeon (*Columba livia*), raccoon, opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), western fence lizard, and gopher snake (*Pituophis melanoleucus*) (Mayer and Laudenslayer 1988).

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 county is found in the rivers and creeks in the county (including the Carmel River, the Salinas River, Arroyo Seco, the Pajaro River and their tributaries) as well as in reservoirs in the County.

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, great egret (*Ardea alba*), belted kingfisher (*Ceryle alcyon*), raccoon, and striped skunk. (Zeiner et al. 1988, 1990a, 1990b) as well as California red-legged frog and California tiger salamander. 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, western fence lizard, gopher snake, and their predators (e.g., coyotes, raptors).

4.9.3.3 CEQA-Defined Special-Status Species

For this EIR, CEQA-defined special-status species are defined to include both listed and non-listed species that are candidate, sensitive, or special-status species

in local or regional plans, policies, or regulations, or by the CDFG or USFWS or that otherwise meet the definitions of rare or endangered under CEQA based on substantial evidence (State CEQA Guidelines Section 15380). Note that this definition is broader than that in the 2007 General Plan, which only includes listed special-status species. Unless other specified all references in this document are to the broad list of CEQA-defined special-status species, whether listed or not.

Listed CEQA-defined special-status species are plants and animals that are legally protected under the California Endangered Species Act (CESA) and federal Endangered Species Act (FESA) and include the following:

- Species listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species]).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations 670.5).

CEQA-defined special-status species are plants and animals that are not listed under CESA or FESA but which meet the CEQA definition of a rare, threatened, or endangered species (State CEQA Guidelines Section 15380). Non-listed special-status plants and animals included as CEQA-defined special-status species include the following:

- Species that are candidates for possible future listing as threatened or endangered under the FESA (67 FR 40657, June 13, 2002).
- 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]).
- Species that otherwise meet the definitions of rare or endangered under CEQA based on substantial evidence (State CEQA Guidelines Section 15380).

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 migratory birds, their nests, and eggs.
- 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.

CEQA-Defined Special-Status Plant Species

There are 100 CEQA-defined special-status plant species known to occur in Monterey County. These are presented in Table 4.9-4 in a table which 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 Monterey County (California Natural Diversity Database 2008),
- USFWS species list for Monterey County (USFWS 2008), and
- CNPS *Inventory of Rare and Endangered Plants of California* online edition (2008), records search for Monterey County.

The species listed in Table 4.9-4 have been selected based on a search for occurrences in Monterey County only.

CEQA-Defined Special-Status Fish and Wildlife Species

There are 47 CEQA-defined special-status fish and wildlife species known to occur in Monterey County. These are presented in Table 4.9-5 which summarizes the legal status, distribution, and habitat for each species. The table was compiled based on the following sources:

- A records search of the CNDDB for Monterey County (California Natural Diversity Database 2008),
- USFWS species list for Monterey County (USFWS 2008) and

The species listed in Table 4.9-5 have been selected based on a search for occurrences in Monterey County only.

Table 4.9-4. Special-Status Plants with Potential to Occur in Monterey County

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Abbott's bush mallow *Malacothamnus abbottii*	SC/–/1B.1	Monterey County	Riparian scrub	Jun–Oct
Adobe sanicle *Sanicula maritima*	–/R/1B.1	Coastal Monterey and San Luis Obispo Counties. Historically known from the San Francisco Bay area: Alameda* and San Francisco* Counties	Moist clay or ultramafic soils, in meadows and grassland	Feb–May
Alkali milk–vetch *Astragalus tener* var. *tener*	–/–/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area	Grassy flats and vernal pool margins, on alkali soils, below 200'	Mar–Jun
Arroyo de la Cruz manzanita *Arctostaphylos cruzensis*	SC/–/1B.2	Coastal Monterey and San Luis Obispo Counties	Sandy soils, in coastal scrub, chaparral and oak woodland, valley and foothill grassland, below 500'	Dec–Mar
Arroyo Seco bush mallow *Malacothamnus palmeri* var. *lucianus*	SC/–/1B.2	Monterey County	Chaparral, meadows	May–Aug
Beach layia *Layia carnosa*	E/E/1B.1	Scattered occurrences along coastal California from Humboldt County to Santa Barbara County	Coastal dunes, coastal scrub on sandy soil	Mar–Jul
Brewer's spineflower *Chorizanthe breweri*	–/–/1B.3	South Coast Ranges, San Luis Obispo County	Rocky or gravelly areas in Sargent cypress forest, chaparral, oak woodland, coastal scrub in open areas on serpentinite soil	May–Jun
Bristlecone fir *Abies bracteata*	–/–/1B.3	Endemic to the Santa Lucia Range: Monterey and San Luis Obispo Counties	Lower montane coniferous forest on steep, rocky, fire–resistant slopes at 700–5,250'	n/a
Butterworth's buckwheat *Eriogonum butterworthianum*	SC/R/1B.3	Monterey County	Chaparral on sandstone	Jun–Jul
California screw–moss *Tortula californica*	–/–/1B.2	Known from Kern and Riverside Counties	Chenopod scrub, valley and foothill grassland/ sandy soil, 10–100 meters	N/A

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Calycadenia micrantha *Small-flowered calycadenia*	–/–1B.2	Colusa, Lake, Monterey, Napa, and Trinity Counties	Chaparral, Meadows and seeps(volcanic), Valley and foothill grassland/ roadsides, rocky, talus, scree, sometimes serpentinite, sparsely vegetated areas	Jun-Sep
Caper–fruited Tropidocarpum *Tropidocarpum capparideum*	–/–/1B.1	Historically known from the northwest San Joaquin Valley and adjacent Coast Range foothills	Grasslands in alkaline hills below 1,500'	Mar–Apr
Carmel Valley bush mallow *Malacothamnus palmeri* var. *involucratus*	SC/–/1B.2	Monterey and San Luis Obispo Counties	Chaparral, oak woodland, talus hilltops and slopes, 1,200–2,200'	May–Aug
Carmel Valley cliff–aster *Malacothrix saxatilis* var. *arachnoidea*	SC/–/1B.2	Monterey and Santa Barbara Counties	Rocky areas in chaparral	Jun–Dec
Coast wallflower *Erysimum ammophilum*	–/–/1B.2	Coastal San Mateo, Santa Cruz, and Monterey Counties	Sandy soils and openings in maritime chaparral, coastal dunes, coastal scrub	Feb–Jun
Coastal dunes milk–vetch *Astragalus tener* var. *titi*	E/E/1B.1	Central coast, southern coast, including portions of Los Angeles*, Monterey, and San Diego Counties	Sandy soils of coastal bluff scrub, coastal dunes, coastal prairie on mesic or sandy depressions near the coast	Mar–May
Compact cobwebby thistle *Cirsium occidentale* var. *compactum*	–/–/1B.2	San Francisco and San Luis Obispo Counties	Chaparral, coastal dunes, coastal prairie, coastal scrub	Apr–Jun
Cone Peak bedstraw *Galium californicum* ssp. *luciense*	SC/–/1B.3	Monterey County	Broadleaved upland forest, cismontane woodland, lower montane coniferous forest	Mar–Jul
Congdon's tarplant *Centromadia parryi* ssp. *congdonii* (formerly *Hemizonia*)	–/–/1B.2	East San Francisco Bay Area, Salinas Valley, Los Osos Valley	Annual grassland, on lower slopes, flats, and swales, sometimes on alkaline or saline soils, below 700'	Jun–Nov

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Contra Costa goldfields *Lasthenia conjugens*	E/–/1B.1	Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley, Alameda, Contra Costa, Mendocino, Monterey, Napa, Santa Barbara*, Santa Clara*, and Solano Counites.	Alkaline or saline vernal pools and swales, below 700'	Mar–Jun
Cook's Triteleia *Triteleia ixioides* ssp. *cookii*	–/–/1B.3	San Luis Obispo County	Closed–cone coniferous forest, cismontane woodland, on serpentinite seeps	May–Jun
Davidson's bush mallow *Malacothamnus davidsonii*	–/–/1B.2	Los Angeles, Monterey, and San Luis Obispo Counties	Coastal scrub, chaparral, and riparian woodland in sandy washes, 900–2,800'	Jun–Sep
Delicate bluecup *Githopsis tenella*	1B.1	Kern, Monterey, and Tulare Counties	Chaparral, Cismontane woodland/mesic	May-Jun
Dudley's lousewort *Pedicularis dudleyi*	–/R/1B.2	Monterey, Santa Cruz*, San Luis Obispo, and San Mateo Counties	Maritime chaparral, North Coast coniferous forest, valley and foothill grassland	Apr–Jun
Dwarf Calycadenia *Calycadenia villosa*	–/–/1B.1	Known from 20 occurrences in interior foothills of South Coast Ranges, in San Luis Obispo and Monterey Counties. Historically in Kern County	Rocky sites in chaparral, oak woodland, juniper woodland, grasslands, open dry flats and hillsides, and alluvial fans, below 4,200'	May–Oct
Eastwood's buckwheat *Eriogonum eastwoodianum*	–/–/1B.3	Fresno and Monterey Counties	Sandy or clay soils in cismontane woodland	Jun–Jul
Eastwood's goldenbush *Ericameria fasciculata*	SC/–/1B.1	Monterey County	Sandy soils and openings in closed–cone coniferous forest, maritime chaparral, coastal dunes, coastal scrub	Jul–Oct
Fragrant fritillary *Fritillaria liliacea*	–/–/1B.2	Coast Ranges from Marin County to San Benito County	Adobe soils of interior foothills, coastal prairie, coastal scrub, annual grassland, often on serpentinite, below 1,350'	Feb–Apr
Gabilan Mountains manzanita *Arctostaphylos gabilanensis*	—/—/1B.2	Monterey and San Benito Counties	Chaparral, Cismontane woodland/granitic	Jan

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Gowen cypress *Cupressus goveniana* ssp. *goveniana*	T/–/1B.2	Monterey County	Closed–cone coniferous forest, maritime chaparral	
Hall's tarplant *Deinandra halliana*	–/–/1B.1	Interior foothills of South Coast Ranges, in San Benito, Monterey, and San Luis Obispo counties	Oak woodland, grassland; in clay soil on flood plains	Apr–May
Hardham's bedstraw *Galium hardhamiae*	–/–/1B.3	Monterey and San Luis Obispo Counties	Closed–cone coniferous forest on serpentinite substrate	Apr–Oct
Hardham's evening–primrose *Camissonia hardhamiae*	SC/–/1B.2	South coast ranges, Monterey and San Luis Obispo Counties	Chaparral, oak woodland on decomposed carbonate substrate	May
Hickman's checkerbloom *Sidalcea hickmanii* ssp. *hickmanii*	–/–/1B.3	Monterey County	Chaparral	Jun–Jul
Hickman's cinquefoil *Potentilla hickmanii*	E/E/1B.1	Monterey, San Mateo, and Sonoma* Counties	Freshwater marshes, seeps, and small streams in open areas in coastal scrub or coniferous forest	Apr–Aug
Hickman's onion *Allium hickmanii*	SC/–/1B.2	Central coast: Monterey and San Luis Obispo Counties, especially Monterey Peninsula and Arroyo de la Cruz.	Closed–cone coniferous forest, maritime chaparral, coastal prairie, coastal scrub, valley and foothill grassland, generally +/– 150'	Apr–May
Hooked popcorn–flower *Plagiobothrys uncinatus*	–/–/1B.2	Monterey, San Benito, Santa Clara, and San Luis Obispo Counties	Chaparral, cismontane woodland, valley and foothill grassland, in sandy areas	Apr–May
Hooker's Manzanita *Arctostaphylos hookeri* ssp. *hookeri*	–/–/1B.2	Central coast, western San Francisco Bay region, Santa Cruz mountains and south to Carmel. Monterey and Santa Cruz Counties	Closed–cone coniferous forest, chaparral, cismontane woodland, coastal scrub on sandy substrate	Feb–Jun
Hutchinson's larkspur *Delphinium hutchinsoniae*	SC/–/1B.2	Monterey County	Broadleaved upland forest, chaparral, coastal prairie, coastal scrub	Mar–Jun
Indian Valley bush mallow *Malacothamnus aboriginum*	–/–/1B.2	Inner South Coast Ranges: San Benito, Fresno, and Monterey Counties	Rocky areas in chaparral and oak woodland, often in burned areas	Apr–Oct

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Indian Valley spineflower *Aristocapsa insignis*	–/–/4 B.2	Inner south Coast Range, Monterey and San Luis Obispo Counties	Cismontane woodland on sandy substrate	May–Sep
Jolon clarkia *Clarkia jolonensis*	–/–/1B.2	Northern outer south coast ranges, Monterey County	Cismontane woodland	Jun
Kellman's bristle-moss *Orthotrichum kellmanii*	–/–/1B.2	Monterey, Santa Cruz, and San Mateo Counties	Chaparral, Cismontane woodland/sandstone, carbonate	Jan-Feb
Kellogg's Horkelia *Horkelia cuneata* ssp. *sericea*	SC/–/1B.1	Coastal California from Marin to Santa Barbara Counties	Openings in closed–cone coniferous forest, coastal scrub, maritime chaparral, on sandy or gravelly soils	Apr–Sep
Late–flowered mariposa lily *Calochortus weedii* var. *vestus*	SC/–/1B.2	Outer south Coast Ranges, Western Transverse Range, Monterey, Santa Barbara, San Luis Obispo, and Ventura Counties	Chaparral, cismontane woodland, often on serpentinite	Jun–Aug
Lemmon's jewelflower *Caulanthus coulteri* var. *lemmonii*	–/–/1B.2	Southeast San Francisco Bay Area, south through the South Coast Ranges and adjacent San Joaquin Valley	Dry exposed slopes in grasslands and pinyon–juniper woodland, between 260–4,000 feet; blooms March–May	Mar–May
Little Sur Manzanita *Arctostaphylos edmundsii*	SC/–/1B.2	Central coast, Monterey County	Coastal bluff scrub, chaparral on sandy substrate	Nov–Apr
Maple–leaved checkerbloom *Sidalcea malachroides*	–/–/1B.3	North Coast and northern Central Coast: from Humboldt to Monterey County	Openings in coastal scrub, perennial grassland, Redwood forest, Douglas–fir forest, often in disturbed areas, 5–2,300'	May–Aug
Marsh microseris *Microseris paludosa*	–/–/1B.2	Coastal California from Mendocino County to San Luis Obispo County	Grassland, coastal scrub, closed–cone–coniferous forest, cismontane woodland	
Mason neststraw *Stylocline masonii*	–/–/1B.1	Scattered locations from Monterey County to Los Angeles County	Chenopod scrub, pinyon–juniper woodland, in sandy washes, 300–3,900'	Mar–Apr
Menzies's wallflower *Erysimum menziesii* ssp. *menziesii*	E/E/1B.1	North and Central coast: Fort Bragg, Monterey Bay, and Point Pinos areas in Mendocino and Monterey Counties	Localized on coastal dunes, on coastal strand areas in coastal scrub below 115'	Mar–Jun
Monterey clover *Trifolium trichocalyx*	E/E/1B.1	Monterey County	Closed–cone coniferous forest, openings, burned areas	Apr–Jun

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Monterey cypress *Cupressus macrocarpa*	SC/–/1B.2	Monterey County	Closed–cone coniferous forest	
Monterey Manzanita *Arctostaphylos montereyensis*	SC/–/1B.2	Central coast, Fort Ord, northern outer south Coast Range, Toro Mountain, northwestern Monterey County	Maritime chaparral, cismontane woodland, coastal scrub, sandy soils	Feb–Mar
Monterey pine *Pinus radiata*	SC/–/1B.1	Monterey, Santa Cruz, San Luis Obispo, and San Mateo Counties, Baja California, Guadalupe Island (Mexico)	Closed–cone coniferous forest, cismontane woodland	N/A
Monterey spineflower *Chorizanthe pungens*	T/–/1B.2	Monterey and Santa Cruz Counties	Coastal dunes	April–June
Moss (Norris' Beard–moss) *Didymodon norrisii*	–/–/2.2	Humboldt, Lake, Madera, and Tuolumne Counties	Cismontane woodland, lower montane coniferous forest/ intermittently mesic, rock, 600–1700 meters	N/A
Most beautiful jewel–flower *Streptanthus albidus* ssp. *peramoenus*	–/–/1B.2	Eastern San Francisco Bay area, Central south coastal outer ranges. Alameda, Contra Costa, Monterey, and Santa Clara Counties	Chaparral, annual grassland, on ridges and slopes on serpentinite outcrops, 450–3,200'	Apr–Jun
Muir's tarplant *Carlquistia muirii*	–/–/1B.3	Fresno, Kern, Monterey, and Tulare Counties	Chaparral (montane), lower montane coniferous forest, upper montane coniferous forest.	Jul-Aug
Napa false indigo *Amorpha californica* var. *napensis*	–/–/1B.2	Monterey, Marin, Napa, and Sonoma counties	Openings in broadleaved upland forest, cismontane woodland, chaparral, between 500–6.580 feet	April–July
Oval–leaved snapdragon *Antirrhinum ovatum*	–/–/4.2	Inner Coast Ranges from San Benito County to Kern and Ventura Counties	Clay or gypsum substrates (often alkaline) in chaparral, cismontane woodland, pinyon–juniper woodland, valley and foothill grassland, between 650–3,300'	May–Nov
Pacific Grove clover *Trifolium polyodon*	–/R/1B.1	Monterey County	Closed–cone coniferous forest, coastal prairie, meadows, valley and foothill grassland, in mesic areas	Apr–Jun

