Chapter 3.3
Biological Resources

Introduction

This chapter provides a discussion of the biological resources issues related to the Proposed Project and the 130-Unit Alternative in Carmel Valley. This chapter includes a review of existing conditions based on available literature, field surveys, and other biological assessments; a summary of federal, state, and local policies and regulations related to biological resources; and an analysis of environmental impacts of the Proposed Project and 130-Unit Alternative. Where feasible, mitigation measures are recommended to reduce the level of impacts.

This chapter was revised from the Draft EIR released in January 2008 to update the analysis to include consideration of the *2006 Rancho Cañada Village Restoration and Mitigation Plan* (2006 Restoration Plan) (the January 2008 Draft EIR was based on an earlier, outdated 2004 version of the Restoration Plan) and to consider issues raised in comments on the January 2008 Draft EIR regarding biological resources. This chapter was also revised in this Recirculated Draft EIR to discuss the impact for the 130-Unit Alternative.

Impact Summary

Table 3.3-1 lists the impacts and mitigation measures for the Proposed Project and the 130-Unit Alternative. As shown in **Table 3.3-1**, the Proposed Project and 130-Unit Alternative would have some significant adverse impacts related to biological resources within the project area. However, with the implementation of the mitigation measures described within this chapter, all of the impacts listed would be reduced to less-than-significant levels.

Table 3.3-1. Biological Resources Impact Summary

Impact	Proposed Project Level of Significance	130-Unit Alternative Level of Significance	Mitigation Measure	Level of Significance after Mitigation
A. Impact on Vegetation				
BIO-1: Loss of Coyote Brush Scrub Habitat	LTS	LTS	None Required	--
BIO-2: Loss of Non-Native Monterey Pine Stands	LTS	LTS	None Required	--

Impact	Proposed Project Level of Significance	130-Unit Alternative Level of Significance	Mitigation Measure	Level of Significance after Mitigation
BIO-3: Loss or Disturbance of Special-Status Plant Occurrences	LTS	Potentially significant	BIO-1: Conduct a Floristic Survey of Coast Live Oak Woodland Habitat in Lot 130 during the Blooming Period for Potential Special-Status Plant Species (130-Unit Alternative only) BIO-2: Avoid or Minimize Impacts on Special-Status Plant Species Populations by Redesigning the Project, Protecting Populations, and Implementing a Compensation Plan (If Necessary) (130-Unit Alternative only) BIO-3: Conduct Mandatory Contractor/Worker Awareness Training for Construction Personnel (130-Unit Alternative only)	LTS
BIO-4: Loss of Riparian Forest and Woodland Habitat	Potentially Significant	Potentially Significant	<u>Both Proposed Project and the 130-unit Alternative</u> BIO-3 BIO-4: Provide Funding Assurances and Reporting Concerning Restoration Progress and Success BIO-5: Restore Riparian Forest/Woodland Concurrent with Impact to Compensate for the Permanent Loss of Riparian Forest Habitat BIO-6: Minimize Disturbance of Riparian Forest and Woodland <u>Proposed Project Only</u> BIO-7: Monitor Bank Erosion in Project Reach and Restore Riparian Vegetation and River Bank, as Necessary	LTS
BIO-5: Loss of Coast Live Oak Woodland	No impact	Potentially Significant	BIO-8: Create Coast Live Oak Woodland Habitat to Mitigate Permanent Loss of Coast Live Oak Woodland Habitat (130-Unit Alternative only)	LTS

Impact	Proposed Project Level of Significance	130-Unit Alternative Level of Significance	Mitigation Measure	Level of Significance after Mitigation
BIO-6: Loss of Wetlands and Other Waters of the United States and State of California	Potentially Significant	Potentially Significant	BIO-3, BIO-4 HYD-1: Prepare and Implement a Stormwater Control Plan HYD-2: Prepare and Implement Operation and Maintenance Plan for Stormwater Control Measures HYD-3: Enter into Maintenance Agreement for Stormwater Control Measures HYD-4: Implement a Spill Prevention and Control Program BIO-9a: Create Ponds to Mitigate Permanent Loss of Pond Habitat (Proposed Project only) BIO-9b: Restore or Create Wetland and Pond Habitat to Mitigate Permanent Loss of Waters of the United States and State (130-Unit Alternative only)	LTS
BIO-7: Loss of Protected Trees	Potentially Significant	Potentially Significant	BIO-10: Compensate for Removal of Protected Trees	LTS
B. Impact on Wildlife				
BIO-8: Loss or Disturbance of California Red-Legged Frog Aquatic and Upland Habitat and Potential Loss of Adults, Larvae, or Eggs	Potentially Significant	Potentially Significant	BIO-3, BIO-5 through BIO-7 BIO-11: Conduct Formal Site Assessment and Consult with U.S. Fish and Wildlife Service to Determine if Protocol-Level Surveys are Necessary OR Assume CRLF Presence BIO-12: Restrict Filling of Ponds/Wetlands and Initial Ground-Disturbing Activities in CRLF Habitat to the Dry Season (May 1 to October 15) BIO-13: Conduct a Preconstruction Survey for CRLF BIO-14: Monitor Initial Ground-Disturbing Construction Activities within CRLF Habitat BIO-15: Compensate for the Removal and Disturbance of CRLF Breeding Habitat	LTS

Impact	Proposed Project Level of Significance	130-Unit Alternative Level of Significance	Mitigation Measure	Level of Significance after Mitigation
BIO-9: Loss or Disturbance of Southwestern Pond Turtle Aquatic Habitat and Potential Loss or Disturbance of Southwestern Pond Turtles	Potentially Significant	Potentially Significant	BIO-16: Conduct a Preconstruction Survey for Southwestern Pond Turtles and Monitor Construction Activities within Suitable Aquatic Habitat	LTS
BIO-10: Potential Loss or Disturbance of Breeding or Wintering Western Burrowing Owls and Their Burrows	LTS	LTS	None Required	--
BIO-11: Potential Loss or Disturbance of Tricolored Blackbirds and Their Breeding Habitat	Potentially Significant	Potentially Significant	BIO-17: Conduct Surveys for Nesting Tricolored Blackbirds BIO-18: Redesign Restoration Plan (Proposed Project) to Replace Lost Tricolored Blackbird Nesting Colony Habitat or Incorporate Tricolored Blackbird Nesting Habitat into the Newly Developed 130-Unit Alternative Restoration Plan (If Developed)	LTS
BIO-12: Potential Loss or Disturbance of Monterey Dusky-Footed Woodrat or Their Nests	Potentially Significant	Potentially Significant	BIO-19: Conduct Surveys for Woodrat Middens and Relocate Woodrats and Middens Prior to Construction Activity	LTS
BIO-13: Potential Loss or Disturbance of Tree and Shrub Nesting Migratory Birds and Raptors	Potentially Significant	Potentially Significant	BIO-5 BIO-20: Remove Vegetation during the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds and Raptors	LTS
BIO-14: Potential Loss or Disturbance of Pallid Bat and Non-Special–Status Bats Species	Potentially Significant	Potentially Significant	BIO-21: Conduct a Survey for Suitable Roosting Habitat and Evidence of Roosting Bats and Avoid Disturbing Them	LTS

Impact	Proposed Project Level of Significance	130-Unit Alternative Level of Significance	Mitigation Measure	Level of Significance after Mitigation
BIO-15: Temporary and Permanent Impact on Steelhead Trout and other Carmel River Fish	Potentially Significant	Potentially Significant	HYD-1, HYD-2, HYD-3, HYD-4 HYD-5: Implement Measures to Maintain Surface Water or Groundwater Quality HYD-6: Protect Eastern Slope of Excavated Basin BIO-7 BIO-22: Rescue Steelhead, if Stranded in Site Basin during High-Flow Events	LTS
C. Impact on Wildlife Movement, Wildlife Corridors, and Nursery Sites				
BIO-16: Potential Adverse Impact on Wildlife Movement, Wildlife Corridors, and Nursery Sites	Potentially Significant	Potentially Significant	BIO-3 through BIO-7	LTS
D. Impact Related to Adopted Conservation Plans and Local Policies/Ordinances for the Protection of Biological Resources				
BIO-17: Potential Conflict with Local Policies/ Ordinances	Potentially Significant	Potentially Significant	BIO-7	LTS
LTS = Less than Significant				

Environmental Setting

The project site is situated in the Carmel Valley, in northern Monterey County, California. The 81+-acre site (**Figures 2-1 and 2-2**) is located on the existing West Course of the Rancho Cañada Golf Club, approximately 1.5 miles east of the Pacific Ocean and 1 mile west of Roach Canyon. The existing site, which lies adjacent to the Rancho Cañada East Course, is composed of traditional golf course design features, such as fairways, sand bunkers, water hazards, and landscaped rough areas. The Carmel River forms the southern boundary of the site; the remainder of the project site is bordered by existing development, including a substantial residential area on the site's western perimeter, and a church and school located to the north of the site.

Similarly to the Proposed Project, the 130-Unit Alternative encompasses the West Course. The non-contiguous northeastern area of the 130-Unit Alternative includes portions of the East Course. The portion of the East Course included in this alternative includes 4.3 acres for Lot 130. Existing maintenance facilities and structures on Lot 130 are immediately west of residential development.

The setting description is based on the *Initial Biological Assessment prepared for Rancho Cañada Village* (Rana Creek Habitat Restoration 2004), the *Biological Assessment for the Hatton Parcel* (Zander Associates 2005), the 2006 Restoration Plan (Zander Associates 2006), the *Biological*

Resource Review of Rancho Cañada Village (Zander Associates 2014), and data obtained during site visits. Refer to *Methods for Analysis* below for more detail.

Common Vegetation and Wildlife Observed on the Project Site

The project area contains the following common vegetation types: golf turf and landscaping, Monterey pine (*Pinus radiata*) stand, coyote brush (*Baccharis pilularis*) scrub, coast live oak (*Quercus agrifolia*) stand, California bulrush wetland, and dry ponds. The distribution of these vegetation types is shown in **Figure 3.3-1**. General characteristics of each vegetation type are described below. **Table 3.3-2** summarizes the amount of each vegetation type found within the project area.

Table 3.3-2. Total Area of Vegetation by Community Type in the Project Area

Community Type	Area (acres) within the Proposed Project	Area (acres) within the 130-Unit Alternative
Golf Turf and Landscaping	56.7	56.9
Developed/Disturbed	0	3.4
Non-Native Monterey Pine Stand	0.1	0.1
Coast Live Oak Woodland	0	0.8
Coyote Brush Scrub[1]	10.9	10.9
Wetland Vegetation[2]	0.3	0.3
Golf Course Ponds	1.4	1.4
Riparian Forest and Woodland	6.2	6.2
Total	**75.6**	**80**

NOTE: Acreages in this table and used in the biological resources analysis are based on GIS calculations prepared by ICF. The total project site indicated in the GIS analysis is slightly different than that included in the applicant's site plan, but this discrepancy would not change any conclusions in the biological analysis.

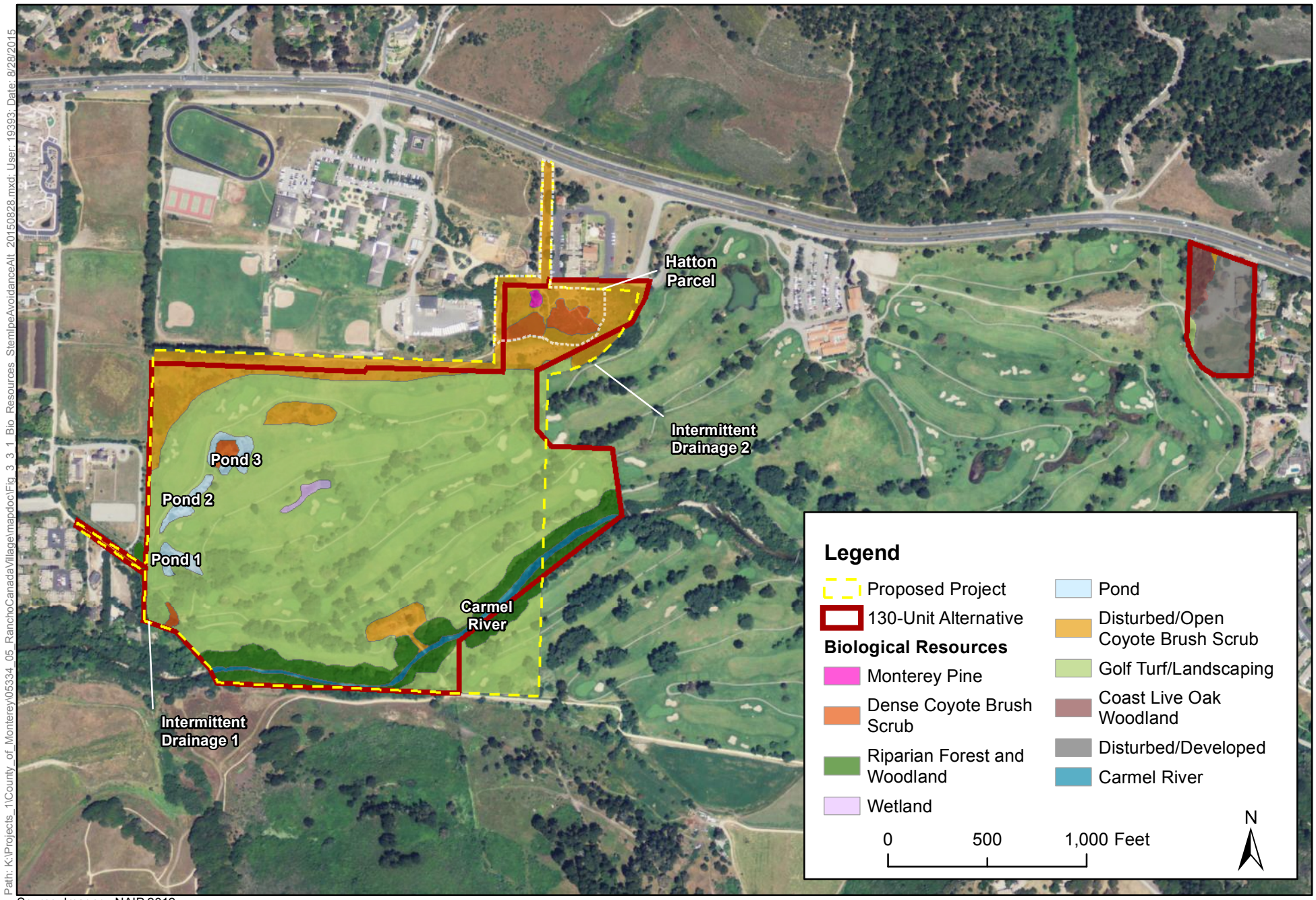
[1] Includes 9.4 acres for open/disturbed cover and 1.5 acres dense/intact cover.

[2] Wetland vegetation is comprised of one California bulrush wetland intermixed with a small patch of cattail.

Golf Turf and Landscaping

Golf turf and ornamental landscaping occupy the majority of the project area. These areas are dominated by non-native annual bluegrass (*Poa annua*) and non-native kikuyu grass (*Pennisetum clandestinum*). Several landscaped areas near the existing restrooms and ponds are dominated by common non-native ornamental plants, such as New Zealand flax (*Phormium* spp.), African daisy (*Ostiosporum* spp.), New Zealand hebe (*Hebe* spp.), and English ivy (*Hedera helix*).

Several stands of trees are present within the golf turf area. Native species found on the course include riparian woodland species such as black cottonwood (*Populus blasamifera* ssp. *trichocarpa*), western sycamore (*Platanus racemosa*), and arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and western red dogwood (*Cornus sericea* ssp. *occidentalis*). A 0.2-acre stand of western sycamore is also present in the northeast corner of the project area (this area is called the Hatton Parcel) (**Figure 3.3-1**). The understory of this stand consists of non-native weedy species, notably poison hemlock (*Conium maculatum*) and curly dock (*Rumex crispus*). Coast redwood (*Sequoia sempervirens*) and coast live oak trees are also present. Coast redwood stands are probably planted because they are naturally found at higher elevations in this area, and would be unlikely to occur



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Source: Imagery, NAIP 2012.

Figure 3.3-1
Biological Resources and Communities in the Project Area

adjacent to the Carmel River (Rana Creek Habitat Restoration 2004) but the one coast live oak stand in Lot 130 may be remnant of habitat that would have been more pervasive in the project area prior to development of the golf course. Other tree species present on the golf course include scattered Monterey pines, European white birch (*Betula pendula*), red alder (*Alnus rubra*), box elder (*Acer negundo*), red bottlebrush (*Callistemon citrinus*) and non-native pines (*Pinus* spp.), which appear to be planted.

Golf turf and landscaped areas have lower value for wildlife because of the greater amount of human disturbance and maintenance of vegetation in these areas. Wildlife species that use these areas are typically adapted to human disturbance. Wildlife species associated with urban/suburban areas include western scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), rock dove (*Columba livia*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), western fence lizard (*Sceloporus occidentalis*), and gopher snake (*Pituophis melanoleucus*) (Mayer and Laudenslayer 1988). Within the study area, the quality of the golf course as habitat for wildlife is improved due to the presence of large, mature trees, ponds, an adjacent creek with riparian vegetation, and patches of natural vegetation within the golf turf.

Monterey Pine Stands

Monterey pine stands are found on the golf course area and in a small 0.1-acre stand on the Hatton Parcel. The understory of the stand on the Hatton Parcel consists of open coyote brush scrub (see description below), while the understory of the stands on the golf course consist of non-native grasses common in the golf turf areas.

Native Monterey pine forest is considered a sensitive community by the California Department of Fish and Wildlife (California Department of Fish and Game 2010). Thus, a key consideration for impact analyses is whether or not a pine forest stand (or the individual Monterey pine trees within a stand) is native or not.

The stands on the golf course and in the Hatton Parcel are not considered undeveloped native stands based on review of prior studies of the historic native extent of Monterey pine forests (Huffman and Associates 1994; Jones & Stokes 1994), none of which indicated native Monterey pine forest in this part of Carmel Valley between Carmel Valley Road and the Carmel River.

Mapping of extant Monterey pine forest conducted in 1994 (Jones & Stokes 1994) reports that the study area and vicinity contain scattered Monterey pine with up to 20% canopy cover as an overstory in golf courses, urban parks, and other developed areas. Small and fragmented Monterey pine stands in golf courses and urban areas have greatly reduced conservation value relative to large areas of Monterey pine forest. Their small size and the nature of the surrounding land use disrupt natural disturbance regimes, such as fire, and increase the influx of non-native invasive species.

While definitive proof of the origin of the Monterey pines on the golf course and the Hatton Parcel has not been found, the most reasonable interpretation of the information available is that the trees are not a remnant of a native stand and were planted at some point in the past. Thus, the genetic origin of the trees present today is unknown; they could be from native local stock or could be from non-native Monterey pine stock from outside the local area.

Because the Monterey pine stands are scattered and limited in size, habitat suitability for wildlife species in this vegetation community is similar to that described in the *Golf Turf and Landscaping*

section above. Wildlife species that would occur in the golf turf and landscaped areas vegetation community would also occur in the Monterey pine stands within and adjacent to golf turf and landscaped areas.

Coyote Brush Scrub

Coyote brush scrub is primarily found along the northern edge and northeast corner (Hatton Parcel) of the project area (**Figure 3.3-1**). Two distinct types of coyote brush scrub are present in the project area: dense and open stands.

Dense, intact, coyote brush scrub is found only on the Hatton Parcel, and covers approximately 1.5-acres. In this area, coyote brush forms a dense stand, and is associated with poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), sticky monkeyflower (*Mimulus aurantiacus*), California rose (*Rosa californica*), California sage (*Artemisia californica*), and poison hemlock. Non-native grasses and forbs such as soft brome (*Bromus hordeaceus*) and bull thistle (*Cirsium vulgare*) are found in openings in this community. Native grasses and forbs, including beardless ryegrass (*Leymus triticoides*), blue wildrye (*Elymus glaucus*), and spreading rush (*Juncus patens*), are common in this community.

Open, disturbed, coyote brush scrub is found on most of the Hatton Parcel, along the northern edge of the project area, adjacent to the bridge over the Carmel River, along Rio Road west, and in small patches within the golf course in the project area (9.4 acres) (**Figure 3.3-1**). These stands consist of more widely scattered coyote brush individuals, and an herbaceous understory dominated by non-native weedy species, such as poison hemlock and summer mustard (*Hirshfeldia incana*). One area of open coyote brush scrub, in the northeast portion of the Hatton Parcel, has a substantial component of native grasses to the understory, including foothill needlegrass (*Nasella lepida*) and creeping wild-rye. Native sedge (*Carex* spp.) and rush (*Juncus* spp.) species are also present in this area, as are scattered coast live oak (*Quercus agrifolia*) trees.

The dense coyote brush scrub on the Hatton Parcel in the project area provides 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*). The open areas of coyote brush scrub 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 black-tailed jackrabbits (*Lepus californicus*), which use the area beneath coyote brush for cover (Zeiner et al. 1988, 1990b).

Wetland

A wetland is located in a depression near the center of the project area (**Figure 3.3-1**). This wetland area is approximately 0.3 acre in extent (see *California Bulrush Wetland* section below). In 2005 the wetland comprised a dense stand of cattails (*Typha* spp.); however, the survey conducted by ICF International in 2014 found that the majority of the pond was dominated by California bulrush (*Schoenoplectus californicus*) intermixed with smaller patches of cattails. Due to its vegetation composition, it is assumed that this wetland is permanently inundated.

Wetland vegetation that accompanies open water provides cover for amphibians and substrate for attaching eggs. Large areas of wetland vegetation can provide nesting substrate for some species of

birds such as red-winged blackbird (*Agelaius phoeniceus*) and tri-colored blackbird (*A. tricolor*). This wetland provides cover for dispersing amphibians and when it contains open water for a sufficient duration, it provides suitable breeding habitat for amphibians. This wetland also appears large enough to support non-listed nesting birds.

Ponds

Three large golf course ponds are present in the project area (**Figure 3.3-1**). All three ponds are human-made, unlined, and serve as features of the golf course. Two ponds are located along the western edge of the project area (ponds 1 and 2) and a third pond (pond 3) is located just northeast of the two ponds. Prior to the October 6, 2005 site visit, the lining of ponds 1 and 2 had been punctured and the water had been naturally drained. These ponds only retain water when the actively replenished or from rainfall/runoff. Pond 1 had a 50-foot by 80-foot pooled area that was approximately 1 to 2-feet deep during the October 2005 site visit; however during the August 2014 site visit the pond was dry. Pond 2 was dry at the time of surveys in both 2005 and 2014. Neither pond currently supports emergent wetland vegetation. Pond 3 was only partially inundated during 2004 and 2005 during survey conducted by Rana Creek Habitat Restoration and ICF, respectively. Surveys conducted by both Zander Associates and ICF International in 2014 found no evidence of California bulrush vegetation or ponding. It is unlikely that these ponds would become inundated again due to the deteriorated pond linings and the colonization of the pond interiors by saplings of cottonwoods and willows, as well as upland grasses and shrubs, and non-native pampas grass (*Cortaderia jubata*) and poison hemlock (*Conium maculatum*) (Zander Associates 2014). Riparian vegetation grows sparsely along the banks of all three ponds, which could provide cover to amphibians. If these ponds were to become substantially ponded again, they would be considered lower quality wildlife habitat due to the relative lack of vegetation along their edges and the absence of emergent vegetation.

Common Wildlife

In surveys conducted to date, the following common wildlife species have been observed on the project site (Rana Creek Habitat Restoration 2004.

- **Birds**—red-winged blackbird, mallard (*Anas platyrhynchos*), western scrub jay, great blue heron (*Ardea Herodias*), lesser scaup (*Aythya affinis*), Canada goose (*Branta Canadensis*), great horned owl (*Bubo virginianus*), bufflehead (*Bucephala albeola*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), California quail (*Callipepla californica*), Anna's hummingbird (*Calypte anna*), turkey vulture (*Cathartes aura*), wrentit (*Chamaea fasciata*), killdeer (*Charadrius vociferous*), northern flicker (*Colaptes auratus*), American crow (*Corvus brachyrhynchos*), Stellar's jay (*Cyanocitta stelleri*), yellow-rumped warbler (*Dendroica coronate*), snowy egret (*Egretta thula*), brewer's blackbird (*Euphagus cyanocephalus*), American coot (*Fulica Americana*), dark-eyed junco (*Junco hyemalis*), western gull (*Larus occidentalis*), Nuttall's woodpecker (*Picoides nuttallii*), California towhee, spotted towhee, pied-billed-grebe (*Podilymbus podiceps*), chestnut-backed chickadee (*Poecile rufescens*), common bushtit (*Psaltriparus minimus*), black phoebe (*Sayornis nigricans*), white-breasted nuthatch (*Sitta carolinensis*), western meadowlark (*Sturnella neglecta*), American robin, mourning dove, and the golden-crowned sparrow (*Odocoileus hemionus columbianus*), and several non-native birds (European starling (*Sturnus vulgaris*), English sparrow (*Passer domesticus*), and rock dove (*Columba livia*).

- **Mammals**—coyote (*Canis latrans*), California vole (*Microtus californicus*), black-tailed deer (*Odocoileus hemionus columbianus*), California ground squirrel (*Otospermophilus beecheyi*), raccoon (*Procyon lotor*), western gray squirrel (*Sciurus griseus*), and Botta's pocket gopher (*Thomomys bottae*).
- **Reptiles/Amphibians**—Western fence lizard, American bullfrog (non-native) (*Rana catesbeiana*), western toad (*Anaxyrus boreas*), and Pacific treefrog (*Pseudacris regilla*).

It is likely that other common wildlife species such as a variety of bird species, raccoon (*Procyon lotor*), opossum (*Didelphimorphia*), skunk and others are also present in the project site.

Sensitive Natural Communities

Three sensitive natural communities, riparian forest and woodland, California bulrush (*Scirpus californicus*) wetland and coast live oak woodland, were identified in the project area.

Riparian Forest and Woodland on the Project Site

Riparian forest and woodland is found in three portions of the project area. The largest area of riparian woodland is located along the Carmel River. A band of riparian forest approximately 20-feet in width is present along Intermittent Drainage 1, which flows north-south along the western edge of the project area from a culvert in the vicinity of the proposed Rio Road extension and into the Carmel River. In addition, a narrow band (approximately 15-feet wide) of riparian forest is present along Intermittent Drainage 2, which flows from a culvert near the main entrance to the golf course and a church, adjacent to the "Play or Pray" sign. A patch of arroyo willow riparian forest is located adjacent to this drainage at the base of the south-facing slope.

Riparian woodland along the Carmel River is characterized by a mix of riparian tree species including arroyo willow, black cottonwood, and western red dogwood. Understory plant include creeping snowberry (*Symphoricarpos mollis*), horsetails (*Equisetum arvense*) and poison oak as well as and non-native species, notably Cape ivy (*Senecio mikanioides*).

Riparian woodland along the western edge of the project area is dominated by arroyo willow and red willow in the overstory. Black cottonwood is also present. The understory consists of native species such as stinging nettles, soft rush (*Juncus effusus*), and California blackberry, as well as non-native species such as nasturtium (*Tropaeolum majus*) and poison hemlock.

Riparian woodland near the main entrance to Rancho Cañada is dominated by arroyo willow in the overstory. Understory species include natives such as California bulrush (*Scirpus californicus*), soft rush, and tall flatsedge (*Cyperus eragrostis*), as well as non-natives such as French broom (*Genista monspessulana*), fennel (*Foeniculum vulgare*), and pampas grass (*Cortaderia jubata*).

Several types of riparian forest and woodland are considered sensitive by DFW (California Department of Fish and Game 2010). Sensitive riparian forest and woodland types present in the project area include arroyo willow thickets and black cottonwood forest.

Because the vegetation is diverse and well developed, riparian forest provides high value habitat for wildlife, including several special-status species. Riparian forest habitat provides food, water, and migration and dispersal corridors, as well as escape, nesting, and thermal cover for many wildlife species (Mayer and Laudenslayer 1988). Invertebrates, amphibians, and aquatic reptiles live in the riparian forest and associated aquatic habitat. Raptors, herons, egrets, and other birds nest in the

upper canopy. A variety of songbirds use the shrub canopy as do cavity-nesting birds, such as Nuttall's woodpecker (*Picoides nuttallii*) and oak titmouse (*Baeolophus inornatus*); occupy dying trees and snags (Zeiner et al. 1990a). Several mammals including raccoons, Virginia opossum, and striped skunks are common in riparian habitats (Zeiner et al. 1990b).

Riparian Vegetation along the Carmel River

Riparian vegetation along the Carmel River has been affected by a number of important natural and human-induced events.

The most important natural events that have affected riparian vegetation include floods and droughts. Major floods cause bank erosion and loss of riparian vegetation, but perhaps more importantly, they may also affect channel form and depth.

Droughts have probably had a substantial effect on riparian vegetation; however, the effect of droughts cannot be separated fully from human activities. To what extent the drawdown was the result of pumping or of the natural effect of drought cannot be determined. However, an analysis of simulated unimpaired flows for 1977 using the Monterey Peninsula Water Management District's (MPWMD's) Carmel Valley Simulation Model (CVSIM) model shows that the river would have been dry at the U.S. Geological Survey (USGS) "Near Carmel" gauge site (river mile [RM] 3.6) without the presence of dams and pumping wells.

The major human-induced changes that have affected the riparian vegetation include encroachment on the riparian vegetation as the result of farming, housing development, and golf course construction. In addition, installation of bank protection has reduced lateral movement of the river. The dams have relatively small reservoirs that have relatively little effect on flood peaks. Diversions and groundwater pumping have caused the once perennial river to become characteristically dry in late summer. However, reservoir releases also periodically cause increased flows in reaches below the dams that otherwise would be dry. The dams also trap sediment, which has led to downstream channel incision (Curry and Kondolf 1983). Groundwater pumping by Cal-Am and others has been identified as a major impact on riparian vegetation (McNeish 1986, 1989).

Groeneveld and Griepentrog 1985 have demonstrated that groundwater pumping has led to local riparian vegetation mortality. This mortality has been associated with local bank erosion.

California Bulrush Wetland

The California bulrush wetland is located near the northwest portion of the project area. Vegetation in this wetland consists of a dense stand of California bulrush with smaller patches of cattails interspersed. California bulrush wetland is considered a sensitive natural community by DFW (California Department of Fish and Game 2010).

As described in more detail above (see *Wetland* section above) this wetland functions as a wildlife habitat. It provides suitable breeding habitat and cover for amphibians and may support nesting birds including tricolored blackbird. It is assumed that this wetland is permanently inundated.

Coast Live Oak Woodland

Coast live oak woodland is located near the northeastern boundary of Lot 130 (**Figure 3.3-1**). The woodland comprises a small, approximately 0.8-acre, open stand of trees, but extends beyond the Project boundary. Vegetation in this area is comprised of coast live oak trees, with occasional black

acacia saplings, arroyo willow and Fremont cottonwood trees. The woodland contains a very sparse understory comprised mainly of leaf litter, with occasional toyon (*Heteromeles arbutifolia*) and poison oak (*Toxicodendron diversilobium*) shrubs.

Because the coast live oak woodland is limited in size, habitat suitability for wildlife species is limited, but could support nesting migratory birds, such as northern mockingbird, California towhee (*Melozone crissalis*), Brewer's blackbird, Western scrub jay, American robin, white-tailed kite, as well as Monterey dusky-footed woodrat. Coast live oak woodland also provides cover for dispersing wildlife, but because of its spare understory is unlikely to provide enough cover for amphibians. It is assumed this habitat is used as part of a dispersal corridor between the RCGC and the habitat north of Carmel Valley Road.

Carmel Middle School Hilton-Bialek Biological Sciences Project

The Carmel Middle School (CMS) operates an environmental education project called the Hilton-Bialek Biological Sciences Project on land on the east side of the school and also uses land on the Stemple Parcel and on land (the Hatton Parcel) used by the Rancho Cañada Golf Club. The lands used by the environmental education project are also referred to as the "Hilton-Bialek Habitat."

The land used for the biological sciences project on the school property includes an area northwest of the Hatton Parcel (see **Figure 3.3-1**) that contains annual grassland, a small (<0.05 acre) perennial pond/wetland (with supplied water), an organic garden, a small area of scrub, an amphitheater, classrooms, and a greenhouse, among other facilities. This profile of the school property area is based on **Figure 3.3-1** and observance from the adjacent area, but the habitats on the school were not specifically inventoried for this impact analysis.

The land used for the biological sciences project on the Hatton Parcel (which is within the project area) and the vegetation cover for this area is shown on **Figure 3.3-1**. According to the director of the biological sciences project (Hohenberger pers. comm.), the school has an informal arrangement with the owner of these off-school parcels to conduct environmental education activities in these areas. A labeled trail system is present in the Stemple Parcel and the Hatton Parcel, and there are bird boxes present within these off-school areas that have been placed in association with the biological sciences project.