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Pajaro Manzanita *Arctostaphylos pajaroensis*	–/–/1B.1	Pajaro Hills, Monterey County	Chaparral, in sandy areas	Dec–Mar
Pale–yellow layia *Layia heterotricha*	SC/–/1B.1	Interior foothills of the South Coast Ranges, Transverse Ranges, and Tehachapi mountains: Fresno, Kings*, Kern*, Monterey*, Santa Barbara, San Luis Obispo*, Ventura, and possibly San Benito Counties	Cismontane woodland, pinyon– juniper woodland, grassland in open areas on alkaline or clay soils, below 5,250'	Mar–Jun
Palmer's Monardella *Monardella palmeri*	–/–/1B.2	Monterey and San Luis Obispo Counties	Chaparral, cismontane woodland on serpentinite	Jun–Aug
Pine rose *Rosa pinetorum*	–/–/1B.2	Monterey and San Mateo Counties	Closed–cone coniferous forest, up to 985'	May–July
Pinnacles buckwheat *Eriogonum nortonii*	–/–/1B.3	Monterey and San Benito Counties	Sandy soils in chaparral, valley and foothill grassland; often on recent burns	May–Jun
Prostrate navarettia *Navarretia prostrata*	–/–/1B.1	Western San Joaquin Valley, interior South Coast Ranges, central South Coast, Peninsular Ranges: Los Angeles, Merced, Monterey, Orange, Riverside, San Bernardino, and San Diego Counties	Vernal pools and mesic areas in coastal scrub and alkali grasslands	Apr–Jul
Purple amole *Chlorogalum purpureum* var. *purpureum*	T/–/1B.1	Northeastern outer south Coast Ranges, eastern Santa Lucia Mountains, Monterey County	Cismontane woodland, valley and foothill grassland	May–Jun
Rayless ragwort *Senecio aphanactis*	–/–/2.2	Scattered locations in central western and southwestern California, from Alameda County to San Diego County	Oak woodland, coastal scrub, open sandy or rocky areas, on alkaline soils; 15–800 meters	Jan–Apr
Recurved larkspur *Delphinium recurvatum*	–/–/1B.2	San Joaquin Valley and central valley of the South Coast Ranges, Contra Costa County to Kern County	Subalkaline soils in annual grassland, saltbush scrub, cismontane woodland, and vernal pools	Mar–May
Robust spineflower *Chorizanthe robusta* var. *robusta*	E/–/1B.1	Coastal central California, from San Mateo to Monterey County	Coastal bluff scrub, coastal dunes openings in cismontane woodland, on sandy soil	May–Sep

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Saline clover *Trifolium depauperatum* var. *hydrophilum*	–/–/1B.2	Sacramento Valley, central western California	Salt marsh, mesic alkaline areas in grasslands, vernal pools	Apr–Jun
San Antonio collinsia *Collinsia antonina*	–/–/1B.2	Monterey County	Chaparral, Cismontane woodland	Mar-May
San Benito fritillary *Fritillaria viridea*	–/–/1B.2	Central Coast Ranges in San Benito, Monterey, and San Luis Obispo counties	Serpentinite outcrops, on slopes, in chaparral, 650–5,000'	Mar–May
San Benito spineflower *Chorizanthe biloba* var. *immemora*	SC/–/1B.2	Eastern inner south coast ranges, Fresno, Monterey, and San Benito Counties	Chaparral, cismontane woodland	May–Sep
San Francisco collinsia *Collinsia multicolor*	–/–/1B.2	Coastal California from San Francisco to Monterey County	Closed–cone coniferous forest, coastal scrub	Mar–May
San Luis Obispo sedge *Carex obispoensis*	–/–/1B.2	Outer South Coast Ranges in San Luis Obispo County	Sargent cypress forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland; often on serpentinite seeps	Apr–Jun
San Simeon Baccharis *Baccharis plummerae* ssp. *glabrata*	–/–/1B.2	Central coast, San Luis Obispo County	Coastal scrub	Jun
Sand gilia *Gilia tenuiflora* ssp. *arenaria*	E/T/1B.2	Monterey County	Sandy soils in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub	Apr–Jun
Sandmat manzanita *Arctostaphylos pumila*	SC/–/1B.2	Central coast, especially Monterey Bay, Monterey County	Openings in closed–cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub, in sandy areas	Feb–May
Santa Cruz clover *Trifolium buckwestiorum*	–/–/1B.1	San Francisco Bay area and central coastal California, Endemic to Santa Cruz County, also known from Monterey and Sonoma Counties	Moist grassy areas on margins of broadleaved upland forest, cismontane woodland, and coastal prairie, sometimes in disturbed areas, 200–1,800'	May–Oct
Santa Cruz Microseris *Stebbinsoseris decipiens*	–/–/1B.2	Coastal California: scattered occurrences from Marin County to Monterey County	Grasslands, coastal prairie, and open grassy areas in other habitat types	Apr–May

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Santa Cruz tarplant *Holocarpha macradenia*	T/E/1B.1	Coastal slope of the Santa Cruz Mountains, Monterey and Santa Cruz Counties	Coastal terrace grasslands on light sandy to sandy clay soils, below 300 feet	Jun–Oct
Santa Lucia bedstraw *Galium clementis*	–/–/1B.3	Monterey County	Lower and upper montane coniferous forest on granitic or serpentinite, rocky substrates	May–Jul
Santa Lucia bush mallow *Malacothamnus palmeri* var. *palmeri*	–/–/1B.2	San Luis Obispo and possibly Monterey Counties	Rocky places in chaparral	May–Jul
Santa Lucia mint *Pogogyne clareana*	–/E/1B.2	Monterey County	Riparian woodland	May–Jun
Seaside bird's–beak *Cordylanthus rigidus* ssp. *littoralis*	SC/E/1B.1	Central and southern central coast, Monterey and Santa Barbara Counties	Closed–cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, coastal scrub; on sandy soils, often disturbed sites	May–Oct
Shining Navarretia *Navarretia nigelliformis* ssp. *radians*	–/–/1B.2	Interior foothills of South Coast Ranges from Merced County to San Luis Obispo County	Mesic areas with heavy clay soils, in swales and clay flats; in oak woodland, grassland	May–Jun
Showy madia *Madia radiata*	–/–/1B.1	Scattered populations in the interior foothills of the south Coast Ranges: Contra Costa, Fresno, Kings, Kern, Monterey, Santa Barbara, San Benito, San Joaquin, and San Luis Obispo Counties	Oak woodland, grassland, slopes below 3,000'	Mar–May
Slender Pentachaeta *Pentachaeta exilis* ssp. *aeolica*	SC/–/1B.2	Monterey and San Benito Counties	Cismontane woodland, valley and foothill grassland	Apr–May
Straight–awned spineflower *Chorizanthe rectispina*	–/–/1B.3	Outer south coast ranges: Monterey, Santa Barbara, and San Luis Obispo Counties	Chaparral, coastal scrub, oak woodland; often on granitic soils, between 1,165–3,400 feet	Jun–Jul
Talus fritillary *Fritillaria falcata*	–/–/1B.2	South inner coast ranges. Alameda, Monterey, San Benito, Santa Clara, and Stanislaus Counties	Chaparral, oak woodland, closed–cone coniferous forest, on serpentinite talus	Mar–May

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Tear Drop moss *Dacryophyllum falcifolium*	–/–/1B.3	Monterey, Santa Cruz	North Coast coniferous forest/carbonate	N/A
Temblor buckwheat *Eriogonum temblorense*	SC/–/1B.2	Kern, Monterey, and San Luis Obispo Counties	Valley and foothill grassland on clay or sandstone substrate	May–Sep
Tidestrom's lupine *Lupinus tidestromii*	E/E/1B.1	Coastal Monterey, Marin, and Sonoma Counties	Coastal dunes, coastal dune scrub	May–Jun
Umbrella larkspur *Delphinium umbraculorum*	–/–/1B.3	Monterey, Santa Barbara, San Luis Obispo, and Ventura Counties	Moist areas in cismontane woodland	April–Jun
Yadon's rein orchid *Piperia yadonii*	E/–/1B.1	Monterey County	Coastal bluff scrub, closed–cone coniferous forest, maritime chaparral, on sandy soils	May–Aug
Yadon's wallflower *Erysimum menziesii* ssp. *yadonii*	E/E/1B.1	Monterey County	Coastal dunes	Jun–Aug
Yellow–flowered Eriastrum *Eriastrum luteum*	–/–/1B.2	Monterey and San Luis Obispo Counties	Broadleaved upland forest, chaparral, cismontane woodland	May–Jun

Notes:
[1] Status explanations:

Federal
- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- SC = considered a species of concern by the Fish and Wildlife Service
- – = no listing.

State
- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- R = listed as rare under the California Endangered Species Act.
- – = no listing.

California Native Plant Society (CNPS)
- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
- 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.
- 3 = List 3 species: more information is needed for this plant.
- – = no listing.
- .1 = seriously endangered in California
- .2 = fairly endangered in California
- .3 = not very endangered in California

* Populations uncertain or extirpated in the county indicated

Table 4.9-5. Special-Status Wildlife Species with Potential to Occur in Monterey County

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
INVERTEBRATES			
Bay checkerspot butterfly *Euphydryas editha bayensis*	T/–	Vicinity of San Francisco Bay including San Francisco peninsula in San Mateo Co., and mountains near San Jose, Santa Clara County	Native grasslands on outcrops of serpentine soil; California plantain and owl's clover are host plants
Dolloff Cave spider *Meta dolloff*	–/–	Empire Cave and other caves in area, Santa Cruz County	Cave dwelling
Globose dune beetle *Coelus globosus*	–/–	Sporadically distributed from central and southern California and the Channel Islands; from Bodega Bay, Sonoma County, south to Ensenada, Baja California	Foredunes and sand hummocks, burrows beneath sand surface under shrubs or herbaceous plants
Pinnacles optioservus riffle beetle *Optioservus canus*	–/–	San Benito county	Aquatic, in gravel in warm to cool springs
Redwood shoulderband *Helminthoglypta sequoicola consors*	–/–	Southern slope of San Juan Grade, Monterey County	Under decaying logs and in bramble patches
Smith's blue *Euphilotes (=Shijimiaeoides) 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
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
AMPHIBIANS AND REPTILES			
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	Prefers sandy arroyos and river bottoms with open riparian vegetation in inland valleys and foothills
Black California 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

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
California horned lizard *Phrynosoma coronatum frontale*	–/SSC	Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging
California red-legged frog *Rana aurora draytonii*	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 semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May aestivate in rodent burrows or cracks during dry periods.
California tiger salamander *Ambystoma californiense (=A. tigrinum c.)*	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 grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy
Coast Range newt *Taricha torosa torosa*	–/SSC	Coastal drainages from Mendocino county south to Boulder creek, San Diego county. Populations highly fragmented. Elevation range near sea level to 1830 meters	Frequent terrestrial habitats, but breed in ponds, reservoirs, and slow moving streams
Foothill yellow-legged frog *Rana boylii*	–/SSC	Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet	Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.
San Joaquin whipsnake *Masticophis flagellum ruddocki*	–/SSC	From Colusa county in the Sacramento Valley southward to the grapevine in the San Joaquin Valley and westward into the inner coast ranges. An isolated population occurs at Sutter Buttes. Known elevation range from 20 to 900 meters	Occurs in open, dry, vegetative associations with little or no tree cover. It occurs in valley grassland and saltbush scrub associations. Often occurs in association with mammal burrows
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	E/E	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

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
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	Woodlands, grasslands, and open forests; aquatic habitats, such as ponds, marshes, or streams, with rocky or muddy bottoms and vegetation for cover and food
Silvery legless lizard *Anniella pulchra pulchra*	–/SSC	Along the Coast, Transverse, and Peninsular Ranges from Contra Costa County to San Diego County with spotty occurrences in the San Joaquin Valley	Habitats with loose soil for burrowing or thick duff or leaf litter; often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas
Two-striped garter snake *Thamnophis hammondii*	–/SSC	Known range extends through the south coast and peninsular ranges west of the San Joaquin valley from the Salinas Valley and the southeastern slopes of the Diablo range, south to the Mexican border	Perennial and intermittent streams having rocky beds bordered by willow thickets or other dense vegetation. Also inhabits large sandy riverbeds, such as the Santa Clara river, if a strip of riparian vegetation is present, and stock ponds if riparian vegetation and fish and amphibian prey are present
Western spadefoot Scaphiopus hammondii	–/SSC, P	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.
FISHES			
South central California coast steelhead *Oncorhynchus mykiss*	T/SSC	Includes populations from the Pajaro River south to, but not including, the Santa Maria River.	Cold, clear water with clean gravel of appropriate size for spawning. Most spawning occurs in headwater streams. Steelhead migrate to the ocean to feed and grow until sexually mature.
Tidewater goby *Eucyclogobius newberryi*	E/SSC	Occur in lagoons of coastal streams from the Smith River (Del Norte County), to the south in Agua Hedionda Lagoon (San Diego County). Extirpated from San Francisco Bay (Moyle 2002).	Coastal lagoons along California. Prefer water with high dissolved oxygen levels and salinities less than 10 parts per thousand (ppt) (Moyle 2002).

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
BIRDS			
Bald eagle *Haliaeetus leucocephalus*	D, PR/E, FP	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. 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
Bank swallow *Riparia riparia*	–/T	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County	Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam
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
California brown pelican *Pelecanus occidentalis californicus*	E/E	Present along the entire coastline, but does not breed north of Monterey County	Typically in littoral ocean zones, just outside the surf line; nests on offshore islands
California clapper rail *Rallus longirostris obsoletus*	E/E	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
California horned lark *Eremophila alpestris actia*	–/SSC	Found throughout much of the state, less common in mountainous areas of the north coast and in coniferous or chaparral habitats	Common to abundant resident in a variety of open habitats, usually where large trees and shrubs are absent. Grasslands and deserts to dwarf shrub habitats above tree line
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

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
Double-crested cormorant *Phalacrocorax auritus (rookery site)*	–/SSC	Winters along the entire California coast and inland over the Coast Ranges into the Central Valley from Tehama County to Fresno County; a permanent resident along the coast from Monterey County to San Diego County, along the Colorado River, Imperial, Riverside, Kern and King Co.s, and the islands off San Francisco	Rocky coastlines, beaches, inland ponds, and lakes; needs open water for foraging, and nests in riparian forests or on protected islands, usually in snags
Ferruginous hawk *Buteo regalis*	–/SSC	Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, east-ward to the Sierra Nevada foothills and south-eastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County	Open terrain in plains and foothills where ground squirrels and other prey are available
Golden eagle *Aquila chrysaetos*	PR/SSC, FP	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals
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
Northern harrier *Circus cyaneus*	–/SSC	Occurs throughout lowland California. Has been recorded in fall at high elevations	Grasslands, meadows, marshes, and seasonal and agricultural wetlands
Prairie falcon *Falco mexicanus*	–/SSC	Permanent resident in the south Coast, Transverse, Peninsular, and northern Cascade Ranges, the southeastern deserts, Inyo-White Mountains, foothills surrounding the Central Valley, and in the Sierra Nevada in Modoc, Lassen, and Plumas Counties. Winters in the Central Valley, along the coast from Santa Barbara County to San Diego County, and in Marin, Sonoma, Humboldt, Del Norte, and Inyo Counties	Nests on cliffs or escarpments, usually overlooking dry, open terrain or uplands

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
Short-eared owl *Asio flammeus*	–/SSC	Permanent resident along the coast from Del Norte County to Monterey County although very rare in summer north of San Francisco Bay, in the Sierra Nevada north of Nevada County, in the plains east of the Cascades, and in Mono County; small, isolated populations	Freshwater and salt marshes, lowland meadows, and irrigated alfalfa fields; needs dense tules or tall grass for nesting and daytime roosts
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 grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony
Tufted puffin *Fratercula cirrhata (nesting colony)*	–/SSC	Occurs sparsely along the California coast from Prince Island in Del Norte County to the northern end of Big Sur. The majority of the colonies in California breed mainly on Castle Rock and a few other islands off Del Norte and Humboldt Counties and on the Farallon Islands. No longer nests in southern California, and the northern California population has declined substantially since 1900	Nests on islands and, less commonly, on coastal cliffs. Requires islands free from human disturbance, with soil suitable for digging burrows, or with natural rock cavities. Perches on rocky outcroppings on islands, not necessarily near the nest. Requires large schools of pelagic fish, such as smelt or herring for food
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
Western snowy plover (coastal populations) *Charadrius alexandrinus nivosus*	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
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
Yellow warbler *Dendroica petechia*	–/SSC	Nests in all of California except the Central Valley, the Mojave Desert region, and high altitudes in the Sierra Nevada.	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

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
MAMMALS			
Big-eared kangaroo rat *Dipodomys elephantinus*	–/SSC	Restricted to the southern Gabilan Range near the Pinnacles National Monument, San Benito and Monterey Counties	Grassland and sparse chaparral habitats where it forages in open areas and nests in underground burrows
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
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
Salinas pocket mouse *Perognathus inornatus psammophilus*	–/SSC	The known range extends from near Soledad to Hog Canyon in the Salinas Valley, Monterey County	Dry, open grasslands with sandy soils
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

Notes:

Status explanations:

Federal

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
PR = protected by the Bald and Golden Eagle Protection Act.
D = species that has been delisted under the Endangered Species Act.
— = no listing.