As part of the environmental education project, bird counts have been periodically conducted in the biological sciences project area (presumably including both lands on and off the school property). According to a June 2007 bird list (Carmel Middle School 2007 included in **Appendix C**) provided by the director of the biological sciences project, approximately 176 different species of birds have been recorded by the project, including 11 species which were noted as being recorded in the adjacent Rancho Cañada Golf Club (apparently in association with the Carmel River). According to this list, direct evidence of breeding of 31 bird species and indirect evidence of breeding of an additional 31 bird species was observed. None of the identified 31 bird species with direct evidence of breeding fill the definition of a "Special-Status Species" described below. One of the 31 bird species identified with indirect evidence of breeding does fit the Special-Status Species definition: the grasshopper sparrow (*Ammodramus savannarum*) is identified as a species of special concern by the DFW when nesting. Of the other 144 bird species identified without direct or indirect evidence of breeding, 19 bird species fit the Special-Status Species definition in relation to nesting or wintering (15 species when nesting, 3 species only when rookeries or nesting colonies are present, and 1 species only when wintering).

Special-Status Species

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

- Species listed or proposed for listing as threatened or endangered under the ESA (Title 50, Code of Federal Regulations [CFR], Section 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the *Federal Register* [FR] for proposed species).
- Species that are candidates for possible future listing as threatened or endangered under ESA (72 FR 69034, December 6, 2007).
- Species that are listed or proposed for listing by the State of California as threatened or endangered under CESA (Title 14, California Code of Regulations [CCR], Section 670.5).
- Plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.).
- Plants considered by CNPS to be "rare, threatened, or endangered in California and elsewhere" (List 1B, 2, and 3) (List 4 species were included and evaluated in the impact analysis to determine whether they should be considered special-status species for the purposes of this Recirculated Draft EIR).
- Species that meet the definition of *rare* or *endangered* under the State CEQA Guidelines (Section 15380).
- Animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Animal species of special concern to DFW (California Department of Fish and Game 2007; Remsen 1978 [birds]; Williams 1986 [mammals]; and Jennings and Hayes 1994 [amphibians and reptiles]).

A description of special-status plants, wildlife, and fish species that have the potential to occur in the project area is provided below.

Special-Status Plants

A review of the CNDDB database did not reveal any documented records of special-status plants in the project area; however, based on all the sources reviewed during the pre-field investigation, 52 special-status plant species are known to occur in the region (**Table 3.3-3**). Of these 52 species, 32 species do not have suitable habitat in the project area (e.g., chaparral habitat). The remaining 20 species that could potentially occur in the project area, occupy dense coyote brush scrub and coast live oak woodland habitat, which are restricted to the project area and Lot 130, respectively.

Table 3.3-3. Special-Status Plant Species Identified as Potentially Occurring in the Project Vicinity

Common and Scientific Name	Legal Status[1] Federal/ State/CNPS	Habitat Requirements	Habitat Present / Absent	Likelihood to occur within Project Area[2]
Species With Habitat Present in the Project Area				
Hickman's onion *Allium hickmanii*	–/–/1B.2	Closed-cone coniferous forest, maritime chaparral, coastal prairie, coastal scrub, valley and foothill grassland, generally +/- 150 feet	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species.
Hooker's manzanita *Arctostaphylos hookeri* ssp. *hookeri*	–/–/1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub on sandy substrate	Present	None. Manzanitas were not observed in the project area.
Monterey manzanita *Arctostaphylos montereyensis*	–/–/1B.2	Chaparral, cismontane woodland, coastal scrub, sandy soils	Present	None. Manzanitas were not observed in the project area.
Sandmat manzanita *Arctostaphylos pumila*	–/–/1B.2	Openings in closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub, in sandy areas	Present	None. Manzanitas were not observed in the project area.
Pink Johnny-nip *Castilleja ambigua* var. *insalutata*	–/–/1B.1	Coastal prairie, coastal scrub	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species.
Monterey spineflower *Chorizanthe pungens* var. *pungens*	T/–/1B.2	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland, sandy soils	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species.

Common and Scientific Name	Legal Status[1] Federal/ State/CNPS	Habitat Requirements	Habitat Present / Absent	Likelihood to occur within Project Area[2]
Jolon clarkia *Clarkia jolonensis*	–/–/1B.2	Cismontane woodland	Present	Low. Cismontane woodland habitat is present in the northeastern corner of Lot 130. This area is unlikely to provide habitat because of the presence of invasive species and very sparse understory.
San Francisco collinsia *Collinsia multicolor*	–/–/1B.2	Closed-cone coniferous forest, coastal scrub	Present	None. Species was not identified during March 2004 or May 2005 surveys.
Hutchinson's larkspur *Delphinium hutchinsoniae*	–/–/1B.2	Broad-leaved upland forest, chaparral, coastal prairie, coastal scrub, usually on west-facing slopes.	Present	None. Species was not identified during March 2004 or May 2005 surveys.
Eastwood's goldenbush *Ericameria fasciculata*	–/–/1B.1	Sandy soils and openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, coastal scrub	Present	None. Species was not identified during March 2004 or May 2005 surveys.
Coast wallflower *Erysimum ammophilum*	–/–/1B.2	Sandy soils and openings in maritime chaparral, coastal dunes, and coastal scrub	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species.
Fragrant fritillary *Fritillaria liliacea*	–/–/1B.2	Adobe soils of interior foothills, cismontane woodland, coastal prairie, coastal scrub, annual grassland, often on serpentinite, below 1,350 feet	Present	Low. The species was not identified during the April 26, 2006 survey of the Proposed Project area, but surveys have not occurred during the blooming period in the non-overlapping 130-Unit Alternative area. Therefore, the cismontane woodland habitat, in the northeastern corner of Lot 130 provides low-quality habitat.

Common and Scientific Name	Legal Status[1] Federal/ State/CNPS	Habitat Requirements	Habitat Present / Absent	Likelihood to occur within Project Area[2]
Sand gilia *Gilia tenuiflora* ssp. *arenaria*	E/T/1B.2	Sandy soils in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub. In bare, wind-sheltered areas, often near the dune summit or in hind dunes	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species.
San Francisco gumplant *Grindelia hirsutula* var. *maritima*	–/–/1B.2	Coastal bluff scrub, coastal scrub, sandy soils on serpentine grassland	Present	None. Species was not identified during March 2004 or May 2005 surveys.
Kellogg's horkelia *Horkelia cuneata* ssp. *sericea*	–/–/1B.1	Openings in closed-cone coniferous forest, coastal scrub, maritime chaparral, on sandy or gravelly soils	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species.
Marsh microseris *Microseris paludosa*	–/–/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland, below 1,500 feet	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species. Cismontane woodland habitat is present in the northeastern corner of Lot 130, but species was not identified during August 20, 2014 survey.
Northern curly-leaved monardella *Monardella sinuate* ssp. *nigrescens*	–/–/1B.2	Coastal dunes, coastal scrub	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species.

Common and Scientific Name	Legal Status[1] Federal/ State/CNPS	Habitat Requirements	Habitat Present / Absent	Likelihood to occur within Project Area[2]
Monterey pine (native stands) *Pinus radiata*	–/–/1B.1	Closed-cone coniferous forest, cismontane woodland	Present.	Low. 0.2 acre of Monterey Pine forest identified in the Hatton Parcel, but this stand is likely to be introduced. Monterey pine stands are not present on Lot 130.
Maple-leaved checkerbloom *Sidalcea malachroides*	–/–/4.2	Coastal scrub, perennial grassland, Redwood forest, Douglas-fir forest, in open, often disturbed areas, 5–2,300 feet	Present	None. May be present in coastal scrub outside of Hatton Parcel.
Santa Cruz microseris *Stebbinsoseris decipiens*	–/–/1B.2	Open areas in broad-leaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, and coastal scrub, sometimes serpentinite	Present	None. Coastal scrub habitat is present in Hatton Parcel, but species was not identified during May 31, 2005 survey. Remaining coastal scrub areas are unlikely to provide habitat because they are open and dominated by ruderal species.
Species Without Habitat Present in the Project Area				
Little Sur manzanita *Arctostaphylos edmundsii*	–/–/1B.2	Coastal bluff scrub, chaparral on sandy substrate	Absent	None
Pajaro manzanita *Arctostaphylos pajaroensis*	–/–/1B.1	Chaparral, in sandy areas	Absent	None
Twisted horsehair lichen Bryoria spiralifera	–/–/1B.1	Grows on conifers in Northern Coast coniferous forest	Absent	None
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	–/–/1B.2	Annual grassland, on lower slopes, flats, and swales, sometimes on alkaline or saline soils, below 700 feet	Absent	None
Coastal dunes milk-vetch *Astragalus tener* var. *titi*	E/E/1B.1	Coastal bluff scrub, coastal dunes	Absent	None
Robust spineflower *Chorizanthe robusta* var. *robusta*	E/–/1B.1	Coastal bluff scrub, coastal dunes openings in cismontane woodland, on sandy soil	Absent	None
Seaside bird's-beak *Cordylanthus rigidus* ssp. *littoralis*	–/E/1B.1	Sandy soils of stabilized dunes in maritime chaparral and closed-cone coniferous forest.	Absent	None
Branching beach aster *Corethrogyne leucophylla*	–/–/3.2	Closed-cone coniferous forest, coastal dunes	Absent	None
Gowen cypress *Cupressus goveniana* ssp. *goveniana*	T/–/1B.2	Closed-cone coniferous forest	Absent	None

Common and Scientific Name	Legal Status[1] Federal/ State/CNPS	Habitat Requirements	Habitat Present / Absent	Likelihood to occur within Project Area[2]
Monterey cypress *Cupressus macrocarpa*	–/–/1B.2	Closed-cone coniferous forest	Absent	None
Hospital canyon larkspur *Delphinium californicum* ssp. *interius*	–/–/1B.2	Openings in chaparral, mesic areas in cismontane woodland, and costal scrub	Absent	None.
Pinnacles buckwheat *Eriogonum nortonii*	–/–/1B.3	Sandy soils in chaparral, valley and foothill grassland, often on recent burns	Absent	None.
Menzies's wallflower *Erysimum menziesii* ssp. *menziesii*	E/E/1B.1	Localized on coastal dunes, on coastal strand areas in coastal scrub below 115 feet, blooms Mar–Jun	Absent	None
Santa Lucia bedstraw *Galium clementis*	–/–/1B.3	Lower and upper montane coniferous forest on granitic or serpentinite, rocky substrates	Absent	None
Contra Costa goldfields *Lasthenia conjugens*	E/–/1B.1	Alkaline or saline vernal pools and swales, below 700 feet	Absent	None
Beach layia *Layia carnosa*	E/E/1B.1	Coastal dunes. Hugely reduced in range along California's North Coast dunes.	Absent	None
Coast yellow leptosiphon *Leptosiphon croceus*	–/–/1B.1	Coastal bluff scrub, coastal prairie	Absent	None
Tidestrom's lupine *Lupinus tidestromii*	E/E/1B.1	Coastal dunes	Absent	None
Carmel Valley bush mallow *Malacothamnus palmeri* var. *involucratus*	–/–/1B.2	Chaparral, oak woodland, talus hilltops and slopes, 100–2,200 feet	Absent	None
Santa Lucia bush mallow *Malacothamnus palmeri* var. *palmeri*	–/–/1B.2	Rocky places in chaparral	Absent	None
Carmel Valley cliff-aster *Malacothrix saxatilis* var. *arachnoidea*	–/–/1B.2	Rocky areas in chaparral	Absent	None
Mt. Diablo cottonweed *Micropus amphibolus*	–/–/3.2	Bare grassy rocky slopes in broad-leaved upland forest, cismontane woodland, valley and foothill grassland	Absent	None
San Antonio Hills monardella *Monardella antonina* ssp. *antonina*	–/–/3.2	Chaparral, oak woodland, open rocky slopes, 1,500–4,000'	Absent	None

Common and Scientific Name	Legal Status[1] Federal/ State/CNPS	Habitat Requirements	Habitat Present / Absent	Likelihood to occur within Project Area[2]
Woodland woolythreads *Monolopia gracilens*	–/–/1B.2	Openings in broadleaf upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grasslands, on serpentine soils.	Absent	None.
Yadon's rein orchid *Piperia yadonii*	E/–/1B.1	Coastal bluff scrub, closed-cone coniferous forest, maritime chaparral, on sandy soils	Absent	None
Hooked popcorn-flower *Plagiobothrys uncinatus*	–/–/1B.2	Chaparral, cismontane woodland, valley and foothill grassland, on sandstone outcrops and canyon sides.	Absent	None.
Hickman's cinquefoil *Potentilla hickmanii*	E/E/1B.1	Freshwater marshes, seeps, and small streams in open areas in coastal bluff scrub or coniferous forest	Absent	None
Pine rose *Rosa pinetorum*	–/–/1B.2	Closed-cone coniferous forest	Absent	None
California screw-moss *Tortula californica*	–/–/1B.2	Chenopod scrub, valley and foothill grassland/sandy soil	Absent	None
Santa Cruz clover *Trifolium buckwestiorum*	–/–/1B.1	Moist grassy areas on margins of broad-leaved upland forest, cismontane woodland, and coastal prairie, sometimes in disturbed areas, 200–1,800 feet	Absent	None
Pacific Grove clover *Trifolium polyodon*	–/R/1B.1	Closed-cone coniferous forest, coastal prairie, meadows and seeps	Absent	None
Monterey clover *Trifolium trichocalyx*	E/E/1B.1	Closed-cone coniferous forest	Absent	None

1
2

Notes for Table 3.3-3

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.
– = 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 Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.
– = no listing.

California Native Plant Society (CNPS) – California Rare Plant Ranking System

1A = List 1A species: presumed extirpated in California and either rare or extinct elsewhere.
1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
2A = List 2A species: presumed extirpated in California, but more common elsewhere
2B = List 2B species: rare, threatened, or endangered in California but more common elsewhere.
3 = List 3 species: plants about which more information is needed to determine their status.
4 = List 4 species: plants of limited distribution.
– = no listing.

Threat Code extensions

.1 = Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 = Fairly threatened in California (20-80% of occurrences threatened; moderate degree and immediacy of threat)
.3 = Not very threatened in California (less than 20% of occurrences threatened or no current threats known)

[2] Definitions of levels of occurrence likelihood:

High: Known occurrence of plant in region from the California Natural Diversity Database (CNDDB), or other documents in the vicinity of the project; or presence of suitable habitat conditions and suitable microhabitat conditions.
Moderate: Known occurrence of plant in region from the CNDDB, or other documents in the vicinity of the project; or presence of suitable habitat conditions but suitable microhabitat conditions are not present.
Low: Plant not known to occur in the region from the CNDDB, or other documents in the vicinity of the project; or habitat conditions of poor quality.
None: Plant not known to occur in the region from the CNDDB, or other documents in the vicinity of the project; or suitable habitat not present in any condition.

Of the 19 species with potential to be present in the project area, 17 have the potential to occur in the project area. Botanical surveys were conducted by Dale Hameister and Erin Avery on March 17, 2004 or May 31, 2005 and 16 of the 17 species would have been apparent (as these surveys were conducted during the blooming period for these species). The one remaining species, fragrant fritillary (*Fritillaria liliacea*) was not in bloom at the time of the 2004 and 2005 botanical surveys. A seasonally timed third survey was conducted for the fragrant fritillary (*Fritillaria liliacea*) during its published blooming period of February through April in 2006. During this survey, conducted by Erin Avery on April 26, 2006, the fragrant fritillary was not found to occur in the upland portion of the Hatton Parcel, in intact coyote scrub habitat, where it would likely have been present.

Of the species with potential to be present in the project area, 5 have the potential to occur on coast live oak woodland habitat in Lot 130 in the 130-Unit Alternative site. A botanical survey was conducted by ICF botanist Torrey Edell on August 20, 2014, and 3 species (*Arctostaphylos* spp.) would have been apparent. The remaining two species, jolon clarkia (*Clarkia jolonensis*) and fragrant fritillary, were not in their blooming period at the time of the 2014 botanical survey.

Two species that were not in bloom during botanical surveys conducted for the Proposed Project and the 130-Unit Alternative are described in greater detail below. Additionally, Monterey pine (*Pinus radiata*), which is a 1B.1 special-status plant species is present in the Proposed Project and 130-Unit Alternative, with the exception of Lot-130.

Jolon Clarkia

Jolon clarkia is an annual herb that blooms between April and July. It would not have been in bloom at the time of the ICF biological surveys of the 130-Unit Alternative area on August 20, 2014. A total of 21 occurrences of this species have been recorded in the Monterey Bay area, the most recent of which was last observed in 1995. The only documented occurrence of the vicinity of the project area was near Carmel Bay, approximately 1.5 miles west of Carmel Valley. The occurrence at this location was last seen in 1903, but is presumed to be extant (California Department of Fish and Wildlife 2014). This species is considered to have a potential to occur on the project area.

Fragrant Fritillary

Fragrant fritillary is a bulb that blooms between February and April. It would not have been in bloom at the time of ICF's survey of the 130-Unit Alternative area on August 20, 2014. The only documented occurrence of this species in the project area is attributed to several collections from the Monterey, Carmel, and Pebble Beach area. The occurrence at this location was last seen in 1940 and is presumed to be possibly extirpated (California Department of Fish and Wildlife 2014). This species has the potential to occur in the coast live oak woodland habitat in Lot 130. As described under *Special-Status Plants* above a survey for this species was already conducted in suitable habitat within the Proposed Project area and this species was not documented.

Monterey Pine

Monterey pine trees have a California Rare Plant Rank of 1B.1 (California Department of Fish and Wildlife 2014), but the species is not listed as rare, threatened, or endangered by the state or federal government. Monterey pine trees have been planted on the golf course as landscaping. As discussed under the Monterey Pine Stands Section above, these Monterey pine trees are not remnants of past native stands and thus in this context, are considered non-native vegetation.

Special-Status Wildlife and Fish

Based on a review of species information from state and federal agencies and existing information related to the project area as described above under the *Approach and Methodology* section, 38 special-status wildlife and fish species were identified as having the potential to occur in the project vicinity (**Table 3.3-4**). Of these 38 species, 23 were eliminated from further consideration because suitable habitat for these species is not present within the project area and/or the project area is located outside of the species' known range. The project area contains habitat for the following 15 special-status wildlife and fish species, as shown in Table 3.3-4.

Each of the special-status wildlife species with potential to occur on site is discussed below. Special-status fish species are discussed separately below.

California Red-legged Frog

The CRLF is listed as threatened under the federal ESA and is a California species of special concern. The project area appears to be immediately north and west of the currently designated revised critical habitat unit MNT-2 for CRLF (75 *Federal Register* [FR] 12816–12959, March 17, 2010). The frog is known from isolated locations in the Sierra Nevada, northern Coast, and northern Transverse Ranges. It is relatively common in the San Francisco Bay area and along the central coast. CRLF is believed to be extirpated from the floor of the Central Valley. (FWS 2002)

CRLF use a variety of habitat types, which include various aquatic systems, riparian, and upland habitats (FWS 2002). However, these frogs may complete their entire life cycle in a pond or other aquatic site that is suitable for all life stages. CRLF inhabit marshes; streams; lakes; ponds; and other, usually permanent, sources of water that have dense riparian vegetation (Stebbins 2003).

As adults, CRLF are highly aquatic when active but depend less on permanent water bodies than do other frog species (Brode and Bury 1984). Adults may take refuge during dry periods in rodent holes or leaf litter in riparian habitats (FWS 2002) or in large cracks in the bottom of dried ponds (Alvarez 2004). Although red-legged frogs typically remain near streams or ponds, marked and radio-tagged frogs have been observed to move more than 2 miles through upland habitat. These movements are typically made during wet weather and at night. (FWS 2002)

CRLF have been reported from several relatively isolated, although widely distributed locations, along the Carmel River. This Carmel River population has been identified by the U.S. Fish and Wildlife Service (FWS) as a core population, targeted for development and implementation of a management plan. (FWS 2002).

The FWS designated critical habitat for the CRLF from on March 17, 2010 (75 FR 12816–12959). Most of the Carmel River watershed was included in critical habitat unit MNT-2 and includes the western half of the West Course of the Rancho Cañada Golf Club. Only a few localities in California have been identified with more than 350 adults; one of these is Rancho San Carlos, a private ranch on the upper portion of the Carmel River Valley (FWS 2002).

Table 3.3-4. Special-Status Wildlife and Fish Species with Potential to Occur in the Project Vicinity

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Species with Suitable Habitat in Project Area				
California red-legged frog *Rana aurora draytoni*	T/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County	Permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods	Carmel River provides suitable habitat; ponds 1, 2, and 3 may provide suitable breeding habitat depending on length of inundation. Anecdotal reference to CRLF sightings in Intermittent Drainage 2 and in pond on adjacent CMS biological project site (Hohenberger 2008).
Southwestern pond turtle *Clemmys marmorata pallida*	–/SSC	Occurs along the central coast of California east to the Sierra Nevada and along the southern California coast inland to the Mojave and Sonora Deserts; range overlaps with that of the northwestern pond turtle throughout the Delta and in the Central Valley	Occupies aquatic habitats, such as ponds, marshes, or streams, with rocky or muddy bottoms in woodlands, grasslands, and open forests. Also requires aquatic vegetation for cover and food. Nests in upland adjacent to aquatic habitat.	Ponds 1, 2, and 3 may provide suitable breeding habitat depending on length of inundation
Cooper's hawk *Accipiter cooperi*	–/SSC	Found in all parts of California except high altitudes in the Sierra Nevada; winters in the Central Valley, south-eastern desert regions, and the plains east of the Cascade Range; permanent resident throughout the lower 48 states.	Nests in riparian forests and dense canopy oak woodlands; forages in open woodlands.	May nest in or adjacent to project area. Reported non-nesting sighting in CMS Bird list (Carmel Middle School 2007).

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Sharp-shinned hawk (nesting) *Accipiter striatus*	–/SSC	Permanent resident in the Sierra Nevada, Cascade, Klamath, and north Coast Ranges, as well as along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties; winters over the rest of the state except at high elevations; breeds and winters throughout North America.	Found in riparian forests, conifer forests, and oak woodlands.	May nest in or adjacent to project area. Reported non-nesting sighting in CMS Bird list (Carmel Middle School 2007).
Olive-sided flycatcher *Contopus cooperi*	–/SSC	Summer resident and migrant in California. Found in most parts of California except the Central Valley from the Oregon border south along the coast and near-coastal mountains south to San Diego, and on higher portions of the Transverse, Peninsular, and Cascade mountains ranges and the Modoc Plateau.	Breeds in montane and northern coniferous forests, at forest edges and openings, such as meadows and ponds.	May nest in or adjacent to project area. Reported non-nesting sighting in CMS Bird list (Carmel Middle School 2007).
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	May nest in or adjacent to project area. Reported non-nesting sighting in CMS Bird list (Carmel Middle School 2007).
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	Could occur along edges of golf course; no ground squirrel burrows observed
Purple martin *Progne subis*	–/SSC	Coastal mountains south to San Luis Obispo County, west slope of the Sierra Nevada, and northern Sierra and Cascade ranges. Absent from the Central Valley except in Sacramento. Isolated, local populations in southern California	Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges	May nest in or adjacent to project area

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Yellow warbler *Dendroica petechia brewsteri* (nesting)	–/SSC	Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes along the eastern side of the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties. Two small permanent populations in San Diego and Santa Barbara Counties	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses	May nest in or adjacent to project area. Reported non-nesting sighting in CMS Bird list (Carmel Middle School 2007).
Tricolored blackbird *Agelaius tricolor*	–/E[2], SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony	Suitable habitat present in the California bulrush wetland. Reported non-nesting sighting in CMS Bird list (Carmel Middle School 2007).
Loggerhead shrike (nesting) *Lanius ludovicianus*	–/SSC	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches	Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter	Reported in CMS Bird List (Carmel Middle School 2007). May forage, but low likelihood to nest on site.
Grasshopper sparrow *Ammodranus savannarum*	–/SSC	Breeds from eastern Washington and southern British Columbia, east across portions of Canada and U.S. to Maine, and south to southern California, New Mexico, southern Texas, southeastern Arizona, and portions of northern Mexico and southeastern United States. Winters from southern U.S. to Costa Rica.	Found in prairies, old fields, open grasslands, cultivated fields, and savannas	Reported in CMS Bird List as having indirect of nesting (Carmel Middle School 2007). Nests in grassland which is limited on project site but present in adjacent areas.

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Pallid bat *Antrozous pallidus*	–/SSC	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts	May roost within large trees or forage in the project area
Monterey dusky-footed woodrat *Neotoma fuscipes luciana*	–/SSC	Occurs throughout Monterey and northern San Luis Obispo Counties where appropriate habitat is available	Coast live oak woodland and chaparral habitats with moderate canopy cover and moderate to dense understory and abundant deadwood for nest construction	Suitable habitat present along the Carmel River and intermittent drainages; woodrat nest observed along Intermittent Drainage 1
South Central California Coast Steelhead *Oncorhynchus mykis*s	T/–	The distinct population segment is located in coastal streams from Aptos Creek (Santa Cruz County) to Grover Beach in San Luis Obispo	Coastal streams	Suitable migratory and rearing habitat located in Carmel River. Spawning habitat upstream.

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Species with No Suitable Habitat Present in the Project Area				
California tiger salamander *Ambystoma californiense*	T/T	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy	Suitable habitat not present
Longhorn fairy shrimp *Branchinecta longiantenna*	E/–	Eastern margin of central Coast Ranges from Contra Costa County to San Luis Obispo County; disjunct population in Madera County	Small, clear pools in sandstone rock outcrops of clear to moderately turbid clay- or grass-bottomed pools	Suitable habitat not present
Conservancy fairy shrimp *Branchinecta conservatio*	E/–	Disjunct occurrences in Solano, Merced, Tehama, Ventura, Butte, and Glenn Counties	Large, deep vernal pools in annual grasslands	Suitable habitat not present
Vernal pool fairy shrimp *Branchinecta lynchi*	T/–	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools	Suitable habitat not present
Smith's blue butterfly *Euphilotes enoptes smithi*	E/–	Localized populations along the immediate coast and in coastal canyons of Monterey County; single populations reported in Santa Cruz and San Mateo Counties	Coastal dunes and hillsides that support seacliff buckwheat (*Eriogonum parvifolium*) or coast buck-wheat (*Eriogonum latifolium*); these plants used as a nectar source for adults and host plant for larvae	Suitable habitat not present
Tidewater goby *Eucyclogobius newberryi*	E/SSC	The tidewater goby, found only in California, historically occurred in at least 87 California coastal lagoons from San Diego County to Humboldt County.	Restricted to coastal brackish shallow lagoons and lower stream reaches where the water is fairly still but not stagnant.	Suitable habitat not present

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	E/E, FP	Three metapopulations and breeding sites in coastal areas of southern Santa Cruz County and northern Monterey County	Lifetime spent mostly underground in willow groves, coastal scrub, coast live oak, or riparian habitats; migrates to breeding ponds in early to late winter, and juveniles disperse from the pond in September	Project area is outside of species known range
Arroyo southwestern 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	Suitable habitat not present
Black legless lizard *Anniella pulchra nigra*	–/SSC	Monterey Bay region	Coastal dunes with native vegetation or chaparral, pine-oak woodland, or riparian areas with loose soil for burrowing	Suitable habitat not present
California brown pelican (nesting colony and communal roosts) *Pelecanus occidentalis californicus*	D/D, FP	Along the entire California coast; rare to uncommon on the Salton Sea; breeds on the Channel Islands	Estuarine, marine, subtidal, and marine pelagic waters along the coast. Rests on water, inaccessible rocks, mudflats, sandy beaches, wharfs, and jetties.	Suitable habitat not present
California condor *Gymnogyps californianus*	E/E, FP	Historically, rugged mountain ranges surrounding the southern San Joaquin Valley; currently, most individuals are in captive populations, but a few birds have been released in the rugged portions of the Los Padres National Forest	Requires large blocks of open savanna, grasslands, and foothill chaparral with large trees, cliffs, and snags for roosting and nesting	Suitable habitat not present

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Bald eagle *Haliaeetus leucocephalus*	D/E, FP	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean	Suitable habitat not present. Reported non-nesting sighting in CMS Bird list (Carmel Middle School 2007).
California clapper rail *Rallus longirostris obsoletus*	E/E, FP	Marshes around the San Francisco Bay and east through the Delta to Suisun Marsh	Restricted to salt marshes and tidal sloughs; usually associated with heavy growth of pickle-weed; feeds on mollusks removed from the mud in sloughs	Suitable habitat not present
Western snowy plover (coastal populations) *Charadrius alexandrinus nivosus* (nesting)	T/SSC	Population defined as those birds that nest adjacent to or near tidal waters, including all nests along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries. Twenty breeding sites are known in California from Del Norte to Diego County	Coastal beaches above the normal high tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent	Suitable habitat not present
California least tern (nesting colony) *Sterna antillarum browni*	E/E, FP	Nests on beaches along the San Francisco Bay and along the southern California coast from southern San Luis Obispo County south to San Diego County	Nests on sandy, upper ocean beaches, and occasionally uses mudflats; forages on adjacent surf line, estuaries, or the open ocean	Suitable habitat not present
Marbled murrelet *Brachyramphus marmoratus*	T/E	Nesting sites from the Oregon border to Eureka and between Santa Cruz and Half Moon Bay; winters in nearshore and offshore waters along the entire California coastline	Mature, coastal coniferous forests for nesting; nearby coastal water for foraging; nests in conifer stands greater than 150 years old and may be found up to 35 miles inland; winters on subtidal and pelagic waters often well offshore	Suitable habitat not present

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	PT/E	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant	Suitable habitat not present
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	Suitable habitat not present
Townsend's big-eared bat *Corynorhinu townsendii*	–/CT	Occurs throughout California.	Caves, mines, tunnels, building, or other human-made structures	Suitable habitat not present
Black swift *Cypseloides niger* (nesting)	–/SSC	Breeds very locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto mountains, and in coastal bluffs from San Mateo county south to near San Luis Obispo county	Nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons	Suitable habitat not present
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	Project area is outside of species known range; no suitable habitat

Common and Scientific Name	Status[1] Federal/State	California Distribution	Habitats	Occurrence in Project Area
Southern sea otter *Enhydra lutris nereis*	T/FP	Occurs approximately from the vicinity of Half Moon Bay south to Gaviota, California. Approximately 20 otters, including pups, are at San Nicolas Island as a result of translocation efforts to establish an experimental population	Coastal waters, typically within 1 km of shoreline. Often associated with kelp beds	Suitable habitat not present
American badger *Taxidea taxus*	–/SSC	Throughout California, except for the humid coastal forests of northwestern California in Del Norte and the northwestern Humboldt Counties	Requires sufficient food, friable soils, and relatively open uncultivated ground; preferred habitat includes grasslands, savannas, and mountain meadows near timberline	Suitable habitat not present

[1] Status explanations:

Federal:

– = no status.
E = listed as "endangered" under the federal Endangered Species Act.
T = listed as "threatened" under the federal Endangered Species Act.
D = delisted (delisted species are monitored for 5 years).
PT = proposed "threatened" under federal Endangered Species Act.

State:

– = no status.
E = listed as "endangered" under the California Endangered Species Act.
T = listed as "threatened" under the California Endangered Species Act.
D = delisted
SSC = species of special concern in California.
FP = fully protected under the California Fish and Game Code.
CT = candidate for listing as "threatened" under the California Endangered Species Act.

[2] Tricolored blackbird was listed by DFW as endangered under CESA on a temporary basis on December 2014.

One area within the project area provides potential breeding habitat for CRLF: the California bulrush wetland (**Figure 3.3-1**). Suitable habitat for CRLF is also present within the Carmel River. Ponds 1, 2, and 3 within the golf course, do not contain emergent vegetation necessary to support a breeding population of CRLF. There are also additional ponds within the golf course but outside of the project area, that may also provide suitable habitat for CRLF. Suitable aestivation habitat is present within the riparian vegetation surrounding the California bulrush wetland and ponds 1, 2, and 3. CRLF could traverse to and from breeding sites and aestivation habitat using the disturbed/open coyote brush scrub habitat throughout the golf course. Additionally, CRLF could travel along the Carmel River or Intermittent Drainage 1 channels. There are a total of 22 CNDDB (2014) records for CRLF occurrences within 5 miles of the project area (**Figure 3.3-2**). No protocol-level surveys have been conducted for CRLF in the project area (Zander pers. comm.).There is anecdotal reference of CRLF being observed on and immediately adjacent to the project site (Hohenberger pers. comm.). According to the director of the Carmel Valley Middle School Biological Sciences Project, CRLF have been observed in the intermittent drainage (Intermittent Drainage 2 on **Figure 3.3-1**) on the northeast portion of the project site and in a small perennial pond (up to approximately 4 feet deep, with emergent vegetation, and supplied with water through a pipe) on the school property within the biological sciences project area. CRLF have been reported to have been seen in the school pond for the last several years. Reportedly, photographs were taken of at least one of the sightings of the CRLF. Information surrounding the documentation of these sightings was requested from the Biological Sciences Project, but has not yet been received (as of the date January 7, 2016). While the intermittent drainages were visited by ICF biologists during the site reconnaissance, the perennial pond on the school property was not, and thus the sighting of CRLF on the school pond was not verified as part of the analysis for this Recirculated Draft EIR. Based on the description of the pond, it appears to have characteristics as suitable breeding habitat. Without surveys by professional biologists or other verification, it is unknown whether the frogs sited at the school pond (or in the intermittent drainage) are CRLF and whether or not CRLF may be breeding in the school pond. Lacking evidence to disprove their presence or activity, it is conservatively assumed that the sightings are CRLF and that CRLF are utilizing both locations and may be breeding in the school pond for the purpose of this impact analysis.