State

E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
— = no listing.

Critical Habitat

Critical habitat is defined in the Federal Endangered Species Act (ESA) as specific areas in which physical or biological features essential to the conservation of a protected species are present. The ESA requires that Federal agencies ensure that actions they fund, authorize, or carry out do not destroy, or adversely modify critical habitat. Individuals, organizations, states, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license or other authorization, or involve Federal funding. If these conditions apply, the applicant must consult with the USFWS or NOAA Fisheries about any action that is likely to jeopardize the continued existence of a protected species or result in destruction or adverse modification of proposed critical habitat. As a condition of approval, the applicant may be required to implement USFWS or NOAA Fisheries recommendations regarding conservation of critical habitat.

The USFWS has designated critical habitat for the western snowy plover, California red-legged frog, California tiger salamander, Monterey spineflower, Santa Cruz tarplant, and purple amole in Monterey County. NOAA Fisheries has designated several rivers and stream in Monterey County as critical habitat (FR 70: 52488) for the South-Central California Coast Distinct Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*). These streams and rivers include those found in the Carmel River and Salinas River watersheds, along with several coastal rivers, such as the Big Sur and Little Sur Rivers (Exhibit 4.9.5).

Habitat Conservation Plans

There are no adopted project-level Habitat Conservation Plans (HCPs) that intersect with the inland areas covered by the 2007 General Plan. However, the Fort Ord Multispecies Habitat Conservation Plan is currently being developed and will likely be adopted in the next few years and thus be operational during the life of the 2007 General Plan.

Adopted Habitat Conservation Plans

Permits have been issued for HCPs for the Post-Ranch Inn (Big Sur), Sarment (Carmel Highlands), and Wildcat Line LP (Carmel Highlands). All three of these areas are within coastal areas not covered by the 2007 General Plan.

Installation-Wide Multispecies Habitat Conservation Plan at Former Fort Ord (in development).

The former Fort Ord military base occupies approximately 27,686 acres (approximately 45 square miles) along the Pacific Ocean in northern Monterey County. About 3,968 acres of the former base were originally developed for military facilities with approximately 23,718 acres left as relatively natural habitat used for military training and other purposes. An installation-wide

multispecies HCP is currently being developed to provide the framework for ensuring conservation, enhancement and recovery of 19 CEQA-defined special-status plant and wildlife species and the natural communities that support them on former Fort Ord.

All base reuse (i.e., post-transfer) activities that are conducted within the plan area pursuant to the HCP are considered "covered activities." To accommodate growth and development, about 5,956 acres of existing habitat within the plan area will be removed for a total of approximately 9,924 acres in development on the former base at full build out. Impacts to HCP species and natural communities resulting from base redevelopment will be minimized and fully mitigated through the preservation and management of habitat on approximately 17,762 acres (over 64%) of the former base.

Participating in the HCP are 12 Permittees and the Bureau of Land Management.

Habitat Connectivity/Wildlife Movement

In 1991, Hay defined a corridor as "a landscape linkage designed to connect open spaces to form protected [areas] that follow natural and man-made features and embrace ecological, cultural and recreational amenities where applicable" (Hay 1991). The term corridor is used to refer to contiguous areas of habitat that connect larger areas of habitat and facilitate genetic exchange within a population or between subpopulations by allowing for movement within or between habitat patches. Because reduction and fragmentation of habitat are among the principal causes of species decline, identifying and preserving key corridors is important to retaining native populations in the county.

Habitat connectivity can be assessed at many levels. On a landscape or regional scale connectivity typically refers to how mobile mammals (e.g., deer) are able to move between prominent landscape features such as mountain ranges. The type of natural habitats between those features combined with the distance would be used to determine the connectedness or permeability of the landscape. At a smaller scale habitat connectivity is often important for seasonal migrations (e.g., steelhead) or local (daily) movements by some wildlife species between nesting and foraging habitat (e.g., golden eagles). The built environment further alters the connectivity of a landscape by removing natural habitat and restricting the opportunities for species movement. In the present day, built environment habitat corridors are recognized as a means to retain some connectivity across a landscape.

A preliminary assessment (the Missing Linkages assessment by California Wilderness Coalition, 2001) identified connectivity between habitats in four key areas within the county. These habitat linkages are considered to be critical to retaining the viability of local wildlife populations.

- **Santa Cruz Mountains to Gabilan Range—**Due to development and agriculture along the edge of Monterey Bay, wildlife movement between the

Gabilan Range to the Santa Cruz Mountains facilitates interaction between populations in these ranges. Key areas of concern relative to maintaining connectedness is development along Highway 101 and Highway 101 itself.

- **Santa Lucia Mountains to Fort Ord—**A north-south corridor exists between the Santa Lucia Mountains and Fort Ord crossing Carmel Valley, the Toro Plan Area and Highway 68. Retaining the connectedness in this area is contingent on managing development along Highway 68 and in Carmel Valley, the Toro Area, and Cachagua as well as managing connections across Highway 68.
- **Salinas Valley (east–west)—**A general east-west corridor exists across Salinas Valley that connects the Gabilan Range to the east with the Santa Lucia Range to the west in the north part of the valley and connects the Fort Hunter Liggett and Camp Roberts Areas to the Diablo Range and Cholame Hills to the east. Without retaining some connectedness across the valley, the habitat blocks between the valley and the coast are subject to isolation from the mountains and prairies of eastern Monterey County.
- **Salinas River (north-south) —**The Salinas River provides a migration corridor from Monterey Bay upstream for steelhead into the Arroyo Seco River (where spawning occurs) as well as a general north-south movement corridor along the river corridor. Wildlife movement also occurs through upland and agricultural areas west and east of the river.

In addition to the four linkages identified by the California Wilderness Coalition, Two other wildlife corridors are also identified for the purposes of this analysis, particularly as they relate to steelhead migration:

- **Carmel River—**The Carmel River provides a wildlife movement corridor for steelhead, California red-legged frogs, and a variety of other wildlife species in a generally east-west direction in Carmel River. Conditions along the river corridor vary from undeveloped to developed depending on location.
- **Pajaro River—**The Pajaro River is a steelhead migration corridor from Monterey Bay to spawning and nursery habitat in the upper watershed reaches in Santa Clara County and back. Other wildlife moves along the river as well.

Protected Marine Environments

The 2007 General Plan only covers inland portions of Monterey County. However, development in the inland areas would indirectly affect marine resources due to impacts on water quality downstream.

Monterey Bay National Marine Sanctuary

The Monterey Bay National Marine Sanctuary (MBNMS), designated in 1992, is a federally protected marine area offshore of California's central coast. Stretching from Marin County to San Luis Obispo County, the MBNMS

encompasses a shoreline length of 276 miles, including the entire length of Monterey County, and 5,322 square miles of ocean, extending an average distance of 30 miles from shore It is home to one of the most diverse marine ecosystems in the world.

Essential Fish Habitat

Monterey Bay is also designated as Essential Fish Habitat (EFH) for the Pacific Coast Salmon, the Pacific Groundfish, and the Coastal Pelagic species, pursuant to the Magnuson-Stevens Fishery Conservation and Management Act. Activities that have the potential to adversely affect EFH include dredging, filling, excavation, mining, discharge, water diversions, thermal additions, non-point source pollution, sedimentation, introduction of exotic species, and the conversion of aquatic habitats that may diminish or disrupt the functions of EFH.

4.9.3.4 Noxious Weeds

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. One organization and one agency track, list and rate the noxious weeds of California: The California Invasive Plant Council (Cal-IPC) and the California Department of Food and Agriculture (CDFA).

The CDFA lists weeds and assigns ratings (A–C) to each species on the list. The ratings reflect this organization's assessment of the statewide economic 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.

Noxious weeds in Monterey County were not inventoried for this analysis because target weeds will 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.

4.9.3.5 Historical Conversion of Habitat 1982 to 2006

In order to better comprehend the pattern and extent of natural habitat conversion that might occur with implementation of the 2007 General Plan, GIS mapping was used to roughly estimate the historical conversion of habitat that has occurred to date under the 1982 General Plan due to urban development and due to agricultural conversion of previously uncultivated areas.

No current map of vegetation cover in Monterey County was located with sufficient accuracy to support this analysis. Thus, an alternative methodology was developed using a 1982 map of vegetation cover and the Farmland Monitoring and Mapping Program (FMMP) mapping from 1982 to 2006

(Department of Conservation 1982 to 2006). The FMMP maps identify urban land, important farmland (defined as prime, unique, and of state importance), grazing land and other land. The 2006 FMMP mapping was overlayed on the 1982 vegetation map to identify conversion areas as follows:

- Where the FMMP 2006 data identified important farmland cover and the 1982 vegetation cover was agriculture, no conversion was presumed. Where the FMMP 2006 data identified important farmland cover and the 1982 vegetation cover was not agriculture or urban, these areas were identified as a habitat to farmland conversion.
- Where the FMMP 2006 data identified urban cover and the 1982 vegetation cover was agriculture, a farmland to urban conversion was identified.
- Where the FMMP 2006 data identified urban cover and the 1982 vegetation cover was not agriculture or urban, these areas were identified as a habitat to urban conversion.

A similar process was used using the 1996 FMMP data to identify conversions between 1982 and 1996 and between 1996 and 2006. A 2.5-acre minimum mapping unit was utilized for this analysis (i.e., changes in land cover less than 2.5-acres were not included in the analysis) to avoid topology (i.e., alignment) errors in identifying areas of conversion.

Exhibits 4.9.6, 4.9.7, 4.9.8, and 4.9.9 show the results of this analysis and identify areas of land cover change between 1982 and 2006 in different parts of Monterey County. Table 4.9-6 summarizes the acreages of change of different land covers in the County.

It should be noted that the 1982 vegetation map and the FMMP maps used in this analysis have different mapping conventions and methodologies. In addition, the FMMP maps over time have changed in terms of the aerial imagery used, and the soil conventions used to identify important farmland, and thus comparison of farmland maps over different years separated by decades reduces the accuracy of any results. Thus, the results should be considered only as grossly representative both geographically and in terms of the acreages in Table 4.9-6. Nevertheless, the results are considered roughly representative for the programmatic analysis in this document.

Wine industry data (Monterey County Agricultural Commission 2008) was also reviewed to identify historic trends in vineyard acreage. In 1982 there were about 33,771 acres of vineyards and overall acreage had not changed by 1996 when 33,319 acres were in vineyard. Acreage rose to 45,043 acres in 2001 and then declined to 37, 116 acres by 2003 with a slight increase to 41,309 acres by 2006. The overall 25-year trend is an average increase of about 300 acres per year, but between 1996 and 2006, there was an annual average increase of about 800 acres per year in vineyard acreage.

The analysis above of habitat conversion is used as the basis for impact analysis below of potential future agricultural conversions of habitat. Specifically, the 25-year trend of habitat conversion from 1982 to 2006 (approximately 450 acres per

year on average) is used to estimate potential future habitat conversion in the impact analysis as more representative of long-term conditions than the last 10 years.

Table 4.9-6. Monterey County Habitat Conversions, 1982 to 2006 (Includes Cities and Coastal Areas)

Conversion Type	Acres Converted 1982–2006	Acres Converted 1982–1996	Acres Converted 1996–2006
Habitat to Urban	**14,692**	**9,830**	**4,862**
Annual Grassland	5,370	3,179	2,191
Oak Woodland	4,896	3,538	1,358
Mixed Conifer	1,453	1,096	357
Monterey Pine Forest	566	515	51
Maritime Chaparral	474	379	95
Coastal Prairie	460	342	118
Baccharis Scrub	415	201	214
Riparian/Wetland	315	203	112
Dune	178	44	134
Oak Savanna	151	67	84
Baccharis Chaparral	111	77	34
Dune Scrub	97	60	37
Coastal Terrace Prairie	85	56	29
Coastal Scrub	60	33	27
Saltwater Marsh	33	32	1
Freshwater Marsh	16	8	8
Gabilan Scrub	4	0	4
Native Grassland	4	0	4
Redwood Forest	4	0	4
Habitat to Farmland	**11,185**	**2,976**	**8,209**
Annual Grassland	8,564	1,484	7,080
Oak Woodland	653	473	180
Riparian/Wetland	641	251	390
Coastal Prairie	428	219	209
Mixed Conifer	388	349	39
Baccharis Scrub	269	93	176
Gabilan Scrub	93	22	71
Oak Savanna	49	49	0
Saltwater Marsh	38	0	38
Baccharis Chaparral	33	15	18
Freshwater Marsh	21	21	0
Maritime Chaparral	8	0	8

Conversion Type	Acres Converted 1982–2006	Acres Converted 1982–1996	Acres Converted 1996–2006
Methodology: Conversion acreages were identified by comparing 1982 base vegetation map to 1996 and 2006 FMMP maps for County using GIS. Where the FMMP maps show urban land, conversion is presumed from 1982 land type. Where the FMMP maps show important farmland (prime, statewide importance, Unique), then conversion is presumed if 1982 land cover was not agricultural. Where the FMMP maps show grazing land, land is not presumed to be urban or to be intensive agriculture, but is presumed to be original 1982 land cover. A minimum mapping unit of 2.5 acres. FMMP and vegetation maps used different methods and conventions and FMMP mapping methodologies and conventions have changed over time and this may diminish the accuracy of the mapping and estimation of acreages noted above. See Figures 4.9-6 through 9 for areas of conversion. Forecast for 2030 and buildout based on 1982 to 2006 averages.			

4.9.4 Regulatory Framework

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

4.9.4.1 Federal Regulations

This discussion focuses on the federal requirements associated with subsequent CEQA compliance for the proposed plan. Additional federal requirements would apply to project-specific components of the 2007 General Plan that receive federal funding or otherwise affect federal lands and decision-making. The additional federal requirements do not apply to projects under the 2007 General Plan 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 with a determination that the proposed action either:

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

The BO issued by USFWS 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 county 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 have 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.

4.9.4.2 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 county.

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.

Regional Water Quality Control Board

Porter Cologne Water Quality Act

Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the *waters of the state* to file a report of discharge (an application for waste discharge requirements)." Under the Porter-Cologne Act definition, the term *waters of the state* is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." While all waters of the United States that are within the borders of California are also waters of the state, the converse is not true—in other words, waters of the United States is a subset of waters of the state. Thus, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether Corps has concurrent jurisdiction under Section 404 of the CWA. This authority is regulated and implemented by the Regional Water Quality Control Board (RWQCB).

Region 3 Conditional Agriculture Waiver Program

On July 9, 2004, the Central Coast Regional Water Quality Control Board adopted Order No. R3-2004-0117, Conditional Waivers of Waste Discharge Requirements for Discharges from Irrigated Lands. All commercial, irrigated farming operations were required to comply beginning in January 1, 2005. Lands that are being prepared for planting also need to enroll. Farmers are expected to complete 15 hours of farm water quality education within three years of adoption of the waiver, develop farm water quality management plans that address, at a minimum, irrigation management, nutrient management, pesticide management, and erosion control, and implementing management practices identified in their plans. Growers have the option of performing individual monitoring or participating in cooperative monitoring program.

4.9.4.3 Local Policies and Regulations

This section summarizes local policies and regulations that pertain to biological resources that would affect or be affected by the 2007 General Plan.

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. Each of the following tree removal scenarios require a tree removal permit (16.60.030):

- North County Area Plan or Toro Area Plan areas: oak or madrone tree six inches or more in diameter two feet above ground level.
- Carmel Valley Master Plan area: oak, madrone or redwood tree six inches or more in diameter two feet above ground level.
- Cachagua Area Plan area: native tree six inches or more in diameter two feet above ground level. "Native trees," for the purpose of this section, are Santa Lucia fir; black cottonwood; Fremont cottonwood; box elder; willows; California laurel; sycamores; oaks; and madrones.
- Any oak tree in any other area of the County of Monterey designated in the applicable area plan as Resource Conservation, Residential, Commercial or Industrial (except Industrial, Mineral Extraction).
- Any landmark oak tree removed in any area except as may be approved by the Director of Planning and Building Inspection pursuant to Section 16.60,040 Landmark oak trees are 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.
- Any oak trees in any other area of the County of Monterey designated in the applicable area plan as Agricultural or Industrial, Mineral Extraction, except for a small number of uses specified in Section 16.60.050.
- Any oak trees removed in any area of the County of Monterey for commercial harvesting purposes.

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 timber harvesting operations in accordance with a timber harvesting plan submitted pursuant to the provisions of the Forest Practices Act (Pub. Resources Code Section 45110 et seq); 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 (16.60.060).

4.9.4.4 Other Local Programs

Elkhorn Slough Partners in Restoration Program

The Elkhorn Slough Partners in Restoration (PIR) permit coordination program is a permit coordination program to support local farmers, ranchers, and landowners who want to improve water quality and wildlife habitat on and near their lands. Elkhorn Slough PIR incorporates erosion control and riparian enhancement practices making it easier for the agricultural community to participate in implementing voluntary conservation projects. The project partners have crafted this program to enhance the Elkhorn Slough watershed's natural habitat and reduce erosion and sedimentation in both the upland areas and the coastal environment downstream.