Southwestern Pond Turtle

Southwestern pond turtle is a state species of special concern. The southwestern pond turtle is one of two subspecies of the western pond turtle. The southwestern pond turtle occurs from the vicinity of Monterey south to northwestern Baja California (Jennings et al. 1992).

Western pond turtle is thoroughly aquatic, preferring the quiet waters of ponds, lakes, marshes, rivers, streams, and irrigation ditches that have a rocky or muddy bottom and emergent vegetation (Stebbins 2003). The species occurs in a wide range of both permanent and intermittent aquatic environments (Jennings et al. 1992). Western pond turtles spend a considerable amount of time basking on rocks, logs, emergent vegetation, mud or sand banks, or human-generated debris. Western pond turtles move to upland areas adjacent to watercourses to deposit eggs and overwinter (Jennings and Hayes 1994). However, in the southern part of their range and along the central coast of California, western pond turtles do not overwinter and are active year-round (Jennings et al. 1992).

The Carmel River, Intermittent Drainages 1 and 2, and the California bulrush wetland provide suitable aquatic habitat for southwestern pond turtle. If ponds 1, 2, and 3 became sufficiently

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Figure 3.3-2
Locations of CNDDB Records for Special-Status Animals within 5 miles of the Project Area

inundated, they could provide suitable aquatic habitat for pond turtles. Additional ponds within the golf course, but outside of the project area, also provide suitable habitat for pond turtles. The area adjacent to the Carmel River and the intermittent drainages may provide suitable habitat for egg deposition. There is one CNDDB (2014) record for southwestern pond turtle within 5 miles of the project area.

Western Burrowing Owl

The western burrowing owl is a California species of special concern and is protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Western burrowing owls occur in many areas throughout California excluding the northwest coastal forests and high mountains (Zeiner et al. 1990a). Western burrowing owls require habitat with three basic attributes: open, well-drained terrain; short, sparse vegetation; and underground burrows or burrow facsimiles. Burrowing owls occupy grasslands, deserts, sagebrush scrub, agricultural areas (including pastures and untilled margins of cropland), earthen levees and berms, coastal uplands, and urban vacant lots, as well as the margins of airports, golf courses, and roads (Haug et al. 1993). Burrowing owls rely on burrows excavated by fossorial (i.e., digging) mammals such as ground squirrels (*Spermophilus* ssp.) or prairie dogs (*Cynomys* ssp.) because burrows provide security for nesting and shelter from predators and weather (ICF International 2012). They can also use natural and unnatural cavities in rock outcroppings, concrete or asphalt, and human-made artificial habitat (Center for Biological Diversity et al. 2003) such as cavities in piles of rubble.

Because of high maintenance of the golf turf, this area is unlikely to contain burrows for cover or nesting. However, the perimeter of the golf course may contain suitable burrows. An extensive search for burrows was not conducted during the field survey; however, mice burrows were observed in the weedy grassland/coyote brush area between the golf course and CMS (See Impact BIO-10 for additional discussion on burrowing owl). If burrowing owls occurred on the margin of the project area or on adjacent properties, they could forage in the project area. There is one CNDDB record for burrowing owl, approximately 4 miles north of the project area (California Department of Fish and Wildlife 2014) (**Figure 3.3-2**).

Purple Martin

Purple martin is a California species of special concern. Purple martins occur along coastal mountains from the California/Oregon border south to San Luis Obispo County, along the west slope of the Sierra Nevada, and in the northern Sierra and Cascade ranges at lower elevations. There are isolated, local populations in the Sacramento Valley and southern California. Purple martins can be found in valley foothill and montane hardwood, valley foothill and montane hardwood-conifer, riparian, and conifer habitats. They nest within old woodpecker cavities and in human-made structures such as bridges or culverts. The breeding season is from April to August (Zeiner et al. 1990a).

Suitable nesting habitat for purple martin may be present within the Monterey pine forest and the riparian forest and woodland in and adjacent to the project area. There are no CNDDB (California Department of Fish and Wildlife 2014) records for nesting purple martins within 5 miles of the project area and no purple martins were observed during the field surveys (Rana Creek Habitat Restoration 2004).

Yellow Warbler

Yellow warbler is a California species of special concern. Yellow warblers nest throughout California except in the Central Valley, the Mojave Desert region, and high altitudes along the eastern side of the Sierra Nevada. Breeding habitat includes riparian woodlands, montane chaparral, and open ponderosa pine and mixed conifer habitats with extensive brushy understories. Nests are built 2 to 16 feet above ground in a deciduous sapling or shrub. Yellow warblers mainly eat insects and spiders (Zeiner et al. 1990a).

Suitable nesting habitat for yellow warbler is present within the riparian forest and woodland in and adjacent to the project area. There are no CNDDB (California Department of Fish and Wildlife 2014) records for nesting yellow warblers within 5 miles of the project area and no yellow warblers were observed during the field surveys (Rana Creek Habitat Restoration 2004). However, the CMS Biological Sciences Project 2007 bird list indicates that yellow warblers have been observed, but that no direct or indirect evidence of nesting has been observed (Carmel Middle School 2007).

Tricolored Blackbird

Tricolored blackbird is a California species of special concern and was recently (December 2014) listed as endangered under the CESA on a temporary emergency basis that can be renewed. The vast preponderance of the population occurs in central California, with additional populations in coastal and inland southern California locations, as well as scattered sites in Oregon, western Nevada, and western coastal Baja California (Beedy and Hamilton 1997; Beedy 1999; Hamilton 2000).

Tricolored blackbird breeding colony sites require open accessible water, a protected nesting substrate, including either flooded or thorny or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony (Hamilton et al. 1995; Beedy and Hamilton 1997; Beedy 1999). Historically, tricolored blackbird breeding colonies were nearly all located in freshwater marshes dominated by tules (*Scirpus* spp.) and cattails (*Typha* spp.) (Neff 1937). More recently, an increasing percentage of breeding colonies have been documented in Himalaya blackberries (*Rufus discolor*) (Beedy et al. 1991; Cook 1996, 1999), and in silage and grain fields (Hamilton et al. 1995; Beedy and Hamilton 1997; Hamilton 2000). Tricolored blackbird foraging habitats in all seasons include annual grasslands; wet and dry vernal pools and other seasonal wetlands; agricultural fields (such as large tracts of alfalfa with continuous mowing schedules and recently tilled fields); cattle feedlots; and dairies. Tricolored blackbirds also forage occasionally in riparian scrub habitats and along marsh borders. Weed-free row crops and intensively managed vineyards and orchards do not serve as regular foraging sites. (Beedy and Hamilton 1997; Beedy 1999). Most tricolored blackbirds forage within 3 miles of their colony sites (Orians 1961), but commute distances of up to 8 miles have been reported (Beedy 1999).

A small amount of potential breeding habitat is present in the project area within the California bulrush wetland (0.3 acre total). Other golf course ponds outside of the project area may also provide breeding habitat. If tricolored blackbirds nest on or near the golf course, they may occasionally forage within the project area. Potential foraging habitat appears to be present south and west of the project area, south of the Carmel River. There are no CNDDB (California Department of Fish and Wildlife 2014) records for tricolored blackbirds within 5 miles of the project area. However, tricolored blackbirds have been observed foraging at a nearby golf course in Carmel Valley (Beedy pers. comm.). The CMS Biological Sciences Project 2007 bird list also indicates that tricolored blackbirds have been observed, but that no direct or indirect evidence of nesting has been

observed (Carmel Middle School 2007). Based on the small amount of breeding habitat within the project area, there is a low potential for tricolored blackbirds to breed on the site.

Raptors

Several raptors have a low potential to nest in the project site. Cooper's hawk, sharp-shinned hawk, and white-tailed kite are California species of special concern and the white-tailed kite is fully protected under the California Fish and Game Code. These species nest in riparian forests and oak woodlands and forage in grasslands and open woodlands.

Suitable nesting habitat for these species is present within the riparian forest and woodland and coast live oak woodland in and adjacent to the project area. There are no CNDDB (California Department of Fish and Wildlife 2014) nesting records for Cooper's hawk, sharp-shinned hawk, or white-tailed kite within 5 miles of the project area and these species were not observed during the field surveys for the Proposed Project and 130-Unit Alternative. However, the CMS Biological Sciences Project 2007 bird list indicates that these species have been observed, but that no direct or indirect evidence of nesting has been observed (Carmel Middle School 2007).

Other Birds Noted on the CMS Bird List

Several additional special-status bird species have been observed in the project vicinity according to the CMS Biological Sciences Project.

Three species on this list (that are not already discussed above) that have some potential to nest on the project site include the loggerhead shrike and olive-sided flycatcher which could forage on the project site but have a low likelihood for nesting; and the grasshopper sparrow which occurs in dry, well-drained native and non-native grasslands (grassland areas are limited to small areas between scrub on the project site) and which has indirect evidence of nesting on the CMS habitat.

The CMS Bird List includes a number of other special-status bird species; however apart from the species mentioned above these other species are likely to be transients on the project site.

Pallid Bat and Non-Special–Status Bats

Pallid bat is found throughout most of California at low to middle elevations (6,000-feet). Pallid bats are found in a variety of habitats including desert, brushy terrain, coniferous forest, and non-coniferous woodlands. In Central and Northern California, the species is associated with oak, ponderosa pine, redwood, and giant sequoia habitats. Pallid bats forage among vegetation and above the ground surface, eating large ground-dwelling arthropods and large moths. Daytime roost sites include rock outcrops, mines, caves, hollow trees, buildings, and bridges. Night roosts are commonly under bridges but are also in cave and mines (The Wildlife Society 1996). Hibernation may occur during late November through March. Pallid bats breed from October to February, parturititon from late April to July, and weaning in August (Sherwin, R. 1998) and one or two young per female are born in May or June (The Wildlife Society 1996).

Suitable roosting habitat for pallid bats and non-special–status bats may be present within larger trees located in the project area. Trees would typically be used as day roost sites. No night roosting sites were observed in the project area. Pallid, hoary, and other bat species could also forage in the project area. There are no CNDDB records for pallid bat or other bat species within 5 miles of the project area.

Monterey Dusky-Footed Woodrat

Monterey dusky-footed woodrat is a California species of special concern. Monterey dusky-footed woodrat is a subspecies of the dusky-footed woodrat (*Neotoma fuscipes*). The Monterey dusky-footed woodrat occurs throughout Monterey and northern San Luis Obispo Counties where appropriate habitat is available. Dusky-footed woodrats can be found in chaparral, streamside thickets, and deciduous or mixed woodland habitats (Burt and Grossenheider 1980). In forest habitats, they are generally found where there is a moderate canopy with a dense to moderate understory. Dusky-footed woodrats construct nests out of sticks, grass, leaves, and other debris and the availability of these nest-building items may limit abundance of woodrats (Zeiner et al. 1990b). The riparian forest and woodland and the coast live oak woodland in the project area provide suitable habitat for Monterey dusky-footed woodrats. A woodrat nest was observed along Intermittent Drainage 1 in the project area. No woodrat nests were observed in the coast live oak woodland in 2014. There are no CNDDB (California Department of Fish and Wildlife 2014) records within 5 miles of the project area.

Non-Special–Status Migratory Birds, including Raptors

Several non-special–status migratory birds, including raptors, could nest in and adjacent to the study area based on the presence of suitable nesting habitat (riparian forest and woodland, Monterey pine stands, coyote brush scrub, and cattail and bulrush wetland). The breeding season for most birds is generally from March 1 to August 30. The occupied nests and eggs of these birds are protected by federal and state laws, including the MBTA and California Fish and Game Code Sections 3503 and 3503.5. DFW is responsible for overseeing compliance with the codes and makes recommendations on nesting bird and raptor protection.

A focused nest survey was not conducted during the October 2005 or August 2014 field survey. Several migratory birds and raptors, including red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginianus*), Anna's hummingbird, Nuttall's woodpecker, and wrentit were observed during surveys during fall 2003 and spring 2004, and could breed in the project area. These generally common species are locally and regionally abundant.

The CMS 2007 bird list identifies a number of migratory birds and raptors as having been observed by the biological sciences project in the vicinity and indicates direct and indirect evidence of nesting by some of the migratory birds and five of the raptors (red-shouldered hawk, red-tailed hawk, American kestrel [*Falco sparverius*], great horned owl, and barn owl [*Tyto alba*]) (Carmel Middle School 2007).

Steelhead

The South-Central California Coast Distinct Population Segment (DPS) of steelhead is currently listed as threatened under the federal ESA (FR 71: 834). This DPS includes all naturally spawned populations of steelhead in California streams from Aptos Creek to south of Grover City. The Carmel River is designated critical habitat (FR 70: 52488).

Steelhead trout begin migrating up coastal and inland streams from November through early May to spawn in freshwater streams. Juvenile steelhead spend up to 3 years rearing in freshwater. They migrate to the ocean where they feed for up to 3 years, after which they return to their natal streams to breed.

Steelhead are anadromous (sea-run) rainbow trout that spawn in freshwater, spend the first year (or years) of life in freshwater, and then migrate to the ocean where they continue to grow and mature before returning to spawn.

Following upstream migration, the female establishes a territory and digs a redd (gravel nest) with her tail, usually in areas where there is sufficient subsurface flow to sustain eggs and alevins (yolk-sac fry) through the incubation period (usually the lower ends of pools or heads of riffles). She then lays the eggs in the redd where they are fertilized by one or more males. Eggs buried in redds hatch in 3 to 4 weeks (at 10 to 15 Celsius) and fry emerge from the gravel 2 to 3 weeks later. The fry initially live in quiet waters close to shore and soon establish feeding territories that they defend against other juveniles. As they grow during spring and summer, juvenile steelhead move to faster, deeper water in riffles, runs, and pools. They typically maintain positions near swift currents that carry drifting aquatic and terrestrial insects on which they feed. Some juveniles may move downstream to the lower reaches of streams or lagoons during the summer and fall to complete their freshwater rearing phase.

After 1 year of stream residence, most juveniles become smolts (juveniles adapted to seawater) and migrate downstream to the ocean in late winter and spring. Some juveniles remain in fresh water 1 to 2 more years before they enter the ocean. Because juvenile steelhead rear for a year or more in freshwater, juveniles of different age groups are usually present year-round in California coastal streams.

Most steelhead spend 1 to 3 years in the ocean before returning to spawn. Some adults return to the ocean after spawning (kelts) and return to spawn again. Occasionally, juvenile steelhead mature in freshwater and spawn without migrating to the ocean. This occurs most frequently during droughts when juveniles are trapped in the river and cannot migrate to the ocean.

The upstream migration of adults in the lower Carmel River primarily occurs from mid-December through mid-April in response to flows of sufficient magnitude and duration to stimulate movement of adults, permit passage of adults past critical riffles in the lower river, and keep the river mouth open between storms. Although suitable migration conditions may occur earlier, adults typically do not begin arriving at San Clemente Dam until late December or January. Depending on migration opportunities later in the season, the migration of adults may continue into April.

The primary spawning season for steelhead in the Carmel River is February through March but spawning may continue through mid-April. Downstream of San Clemente Dam, the highest concentration of redds generally occurs upstream of the Narrows but redds have been observed as far downstream as RM 5.5. The Rancho Cañada Golf Club is located further downstream between RM 2 and RM 3.

In the Carmel River, most steelhead fry emerge from the gravel in April through June and rear for at least 1 year in the river before migrating to the ocean as smolts. Juveniles may migrate downstream to lower reaches of the Carmel River in late spring or early summer of their first year of life (young-of-the-year or age 0+ juveniles) or in late fall and early winter of their first, second, or third years (as yearling and older juveniles). Juveniles of all age classes may migrate as far downstream as the lagoon in years when flows to the lagoon are sustained through the summer and fall. Substantial downstream movement of juveniles in late fall and early winter appears to be associated with the initial storms of the season that result in spill and increased flows downstream of San Clemente Dam.

Many juvenile steelhead in the Carmel River become smolts and enter the ocean in late winter and spring after 1 year in the river. A small number remains for 2 to 3 years before emigrating.

The steelhead run in the Carmel River at the time of the Spanish explorers was believed to be upwards of 12,000 fish (California State Water Resources Control Board 1995). The river was overfished during the mid-to-late 1800s, and the runs subsequently declined. Snider (1983) reported annual runs of 1,200 adult steelhead at the San Clemente Dam fishway during the mid-1970s. During droughts in 1976 through 1977 and the late 1980s, no steelhead passed San Clemente Dam. The Lagoon never opened during the 4 years from 1987 to 1990. Density of rearing juvenile steelhead reached very low levels by 1989 but have increased in subsequent years. After lows of zero returning adult steelhead in 1989 through 1990, one fish in 1991, and 15 in 1992, to 1,151 adults reported in 2000. Viable steelhead populations in the Carmel River depend on sufficient attraction flows, passage flows for adults and smolts, suitable spawning and egg-incubation conditions, and good rearing conditions. The most recent counts of adult steelhead (2011 through 2012) show a significant decrease in abundance for the Carmel River; 470 adults were counted at the San Clemente Dam and 175 adults were counted at the Los Padres Dam, which reflect the effects of the most recent drought years 2007 through 2009 (National Marine Fisheries Service 2013).

Other Carmel River Fish Species

The fish community in the Carmel River is diverse relative to other Central Coast streams. Twenty species have been identified within the river and lagoon, including 12 native and 8 introduced species. Sculpin (*Leptocottus armatus*), brown trout (*Salmo trutta*), hitch (*Lavinia exilicauda*), stickleback (*Gasterosteus aculeatus*), and steelhead are the most abundant species. Species composition in the lower river and lagoon may change as a function of the connectivity of the mouth of the river with the ocean (California Public Utilities Commission 2000).

Wildlife Movement Corridors

Wildlife movement relevant to the project area can be best described in terms of east-west wildlife movement along the Carmel River and north-south movement from the undeveloped area south of the Carmel River to the undeveloped are to the north of Carmel Valley Road. Wildlife movement corridors are shown on **Figure 3.3-3**.

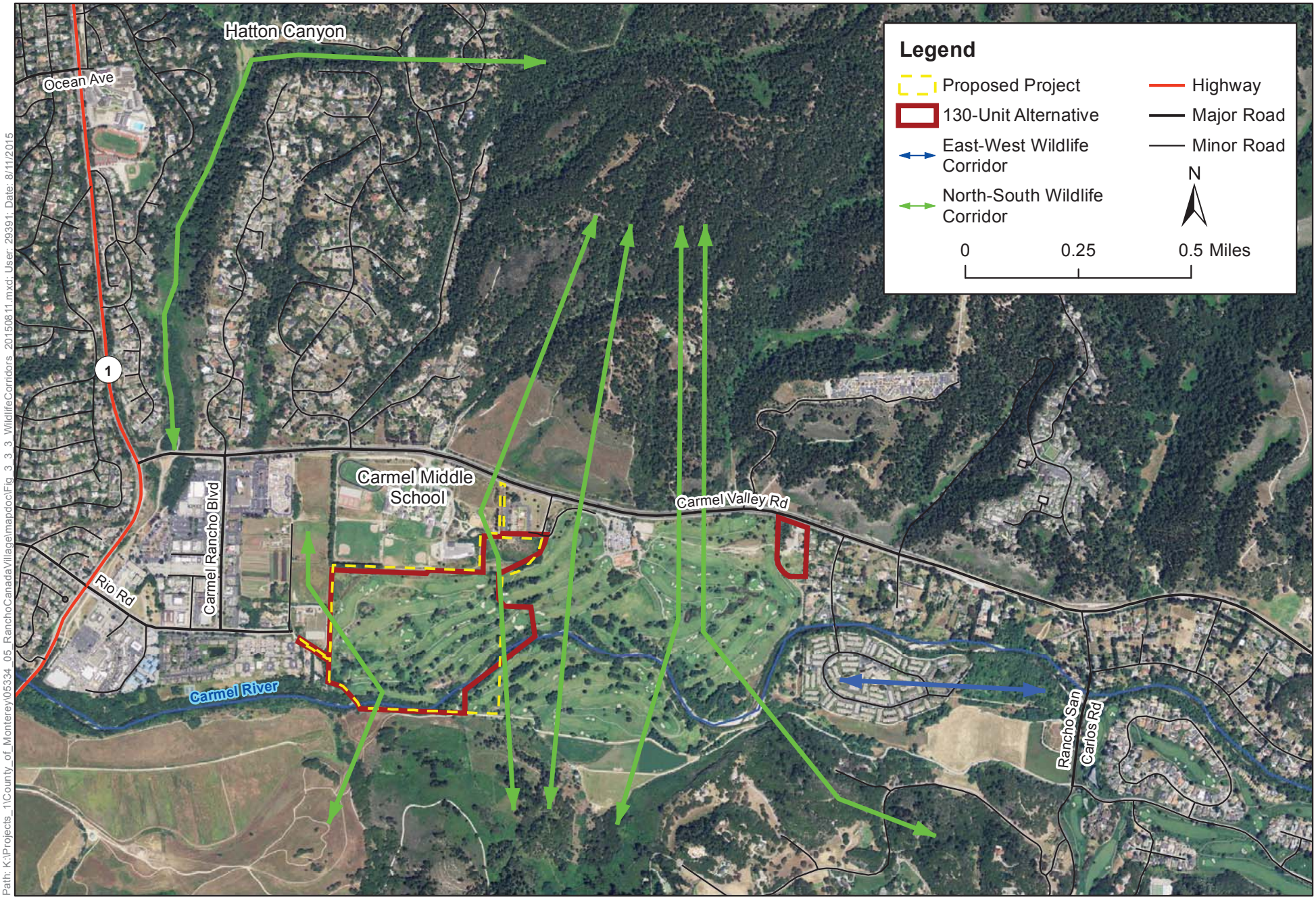
East-West Wildlife Movement along the Carmel River

In the project area, the Carmel River provides an east-west movement corridor for a variety of aquatic and terrestrial species along the valley floor. Given the presence of residential and other development on the valley floor, the river is the only east-west unimpeded corridor for movement along the valley floor throughout the entire mouth of the valley area.

East-west wildlife movement is also possible through the Rancho Cañada Golf Club both north and south of the Carmel River.

North of the river, east-west movement becomes impeded west of the project site due to residential and commercial development and east of the project site due to residential development starting just west of Via Mallorca.

South of the river, east-west movement is unimpeded west of the project area as the land south of the river is used for agricultural (Odello property) and open space (Palo Corona Regional Park) uses.



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Source: Imagery, NAIP 2012, Roads; Monterey County 2014; Rivers, ESRI 2014.

Figure 3.3-3
Wildlife Corridors in the Project Area

East of the project area, east-west movement is partially impeded by residential development south of the river, but there is opportunity for east-west movement through the undeveloped hillsides south of the valley.

East-west movement is also possible outside the project area through the undeveloped areas on the hillsides south of the Carmel River and north of Carmel Valley Road.

North-South Wildlife Movement from South of the Carmel River to North Carmel Valley Road

North-south wildlife movement at the mouth of Carmel Valley from south of the Carmel River to undeveloped areas north of Carmel Valley Road is already somewhat impaired at present due to the presence of residential and commercial development, roadways (in particular Carmel Valley Road), as well as other uses such as the developed parts of the CMS, the adjacent church, and the buildings, roads, and parking lot at the Rancho Cañada Golf Course.

However, near the mouth of Carmel Valley, there are a number of north-south wildlife movement corridors between State Route 1 (SR 1) and just west of Via Mallorca. While wildlife can and do move through areas of residential, commercial, and institutional development, there are greater impediments to wildlife movement and thus a lesser effectiveness of these other areas to provide effective wildlife connections. The focus of this discussion is thus on areas that are relatively undisturbed and their potential for use by wildlife.

- **Hatton Canyon** – Prior to development in the area, Hatton Canyon provided a wildlife movement corridor to and from the Carmel River. At present, the connection of Hatton Canyon to the Carmel River and areas south is substantially impeded by commercial development and SR 1 and thus only provides effective wildlife movement opportunity north of Carmel Valley Road.
- **Val Verde Drive** – Wildlife can presently move from undeveloped areas south of the Carmel River, across the Rancho Cañada Golf Course to agricultural and undeveloped parcels along Val Verde Drive. Although wildlife may move from the parcels along Val Verde Drive north across Carmel Valley Road, the area immediately north of the road is a residential development, which reduces the value of this corridor.
- **Through CMS Habitat Area** – Wildlife can presently move from undeveloped areas south of the Carmel River, across the Rancho Cañada Golf Course, through the Hatton and Stemple Parcels to the CMS habitat area on the school property and northward across Carmel Valley Road to undeveloped areas north of the road. The narrowest part (~300 feet) of this corridor is between the amphitheater for the environmental education program and the parking lot for the community church.
- **Between Rio Road (East) and Rancho Cañada Golf Course Clubhouse** – Wildlife can presently move from undeveloped areas south of the Carmel River, across the Rancho Cañada Golf Club between Rio Road (East) and the clubhouse, across the clubhouse access road, and across Carmel Valley Road to undeveloped areas north of the road. The narrowest part (~700 feet) of the corridor is between Rio Road (east) and the clubhouse parking lot.
- **Between Rancho Cañada Club House and residences west of Via Mallorca** – Wildlife can presently move from undeveloped areas south of the Carmel River, across the Rancho Cañada Golf Club between the clubhouse and the residences west of Via Mallorca, and across Carmel

Valley Road to undeveloped areas north of the road. The narrowest part (~1,600 feet) of the corridor is between the clubhouse and the residences west of Via Mallorca.

Regulatory Setting

This section discusses the federal, state, and local policies and regulations that are relevant to the analysis of biological resources in the project area for the Proposed Project and the 130-Unit Alternative being considered by Monterey County.

Federal Policies and Regulations

Endangered Species Act

The federal ESA protects fish and wildlife species, and their habitats that have been identified by FWS or National Oceanic and Atmospheric Administration (NOAA) Fisheries 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 FWS and NOAA Fisheries. In general, NOAA Fisheries 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 FWS 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 involve one or more of the following characteristics.

- Located on federal land.
- Conducted by a federal agency.
- Funded by a federal agency.
- 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 FWS or NOAA Fisheries, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a Proposed Project "may affect" a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment (BA) evaluating the nature and severity of the expected effect. In response, FWS issues a biological opinion (BO) with a determination that the proposed action either:

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

The BO issued by FWS may stipulate discretionary "reasonable and prudent" conservation measures. If a project would not jeopardize a listed species, FWS 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 FWS through the Section 10 process. If a proposed project would result in the incidental take of a listed species, the project 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 U.S. Government Code [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. FWS is responsible for overseeing compliance with the MBTA, and the U.S. Department of Agriculture's Animal Damage Control Officer makes recommendations on related animal protection issues.

Clean Water Act

The federal Clean Water Act (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 Chapter 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 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 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 U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. USACE 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 project area are under the jurisdiction of the USACE San Francisco District.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general permit until the requirements of NEPA, federal ESA, and National Historic Preservation Act have been met. In addition, USACE 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.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires consultation by federal agencies with FWS when the waters of any stream or other body of water are proposed, authorized, permitted, or licensed to be impounded, diverted, or otherwise controlled or modified under a federal permit or license (16 USC 661–667[e]).

Most FWS comments on applications for permits under CWA Section 404 are conveyed to USACE through the consultation process required by this coordination act. This act may apply to the Proposed Project and 130-Unit Alternative through USACE relevant to permitting for the project.

The FWS provides advisory comments and recommends mitigation measures to avoid impacts on wetlands or to modify activities that may directly affect wetlands. Mitigation recommended by FWS may include restoring or creating habitat to avoid a net loss of wetland functions and values. Although consultation with FWS is required, USACE is not required to implement FWS recommendations.

Federal Executive Order 13112—Invasive Species

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

FWS and the USACE may issue permits for the Proposed Project and would be responsible for ensuring that permitted activities comply with EO 13112 and do not contribute to the spread of invasive species.

State Policies and 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. DFW 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 Native Plant Protection Act

California Native Plant Protection Act of 1977 prohibits importing rare and endangered plants into California, taking rare and endangered plants (in certain circumstances), and selling rare and endangered plants. State-listed plants are protected mainly in cases where state agencies are involved in projects under CEQA. The California Native Plant Protection Act does not prohibit take of rare and endangered plants incident to possession or sale of real estate (California Fish and Game Code Section 1908); consequently, it does not prohibit removal of a rare or endangered plant in the course of development of land, but rather only in the context or removal of the plant for the purposes of sale. Owners of land with known rare or endangered species are required to notify DFW of plans to change land use a minimum of 10 days prior to the change to allow DFW time to salvage the plants. However, if DFW fails to respond within these 10 days, then the landowner may proceed with the land use change (California Fish and Game Code Section 1913[c]).

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 3511 lists fully protected birds, Section 3515 lists fully protected

fish, Section 4700 lists fully protected mammals, and Section 5050 lists fully protected amphibians and reptiles. California Fish and Game Code Section 86, 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 is one fully protected species—white-tailed kite—which has the potential to occur in the project area.

Streambed Alteration Agreements (Section 1600 et seq.)

DFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under California Fish and Game Code (Section 1600 et seq). DFW 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, DFW 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.

DFW 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 DFW 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.

Porter-Cologne Water Quality Control Act

California Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, in 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 Water Quality Control 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." Although all waters of the United States that are within the borders of California are also waters of the state, the converse is not true (i.e., in California, waters of the United States represent a subset of waters of the state). Thus, California retains authority to regulate discharges of waste into any water of the state, regardless of whether USACE has concurrent jurisdiction under Section 404.

Local Policies and Regulations

This section summarizes relevant policies from the 2010 *Monterey County General Plan* (2010 General Plan) and the 2013 Carmel Valley Master Plan (2013 CVMP). This section also presents the prior relevant policies in the 1982 General Plan and the 1986 CVMP for informational purposes only.

Current County Plans and Policies

The current applicable and relevant plans and policies are summarized below.

2010 Monterey County General Plan

The 2010 General Plan sets forth the policies applicable to the protection, preservation and conservation of biological resources in the county. The following policies are applicable to biological resources (Monterey County 2010).

Policy OS-5.25: Occupied nests of statutorily protected migratory birds and raptors shall not be disturbed during the breeding season (generally February 1 to September 15). The county shall

A. 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 or raptors,
2. determine whether site vegetation is suitable to nesting migratory birds or raptors,
3. identify any regulatory requirements for setbacks or other avoidance measures for migratory birds and raptors which could nest on the site, and
4. establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of disruption of nesting birds.

B. Require the development to follow the recommendations of the biologist. This measure may be implemented in one of two ways:

1. preconstruction surveys may be conducted to identify active nests and, if found, adequate buffers shall be provided to avoid active nest disruption until after the young have fledged; or
2. vegetation removal may be conducted during the non-breeding season (generally September 16 to January 31); however, removal of vegetation along waterways shall require approval of all appropriate local, state, and federal agencies.

This policy shall not apply in the case of an emergency fire event requiring tree removal. This policy shall apply for tree removal that addresses fire safety planning, since removal can be scheduled to reduce impacts to migratory birds and raptors.

2013 Carmel Valley Master Plan

The following 2013 CVMP policies are relevant to biological resources (Monterey County 2013).

Policy CV-1.3: Open space uses shall be located between development areas in order to clearly define them and maintain a distinction between the more rural and more suburban area so the valley. Small and large open space areas should be created with preference given to those that add open space to existing open space areas.

Policy CV-3.7: Areas of biological significance shall be identified and preserved as open space. These include, but are not limited to:

a. The redwood community of Robinson Canyon;
b. The riparian community and redwood community of Garzas Creek;
c. All wetlands, including marshes seeps, and springs (restricted occurrence, sensitivity, outstanding wildlife value).
d. Natïve bunchgrass stands and natural meadows (restricted occurrence and sensitivity).

e. Cliffs, rock outcrops, and unusual geologic substrates (restricted occurrence.)

f. Ridgelines and wildlife migration routes (wildlife value).

When a parcel cannot be developed because of this policy, a low-density, clustered development (but no subdivision) may be approved on those portion of the land not biologically significant or on a portion of the land adjoining existing development so that the development will not diminish the visual quality of such parcels or upset the natural functioning of the ecosystem in which the parcel is located

Policy CV-3.8: Development shall be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. In places where the riparian vegetation no longer exists, it should be planted to a width of 150 feet from the river bank, or the face of adjacent buffs, whichever is less. Density may be transferred from this area to other areas within a lot.

Policy CV-3.9: Willow cover along the banks and bed of the Carmel River shall be maintained in a natural state for erosion control. Construction levees, altering the course of the river, or dredging the river shall only be allowed by permit from the Monterey Peninsula Water Management District or Monterey County.

Policy CV-3.10: Predominant landscaping and erosion control material shall consist of plants native to the valley that are similar in habitat, form and water requirements. The following guidelines shall apply for landscape and erosion control plans;

a. Existing native vegetation should be maintained as much as possible throughout the valley.

b. Valley oaks should be incorporated on floodplain terraces.

c. Weedy species such as pampas grass and genista shall not be planted in the Valley

d. Eradication plans for weedy species shall be incorporated.

e. The chaparral community shall be maintained in its natural state to the maximum extent feasible in order to preserve soil stability and wildlife habitat and also be consistent with fire safety standards.

Policy CV-3.11: The County shall discourage the removal of healthy native oak and madrone and redwood trees in the Carmel Valley Master Plan Area. A permit shall be required for the removal of any of these trees with a diameter in excess of six inches, measured two feet above ground level. Where feasible, trees removed will be replaced by nursery-grown trees of the same species and not less than one gallon in size. A minimum fine, equivalent to the retail value of the wood removed, shall be imposed for each violation. In the case of emergency caused by the hazardous or dangerous condition of a tree and requiring immediate action for the safety of life or property, a tree may be removed without the above permit, provided the County is notified of the action within ten working days. Exemptions to the above permit requirements shall include tree removal by public utilities, as specified in the California Public Utility Commission's General Order 95, and by governmental agencies.