The core of Elkhorn Slough PIR is the watershed—based agreements entered into by local, state and federal regulatory agencies and the National Resource Conservation Service (NRCS) and the Resource Conservation District (RCD) of Monterey County. These agreements create "one-stop permit shopping" for farmers, ranchers, and landowners working with the NRCS and RCD of Monterey County on conservation projects. The watershed—based agreements covered ten different conservation practices and management measures in the Elkhorn Slough watershed. Under Elkhorn Slough PIR, a cooperator receiving technical and/or cost share assistance from the NRCS or the RCD of Monterey County is allowed to implement the associated conservation practices without seeking individual permits—provided they partner with the NRCS and RCD of Monterey County and carefully follow the terms of the program's agreements. The NRCS and RCD of Monterey County assist in project design and monitor implementation and maintenance of the conservation practices to ensure the projects comply with the program.

Salinas Valley Watershed Permit Coordination Program

The NRCS, the RCD of Monterey County, Sustainable Conservation, and the Monterey Bay National Marine Sanctuary's Water Quality Protection Program have worked with eight federal, state, and county regulatory agencies (Monterey county, Coastal Commission, CDFG, RWQCB, U.S. Army Corps of Engineers, USEPA, USFWS, and NMFS) to pre-approve permits for sixteen commonly used conservation practices when doing watershed improvement practices and projects through the NRCS/RCD. This program allows farmers to be able to efficiently complete site improvements that are of benefit to water quality, reduce erosion, and in some cases enhance wildlife habitat.

4.9.5 Impacts and Mitigation Measures

This section discusses impacts and mitigation measures for development associated with the 2007 General Plan. Impact analyses are presented for two

scenarios under the 2007 General Plan: development anticipated up to the year 2030 (2030 planning horizon) and full buildout.

4.9.5.1 Methodology

The significance criteria below and the special-status definition noted above were used in combination with the profile of existing biological resources described above to identify the potential impact of development. The effect of the proposed General Plan and Area Plan policies is taken into account before determining significance. Where significant impacts are identified, mitigation is recommended. A significance conclusion is made for residual impacts after the application of recommended mitigation.

While indirect effects to biological resources from alterations in water quality due to development is considered in the analysis below, the reader is directed to Section 4.3, Hydrology and Water Quality, for the detailed analysis of water quality and identification of relevant General Plan/Area Plan policies, and recommended mitigation.

4.9.5.2 Criteria for Determining Significance

Development under the 2007 General Plan would have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS (these impacts are discussed below under Impact BIO-1);
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS (these impacts are discussed below under Impacts BIO-2);
- Have a substantial adverse effect on federally protected waters and wetlands as defined by Section 404 of the Clean Water Act and state waters protected by the Porter-Cologne Water Quality Act (including, but not limited to, rivers, creeks, marshes, vernal pools, etc.) through direct removal, filling, hydrological interruption, or other means (these impacts are discussed below under Impact BIO-2);
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (these impacts are discussed below under Impact BIO-4);
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (these impacts are discussed below under Impact BIO-5); or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (these impacts are discussed below under Impact BIO-6).

4.9.5.3 Impact Overview by Development Area

To provide the reader a general characterization of the types of biological resource impacts in different potential development areas, this section gives a broad impact overview of each development area. This analysis is general in nature, providing insight into potential impacts for each are based on assessment of current resources and assuming that development associated with the 2007 General Plan would potentially impact all resources.

Impact analysis taking into account General Plan and Area Plan policies, significance determination, and mitigation determinations follows this section.

Estimated impacts on natural communities from development other than agriculture are shown in Table 4.9-7.

Table 4.9-7. Monterey County GP 2007 Estimated Impacts on Natural Vegetation Communities due to Development

Natural Community	Area of Potential Effect in Planning Areas outside Fort Ord	Estimated Area of Effect in Planning Areas outside Fort Ord	Fort Ord Potential Effects (b)	Total Effects
Annual Grassland	94,004	7,709	1,513	9,222
Baccharis and Gabilan Scrub	63,614	1,268		1,268
Baccharis Chaparral	367	32		32
Coastal Scrub	6	2		2
Coastal Prairie	1,493	38		38
Mixed Conifer	4,267	292		292
Maritime Chaparal	10	0	2,796	2,796
Monterey Pine Forest	246	36		36
Native Grassland	17	15		15
Oak Savannah and Woodland	90,613	2,607	1,505	4,112
Redwood Forest	71	1		1
Riparian and Wetland Areas	3,258	180	0	180
Total	257,967	12,177	5,814	17,991

Notes:

(a) Vegetation mapping described in Table 4.9-2 was overlayed with land use designations in the 2007 General Plan for all locations outside Fort Ord. Where the land use designation allows development (residential, commercial, industrial, public/quasi-public, etc.), the area was identified as a potential effect. Assumptions were made about percentage of conversion for each land use designation. Conversions for certain categories (medium density residential, industrial, mineral extraction) were assumed to be total (100%), whereas other categories were assumed to result in partial conversion (such as commercial assumed to convert 50% of the designated land) or very limited conversion (such as public-quasi public and rural density residential - both assumed to convert only 1% of designated land due to the large acreage in these designations). Assumptions are rough estimates only and may overstate or understate actual impacts as the exact amount of conversion on any specific parcel cannot be estimated accurately on a landscape level. Castroville acres were not in the GIS land use layer and were added manually from the vegetation map GIS.

(b) Fort Ord impacts were identified based on unpublished data from the Fort Ord HCP. The total for Maritime Chaparral for Fort Ord includes coastal scrub as the HCP data did not disaggregate the totals.

Community Areas

Pajaro

The proposed Pajaro Community Area is located in the northern part of the County adjacent to the Pajaro River, which creates the Santa Cruz/Monterey county line. There are no known CEQA-defined special-status species occurrences on record within the Pajaro Community Area, though without a site

specific habitat assessment the presence of CEQA-defined special-status species or other sensitive resources (i.e., wetlands, native grasslands) cannot be ruled out. The Community Area includes riparian habitat along the Pajaro River. It does not appear that the Community Area will encroach on the riparian corridor though a closer study during implementation of the plan or specific projects will be necessary for confirmation. The Pajaro River has only minimal riparian vegetation associated with it along this reach. Many common wildlife species likely use the river for daily movement through the area. The Pajaro River itself is an important migration corridor for steelhead during annual spawning runs.

Boronda

The Boronda Community Area is located on the western edge of the City of Salinas. The Boronda Community Area is already more than half developed on the northeast end and the southwestern portion, between Boronda Road, Davis Road, and SR 183 is primarily agricultural lands.

The only significant biological resource in the Boronda Community Area is Markley Swamp, a freshwater wetland. Markley Swamp supports a diverse array of wildlife, including migratory waterfowl, raptors, amphibians, aquatic reptiles, and small mammals. There are no known occurrences of CEQA-defined special-status species in the Boronda Community Area, but there is the potential for the western pond turtle, California red-legged frog, and Californian tiger salamander to occur in Markley Swamp.

Castroville

The Castroville Community Area is located eight miles northwest of the City of Salinas and five miles west of Prunedale at the crossroads of Highways 1, 156 and 183. The Castroville Community Area Plan has already been adopted by Monterey County. The following discussion is based on the Draft EIR for the Castroville Community Area (PMC 2006)

There are drainages and small pockets of ruderal vegetation that contain habitat for CEQA-defined special-status species. A portion of Tembladero Slough contains riparian habitat and other wetlands.

CEQA-defined special-status plant species in the area include the San Joaquin spearscale, Congdon's tarplant, saline clover, and the federally threatened and state endangered Santa Cruz tarplant and there is potential for Hickman's cinquefoil. CEQA-defined special-status wildlife species that have been documented in the Castroville vicinity include steelhead, California red-legged frog, and California tiger salamander. Other CEQA-defined special-status species have the potential to occur in the area include Least's Bell vireo and burrowing owl. Modifications to local hydrology to provide flood protection to the community will affect wetland habitats of the Tembladero Slough. Similar modifications are likely to alter Castroville Slough on the northeast side of the community.

Mitigation was adopted for the Community Plan that reduced the impacts of the Community Plan to less than significant (Monterey County Housing and Redevelopment Office 2007).

Fort Ord Master Plan

The entire proposed Fort Ord Community Area is addressed in the Fort Ord Reuse Plan. Potential impacts of development at Fort Ord were addressed programmatically in the Fort Ord Reuse Plan and its EIR (FORA 1997). The FORA Reuse Plan Final Environmental Impact Report (FORA FEIR) identified on a program level a potentially significant environmental impact for biological resources as related to loss of sensitive species addressed in the Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord (HMP). An HCP is under development that would address impacts to federal and state listed species. The HMP is designed to managed open space habitat as well as CEQA-defined special-status species throughout the base.

The HMP establishes a habitat conservation area, a corridor system, and parcel-specific land use categories, in addition to outlining management requirements for all lands on the former Fort Ord (FFO). The HMP identifies four general categories of parcel-specific land uses: habitat reserve, habitat corridor, development with reserve areas or restrictions, and development with no restrictions.

The Fort Ord Reuse Authority (FORA) and the County of Monterey submitted modifications to the original HMP to the Army and USFWS for approval for the East Garrison Specific Plan. The Army and USFWS approved the boundary changes and other HMP modifications. The approved modifications allow residential and commercial development at East Garrison on an additional 210 acres of oak woodland, maritime chaparral, and grassland communities that would have been preserved under the original HMP. In exchange, the amendments to the habitat reserve set aside over 450 acres of land to support biotic communities at Parker Flats, which was previously designated for development. Thus, some 240 acres of habitat are preserved under the amended HMP (with the East Garrison Specific Plan than under the original.

The Fort Ord Community Areas contains extensive areas of sensitive and other natural communities including: maritime chaparral, oak savannah, oak woodland native grassland, dune scrub, riparian forest, vernal pools, and freshwater marsh. Some of these areas may be affected by potential future development. Impacts on the East Garrison Specific Area Plan were addressed in the EIR prepared for that project and mitigation was identified to reduce impacts (Michael Brandman Associates 2004).

Chualar

The boundary of the Chualar Community Area has not yet been established, however most of the undeveloped area surrounding Chualar is irrigated farmland with limited value for biological resources.

There are drainages and small pockets of ruderal vegetation that could contain habitat for CEQA-defined special-status species. A portion of Chualar River is adjacent to the west side of the Community Area. This river contains limited riparian habitat but does have potential to support CEQA-defined special-status wildlife species such as the California tiger salamander and California red-legged frog.

Rural Centers

There are seven designated Rural Centers in the 2007 General Plan. Development within the Rural Centers has the potential to impact biological resources in some sites. Each Rural Center also has the potential for impacts to wildlife corridors and movement of wildlife species across the landscape, and for introduction of exotic species, particularly noxious weeds.

Bradley, Lockwood, San Ardo, San Lucas

These four Rural Centers are located in agricultural areas south of King City along the Highway 101 corridor and west of Highway 101 along Jolon Road. The land in these centers is flat and in varying degrees of development already. For the most part, vegetation in these areas is limited to agricultural and annual grassland. All of the annual grassland and agricultural areas along the Highway 101 corridor have the potential to support San Joaquin kit fox and in many places along the Salinas River there are known occurrences of bald eagle. There are many documented occurrences of both of these species around Bradley. Development of the Bradley rural center, in particular, will likely result in the removal of San Joaquin kit fox habitat.

Pleyto

Pleyto is located southeast of Lockwood in an agricultural valley along Jolon Road. A small amount of the Pleyto Rural Center is currently developed and vegetation includes annual grassland and baccharis scrub.

Pine Canyon

Pine Canyon is located west of King City where Pine Canyon opens out of the Santa Lucia Mountains into the southern Salinas Valley. This Rural Center includes upland hills and the valley floor. Natural areas in Pine Canyon Rural Center include oak woodland, oak savanna, scrub, mixed conifer, and riparian/wetland. Development of Pine Canyon may have significant impacts on sensitive communities including mixed conifer, oak savannah, oak woodland and riparian/wetland areas. Additionally, the upland portion of Pine Canyon Rural Center has been identified as potential denning and foraging habitat for the San Joaquin kit fox, based on habitat conditions and historical observation of kit foxes in the region (Bryan Mori Biological Consulting Services 2000). Although kit foxes are not documented on the upland portion, development of this portion of the Rural Center could result in loss of kit fox habitat and incidental mortalities. Since kit fox is a federal endangered and state threatened species, these impacts would be significant.

River Road

River Road is located southwest of Salinas and includes the following habitats: mixed conifer forest, oak savannah, oak woodland and riparian/wetland. The current parcel lines indicate that most of the remaining natural habitat is contained within a small number of large parcels. However, if these parcels are developed, the potential impacts would be significant and require mitigation.

Affordable Housing Overlay Districts

Development of AHOs could impact CEQA-defined special-status species, sensitive natural communities, wildlife corridors and wildlife movement, and protected trees.

Using the landcover mapping described above and shown in Table 4.9-2 and aerial photographs, these AHO areas contain the following potential biological resources (this is only a general overview and is not based on any site-specific inventory):

- The Mid-Valley AHO is approximately 13 acres in size excluding portions of properties located within the floodplain. It is mostly developed land (residential and commercial development) with some areas of agriculture, a limited (~1 acre) area of annual grassland. The primary biological resource of concern would be the Carmel River which located adjacent to, but not on the AHO district, and a possible drainage on the east side of the district.
- The Highway 68 AHO near the Monterey Airport is mostly undeveloped and includes 58 acres of coastal prairie, 12 acres of oak woodland, and small areas of annual grassland and previously disturbed areas. The oak woodland areas may also contain areas of native Monterey pine forest.
- Highway 68/Reservation Road AHO is mostly agricultural with about 6 acres of annual grassland and one acre of maritime chaparral. An apparent tributary to the Salinas River is located adjacent to the AHO district.

Unincorporated Areas outside Focused Development Areas

Undeveloped lots exist throughout the county in rural and agricultural lands. The Land Use Element allows development of lots of record, but requires establishment of a Subdivision Evaluation System that includes criteria for resource management.

These undeveloped lots may support native and often sensitive natural communities such as wetlands, oak woodland types, native grasslands, or redwood forests. Because of the abundance of native plant communities in rural Monterey County, there is potential to cause significant impacts, specifically due to:

- loss or degradation of sensitive special-status communities; and
- loss of CEQA-defined special-status species that depend on and inhabit these communities;

- effects of habitat fragmentation; and
- introduction of non-native pest plants and/or animals.

Agricultural Winery Corridors

The proposed Agricultural Winery Corridor Plan (ACWP) is designed to facilitate the establishment of up to 40 new artisan and 10 new full-scale wineries along three corridors in the central and southern Salinas Valley and the San Antonio Valley. These corridors overlap with three of the 2007 General Plan three Planning Areas (Toro, Central Salinas Valley, and South County).

The ACWP shall be developed to encourage development of the wine industry within the designated corridors. Approximately 60 percent of the winery corridors are currently already in agricultural development.

Natural communities in the corridors include annual grassland, Baccharis scrub, Gabilan scrub, mixed conifer, oak woodland, oak savanna, grassland, and riparian/wetland areas. Wine industry development may intersect sensitive biological resources. In addition, there are known rare plant occurrences documented in the CNDDB for the area around Jolon Road and there may be undocumented CEQA-defined special-status plant species in other locations. There are also several documented occurrences of CEQA-defined special-status wildlife, including San Joaquin kit fox and California tiger salamander and extensive potential habitat for these and other CEQA-defined special-status species.

Implementation of the ACWP will affect wildlife corridors to some extent under the presumption that a large scale winery would include result in expansion of viticulture in the adjacent area to supply the facility. Vineyards often are surrounded by fencing that is impermeable to wildlife, even for species that are willing to cross through vineyards - which many species are not. In addition, the increase in population and visitor numbers may impact the ability of wildlife to inhabit or move through these areas. However, the ACWP envisions that development of wineries will be geographically distributed throughout corridors, rather than concentrated in limited zones.

Increased vineyards could also involve the use of pesticides and increased soil erosion, depending on agricultural practices. Runoff containing pesticide residues or sediment could affect aquatic CEQA-defined special-status species in downstream areas. Water quality impacts of the 2007 General Plan are discussed in greater detail in Section 4.3, Water Resources.

Open Space

Increase in population growth in the County is likely to increase recreational demands on areas of recreational open space such as the County's Regional Parks, State Beaches and Parks, and lands held by the Monterey Peninsula Regional Parks District lands and private trusts and conservancies. Such increased demand on use of open space areas is distinct from the recreational demands that are met by urban or community parks. The increased use of open

space areas may result in impacts to biological resources in these areas. The open space lands contain sensitive and non-sensitive natural communities and are known or potential habitat for CEQA-defined special-status plant and animal species. The open space also often has valuable function as habitat corridors for wildlife species. Potential impacts of open space recreation use could include loss or degradation of sensitive communities (including wetlands), loss or degradation of CEQA-defined special-status species' habitat or populations, interference with wildlife movement, introduction of exotic invasive plant species, and/or interference with the use of native wildlife nursery sites.

Agriculture

Based on trends in agricultural employment (AMBAG 2004; AMBAG 2008), no net expansion in overall agricultural acreage is projected for 2030 as virtually no increase in agricultural employment is forecast by AMBAG to 2030 for the Monterey County in the most recent (2008) and the immediately prior (2004) economic forecasts.

Although no net expansion of agricultural acreage is forecast, there will still be expansion of agriculture onto natural lands due to the loss or agricultural lands to urban use and likely also due to expansion of wine growing on slopes of the Salinas Valley and other locations in the County.