Policy CV-3.12: Open space area should include a diversity of habitats with special protection give to areas where on habitat grades into another (these ecotones are ecologically important zones) and areas used by wildlife for access routes to water or feeding grounds.

Policy CV-3.15: Public and private agencies such as the Big Sure Land Truest, the Monterey Peninsula Regional Park District, and others may acquire development rights and/or accept easements and dedications for significant areas of biological, agriculture, or other open space land.

Policy CV-4.1: In order to reduce potential erosion or rapid runoff:

a. The amount of land cleared at any one time shall be limited to the area that can be developed during on construction season.

b. Motorized vehicles shall be prohibited on the banks or in the bed of the Carmel River, except by permit from the Water Management District or Monterey County.

c. Native vegetative cover must be maintained on areas that have the following combination of soils and slope:

1. Santa Lucia shaly clay loam, 30-50% slope
2. Santa Lucia-Reliz Association, 30-75% slope
3. Cieneba fine gravelly sandy loam, 30-70% slope
4. San Andreas fine sandy loam, 30-75% slope
5. Sheridan coarse sandy loam, 30-75% slope
6. Junipero-Sur complex, 50-85% slope

Tree Protection

The County has an ordinance for the protection of trees within its jurisdiction. Tree protection within the County varies in accordance with different areas and master plans, which provide specific policies relative to the protection of specific types of trees. Within the 2013 Carmel Valley Master Plan (2013 CVMP) area, a protected tree is defined as any oak, madrone, or redwood tree having a trunk diameter equal to or greater than 6-inches in diameter at 2-feet above ground.

In addition, policies governing the removal of landmark oak trees are applied on a countywide basis and are subject to approval by the Director of Planning and Building Inspection. The County defines landmark oak trees as "those trees which are twenty-four (24) inches or more in diameter when measured two feet above the ground, or trees which are visually significant, historically significant, or exemplary of their species" (16.60.030).

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

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

Wildlife Habitat

The County has numerous policies in place to protect sensitive wildlife habitat from development. The 2010 General Plan requires careful planning near areas with limited plant communities, areas with particular value for wildlife, and areas with high value for wildlife reproduction. Within the 2013 CVMP area, development in or adjacent to areas of biological significance is strictly controlled but may be allowed under certain conditions provided impact on the resources are minimized. In addition to the redwood community of Robinson Canyon and the riparian community and redwood community of Garzas Creek, the 2013 CVMP identifies the following as areas of biological significance: wetlands, including marshes, seeps, and springs; native bunchgrass and natural meadows; cliffs, rock outcrops and unusual geologic substrates; and rridgelines and wildlife migration routes.

The 2010 General Plan habitat guidelines are implemented through the Monterey County Zoning Ordinance. For all proposed development within a known sensitive habitat or within 100-feet of the habitat, the zoning ordinance requires a biological survey performed by a qualified biologist. Development within the habitat or the 100-foot buffer, including vegetation removal, excavation, grading, filling, and road construction is prohibited except for resource dependent uses. Only development with adequate mitigations or no significant or cumulative impact on long-term maintenance of habitat may occur.

When proposed development within the 2013 CVMP area is either in or adjacent to a rare or endangered plant community, the County requires the Project Applicant to provide a botanical report prepared by a qualified botanist. The report is to include a description of the habitat to be affected by the project, an assessment of the project's potential for affecting rare and endangered species, and suggestions for mitigation of project impact(s). In any cases where a rare or endangered species is found onsite, development cannot proceed until an ITP or exclusion is obtained and the DFW is notified, pursuant to California Fish and Game Code Chapter 10 Section 1913c.

Floodplain Management

The County's floodplain management policies protect riparian habitat and streams by prohibiting the building of structures within the floodway. The 2010 General Plan prohibits all new discretionary development including filling, grading, and construction within 200-feet of riverbanks or within the 100-year floodway except as permitted by ordinance.

Prior County Plans and Policies

1982 Monterey County General Plan

Below are the 1982 General Plan policies for biological resources applicable to the project. As discussed in Chapter 1, *Introduction*, this discussion is provided for informational purposes.

Policy 7.11: Development shall be carefully planned, in, or adjacent to, areas containing limited or threatened plant communities, and shall provide for the conservation and maintenance of plant communities

Policy 7.1.2 The County shall encourage the protection of limited or threatened plant communities through dedications of permanent conservation easements and other appropriate means.

Policy 9.1.1: Development shall be carefully planned in areas known to have particular value for wildlife and, where allowed, shall be located so that the reasonable value of the habitat is maintained.

Policy 9.1.2: Development shall be carefully planned in areas having high value for fish and wildlife reproduction.

1986 Carmel Valley Master Plan

Policy 7.1.1.1: Areas of biological significance shall be identified and preserved as open space. These include but are not limited to, the redwood community of Robinson Canyon and the riparian community and redwood community of Garzas Creek. When a parcel cannot be developed because of this policy, a low-density, clustered development may be approved. However, the development shall occupy those portions of the land not biologically significant or on a portion of the land adjoining existing vertical forms, either on-site or off-site and either natural or man-made, so that the development will not diminish the visual quality of such parcels or upset the natural functioning of the ecosystem in which the parcel is located. If this policy precludes development of a parcel because

of biological significance, a low level of development (but no subdivision) may be allowed provided impacts on the resource are minimized.

Additional such areas includes

- All wetlands, including marshes, seeps and springs (restricted occurrence, sensitivity, outstanding wildlife value).
- Native bunchgrass stands and natural meadows (restricted occurrence and sensitivity).
- Cliffs, rock outcrops and unusual geologic substrates (restricted occurrence).
- Ridgelines and wildlife migration routes (wildlife value).

Policy 7.1.1.2: Areas of critical habitat for rare and endangered species as identified by either federal or state law and areas of biological significance should be identified and preserved as open space.

Policy 7.1.3: Development shall be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the river. Therefore, development shall not occur within the riparian corridor. In places where the riparian vegetation no longer exists, it should be planted to a width of 150 feet from the river bank, or the face of adjacent bluffs, whichever is less. Density may be transferred from this area to other areas within a parcel.

Policy 7.1.4: River bed and bank management by private property owners shall preserve the natural state of the Carmel River by maintaining willow cover along the banks for erosion control, not building levees, not further altering the course of the river, and not allowing individuals to dredge the river except by permit from the Monterey Peninsula Water Management District or Monterey County.

Policy 7.15: A monitoring program shall be implemented to document changes in the vegetation of the Carmel River riparian corridor and to determine the most relevant factors involved. This shall be funded by the users of the riparian corridor, particularly those involved in water extraction, streambed alterations and developments which encroach upon the corridor. The monitoring program shall produce an annual report to the Board of Supervisors through a Joint Power Agreement with the agency or agencies conducting the monitoring. Upon two consecutive years of declining vigor in any reach of the river as defined by the Monterey Water Management District, the Board of Supervisors shall immediately hold public hearings to consider limitation of further development and/or a Carmel Valley Master Plan amendment to reverse the causes of declining riparian vegetation vigor determined by evidence in the record to be derived from implementation of the Carmel Valley Master Plan or development designated therein.

Policy 7.16: Motorized vehicles shall be prohibited on the banks or in the bed of the Carmel River, except by permit from the Water Management District or Monterey County.

Policy 7.2.1.1: In order to preserve soil stability and wildlife habitat, the chaparral community shall be maintained in its natural state to the maximum extent feasible consistent with fire safety standards.

Policy 7.2.1.2: In new development, the potential for impact on rare and endangered species shall be assessed by County staff and appropriate mitigation of identified impacts shall be required in accord with policies 11.1.1.1 and 11.1.1.2. Existing vegetation shall be protected and only plants similar in habit, form and water requirements to native vegetation common to the valley shall be used as the predominant additional or replacement landscaping material. The existing native vegetation should be maintained as much as possible throughout the valley.

Policy 7.2.2.5: The County shall discourage the removal of healthy, native oak and madrone and redwood trees in the Carmel Valley Master Plan Area. A permit shall be required for the removal of any of these trees with a trunk diameter in excess of six inches, measured two feet above ground level. Where feasible, trees removed will be replaced by nursery-grown trees of the same species and not less than one gallon in size. A minimum fine, equivalent to the retail value of the wood removed, shall be imposed for each violation. In the case of emergency caused by the hazardous or dangerous condition of a tree and requiring immediate action for the safety of life or property, a tree may be

removed without the above permit, provided the County is notified of the action within ten working days. Exemptions to the above permit requirement shall include tree removal by public utilities, as specified in the California Public Utility Commission's General Order 95, and by governmental agencies.

Policy 7.2.2.6: Valley oaks should be used in landscape planting plans on flood plain terraces.

Policy 9.1.2.2: Open space areas should include a diversity of habitats with special protection given areas where one habitat grades into another (these ecotones are ecologically important zones) and areas used by wildlife for access routes to water or feeding grounds.

Policy 11.1.1.1: Whenever a development proposal is received and is in or adjacent to a rare or endangered plant community, as identified in policy 11.1.1.2, the County shall require the applicant to provide a botanical report prepared by a botanist from the County list of approved consultants. The report shall include a description of the habitat to be affected by the project including area, species, rare and endangered status, if applicable, and suggestions for mitigation of project impacts. In any cases where a rare or endangered species as defined by either State or Federal legislation is found on-site, no development shall proceed until an Incidental Taking Permit or exclusion is obtained in accordance with Federal Endangered Species Act and the State Department of Fish and Game is notified of the existence of the rare and endangered species (whether on Federal list, State list or both) pursuant to Fish and Game Code Chapter 10 Section 1913c.

Policy 11.1.1.2: The County Planning Department shall maintain records of the known locations of all rare and endangered plant species. Reports shall be on file and locations shall be noted on the resources base maps. These maps shall be updated continuously as project applicant reports are received, and from time to time as other agencies such as Fish and Game or the California Native Plant Society may make additional location reports available.

Impact Analysis

Methods for Analysis

The discussion of impacts is based on the *Initial Biological Assessment prepared for Rancho Cañada Village* (Rana Creek Habitat Restoration 2004), the *Biological Assessment for the Hatton Parcel* (Zander Associates 2005), the 2006 Restoration Plan (Zander Associates 2006) (**Appendix C**), the *Biological Resource Review of Rancho Cañada Village* (Zander Associates 2014), and information obtained from a reconnaissance field visit and research conducted by ICF International.

An ICF biologist reviewed information from state and federal agencies and existing information related to the Proposed Project and 130-Unit Alternative. Information from the following sources was also reviewed and used to evaluate whether special-status species or other sensitive biological resources (e.g., wetlands) could occur in the project area.

- Initial Biological Assessment for the Hatton Parcel (Zander Associates 2005).
- Comments on Biological Resources Section of the Rancho Canada Village Draft EIR (Zander Associates 2008).
- A records search of the California Natural Diversity Database (CNDDB) for the Monterey, Seaside, Mt. Carmel, and Soberanes Point U.S. Geological Survey (USGS) 7.5-minute quadrangles (California Department of Fish and Wildlife 2014).
- The California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Plants of California records for the four quadrangles listed above (California Native Plant Society 2014).

- The list of Listed, Proposed, and Candidate Species which may occur in Monterey County (U.S. Fish and Wildlife Service 2014).

For the purpose of this analysis, the *project area* is defined as the area where construction and restoration activities (for the habitat preserve) would occur, and includes both the Proposed Project and 130-Unit Alternative (**Figure 3.3-1**). The biologist conducted a brief reconnaissance level survey of the project area on October 6, 2005 and August 20, 2014. The field survey focused on identifying and evaluating biological communities in the project area and determining their suitability for special-status plant and wildlife species. An ICF biologist traversed the project area on foot and in golf carts. All areas supporting natural vegetation (i.e., not golf turf and landscaping) were surveyed on foot except for the wetland near the center of the project area, which was not surveyed. A Rana Creek Habitat Restoration biologist also conducted biological surveys between October 30, 2003 and March 17, 2004 and Zander and Associates conducted a biological survey on April 9, 2014; information from these surveys was also used in this report.

Criteria for Determining Significance

In accordance with CEQA, State CEQA Guidelines, 2010 General Plan policies, 2013 CVMP plans and policies, and agency and professional standards, a project impact would be considered significant if the project would:

A. Impact on Vegetation

- 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 California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service (potential impacts are addressed under Impacts BIO-1 through BIO-5).
- Have a substantial adverse effect on wetlands through direct removal, filling, hydrological interruption, or other means (potential impacts are addressed under Impact BIO-6).

B. Impact on Wildlife

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by DFW or FWS (potential impacts are addressed under Impacts BIO-8 through 15).
- Interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (potential impacts are addressed under Impacts BIO-13 through 16).
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (potential impacts are addressed under Impacts BIO-7 and BIO-17).
- Conflict with the provisions of an adopted habitat conservation plan, natural communities conservation plan, or other approved local, regional, or state habitat conservation plan (potential impacts are addressed under Impact BIO-17).

According to standard professional standards, the Proposed Project and 130-Unit Alternative would likely cause a significant impact if they resulted in:

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

Impacts and Mitigation Measures

A. Impact on Vegetation

The Proposed Project and 130-Unit Alternative would result in impacts on vegetation. **Table 3.3-5** provides a summary of the area of impact on each vegetation type within the project area.

Table 3.3-5. Total Area of Impact on Vegetation by Community Type in the Proposed Project and 130-Unit Alternative Sites

Community Type	Proposed Project Impact (acres)	Proposed Project Area to be Restored (acres)	130-Unit Alternative Impact (acres)	130-Unit Alternative Area to be Restored[1] (acres)
Golf Turf and Landscaping	49.7	NA	49.8	NA
Developed/Disturbed	0	NA	3.4	NA
Coast Live Oak Woodland	0	0	0.8	0
Wetland Vegetation	0.3	1.2	0.3	0
Ponds	1.4	1.4	1.4	0
Coyote Brush Scrub	10.4	0	10.4	0
Non-Native Monterey Pine Stand	0.1	0	0.1	0
Riparian Forest/Woodland	0.06	15.1	0.06	0
Native Grassland	0	8.3	0	0
Total	**61.96**	**26**	**66.3**	**--**

[1] A restoration plan for the 130-Unit Alternative would be developed upon approval of the 130-Unit Alternative.

Impact BIO-1: Loss of Coyote Brush Scrub Habitat (less than significant)

Proposed Project

Up to 10.4-acres of coyote brush scrub habitat would be permanently removed from the Proposed Project area. Approximately 8.9-acres of this total consists of open coyote brush scrub with an understory dominated by non-native ruderal species, while approximately 1.5-acres consists of dense coyote brush scrub.

The loss of this area of coyote scrub habitat would be *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 this area of coyote brush scrub is not expected to contribute to the destruction or deterioration of an individual, population, or habitat for special-status species. Impacts would be *less than significant*. No mitigation is required.

130-Unit Alternative

The 130-Unit Alternative would affect the same 10.4 acres of coyote brush scrub habitat described for the Proposed Project above. The 0.04 acre sliver on Lot 130 would not be effected. Therefore, the analysis discussed for the Proposed Project remains the same under this 130-Unit Alternative and the impact would be *less than significant*. No mitigation is required.

Impact BIO-2: Loss of Non-Native Monterey Pine Stands (less than significant)

Proposed Project

As described in the *Monterey Pine Stands* section above, review of the available information leads to a conclusion that the Monterey pine stands within the project area are, in all likelihood, not native remnant stands, were planted at some point in the past, and are of uncertain genetic origin.

Up to 0.1 acre of Monterey pine stands could be permanently removed from the Proposed Project site. The Monterey pine stand is in the Hatton Parcel with an understory of open coyote brush scrub.

As the Monterey pine stands within the project area are unlikely to be native and the individual Monterey pine trees are likely planted, their removal due to the Project would be a *less-than-significant* impact. No mitigation is required.

130-Unit Alternative

As described in the *Monterey Pine Stands* section above, one Monterey Pine stand occurs on the golf course. The 130-Unit Alternative would affect the same 0.1 acre of Monterey pine forest described for the Proposed Project above, therefore the analysis discussed for the Proposed Project remains the same under this 130-Unit Alternative and the impact would be *less than significant*. No mitigation is required.

Impact BIO-3: Loss or Disturbance of Special-Status Plant Occurrences (Proposed Project - less than significant; 130-Unit Alternative – less than significant with mitigation)

Proposed Project

Monterey pine is the only special-status plant species identified in floristic botanical surveys conducted for this Project (See *Special-Status Plants* discussion above). However, as described under

Impact BIO-2, because these trees are planted non-natives, removal of them from the project site would be a *less-than-significant* impact. No mitigation is required.