The dominant vegetation community converted in the last decade has been annual grassland (over 80%) with far smaller conversions of oak woodland, riparian/wetland/marsh areas, coastal prairie, bacharis and gabiland scrub, mixed conifer and other community types.

Analysis of GIS data for current vineyard acreages provided by the Monterey County Vintner's Association (Monterey County Vintner's Association 2008) applied as an overlay to the habitat overlays created to analyze conversions indicates that nearly one third (~4,000 acres) of the total 1982 to 2006 habitat to agricultural conversions (~12,000 acres) was due to vineyard expansion. Of this 4,000 acres, approximately 700 acres were converted to vineyard between 1982 and 1996 and the remainder of 3,300 acres were converted between 1996 and 2006, which represents approximately 40 percent of overall conversion acreage (8,200 acres). Spatial analysis of the vineyard development indicated that most of the recent vineyard expansion is at the valley edges and upslope.

As shown in Exhibits 4.9.6, 4.9.7, and 4.9.8, while there are scattered conversions of habitat to agriculture east and west of Prunedale and along the Salinas River north of Fort Ord, the dominant locales of recent conversions are along the eastern and western slope of the Salinas Valley. It is expected that these slopes of the Salinas Valley along with the slopes of tributary valleys to the Salinas Valley will be the likely focus of future conversions of habitat to agriculture.

Using historic trends as a proxy for future conversions, Table 4.9-8 estimates the amount of habitat that might be converted by 2030 and at buildout.

As noted above for vineyards, expansion of agriculture into new areas could also involve the use of pesticides and increased soil erosion, depending on agricultural practices which could affect aquatic CEQA-defined special-status species in downstream areas. Water quality impacts of the 2007 General Plan are discussed in greater detail in Section 4.3, Water Resources.

Table 4.9-8. Monterey County Agricultural Habitat Conversions, 2030 and Buildout (Includes Cities and Coastal Areas)

Conversion Type	Acres Converted 1982–2006	Average Annual 1982–2006	Estimated Acres converted by 2030	Estimated Acres converted by Buildout
Habitat to Farmland	**11,185**	**447**	**9,843**	**37,582**
Annual Grassland	8,564	343	7,536	28,775
Oak Woodland	653	26	575	2,194
Riparian/Wetland	641	26	564	2,154
Coastal Prairie	428	17	377	1,438
Mixed Conifer	388	16	341	1,304
Baccharis Scrub	269	11	237	904
Gabilan Scrub	93	4	82	312
Oak Savanna	49	2	43	165
Saltwater Marsh	38	2	33	128
Baccharis Chaparral	33	1	29	111
Freshwater Marsh	21	1	18	71
Maritime Chaparral	8	0	7	27

Methodology: See Table 4.9-6. Forecast for 2030 and buildout based on 1982 to 2006 averages.

4.9.5.4 Impact Analysis

Impacts on CEQA-defined Special-Status species

Impact BIO-1: Potential Adverse Impact on CEQA-defined special-status species (Less than Significant with Mitigation through 2030 Planning Horizon and Significant and Unavoidable with Mitigation at Buildout)

2030 Planning Horizon

Impact of Development with Policies

Land use and development consistent with the 2007 General Plan would result in adverse impacts on CEQA-defined special-status species in Monterey County, particularly those in or near areas that are contemplated for future urban uses. Impacts on CEQA-defined special-status species would include direct loss of individuals or localized populations, elimination or degradation of habitat, and isolation of subpopulations due to habitat fragmentation. Conversion of existing natural habitat to urban development, roadways, and other infrastructure improvements could result in the elimination of populations of CEQA-defined special-status species where present within the limits of proposed grading and development.

Routine and ongoing agricultural activity conducted within its current footprint would not result in new conversions of natural habitat. Agricultural activity is required to comply with the Agricultural Waiver Program of the RWQCB which addresses runoff and downstream water quality that could otherwise have an indirect effect on aquatic resources.

The installation of new vineyards, row crops, and other actively managed agricultural uses (including routine and ongoing agriculture), mining extraction, and other activities could also result in the elimination of essential habitat for CEQA-defined special-status species. Even if the sensitive habitat is deliberately avoided at the project level, new development and intensively managed land practices would result in fragmentation of the existing habitat and leave the CEQA-defined special-status species population at risk of extirpation (local extinction). The exact amount of habitat conversion due to agricultural expansion onto uncultivated lands is not known. Based on recent trends from 1982 to 2006 when approximately 450 acres of habitat were converted each year on average, if this trend continued to 2030, then approximately 9,850 acres of habitat would be converted across the County.

Indirect impacts would include disruption of critical functions affecting reproductive success; degradation of habitat quality to such an extent that occupied habitat is no longer suitable for individual survival, and other influences. Indirect impacts to CEQA-defined special-status species could also occur due to increases in stormwater runoff, erosion and downstream sedimentation, and use of pesticides for agriculture and landscaping.

CEQA-Defined Special-Status Plant Species

Development associated with the 2007 General Plan would result in the direct loss or indirect disturbance of CEQA-defined special-status plant species that are known to grow or that could grow in impacted areas. Impacts on CEQA-defined special-status plant species would result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation.

CEQA-Defined Special-Status Wildlife Species

Development under the 2007 General Plan will result in the direct loss or indirect disturbance of CEQA-defined special-status wildlife species or their habitats that are known to occur, or have potential to occur, in the plan area. Impacts on CEQA-defined special-status wildlife species or their habitat would result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on CEQA-defined special-status wildlife species associated with general plan implementation include, but are not limited to the following: mortality from movement of construction equipment and vehicles; loss of breeding, foraging and refuge habitat from removal of woodland/forest habitat, filling of aquatic habitats and removal of riparian vegetation; and loss of migration corridors from construction of buildings and roadways.

CEQA-Defined Special-Status Fish Species

In some cases development under the general plan would adversely affect CEQA-defined special-status fish species. Impacts on aquatic systems would result from an increase in sediment and/or contaminant input, diversion of water flow, and removal of riparian vegetation. Construction and grading including urban development and conversion of previously uncultivated slopes adjacent to waterways would 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. This would affect food supply and feeding opportunities.

Fuel and concrete could spill into the waterway when construction occurs adjacent to riverine habitat. 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.

Removal of riparian vegetation would 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.

2007 General Plan Policies

Land Use Element

The 2007 General Plan Land Use Element emphasizes compact city-centered growth and discourages the encroachment of urban uses into undeveloped areas.

Land Use Element Policies LU-1.1 through LU-1.9 promote appropriate and orderly growth and development while protecting desirable existing land uses. Policy LU-1.1 requires that the type, location, timing, and intensity of growth in the unincorporated area be managed. Policy LU-1.2 discourages premature and scattered development. Policy LU-1.3 stipulates that balanced development of the County be assured through designating adequate land for a range of future land uses. Policy LU-1.4 limits growth to areas where an adequate level of services and facilities exists or can be assured concurrent with growth and development. Policy LU-1.5 requires that land uses be designated to achieve compatibility with adjacent uses. Policy LU-1.6 calls for the establishment of standards and procedures to assure proper levels of review of development siting, design, and landscaping. Policy LU-1.7 allows for clustering of residential development to those portions of the property most suitable for development. Policy LU-1.8 encourages voluntary reduction or limitation of development potential in the rural and agricultural areas through dedication of scenic or conservation easements, transfer of development rights and other appropriate techniques. Policy LU-1.9 prioritizes infill of vacant non-agricultural lands in existing developed areas and new development within designated urban service areas are a priority.

Open Space and Conservation Element

Policy OS-3.5 establishes permit requirements for development relative to steep slopes. The policy prohibits development on slopes greater than 30% with certain exceptions, provides for a discretionary development permit on slopes greater than 25%, or greater than 15% in highly erodible soils and establishes an agricultural permit process for conversion of previously uncultivated lands greater than 25%. These permit processes will be designed to require that an erosion control plan be developed and implemented that addresses slope stabilization, and drainage and flood hazards. There are specialized criteria for projects that are subject to a State Agricultural Waiver Program that includes biological resource and water quality.

Open Space and Conservation Element Policies OS-4.1 through OS-4.3 establish measures to protect coastal, marine, and river resources. Policy OS-4.1 stipulates that lFederal and state designated native

marine fresh water plant and animal species be protected. Policy OS-4.2 requires that direct and indirect discharges of harmful substances into rivers or streams not exceed state or federal standards. Policy OS-4.3 stipulates that fresh water marshes, wetlands, sloughs, river and stream mouth areas, as well as all waterways that drain and have impact on state designated Areas of Special Biological Significance be protected, maintained and preserved in accordance with state and federal water quality regulations.

Open Space and Conservation Element Policies OS-5.1 through OS-5.18 establish measures to protect biological resources and natural habitats.

Policy OS-5.1 and 5.2 establishes that the extent and acreages of critical habitat and suitable habitat for listed species shall be inventoried and their conservation promoted. Policy OS-5.3 stipulates that development be carefully planned to provide for the conservation and maintenance of plant and animal communities or species listed by state or federal agencies for protection. Policy OS-5.4 encourages the avoidance of impacts to state and federally protected plant and wildlife species through the use of clustering lots to avoid critical areas, dedications of permanent conservation easements, and other appropriate means. Policy OS-5.5 encourages landowners and developers to preserve the integrity of existing terrain and native vegetation in visually sensitive areas such as hillsides, ridges, and watershed but exempts Routine and Ongoing Agricultural from this policy.

Policy OS-5.6 stipulates that native and native compatible species, especially drought resistant species, be utilized in fulfilling landscaping requirements. Policy OS-5.7 requires that proposals for harvesting commercially valuable timber (as defined by the California Department of Forestry) must include a Timber Harvest Plan, consider opportunities for concurrent public recreation, be approved by the California Department of Forestry, complete environmental review, and comply with the resource protection goals and policies the General Plan. Policy OS-5.8 allows small-scale milling operations, subject to compatibility with resource protection policies and the peace of adjacent residences. Policy OS-5.9 establishes that each Area Plan set forth tree removal permit requirements. Policy OS-5.10 sets forth criteria for the County tree removal ordinance.

Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife. Policy OS-5.12 requires consultation with the CDFG to protect Areas of Special Biological Significance for state and federally listed species. Policy OS-5.13

encourages efforts to obtain and preserve natural areas of particular biologic, scientific, or educational interest and restrict incompatible uses from encroaching upon them. Policy OS-5.14 requires that policies and procedures that encourage exclusion and control or eradication of invasive exotic plants and animals be established. Policy OS-5.15 sets forth a fee waiver program for environmental restoration projects.

Policy OS-5.16 requires biological surveys and implementation of mitigation measures for development that would potentially disturbed listed species or its critical habitat. Policy OS-5.17 requires the County to develop a program to mitigate the loss of critical habitat. Policy OS-5.18 requires all applicable federal state permitting requirements to be met before disturbing any federal or state jurisdictional areas.

Public Services Element

Public Service Element Policies PS-11.11 and 11.12 establish measures to minimize impacts to biological resources within recreational areas and open space areas. These policies require emphasis on protection and best management practices of environmental resources in County parks and open space facilities. Open spaces that are rich in biological resources are to be managed for passive enjoyment of these resources.

Area Plan Policies

Cachagua Area Plan

Policy CACH-1.4 stipulates that new development adjacent to the Ventana Wilderness does not impact the purpose of the wilderness areas. Policy CACH-3.3 requires that the alteration of hillsides and natural landforms be minimized through sensitive siting and design of all improvements and maximum feasible restoration including botanically appropriate landscaping. Policy CACH-3.5 stipulates mitigation for mining, commercial timber, or resource production impacts on flora and fauna. Policy CACH-3.6 promotes cooperation with the United States Forest Service and private property owners to ensure that Santa Lucia fir are protected. Policy CACH-3.7 protects riparian vegetation and threatened fish species and along the Carmel and Arroyo Seco Rivers. It also reduces encroachment from new development on the main channels of the Carmel and Arroyo Seco Rivers.

Carmel Valley Master Plan

Policy CV-3.4 requires that the alteration of hillsides and natural landforms be minimized through sensitive siting and design Policy

CV-3.7 stipulates that specific areas of biological significance be identified and preserved as open space. Policy CV-3.8 requires that development be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. It also requires that riparian vegetation be re-established in areas where it no longer exists. Policy CV-3.9 stipulates that willow-cover along the banks and bed of the Carmel River be maintained in a natural state for erosion control. Policy CV-3.10 requires that predominant landscaping and erosion control material consist of plants native to the valley and requires landscape and erosion plans to incorporate an approach to controlling invasive non-native plant species. Policy CV-3.11 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height with replacement at 1:1 ratio. Policy CV-3.12 encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy CV-4.1 stipulates that reduce potential erosion, the amount of land cleared at any one time be limited to the area that can be developed during one construction season, motor vehicles be prohibited on the banks or in the bed of the Carmel River, and native vegetation must be maintained in areas with certain slopes or erodible soils. Policy CV-5.3 requires that new development incorporate water reclamation, conservation features to maintain the ecological environment. Policy CV-6.2 discourages gardens, orchards, row crops, grazing animals, farm equipment, and buildings on slopes of 25 percent or greater or where it would require the conversion or extensive removal of existing native vegetation.

Central Salinas Valley Area Plan

Policy CVS-5.1 prohibits new development from encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats. Policy CVS-5.2 stipulates that new recreational uses avoid encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats.

Fort Ord Master Plan

Recreation Policy C-2 requires review of all proposed recreational use for compatibility with an adopted Habitat Conservation Plan to insure long-term protection of sensitive resources.

Biological Resource Policies A-1 through A-9 promote the preservation and protection of the sensitive species and habitats addressed in the installation-wide Habitat Management Plan (HMP) for Fort Ord in conformance with its resource conservation and habitat management requirements and with the guidance provided in the HMP Implementing/Management Agreement.

Biological Resource Policies B-1 through B-3 require the County to preserve and protect sensitive species and habitats not addressed in the HMP. Policy B-1 requires the County to strive to avoid or minimize loss of sensitive species listed in Fort Ord Reuse Plan Table 4.4-2 that are known or expected to occur in the areas planned for development. Policy B-2 requires County coordination with the Cities of Seaside and Marina, California State University, FORA and other interested entities in the designation of an oak woodland conservation area connecting the open space lands of the habitat management areas. Policy B-3 requires the County to preserve, enhance, restore and protect vernal ponds, riparian corridors and other wetland areas.

Biological Resource Policies C-1 through C-3 require the County to avoid or minimize disturbance to natural land features and habitats through sensitive planning, sitting and design as new developed is proposed in undeveloped lands.

Biological Resource Policies D-1 through D-2 encourage construction worker biological resource training and environmental education and outreach. Biological Resource Policies E-1 and E-2 require the County to address the interim management of natural land areas for which the County is designated as the responsible party and monitor activities that affect all undeveloped natural lands.

Greater Monterey Peninsula Area Plan

Policy GMP-3.4 stipulates that plant materials be used to integrate human-made and natural environments. Policy GMP-3.5 promotes the preservation of redwood forest habitat and wetlands as open space through the use of conservation easements or fee acquisition. Policy GMP-3.6 requires that a 100-foot setback from all wetlands. . Policy GMP-3.7 promotes cooperative efforts between County and cities to conserve wetlands. Policy GMP-3.8 encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy GMP-3.9 promotes the preservation of critical habitat areas as open space. Policy GMP-3.10 encourages the County to work with state and federal agencies to ensure that oil transport activities near the Monterey County coast include adequate procedures to protect marine bird and mammal (particularly sea otter) populations and to clean up oil spills. Policy GMP-4.1 promotes the preservation of redwood forest and chaparral habitat on land exceeding 25 percent slope.

Greater Salinas Area Plan

Policy 1.1 requires that new development in the Butterfly Village Special Treatment Area preserve certain specified sensitive habitat areas. Policy GS-1.5 requires that development of commercial land

uses designated near Highway 68 and the Salinas River be allowed only if it protects and, where feasible, enhances the riparian habitat along the river. Policy GS-1.8 allows that the land near the town of Spreckels designated as industrial if it is designed to protect, and where feasible, enhance the riparian corridor along the Salinas River. Policy GS-3.1 requires that all vegetation on land exceeding 25 percent slope, particularly chaparral and broad leaf evergreen, remain undisturbed. Policy GS-3.2 encourages the use of native plant materials to integrate the human-made environment with the natural environment. Policy GS-5.1 requires that Gabilan Creek be maintained in a natural riparian state.

North County Plan

Policy NC-3.3 prioritizes conservation of North County's native vegetation in order to retain the viability of threatened or limited vegetative communities and animal habitats and preserve rare, endangered, and endemic plants for scientific study. Policy NC-3.4 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height. Trees removed must be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of one gallon in size. Policy NC-3.5 promotes the preservation of critical habitat areas as open space.

South County Area Plan

Policy SC-1.2 encourages cluster development in all areas where development is permitted in order to preserve open space. Policy SC-5.2 encourages cooperative soil conservation, water quality protection, and resource restoration programs within watershed basins shared with neighboring counties. Policy SC-5.3 prohibits new development from encroaching on the main channels and associated floodways of the Nacimiento, San Antonio, and Salinas Rivers.

Toro Area Plan

Policy T-3.7 discourages the removal of healthy trees with diameters in excess of eight inches. Policy T-4.1 prohibits land uses and practices that contribute to significant increases of siltation and flooding of Toro Creek.

AWCP

Section 3 of the Wine Corridor Plan provides limits on the number of wineries in each segment. Section 3.4 (Permitted Uses) and 3.5 (Development Standards) is intended to reduce the footprint of a winery complex.

Section 4 of the Agricultural Element includes policies that support the development of a fully integrated wine industry and encourage development along the designated corridor. Policy AG-4.2 designates segments of the corridor to achieve a balance between wine grape production and wine processing capacity.

Significance Determination

The definition of "special status species" in the 2007 General Plan (Glossary, p. 13) is limited to those listed under the ESA and the CESA and "critical habitat" is defined as areas designated under the ESA. 2007 General Plan Policies OS-5.1,-5.2,-5.3, -5.4, -5.12, -5.16,-5.17, and -5.18 require avoidance, minimization, and compensation of impacts to listed "special-status species". However, there is a landscape-level concern related to new discretionary development in the Salinas Valley that may occur in potential kit fox habitat that is not fully addressed by currently proposed General Plan policies. There is no specific mechanism for mitigating potential impacts to this species from conversion of its habitat due to discretionary development.

Given the General Plan definition of "special-status policies", the aforementioned policies in the 2007 General Plan for biological resources in the Open Space and Public Services Elements concerning "special status species" do not provide for the assessment or mitigation of impacts to species that are not listed under the FESA or CESA. While there are a number of Area Plan policies that provide for protection or mitigation of impacts to certain CEQA-defined special-status species, and the policies for the protection for habitats of listed species will produce co-benefits for non-listed (but rare) other species, the 2007 General Plan does not provide a systematic approach to address impacts of development to CEQA-defined special-status species as described above in this document.

This impact is considered potentially significant because development under the 2007 General Plan would result in reduced numbers, range, and habitat quantity and quality for plant, wildlife, and fish species that are considered "rare, threatened, or endangered" as defined by CEQA guidelines Section 15380 but which are not protected by the federal or state endangered species acts. The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

CEQA-Defined Special-Status Species—Program Level

Mitigation Measure BIO-1.1: Baseline Inventory of Landcover, CEQA-Defined Special Status Species Habitat, Sensitive Natural Communities, Riparian Habitat, and Wetlands in Monterey County

The County shall expand the inventory of listed species suitable and critical habitat required by Policy OS 5.1 and OS-5.2 to include an

updated vegetation land cover map, identification of suitable habitat for CEQA-defined special status species (as defined in this document), sensitive natural communities, and riparian habitat in Monterey County. The inventory shall include wetlands inventory as feasible based on existing data sources and aerial interpretation. This inventory should be updated at a minimum of ten-year intervals. The inventory can exclude areas that are not under the control of Monterey County (e.g., cities, state and federal lands).

Mitigation Measure BIO-1.2: Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley

The County shall, in concert with the USFWS, CDFG, cities in the Salinas Valley, and stakeholders develop a conservation plan for the Salinas Valley to provide for the preservation of adequate habitat to sustain the San Joaquin kit fox population. The general focus area of the plan shall be the Salinas Valley south of the community of Chualar. The Conservation Plan, at a minimum, shall be adopted by Monterey County and shall be applied to all discretionary approvals (and their associated CEQA documents) with potential to affect the San Joaquin kit fox within the conservation plan area. The County shall complete the conservation plan within 4 years of General Plan adoption. The conservation plan funding program shall be developed and shall include a mitigation fee program for which development projects will be assessed a fee based on a proportional basis of impact to the San Joaquin kit fox. The compensation plan shall be developed and implemented in coordination with the appropriate state or federal agency and may provide mechanisms to mitigate impacts of an individual project through one or more of the following means: identifying an agency-approved mitigation bank or other compensation site (on- or off-site); and/or preserving habitat; monitoring the compensation site; and funding the management of the compensation site.

<u>CEQA-Defined Special Status Species—Project Level</u>

Mitigation Measure BIO-1.3: Project Level Biological Survey and Avoidance, Minimization, and Compensation for Impacts to CEQA-defined Special-Status Species and Sensitive Natural communities.

The County shall require that any development project that could potentially impact a CEQA-defined special status species or sensitive natural community shall be required to conduct a biological survey of the site. If CEQA-defined special-status species or sensitive natural communities are found on the site, the project biologist shall recommend measures necessary to avoid, minimize, and/or compensate for identified impacts to CEQA-defined special-status species and sensitive natural communities. An ordinance establishing minimum standards for a biological report shall be enacted. This policy shall only apply to the following:

- Development in Focused Growth Areas (Community Areas, Rural Centers and Housing Overlays
- Development requiring a discretionary permit
- Large scale wineries in the AWCP.

Significance Conclusion

Over 80% of the development in Monterey County within the 2030 Planning Horizon will occur in areas designated for focused growth. Discretionary permits will be required for this development as well as for any large scale residential and commercial development that might occur outside of these areas (and is subject to the Subdivision Evaluation System). The subdivision Evaluation System examines subdivisions of 5 or more lots or projects of equivalent intensity. For discretionary development, implementation of the General Plan policies alone would have resulted in significant impacts to the San Joaquin kit fox and to CEQA-defined special status species. Mitigation Measure BIO-1.1 creates a biological resources inventory (including CEQA-defined special status species) that will be periodically updated. Mitigation Measure BIO-1.2 would address impacts to kit fox habitat that might occur from development. Mitigation Measure BIO-1.3 requires preparation of a biological report that includes measures to avoid impacts or minimize impacts to CEQA-defined special-status species for focused growth allowed under the General Plan, other large scale projects and projects requiring discretionary permits in the County.

These mitigation measures would address impacts from discretionary large-scale residential, commercial, public infrastructure and agricultural development. In combination with the application of Area Plan policies targeting specific CEQA-defined special-status species, impacts to special-status species (both listed and CEQA-defined) from discretionary development would be considered less than significant.

While "routine and ongoing" agricultural activities would affect CEQA-defined special-status species, these activities occur on agricultural properties that were previously converted from natural land and are already committed to crops. Thus, new habitat loss would not occur and the remaining concern is about impacts on adjacent habitat areas. Participation in the Salinas Valley Watershed Permit Coordination Program, which promotes voluntary conservation practices that protect water quality, is extensive. There were approximately 250,000 irrigated acres in Monterey County enrolled in the program as of September 2007. In addition, agriculture is subject to the RWQCB's Agricultural Waiver Program, which also concerns water quality protection. Participation in the Permit Coordination Program and compliance with the requirements of the Agricultural Waiver program would minimize indirect off-site effects of agriculture on downstream aquatic habitat that support CEQA-defined special-status species. For these reasons, the impact of "routine and ongoing agriculture", where it does not result in conversion of natural lands, is considered to be less than significant.

Legal lot development without subdivision would result in conversion of habitat, but would have highly dispersed effects on CEQA-defined special-status species and their habitat that on a landscape level is also considered less than significant.

The remaining development consists of conversion of previously uncultivated agricultural lands to new farmland. Previously uncultivated lands are those areas that have not been cultivated during the past 20 years. As shown in the pattern of historic conversion (see Exhibits 4.9.6, 4.9.7, 4.9.8, and 4.9.9), conversion of natural communities would be widely dispersed geographically throughout the ranges of CEQA-defined special-status species addressed in this document. Thus future habitat conversions are expected to dispersed and not concentrated in a way that they would substantially change overall populations of CEQA-defined special-status species. New agricultural development would be subject to the Agricultural Waiver Program concerning water quality protection, which will protect downstream aquatic species habitat that contain CEQA-defined special-status species from indirect water quality effects. For agricultural conversions on slopes greater than 25%, Policy OS-3.5 includes requirements to address water quality, erosion and biological resources, which would reduce potential impacts to CEQA-defined special-status species and their habitat. Based on the assumption that conversion of previously uncultivated lands is not anticipated to exceed the previous 25 year trend (1982 – 2006) in the County (approximately 450 acres per year), the sporadic and discontinuous pattern of crop expansion, the extensive geographic distribution of agricultural operations especially within the Salinas Valley, and the application of current regulatory requirements to address off-site water quality impacts, agricultural conversion is not considered to result in a significant impact to CEQA-defined special-status species or their habitat.

Buildout

Impact of Development with Policies

While there are profound uncertainties in predicting the impacts of buildout on CEQA-defined special-status species nearly 84 years in the future, nevertheless there will likely be further adverse effects of buildout beyond the 2030 horizon. Given the amount of potential buildout, these effects would exceed those for impacts before 2030.

Up to 2030, based on housing units, the County would have less than one-third (~28%) of the overall buildout allowed by the 2007 General Plan. It is expected that most of the growth by 2030 (perhaps 80% or more) will be within the focused development areas (Community Areas, Rural Centers, and AHOs). What this means for development between 2030 and 2092 is that the bulk of development will be in areas outside the focused development areas and will thus be far less compact, and is likely to result in more fragmentation of habitat compared to the development prior to 2030.

Furthermore, up to 2030, there will be 22 years of agricultural conversion, compared to 2092, which will have an additional 62 years of agricultural conversion of potential CEQA-defined special-status species habitat. While it is reasonable to assume that some agricultural conversion will continue in the immediate future based on current trends, and that only a portion of the lands that would be converted would include CEQA-defined special-status species habitat or impact wildlife corridors, it is highly speculative to presume that recent trends of agricultural conversion of habitat and expansion will continue as at present for 84 years in the future. Thus, the amount of agricultural conversion of CEQA-defined special-status species habitat at buildout is not estimated, but is assumed to be some level beyond 2030.

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above would apply to buildout after 2030.

Significance Determination

This impact is considered potentially significant because buildout under the 2007 General Plan would result in reduced numbers, range, and habitat quantity and quality for plant, wildlife, and fish species that are considered "rare" under CEQA as evidence by meeting the special-status species definition noted above but which are not protected by the federal or state endangered species acts. A further concern is that new threats to CEQA-defined special-status species may arise in the more distant future beyond 2030 that are not currently anticipated.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measures BIO- 1.1 through BIO-1.3 as described above.

Mitigation Measure BIO-1.4: By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County

The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the 2007 General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of CEQA-defined special status species and their habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial

growth in the unincorporated County from 2030 to buildout. This update will also address expansion of agricultural operations and potential impacts to CEQA-defined special-status species.

Mitigation Measure BIO-1.5: By 2030, prepare a Comprehensive County Natural Communities Conservation Plan

The County shall complete the preparation of a NCCP for all incorporated areas in Monterey County by no later than January 1, 2030 to address all state and federal listed species and all CEQA-defined special-status species with potential to be listed up to buildout of the County. The County shall invite the participation of the incorporated cities, the federal land agencies, Caltrans and other stakeholders. The NCCP shall also cover preservation of sensitive natural communities, riparian habitat, and wetlands, and wildlife movement corridors and include mechanisms including on and off-site mitigation ratios and fee programs for mitigating impacts.

Significance Conclusion

Implementation of General Plan policies and Mitigation Measures BIO-1.1 through BIO-1.5 would reduce impacts of buildout on CEQA-defined special-status species and their habitat to a less than significant level.

However, it is impossible to know what threats CEQA-defined special-status species will face over the next 84 years. Species that are currently common today may be subject to new threats (such as invasive species or climate change) that may make them far more rare than at present and it is unknown whether there will be feasible means to address these new threats. Species that are currently rare could be subject to new threats as well, which could undermine current conservation practices and require additional measures that are not anticipated at present. Further, actions in other parts of California could affect populations of CEQA-defined special-status species that also occur in Monterey County, that could in turn affect the priority for conservation in Monterey County and require additional protection measures and conservation areas.

Given this uncertainty, it is not possible definitively conclude that impacts can be fully mitigated and thus this impact is considered significant and unavoidable.

Impacts to Natural Communities (including Riparian Habitat and Wetlands)

Impact BIO-2: Potential Adverse Effects on Sensitive Riparian Habitat, Other Sensitive Natural Communities and on Federal and State Jurisdictional Waters and Wetlands (Less Than Significant with Mitigation for 2030 Planning Horizon and Significant and Unavoidable with Mitigation for Buildout)

2030 Planning Horizon

Impact of Development with Policies

Common Natural Communities

There are several common vegetation types (habitats) within the county that may be lost as a result of development associated with the 2007 General Plan. Examples of common habitats are agricultural land, annual grassland, barren land, common chaparral and scrub communities, and eucalyptus forests. 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 alone is not expected to contribute to the destruction or deterioration of an individual, population of, or habitat for CEQA-defined special-status species. Impacts are considered less than significant. No mitigation is required.

Sensitive Natural Communities (other than Riparian Habitat)

There are several sensitive natural community types within the county that may be lost as a result of development associated with the 2007 General Plan. These are described in detail in the Environmental Setting section of this chapter and include dune scrub, marshes, native grasslands, maritime chaparral, oak woodland types, Monterey pine forests and conifer/redwood forests. The loss of these habitats is considered potentially significant because it would result in permanent loss of communities considered sensitive by DFG.

Riparian Habitat

Development associated with the 2007 General Plan would result in the removal of riparian habitat in specific locations. Additionally, development could result in long-term degradation of riparian 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. The loss or disruption of riparian habitats is a significant impact due to the value of such habitat for a wide

variety of common and CEQA-defined special-status species and for providing a wildlife movement corridor along creeks in the County.

Waters and Wetlands

Development activities associated with the 2007 General Plan would result in the loss of wetlands and waters of the United States and/or the State, including named or unnamed streams, vernal pools, salt marshes, freshwater marshes, and other types of seasonal and perennial wetland communities. Wetlands and other waters would 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 would result in permanent loss of wetlands or waters of the United States and/or the State, or loss of functions or habitats associated with these wetlands or waters.

Noxious Weeds

Development associated with the 2007 General Plan could introduce noxious weeds or result in their spread into currently uninfested areas, possibly resulting in the degradation or loss of sensitive natural communities including wetlands and riparian habitats. Noxious weed plants or seeds may be dispersed via construction equipment if appropriate measures are not implemented. New development at the urban-wildland interface would also increase the potential for wildland fire. While fire is an essential part of maintaining many native vegetation communities, fires can also spread weed seed that can outcompete native vegetation during the recolonization period following fire, which can reduce the range and vigor of native vegetation communities. This impact is considered potentially significant because the introduction or spread of noxious weeds would result in a substantial reduction or elimination of species diversity or abundance.

2007 General Plan Policies

The 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant natural areas and minimize adverse biological impacts, including adverse effects on sensitive natural communities, riparian habitat and wetland areas. The 2007 General Plan also contains goals and policies that address potential adverse impacts on riparian and wetland areas from development.

Land Use Element

Land Use Element Policies LU-1.1 through LU 1.9 establish general land use concepts that emphasize city-centered growth, compatibility between adjacent land uses, and the conservation of natural areas.

These policies are summarized in detail under Impact BIO-1. Collectively, these policies promote compact urban growth in existing developed areas and discourage growth in sensitive natural communities, riparian and wetland areas where development would have the most deleterious impacts on these habitats.

Open Space and Conservation

Policies OS-3.1 -3.9 address mechanisms to reduce soil erosion, and water quality impacts through the use of BMPs, project design and permitting requirements on slopes. OS-3.7 encourages preparation and implementation of a coordinated resources management plan in watersheds of State designated impaired waterways. OS-3.9 requires the development of a Program to address potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands, including effects from soil erosion, increased runoff related stream stability impact and potential violation of water quality standards.

Policy OS-4.2 requires that direct and indirect discharges of harmful substances into rivers or streams not exceed state or federal standards. Policy OS-4.3 stipulates that fresh water marshes, wetlands, sloughs, river and stream mouth areas, as well as all waterways that drain and have impact on state designated Areas of Special Biological Significance be protected, maintained and preserved in accordance with state and federal water quality regulations.

Policy OS-5.5 provides encouragement to preserve the integrity of existing terrain and native vegetation in visually sensitive areas such as hillsides, ridges, and watersheds. Policy OS-5.6 requires the use of native and native compatible species, especially drought resistant species, shall be utilized in fulfilling landscaping requirements. Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife. Policy OS-5.12 requires consultation with the CDFG to protect Areas of Special Biological Significance for state and federally listed species. Policy OS-5.13 encourages efforts to obtain and preserve natural areas of particular biologic, scientific, or educational interest. Policy OS-5.14 requires establishment of policies and procedures that encourage exclusion and control or eradication of invasive exotic plants and pests. Policy OS-5.15 requires establishment of a fee waiver program for environmental restoration projects.

Public Services Element

PS-2.8 requires that all projects be designed to minimize runoff, recharge groundwater and protect water quality. Public Service

Element Policies PS-11.11 and 11.12 establish measures to minimize impacts to biological resources within recreational areas and open space areas. These policies require emphasis on protection and best management practices of environmental resources in County parks and open space facilities. Open spaces that are rich in biological resources are to be managed for passive enjoyment of these resources.

Agricultural Element

Policy AG-5.1 of the Agricultural Element supports programs that reduce soil erosion. Policy AG-5.2 promotes policies and programs to protect and enhance surface water and groundwater resources.

Area Plan Policies

Cachagua Area Plan

Policy CACH-3.3 requires that the alteration of hillsides and natural landforms be minimized through sensitive siting and design of all improvements and maximum feasible restoration including botanically appropriate landscaping. Policy CACH-3.6 promotes cooperation with the United States Forest Service and private property owners to ensure that Santa Lucia fir are protected. Policy CACH-3.7 protects riparian vegetation and threatened fish species along the Carmel and Arroyo Seco Rivers. It also reduces encroachment from new development on the main channels of the Carmel and Arroyo Seco Rivers.

Carmel Valley Master Plan

Policy CV-3.4 requires that the alteration of hillsides and natural landforms be minimized through sensitive siting and design of all improvements and maximum feasible restoration including botanically appropriate landscaping. Policy CV-3.7 stipulates that areas of biological significance, including the redwood community of Robinson Canyon, the riparian community and redwood community of Garzas Creek, wetlands, marshes, seeps, springs, native bunchgrass stands, natural meadows, cliffs, rock outcrops, unusual geologic substrates, ridgelines, and wildlife migration routes be identified and preserved as open space. Policy CV-3.8 requires that development be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. Policy CV-3.9 stipulates that willow-cover along the banks and bed of the Carmel River be maintained in a natural state for erosion control and any alteration to the river be only allowed by permit from the Monterey Peninsula Water Management District or Monterey County. Policy CV-3.10 requires that predominant landscaping and erosion control material consist of plants native to the valley. Policy

CV-3.12 encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy CV-4.1 stipulates that reduce potential erosion, the amount of land cleared at any one time be limited to the area that can be developed during one construction season, motor vehicles be prohibited on the banks or in the bed of the Carmel River, and native vegetation must be maintained in areas with certain slopes or erodible soils. Policy CV-5.3 requires that new development incorporate water reclamation, conservation features to maintain the ecological environment. Policy CV-6.2 discourages gardens, orchards, row crops, grazing animals, farm equipment, and buildings on slopes of 25 percent or greater or where it would require the conversion or extensive removal of existing native vegetation.

Central Salinas Valley Area Plan

Policy CVS-5.1 prohibits new development from encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats, flood flow capacity, and groundwater recharge. Policy CVS-5.2 stipulates that new recreational uses avoid encroaching on the main channels and floodways of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats. The policy also prohibits development that would create level of runoff that would cause erosion or adversely affect surface water resources.

Fort Ord Master Plan

Recreation Policy C-1 requires the County to establish an oak tree protection program to ensure conservation of existing coastal live oak woodlands in large corridors within a comprehensive open space system. Recreation Policy C-2 requires review of all proposed recreational use for compatibility with an adopted Habitat Conservation Plan to insure long-term protection of sensitive resources.

Biological Resource Policies A-1 through A-9 promote the preservation and protection of the sensitive species and habitats addressed in the installation-wide Habitat Management Plan (HMP). Biological Resource Policies B-1 through B-3 require the County to preserve and protect sensitive species and habitats not addressed in the HMP. Biological Resource Policies C-1 through C-3 require the County to avoid or minimize disturbance to natural land features and habitats through sensitive planning, sitting and design as new developed is proposed in undeveloped lands. Biological Resource Policies D-1 through D-2 encourage construction worker biological resource training and environmental education and outreach. Biological Resource Policies E-1 and E-2 require the County to address the interim management of natural land areas for which the

County is designated as the responsible party and monitor activities that affect all undeveloped natural lands.

Greater Monterey Peninsula Area Plan

Policy GMP-3.4 stipulates that plant materials be used to integrate human-made and natural environments. Policy GMP-3.5 promotes the preservation of redwood forest habitat and wetlands as open space through the use of conservation easements or fee acquisition. Policy GMP-3.6 requires that a 100-foot setback from all wetlands, as identified by a County-approved biologist, be provided and maintained in open space use. Policy GMP-3.7 promotes cooperative efforts between County and cities to conserve wetlands. Policy GMP-3.8 encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy GMP-4.1 promotes the preservation of redwood forest and chaparral habitat on land exceeding 25 percent slope.

Greater Salinas Area Plan

Policy 1.1 requires that new development in the Butterfly Village Special Treatment Area preserve certain specified sensitive habitat areas. Policy GS-1.5 requires that development of commercial land uses designated near Highway 68 and the Salinas River be allowed only if it protects and, where feasible, enhances the riparian habitat along the river. Policy GS-1.8 allows that the land near the town of Spreckels designated as industrial if it is designed to protect, and where feasible, enhance the riparian corridor along the Salinas River. Policy GS-3.1 requires that all vegetation on land exceeding 25 percent slope, particularly chaparral and broad leaf evergreen, remain undisturbed. Policy GS-3.2 encourages the use of native plant materials to integrate the human-made environment with the natural environment. Policy GS-5.1 requires that Gabilan Creek be maintained in a natural riparian state.

North County Area Plan

Policy NC-3.3 prioritizes conservation of North County's native vegetation in order to retain the viability of threatened or limited vegetative communities and animal habitats and preserve rare, endangered, and endemic plants for scientific study.

South County Area Plan

Policy SC-1.2 encourages cluster development in all areas where development is permitted in order to preserve open space. Policy SC-5.3 prohibits new development from encroaching on the main channels and associated floodways of the Nacimiento, San Antonio, and Salinas Rivers.

Toro Area Plan

Policy T-4.1 prohibits land uses and practices that contribute to significant increases of siltation and flooding of Toro Creek.

Significance Determination

The policies in the 2007 General Plan Open Space Element concerning sensitive natural communities do not always provide for the assessment or mitigation of impacts to all sensitive natural communities. However, there are there a numerous Area Plan policies provide for protection or mitigation of impacts to a number of important sensitive natural communities that are unique to these geographic areas. In addition, policies for the protection for habitats of listed species will produce co-benefits for some natural communities. The 2007 General Plan does not provide a systematic approach to address impacts of development to all sensitive natural communities as defined above in this document. This impact is considered potentially significant because development under the 2007 General Plan would result in reduced range, quality and extent of sensitive natural communities. Further, the 2007 General Plan policies do not sufficiently guide the implementation of future development so as to ensure avoidance, minimization, and/or compensation for impacts to sensitive natural communities. Thus impacts to sensitive natural communities are considered significant.

The 2007 General Plan and some of the Area Plans contain policies concerning the protection of riparian habitat and wetlands. For example, Policies OS-4.2 and OS-4.3 address marine and wetland resources. The Cachagua Area Plan, the Carmel Valley Master Plan, the Greater Monterey Peninsula Area Plan and the South County Area Plan contain specific protections for riparian habitat (or for riparian habitat along key rivers) and the Carmel Valley Master Plan and the Greater Monterey Peninsula Area Plan contain specific protections for wetlands. However, there is no specific protection framework for riparian habitat and in the General Plan. Thus, impacts to riparian habitat are considered significant. Additionally, development on slopes adjacent to riparian habitats is not specifically protected. Nor are there criteria for development adjacent to streams and riparian areas.

Impacts to wetlands as designated under the Clean Water Act Section 404, and the state Porter-Cologne Water Quality Control Act and State designated Areas of Special Biological Significance are protected by proposed 2007 General Plan policies in Section OS-4 and Area Plans.

Impacts that could occur as a result of displacement impacts from the spread of noxious weeds are addressed by the 2007 General Plan Policy OS 5-14 and is less than significant. No new General Plan policies are required related to this impact.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Program Level Mitigation Measures

Mitigation Measure BIO-1.1 as described above under Impacts to CEQA-defined special-status species.

Mitigation Measure BIO-2.1: Stream Setback Ordinance

The county shall develop and adopt a county-wide Stream Setback Ordinance to establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The purpose of the ordinance will be to preserve riparian habitat and reduce sediment and other water quality impacts of new development.

The Stream Setback Ordinance shall apply to all discretionary development within the County and to conversion of previously uncultivated agricultural land (as defined in the General Policy Glossary) on normal soil slopes over 15% or on highly erodible soils on slopes over 10%.

Mitigation Measure BIO-2.2: Oak Woodlands Mitigation Program.

The County shall prepare, adopt and implement a program that allows project to mitigate the loss of oak woodlands. The program would include ratios for replacement, payment of fees to mitigate the loss or direct replacement for the loss of oak woodlands and monitoring for compliance. The program would identify criteria for suitable donor sites. Mitigation for the loss of oak tree woodlands may be either on-site or off-site. The program would allow payment to either a local fund established by the County. Until such time as the County program is implemented, payment of a fee may be made to the State Oak Woodlands Conservation Program. Replacement of oak woodlands shall be on a minimum 1:1 ratio.

Mitigation Measure BIO-2.3: Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment.

Public Services Policies PS-3.3 and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new wells. The following criteria shall be added to these policies:

- Policy PS-3.3.i—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead.
- Policy PS-3.4.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead.

Project Level Mitigation Measure

Mitigation Measure BIO-1.3 as described above under Impacts to CEQA-defined special-status species.

Significance Conclusion

Up to 2030, based on housing units, the County would have less than one-third (~28%) of the overall buildout allowed by the 2007 General Plan. It is expected that most of the growth by 2030 (perhaps 80% or more) will be within the focused development areas (Community Areas, Rural Centers, and AHOs).

A Stream Setback Ordinance as identified above would reduce impacts to streams from new development and from conversion of previously uncultivated agricultural land on steeper slopes and on highly erodible soils in steep slope areas and would further protect these habitats and species by minimizing direct impacts to habitat and reducing water quality impacts in streams. Other mitigation would require a baseline inventory of sensitive natural communities, establish an oak woodlands mitigation program, require consideration of riparian habitat and stream flows during water supply assessments, and project-level inventory, avoidance, minimization, and compensation for impacts to sensitive natural communities.

Accordingly, application of the General Plan policies combined with the above mitigation would mitigate project-level impacts to sensitive natural communities, riparian habitat, and wetlands/waters to a less than significant level.

Buildout

Impact of Development with Policies

As noted above, there are uncertainties in predicting the impacts of buildout on sensitive natural communities, riparian habitat, and wetlands nearly 84 years in the future, nevertheless there will likely be further adverse effects of buildout beyond the 2030 horizon. It is anticipated that lots of record would be the primary location for residential development unless there are changes to the density of Community Areas and Rural Centers or new growth areas identified. Given the amount of potential buildout, these effects would exceed those for impacts before 2030. There are also uncertainties with respect to trends in agriculture that cannot be predicted at this time. This would result in the potential conversion of sensitive natural communities, riparian habitat, and wetlands. The amount of conversion at buildout is not estimated, but is assumed to be some level beyond 2030.

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above for this impact would apply to buildout after 2030.

Significance Determination

This impact is considered potentially significant because buildout under the 2007 General Plan would result in reduced quality, extent, and range of sensitive natural communities, riparian habitat and wetlands. Furthermore, the geographic extent of those impacts is difficult to predict.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measure BIO-1.1, 1.2, 1.3, 1.4, and 1.5 as described above under Impacts to CEQA-defined special-status species.

Mitigation Measures BIO-2.1, 2.2 and 2.3 as described above.

Significance Conclusion

Implementation of General Plan policies, Mitigation Measures BIO-1.1 through BIO-1.5, and Mitigation Measures BIO-2.1 through 2.3 would reduce impacts of buildout on sensitive natural communities, riparian habitat, and wetlands to a less than significant level.

However, it is impossible to know what threats sensitive natural communities will face over the next 84 years. Natural communities may be subject to new threats (such as invasive species, new diseases, new pests, or climate change)

that may make them far more rare than at present and it is unknown whether there will be feasible means to address these new threats. New threats could undermine current conservation practices and require additional measures that are not anticipated at present. Further, actions in other parts of California could affect sensitive natural communities that also occur in Monterey County, that could in turn affect the priority for conservation in Monterey County and require additional protection measures and conservation areas.

Given this uncertainty, it is hard to definitively conclude that impacts can be fully mitigated and thus this impact is considered significant and unavoidable.

Impact on Wildlife Movement and Wildlife Nursery Sites

Impact BIO-3.1: Potential Disturbance and Loss of Native Fish and Wildlife Species Movement Corridors (Less than Significant with Mitigation for 2030 Planning Horizon and for Buildout)

2030 Planning Horizon

Impact of Development with Policies

Development under the 2007 General Plan could restrict local or long-distance movement of native species by further fragmenting intact habitat blocks. Development in natural landscapes serves to disconnect or fragment habitat areas, which in turn reduces the size of CEQA-defined special-status species populations that those habitat areas can support. This reduces the ability of the population to grow and increases the probability the population will be impacted by other environmental factors (e.g., disease, catastrophic weather, predation). However, in some cases these impacts may be unavoidable due to the density of development plans, the specific migration needs of individual species, or the extent of wildlife corridor alternation.

Potential corridors that would be impacted are as follows:

- **Santa Cruz Mountains to Gabilan Range**—The 2007 General Plan does not focus growth in the northeast part of the county around Prunedale. However ongoing expansion of Highway 101 and development on existing lots along Highway 101 will continue to affect this linkage.
- **Santa Lucia Mountains to Fort Ord**—Expansion of Highway 68, development in the Toro Plan Area and in Carmel Valley could affect this corridor.
- **Salinas Valley (east–west)**—Development in Community Centers and Rural Centers and other areas adjacent to the river, along the valley floor, and along the slopes of the Valley (including agricultural conversions

and winery expansion) could affect east-wide migration cross the valley. Expansion and increased traffic along Highway 101 and River Road could also affect east-west migration potential.

- **Salinas River (north-south)**—Development adjacent to the river, along the valley floor, and along the margins of the Valley (including agricultural conversions and winery expansion) could affect north-south migration along the valley.
- **Carmel River**—Limited subdivision (266 lots), development on existing lots, development of the STA at Rancho Canada Village, and the Mid-Valley AHO could affect areas adjacent to the Carmel River.
- **Pajaro River**—Development in the Pajaro Rural Center and on existing lots in North County could affect the river. Nearly all of the land adjacent to the river within Monterey County has already been converted to agriculture.

2007 General Plan Policies

Land Use Element

The 2007 General Plan Land Use Element emphasizes compact city-centered growth and discourages the encroachment of urban uses into undeveloped areas and clustering of residential development to areas most suitable to support the development. Collectively, these policies promote compact urban growth in existing developed areas and discourage growth on significant natural areas that serve as wildlife movement corridors where development would have the most deleterious impacts on wildlife movement. Land Use Element Policies LU-1.1 through LU-1.9 were summarized under Impact BIO-1.

Land Use in Area Plans

Development on properties with residential land use designations location within the Toro Area Plan along the Highway 68 corridor, Greater Salinas Area Plan north of the City of Salinas between Williams Road and Highway 101, and the North County Area Plan are limited to the first single family home on a legal lot of record. Creation of new lots in the Carmel Valley Area is capped at 266 new lots.

Open Space and Conservation Element

Policies OS 1.3-1.8 address ridgeline development, transfer of development rights and clustering. OS-1.7 establishes a transfer development program to direct development away from areas with unique visual or natural features, critical habitat, or prime agricultural soils. OS-1.8 encouraging clustering of development in

rural and agricultural areas to protect prime agricultural land and critical habitat areas.

Policy OS-4.3 stipulates that fresh water marshes, wetlands, sloughs, river and stream mouth areas, as well as all waterways that drain and have impact on state designated Areas of Special Biological Significance be protected, maintained and preserved in accordance with state and federal water quality regulations.

Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife. Policy OS-5.13 encourages efforts to obtain and preserve natural areas of particular biologic, scientific, or educational interest and restrict incompatible uses from encroaching upon them. Policy OS-17 requires the County to develop a program to mitigate the loss of critical habitat.

Safety Element

Goal S-2 and Policies S-2.1 through 2.8 address reducing development in the floodplain and reducing impacts that would occur within the floodplain.

Agricultural Wine Corridor

AG-4.3 addresses the development of a Winery Corridor Plan to encourage development of the wine industry within the designated corridor. The Corridor Plan establishes limits on the facilities that could be permitted under the Plan along with development criteria.

Area Plan Policies

Cachagua Area Plan

Policy CACH-1.4 stipulates that new development adjacent to the Ventana Wilderness not impact the purpose of the wilderness areas. Policy CACH-3.7 protects riparian vegetation and threatened fish species along the Carmel and Arroyo Seco Rivers. It also reduces encroachment from new development on the main channels of the Carmel and Arroyo Seco Rivers.

Carmel Valley Master Plan

Policy CV-3.7 stipulates that areas of biological significance, including the redwood community of Robinson Canyon, the riparian community and redwood community of Garzas Creek, wetlands, marshes, seeps, springs, native bunchgrass stands, natural meadows, cliffs, rock outcrops, unusual geologic substrates, ridgelines, and wildlife migration routes be identified and preserved as open space.

Policy CV-3.8 requires that development be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. It also requires that riparian vegetation be re-established in areas where it no longer exists. Policy CV-3.9 stipulates that willow-cover along the banks and bed of the Carmel River be maintained in a natural state for erosion control. Policy CV-3.12 encourages the designation of open space in areas of diverse habitats and ecologically important zones. CV-4.1 limits the amount of land that can be cleared during one construction season, provhits motorized vehicles in the Carmel River bed, and requires maintenance of native vegetative cover in areas with erosive soils and steep slopes.

Central Salinas Valley Area Plan

Policy CVS-5.1 prohibits new development from encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats. Policy CVS-5.2 stipulates that new recreational uses avoid encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats.

Fort Ord Master Plan

Biological Resources Policy A-3 requires the County to maintain the habitat values and integrity of the habitat corridor through the western portion of the Recreational Vehicle Park/Youth Camp. Policy A-4 requires the County to protect the habitat corridor in the RV park/youth camp parcel from degradation due to the development in, or use of, adjacent parcels. Policy A-7 requires the County to coordinate with California State University and UCNRS to minimize the potential for HMP species in the habitat conservation and corridor areas adjacent to CSUMB land to be adversely affected by human activity associated with access.

Policy B-2 requires County coordination with the Cities of Seaside and Marina, California State University, FORA and other interested entities in the designation of an oak woodland conservation area connecting the open space lands of the habitat management areas. Policy B-3 requires the County to preserve, enhance, restore and protect vernal ponds, riparian corridors and other wetland areas.

Biological Resources Policy E-2 requires the County to monitor activities that affect all undeveloped natural lands, including, but not limited to conservation areas and habitat corridors as specified and assigned in the HMP.

Greater Monterey Peninsula Area Plan

Policy GMP-3.6 requires that a 100-foot setback from all wetlands, as identified by a County-approved biologist, be provided and maintained in open space use. Policy GMP-3.8 encourages the designation of open space in areas of diverse habitats and ecologically important zones.

Greater Salinas Area Plan

Policy GS-1.5 requires that development of commercial land uses designated near Highway 68 and the Salinas River be allowed only if it protects and, where feasible, enhances the riparian habitat along the river. Policy GS-1.8 allows that the land near the town of Spreckels designated as industrial if it is designed to protect, and where feasible, enhance the riparian corridor along the Salinas River. Policy GS-5.1 requires that Gabilan Creek be maintained in a natural riparian state.

South County Area Plan

Policy SC-1.2 encourages cluster development in all areas where development is permitted in order to preserve open space. Policy SC-5.3 prohibits new development from encroaching on the main channels and associated floodways of the Nacimiento, San Antonio, and Salinas Rivers.

Significance Determination

Development under the general plan could restrict local or long-distance movement of native species by further fragmenting intact habitat blocks. Development in natural landscapes serves to disconnect or fragment habitat areas, which in turn reduces the size of CEQA-defined special-status species populations that those habitat areas can support. This reduces the ability of the population to grow and increases the probability the population will be impacted by other environmental factors (e.g., disease, catastrophic weather, predation, etc.). In many cases these impacts are avoidable by using permeable landscape designs (e.g., roadway underpasses, reduced fencing).

The policies in the 2007 General Plan for Biological Resources do not specifically address wildlife corridors with the exception of the Fort Ord Master Plan. However, the Land Use Element focuses development within designated areas which helps to reduce habitat and corridor fragmentation below the level it would otherwise be. Certain Area Plan policies provide protection of riparian corridors along the Salinas River, Carmel River, Arroyo Seco, Gabilan Creek, and Garzas Creek. The Open Space Element addresses ridgeline development and the Safety Element addresses floodplain development.

In the past decade, there has been a concerted effort by land conservation groups, the regional park district, state and federal agencies and County government to conserve large expanses of open space and wildlife corridor in key corridor linkages. These efforts have contributed to the cumulative reduction in potential impacts to the corridors described above, including coastal and inland linkages. There have also been a number of recent donations and sales of key conservation areas to public and private entities that will have significant long term benefits to securing important wildlife corridors. The Big Sur Land Trust has over 25,000 acres in its holdings and recently acquired, along with the Nature Conservancy, an additional 4,000 acre holding west of Gonzales that straddles the Sierra de Salinas ridgeline with lands in both Carmel River and Salinas watersheds. The Marks Ranch, an 812 acre holding which includes a major wildlife corridor in the Highway 68 corridor, has been deeded for future annexation to the County's Toro Park. A 2,137 acre parcel along the Arroyo Seco River (Central Salinas Area) has been designated as a permanent conservation area as mitigation for a major pipeline project recently approved by the County.

Despite the beneficial effects of these conservation efforts, the 2007 General Plan does not provide a systematic approach to address impacts of development to key wildlife movement linkage as defined above in this document. This impact is considered significant because development under the 2007 General Plan could result in a reduction in linkage between wildlife species populations and reduction in migration of fish and other species along river corridors.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measure BIO-1.2 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-2.1 as discussed above under Impacts to Sensitive Natural Communities.

Mitigation Measure BIO-3.1: Project-Level Wildlife Movement Considerations.

The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall consider the need for wildlife movement in designing and expanding major roadways and public infrastructure projects to provide movement opportunities for terrestrial wildlife and to ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access.

Significance Conclusion

Over 80% of the development in Monterey County within the 2030 Horizon will occur in areas designated for focused growth. Discretionary permits will be required for this development as well as for any large scale residential and commercial development that might occur outside of these areas (subject to the Subdivision Evaluation System). For discretionary development, implementation of the General Plan policies alone would have potentially resulted in significant impacts to wildlife movement corridors. Mitigation Measure BIO-3.1 requires consideration of wildlife movement for all discretionary projects. Mitigation Measure BIO-1.2 would address impacts to kit fox habitat that might occur from development and will have co-benefits for the protection of wildlife movement for other species. Mitigation Measure BIO-1.3 requires preparation of a biological report that includes measures to avoid impacts or minimize impacts to CEQA-defined special-status species, which may also have some co-benefits for wildlife movement corridors. Mitigation Measure BIO-2.1 would further protection riparian corridors for wildlife movement.

These mitigation measures would address potential impacts from discretionary large-scale residential, commercial, public infrastructure and agricultural development. In combination with the application of Area Plan policies, impacts to wildlife movement from discretionary development would be considered less than significant.

"Routine and ongoing" agricultural activities that occur on existing cropland are part of the baseline and thus would not result in new impacts on wildlife movement corridors.

Legal lot development without subdivision would have highly dispersed effects on wildlife movement that on a landscape level is also considered less than significant.

The remaining development consists of conversion of previously uncultivated agricultural lands to new farmland. As shown in the pattern of historic conversion (see Exhibits 4.9.6, 4.9.7, 4.9.8, and 4.9.8), conversion of natural communities would be widely dispersed geographically throughout the County. Based on the assumption that conversion of previously uncultivated lands is not anticipated to exceed the previous 25 year trend (1982 – 2006) in the County (approximately 450 acres per year), the sporadic and discontinuous pattern of crop expansion, and the geographic distribution of agricultural operations (especially within the Salinas Valley), agricultural conversion is not considered to result in a significant impact to wildlife movement corridors.

Buildout

Impact of Development with Policies

As noted above, there are uncertainties in predicting the impacts of buildout on wildlife movement corridors nearly 84 years in the future; nevertheless there will likely be further adverse effects of buildout beyond the 2030 horizon. Given the amount of potential buildout, these effects would exceed those for impacts before 2030. As one example, the amount of traffic generated by buildout is larger than that for 2030, which would require substantial new transportation facilities to accommodate transportation needs. Whether that would be new roadways, new rail-lines, or other means of transportation cannot be known at this time. Further, trends in agriculture both respect to types of crops and technology are uncertain. The additional 62 years of potential for agricultural conversion of natural habitat is not estimated, but is assumed to be some level beyond 2030

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above for this impact would apply to buildout after 2030.

Significance Determination

This impact is considered potentially significant because buildout under the 2007 General Plan would result in further degradation and impediments to wildlife movement corridors. Furthermore, the geographic extent of those impacts is difficult to predict.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measure BIO-1.2 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-1.3 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-1.4 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-1.5 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-2.1 as discussed above under Impacts to Sensitive Natural Communities.

Mitigation Measure BIO-3.1 as discussed above.

Significance Conclusion

Implementation of General Plan policies would focus growth to 2030 and Mitigation Measure BIO-1.4 would focus growth for the period after 2030. Implementation of a NCCP for the County would provide for long-term conservation needs, which to be effective, must include effective preservation of wildlife movement corridors. Mitigation Measures BIO-1.2 would address conservation needs for the San Joaquin kit fox which will produce co-benefits for wildlife movement corridors. The new Stream Setback Ordinance would further protection of riparian corridors beyond the level provided in the General Plan. Mitigation Measure BIO-1.3 would require consideration of preservation of wildlife movement areas during project- review. The combined effect of these measures is to identify and plan for the long-term vitality of wildlife movement corridors in the Count and thus this impact is less than significant.

Impact BIO-3.2: Potential Loss or Disturbance of Nesting Migratory Birds and Raptors (Less than Significant with Mitigation)

2030 Planning Horizon

Impact of Development with Policies

Woodland, forest, scrub, grassland, aquatic and riparian habitats in throughout Monterey County provide suitable nesting habitat for hundreds of migratory birds including CEQA-defined special-status species such as the 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. The loss or disturbance of these habitats is considered potentially significant to nesting migratory birds and raptors.

2007 General Plan Policies

While there are General Plan policies concerning the preservation of listed species habitat, specified sensitive natural communities, riparian vegetation and wetlands (these are summarized above under Impacts BIO-1 and BIO-2) and for protected trees (summarized below under Impact BIO-4) which will reduce the potential loss of nesting habitat and direct and indirect disturbance of nesting birds, there are no specific policies concerning nesting and migratory birds (unless they are state or federally-listed species).

Area Plan Policies

While there are Area Plan policies concerning the preservation of listed species habitat and listed species, specified sensitive natural communities, riparian vegetation and wetlands (these are summarized

above under Impacts BIO-1 and BIO-2) and protected trees (see Impact BIO-4 which will reduce the potential loss of nesting habitat and the direct and indirect of nesting birds, there are no specific policies concerning nesting and migratory birds (except for those included in the Fort Ord HMP).

Significance Determination

If development under the 2007 General Plan occurs during the breeding season (generally between February 1 and September 15), construction activities (e.g., vegetation removal, grading, noise, etc.) would result in nest abandonment and subsequent loss of eggs or developing young at active nests. 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.

Mitigation Measures

Mitigation Measure BIO-3.2: Remove Vegetation during the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate (generally September 16 to January 31).

Vegetation removed in the course of development will be removed only during the nonbreeding season (generally September 16 to January 31). Occupied nests of migratory birds, including raptors, will be avoided during this period. The county shall consult, or require the developer to consult, with a qualified biologist prior to any site preparation or construction work in order to (1) determine whether work is proposed during nesting season for migratory birds, (2) determine whether site vegetation is suitable to nesting migratory birds, (3) identify any regulatory requirements for setbacks or other avoidance measures for migratory birds which could nest on the site, and (4) establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of nesting birds. The county shall require the development to follow the recommendations of the biologist.

Significance Conclusion

Implementation of the mitigation measure above, in combination with the General Plan Policies and mitigation measures identified for CEQA-defined special-status species, sensitive natural communities, riparian habitat, and wetlands would reduce impacts related to nesting birds (including raptors) to a less-than-significant level and avoid violating the MBTA and California Fish and Game Code.

Buildout

Impact of Development with Policies

Development after 2030 will continue to have the potential to disturb nesting birds during construction.

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above for this impact would also apply to buildout after 2030.

Significance Determination

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.

Mitigation Measures

Mitigation Measure BIO-3.2: Remove Vegetation During the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate.

Significance Conclusion

Implementation of the mitigation measure above, in combination with the General Plan Policies and mitigation measures identified for CEQA-defined special-status species, sensitive natural communities, riparian habitat, and wetlands would reduce buildout impacts related to nesting birds (including raptors) to a less-than-significant level and avoid violating the MBTA and California Fish and Game Code.

Impacts Related to Local Policies or Ordinances for the Protection of Biological Resources

Impact BIO-4: Potential Loss of Protected Trees (Less than Significant)

2030 Planning Horizon

Impact of Development with Policies

New development contemplated by the 2007 General Plan would potentially result in the removal of trees that are protected under the County's existing

tree preservation ordinance (Monterey County Code, Chapter 16.60). This ordinance applies to various species of trees including oak, madrone, redwood, fir, elder, laurel, cottonwood, and sycamore trees, and requires that permits be obtained to remove to species of the aforementioned trees. This would be a potentially significant impact.

2007 General Plan Policies

The 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant natural areas and minimize adverse biological impacts, including conflicts with tree preservation policies.

Land Use Element

The 2007 General Plan Land Use Element emphasizes compact city-centered growth and discourages the encroachment of urban uses into undeveloped areas which will reduce the numbers of protected trees ultimately removed for development.

Open Space and Conservation

Policy OS-5.9 establishes that each Area Plan set forth tree removal permit requirements.

Policy OS-5.10 requires the establishment of regulations for tree removal, including Timberland Conversion, to be maintained by ordinance implementing Area Plan policies that address the following:

a. Criteria when a permit is required including:
    1. number of trees,
    2. minimum size of tree,
    3. Post Timberland conversion land-use
b. How size is measured for each protected species of tree, and what constitutes a landmark tree depending on the rate of growth for that species.
c. Hazardous trees
d. Pest and disease abatement
e. Replacement criteria.
f. Ensure minimal removal

Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife.

Area Plan Policies

Cachagua Area Plan

CACH-3.4 discourages the removal of native trees and specified the conditions under which they are allowed to be removed. Policy CACH-3.6 promotes cooperation with the United States Forest Service and private property owners to ensure that Santa Lucia fir are protected.

Carmel Valley Master Plan

Policy CV-3.11 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height. Trees removed must be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of one gallon in size. The policy includes penalties for tree removal that occurs without a permit.

Fort Ord Master Plan

Policy C-2 requires the County to encourage the preservation and enhancement of native oak woodland elements in the natural and built environments.

Greater Monterey Peninsula Area Plan

GMP-3.5 requires development to be designed to prevent, to the maximum extent feasible, the destruction of native oak, pine, and redwood forest habitat.

North County Plan

Policy NC-3.4 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height. Trees removed must be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of one gallon in size.

Toro Area Plan

Policy T-3.7 discourages the removal of healthy trees with diameters in excess of eight inches.

Significance Determination

The 2007 General Plan and Area Plans contain policies that establish tree preservation regulations for each planning area. The County's existing tree

preservation ordinance also sets forth criteria for removal of certain types of significant trees. In addition, the 2007 General Plan land use concept emphasizes city-centered growth and discourages urban development in greenfields and significant natural areas where large native trees are most likely to be found. Therefore, the 2007 General Plan is internally consistent with the County's existing and proposed tree preservation requirements and would not create potential conflicts with the aforementioned requirements. Impacts in this regard would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

With the proposed General Plan policies as noted above, impacts to protected trees would be less than significant.

Buildout

Impact of Development with Policies

Development after 2030 would result in the loss of protected trees.

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above apply to buildout as well.

Significance Determination

The 2007 General Plan and Area Plans contain policies that establish tree preservation regulations for each planning area. The County's existing tree preservation ordinance also sets forth criteria for removal of certain types of significant trees. In addition, the 2007 General Plan land use concept emphasizes city-centered growth and discourages urban development in greenfields and significant natural areas where large native trees are most likely to be found. Therefore, the 2007 General Plan is internally consistent with the County's existing and proposed tree preservation requirements would not create potential conflicts with the aforementioned requirements. Impacts in this regard would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

As noted above, impacts to protected trees would be less than significant.

Consistency with Adopted Conservation Plans

Impact BIO-5.1: Potential Inconsistency with Adopted Conservation Plan (Less than Significant)

2030 Planning Horizon

Impact of Development with Policies

There are no adopted regional habitat conservation plans or Natural Community Conservation Plans currently permitted in the county inland areas covered by the 2007 General Plan.

2007 General Plan Policies

There are no General Policies related to habitat conservation plans.

Area Plan Policies

Fort Ord Master Plan

There is an adopted Habitat Management Plan for Fort Ord that was adopted as part of the reuse planning. The Ford Ord Master Plan policies require consistency with the adopted HMP.

Significance Determination

The Fort Ord HCP will be in force in the future. The County is a participant in the development of this HCP and will implement the HCP on discretionary development under its jurisdiction. This impact is thus less than significant. No mitigation is required for this impact.

Significance Conclusion

The County's policies for the Fort Ord Master Plan require the County to only approve development consistent with the existing HMP. The County is a participant in the development of the current HCP for Fort Ord and will implement the HCP on discretionary development under its jurisdiction.

If the County adopts a Salinas Valley Conservation Plan (pursuant to Mitigation Measure BIO-1.2), it will implement the required measures for development subject to the plan within its jurisdiction. Thus, this impact is less than significant.

Buildout

Impact of Development with Policies

There are no adopted regional habitat conservation plans or Natural Community Conservation Plans currently permitted in the county inland areas covered by the 2007 General Plan. Thus, at present development allowed by the 2007 General Plan has no impact relative to adopted plans.

The HCP for the former Fort Ord will in all likelihood be completed in the near future. There may be other HCPs/NCCPs developed in the future.

2007 General Plan and Area Plan Policies

Policies related to this impact are summarized above.

Significance Determination

The Fort Ord HCP will be in force in the future. The County is a participant in the development of this HCP and will implement the HCP on discretionary development under its jurisdiction. Thus this impact is less than significant.

Mitigation Measures

The following measures are noted for information purposes only.

Mitigation Measure BIO-1.2: Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley

Mitigation Measure BIO-1.5: By 2030, prepare a Comprehensive County Natural Communities Conservation Plan

Significance Conclusion

The County is a participant in the development of the current HCP for Fort Ord and will implement the HCP on discretionary development under its jurisdiction.

If the County adopts a Salinas Valley Conservation Plan (pursuant to Mitigation Measure BIO-1.2), it will implement the required measures for development subject to the plan within its jurisdiction.

If the County adopts a comprehensive NCCP for the entire County at some point in the future pursuant to Mitigation Measure BIO-1.5), the County will implement the required measures for development subject to the plan within its jurisdiction. The overall impact is less than significant.