130-Unit Alternative

As described above under S*pecial-Status Plants* section, two species, fragrant fritillary (*Fritillaria liliacea*), jolon clarkia (*Clarkia jolonensis*), could be present in the coast live oak woodland habitat in Lot 130. These species were not in their blooming period at the time of the 2014 botanical survey. If these species are present, impacts on coast live oak woodland habitat could result in loss of individuals of these species, which would be a *significant* impact; however , implementation of **Mitigation Measures BIO-1**, **BIO-2**, and **BIO-3** would reduce this impact to a *less-than-significant* level.

Additionally Monterey pine trees are present in the 130-Unit Alternative project area, but, as described for the Proposed Project, impacts on those trees would be a *less- than-significant* impact because they are planted, non-natives. No mitigation is required.

Mitigation Measure BIO-1: Conduct a Floristic Survey of Coast Live Oak Woodland Habitat in Lot 130 during the Blooming Period for Potential Special-Status Plant Species

Prior to construction, the Project Applicant will retain a qualified botanist to conduct a survey of the coast live oak woodland habitat in Lot 130 for jolon clarkia and fragrant fritillary. The survey will occur during the overlapping blooming period for these species (April). If special-status plant occurrences are identified in the course of these surveys, the perimeters of the occurrences will be mapped using a global positioning system (GPS) with submeter accuracy, and staked to facilitate avoidance. The botanist will prepare a report describing the results of these surveys. The report will be submitted to the Project Applicant and County. **Mitigation Measure BIO-2** will be implemented if any occurrences of special-status plants are documented during these surveys.

Mitigation Measure BIO-2: Avoid or Minimize Impacts on Special-Status Plant Species Populations by Redesigning the Project, Protecting Populations, and Implementing a Compensation Plan (If Necessary)

The Project Applicant will implement the following measures to avoid or minimize impacts on special-status plant species if any occurrences are documented in the surveys prescribed in **Mitigation Measure BIO-1**. This measure is applicable only to the 130-Unit Alternative.

Prior to construction, the Project Applicant will redesign or modify the Project to avoid direct and indirect impacts on special-status plant species, if feasible.

Special-status plant species near the 130-Unit Alternative site will be protected from temporary construction disturbance. Prior to construction, the contractor or Project Applicant will install environmentally sensitive area fencing (orange construction barrier fencing) around special-status plant species populations. The environmentally sensitive area fencing will be installed at least 20 feet from the edge of the population where feasible. The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.

If impacts are unavoidable, the Project Applicant will coordinate with DFW and Monterey County to determine a compensation plan to replace the loss of special-status plants. If necessary, the Project Applicant will develop and implement a compensation plan in coordination with and with the approval of DFW and Monterey County. The compensation plan will preserve an offsite area containing the affected special-status plant or plants. The compensation area will contain an equal or greater amount of plants and/or acreage (as determined in consultation with DFW) as that lost due to the Project. The amount of preserved area will include adjacent areas if necessary in order to preserve the special-status plant population in perpetuity. The Project Applicant will be responsible for acquisition of a mitigation site in fee or in conservation easement, to maintain the mitigation site for the benefit of the special-status plant population in perpetuity, and to fund maintenance of the mitigation site through the establishment of an endowment. Annual monitoring of the mitigation site will be conducted for 5 years to assess vegetative density, population size, natural recruitment, and plant health and vigor to assure that an equal amount of plants or plant acreage is being sustained through the implemented site maintenance. The site will be evaluated at the end of the 5-year monitoring period to determine whether the mitigation has met the success criteria of preserving a population the same size/and or area as that lost due to development of the site and whether adjustments in site maintenance are necessary.

Mitigation Measure BIO-3: Conduct Mandatory Contractor/Worker Awareness Training for Construction Personnel

Before any work occurs in the project area, a qualified biologist will conduct mandatory contractor/worker awareness training for construction personnel. The awareness training will be provided to all construction personnel to brief them on the need to minimize impacts on riparian woodland (see **Mitigation Measure BIO-7**, below). If new construction personnel are added to the Project, the contractor will ensure that the personnel receive the mandatory training before starting work. The Project Applicant will be responsible for implementing this measure. Documentation of this measure, such as a training attendance sheet signed by construction personnel, will be kept on file by the applicant to demonstrate to the County that the measure has been implemented.

Impact BIO-4: Loss of Riparian Forest and Woodland Habitat (less than significant with mitigation)

Proposed Project

Only 0.06 acre of riparian forest and woodland habitat of the existing 6.2 acres would be permanently removed from the Proposed Project site to facilitate Project development. Construction would remove riparian forest along Intermittent Drainages 1 and 2 in association with the extension of Rio Road to the east and west and in association with the installation of new storm drain lines to the Carmel River. Removed riparian trees would include 91 mature cottonwoods, 37 arroyo willows, and 3 western sycamores. **Table 3.3-6** summarizes the proposed tree removal and replacement.

Table 3.3-6. Tree Removal and Replacement

Tree Species	Trees Removed	Trees Planted in the Habitat Reserve
Cottonwood	91	200
Sycamore	3	150
Arroyo Willow	37	300
Box Elder	4	130
Coast Live Oak	4	16
Red Alder	0	130
Dogwood	0	180
Elderberry	0	180
Other Planted Trees	296	
Total	**435**	**1,286**

Source: Zander Associates 2006

In addition, riparian woodland downstream of the Rio Road west extension may be degraded due to the diversion of flows currently entering this drainage from a culvert upstream. Construction of the Proposed Project would involve routing these flows through a new storm drain line emptying through a culvert into the Carmel River. The drainage would still receive local surface flows from the north and west. These flows may be adequate to support the riparian overstory. However, it is likely that understory riparian vegetation would be replaced by vegetation adapted to less wet conditions. In the worst-case, the riparian understory could be changed but the overstory riparian vegetation would not. While a significant impact, the potential loss of understory riparian vegetation would be more than compensated through the proposed 2006 Restoration Plan.

The 2006 Restoration Plan (Zander Associates 2006) (**Appendix C**) is considered part of the Project for this analysis. The 2006 Restoration Plan is summarized in Chapter 2, *Project Description*. The 2006 Restoration Plan would preserve 5.9 acres of existing riparian forest/ woodland adjacent to the Carmel River and restore 15.1 acres of riparian forest/woodland in the habitat preserve. The 2006 Restoration Plan calls for restoration of 6.8 acres of riparian scrub through planting riparian scrub species such as mugwort, mulefat, and California figwort and riparian groundcover. The 2006 Restoration Plan calls for restoring 8.4 acres of riparian woodland through planting of 1,286riparian woodland trees including box elder, red alder, dogwood, western sycamore, black cottonwood, Arroyo willow, and elderberry as well as riparian understory plants including mugwort, coyote brush, horsetail, Yerba Buena, and California hedge nettle and riparian groundcover.

The 2006 Restoration Plan describes the methods to implement the restoration including soil preparation, propagation, plant installation, initial irrigation, monitoring, weed management, maintenance of erosion control, irrigation maintenance, and wetland maintenance. Ten-year success criteria and 5-year interim performance criteria are identified to determine restoration success. Contingency planning and action is required by the plan if the success criteria are not met.

The 2006 Restoration Plan would result in an increase of riparian forest and woodland along the Carmel River, which would be of benefit to the local ecosystem and the species dependent on this natural community. When the 2006 Restoration Plan meets its success criteria, the impact of the Project on this community would be mitigated to a less-than-significant level; in fact, given that the

Project would increase the overall amount of riparian forest and woodland, this would be a *beneficial* impact of the Project.

Mitigation Measure BIO-4 is recommended to ensure the proposed 2006 Restoration Plan is fully implemented, monitored, funded, and that contingency planning would be realized.

While overall impacts on riparian forest and woodland would be beneficial in time, there would be an impact on this natural community related to the Proposed Project timing. As described in Chapter 2, *Project Description*, the Project Applicant proposes to build the first three phases of the residential development first and then in the fourth phase create the habitat preserve. With this timing, the Project would result in removal of approximately 0.06 acre of riparian forest/woodland during early phases of the Project for infrastructure construction (roads and drainage). Because replacement of these areas could be delayed for years, depending on Project progress and housing market conditions, in order to ensure that the Project does not result in a delay in replacing the lost habitat, **Mitigation Measure BIO-5** is recommended to reduce this interim impact to a *less-than-significant* level.

Temporary construction impacts on riparian vegetation due to inadvertent contact with construction would also be *significant* but can be reduced to a *less-than-significant* level through the implementation of **Mitigation Measures BIO-3** and **BIO-6**.

As described in Chapter 3.2, *Hydrology and Water Quality*, due to an increase in velocities in the Carmel River over a short section (~100 to 200 feet, increase from existing condition of 5.5 to 7.5 ft/second to 11 to 13.6 ft/second in the 10-year storm event) of the river on the eastern end of the Project reach, local scouring of the river channel may occur. Extensive channel adjustment (degradation or erosion) is not expected because of the limited extents of increased velocities. The channel is expected to adjust to the change in velocities, eventually reaching a new equilibrium. Local bank erosion could occur during this period. If this occurs, there could be loss of riparian vegetation along the eroded bank. Further, the Project includes three new storm drain outfalls that would be placed along the bank of the Carmel River. These new outfalls, depending on design, could also result in additional scour (or sedimentation), that could alter bank conditions and riparian vegetation in the areas around the outfalls. Loss of riparian vegetation and bank erosion along the Carmel River would be a *significant* impact, given its role in providing shade and habitat for steelhead, California-red-legged frog, and riparian bird species. This impact will be reduced to a *less-than-significant* level with **Mitigation Measure BIO-7.**

130-Unit Alternative

Similar to the Proposed Project, the 130-Unit Alternative would permanently remove up to 0.06-acre of riparian forest and woodland habitat. Construction would remove riparian woodland and forest in all areas as described in the impact discussion for Proposed Project. See **Table 3.3-6** for a summary of the proposed tree removal and replacement. Riparian woodland and forest habitat is not present on Lot 130. Permanent removal and temporary construction impacts from the 130-Unit Alternative would result in *significant* impacts; however, similar to the Proposed Project, **Mitigation Measures BIO-3**, **BIO-4**, **BIO-5**, and **BIO-6** would reduce impacts on riparian forest and woodland habitat to a *less-than-significant* level. Hydraulic modelling of the 130-Unit Alternative (Balance Hydrologic 2014b) did not indicate substantial increases in channel or overbank velocities and thus **Mitigation Measure BIO-7** is not required for this alternative.

Mitigation Measure BIO-4: Provide Funding Assurances and Reporting Concerning Restoration Progress and Success

The Project Applicant will fully implement the proposed 2006 Restoration Plan (upon approval of the Proposed Project) or newly developed and approved restoration plan (upon approval of the 130-Unit Alternative) (as modified by mitigation requirements in this document), provide funding assurances to the County to guarantee the completion of the proposed restoration prior to issuance of the first building permit for the site (to ensure completion of the restoration regardless of the completion of the residential development), provide annual monitoring of restoration progress to the County until the 10-year success criteria are met, provide contingency funding guarantees to implement contingency plans in the event the 2006 Restoration Plan is not effective.

Mitigation Measure BIO-5: Restore Riparian Forest/Woodland Concurrent with Impact to Compensate for the Permanent Loss of Riparian Forest Habitat

The Project Applicant will compensate for the permanent loss of approximately 0.06 acre of riparian forest/woodland habitat associated with the Rio Road east and west extensions through onsite restoration/creation of forested riparian habitat in accordance with the proposed 2006 Restoration Plan (Proposed Project) or newly developed and approved restoration plan for the 130-Unit Alternative[1] during Phase 1 of construction. The restoration will commence during Phase 1 and will be done on a minimum 3:1 ratio (for a total of 0.18 acre of restoration) so as to compensate for the temporary reduction in habitat while the restored habitat vegetation grows to maturity. Habitat restoration will be consistent with the proposed 2006 Restoration Plan (Proposed Project) or new 130-Unit Alternative restoration plan.

Replacement of riparian trees (i.e., willows, cottonwoods, and western sycamores) will be done concurrent with any removals and will be done at a ratio greater than 1:1 (as shown in Table 3.3-6) (Zander 2006) so as to compensate for the temporary reduction in habitat value while the replanted trees mature. In addition, given the difficulty to replicate mature cottonwoods in a floodplain, a minimum of 25% of the existing mature cottonwoods to be removed will be moved and transplanted in the restoration area during Phase 1 of the Project to provide for mature vegetation cover in the restoration area in the interim period between Project impact and full implementation of the 2006 Restoration Plan (Proposed Project) or new 130-Unit Alternative restoration plan.

Mitigation Measure BIO-6: Minimize Disturbance of Riparian Forest and Woodland

Riparian forest and woodland outside of the construction footprint will be protected from disturbance. Prior to construction, a qualified botanist will erect environmentally sensitive area fencing (orange construction barrier fencing) around riparian forest and woodland areas near the construction area, to identify and protect these sensitive resources. The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.

Mitigation Measure BIO-7: Monitor Bank Erosion in Project Reach and Restore Riparian Vegetation and River Bank, as Necessary

The Project Applicant will monitor the portion of the Carmel River adjacent to the Project for potential bank erosion and will monitor potential sedimentation and erosion around the new storm drain outfalls. A baseline survey of the river bank and riparian vegetation conditions will be conducted prior to construction. Monitoring will be at a minimum on an annual basis following the wet season and reporting will be submitted to the County annually. Where bank erosion occurs and/or riparian vegetation is identified as lost compared to baseline conditions, the applicant will obtain all required regulatory permits to restore disturbed banks and riparian vegetation. A remedial plan will be submitted to the County within 90 days of identification of bank erosion and riparian vegetation loss for review and approval. Riparian plantings and bank erosion repair will be completed before the next winter season after the identification of bank erosion and riparian vegetation loss. Remedial action will not decrease the amount of natural riverbank or the amount of riparian vegetation along the Project reach (i.e., additional restoration is necessary to compensate for structural bank stabilization, which should be avoided wherever feasible in favor of biotechnical means of bank stabilization).

Impact BIO-5: Loss of Coast Live Oak Woodland (Proposed Project – no impact; 130-Unit Alternative – less than significant with mitigation)

Proposed Project

The Proposed Project site does not support any coast live oak woodland; therefore there would be *no impact*. No mitigation is required.

130-Unit Alternative

Construction of residential development associated with Lot 130 as part of the 130-Unit Alternative could result in the loss of up to 0.8 acres of coast live oak woodland habitat in Lot 130. All coast live oak woodland habitat in the alternative site area is located on the existing golf course in Lot 130 and comprises a very sparse understory dominated black acacia saplings, toyon, and poison oak. This would represent a substantial adverse effect on a sensitive biological community that provides habitat for a variety of plants and wildlife.

The creation of additional coast live oak woodland habitat would be necessary to fully compensate for habitat impacts. As discussed above, the coast live oak woodland provides habitat for nesting birds and special-status species, including white-tailed kite and Monterey dusky-footed woodrat.

This impact would be *potentially significant,* but would be reduced to a *less-than-significant* level with implementation of **Mitigation Measure BIO-8**.

Mitigation Measure BIO-8: Create Coast Live Oak Woodland Habitat to Mitigate Permanent Loss of Coast Live Oak Woodland Habitat

Upon approval of the 130-Unit Alternative and in accordance with its restoration plan (which will be developed upon project approval), the Project Applicant will compensate for the

[1] As discussed in Chapter 2, *Project Description*, a restoration plan for the 130-Unit Alternative would be developed upon approval of the 130-Unit Alternative.

permanent loss of coast live oak woodland habitat associated with the construction of Lot 130 through onsite and/or offsite creation of oak woodland at a compensation ratio greater than 1:1, which will be determined in consultation with the regulatory agencies.

Options for the restoration of suitable oak woodland habitat include:

- **Onsite Habitat Preserve** – The 130-Unit Alternative's proposed restoration plan could be modified to include suitable coast live oak woodland habitat within the habitat preserve.
- **Onsite in Remnant Golf Course** – Because the impacts are to a small, isolated patch of coast live oak woodland habitat with disturbed, spare understory, it would be appropriate to create new oak woodland habitat on the retained portions of the golf course south of the Carmel River as compensation for the Project effect.
- **Palo Corona Regional Park** – There are suitable locations in the nearby Palo Corona Regional Park for creation of coast live oak woodland habitat with adjacent suitable upland habitat. Because the site is already controlled by the Regional Park District, the Project Applicant would be responsible to construct the creation of the coast live oak woodland habitat and to fund the management of the habitat in perpetuity.

The Project Applicant will submit and receive approval of a formal proposal from the County for creation, management, and preservation of coast live oak woodland habitat in compliance with this measure prior to issuance of any building permit for this Project. The Project Applicant will obtain all necessary regulatory and landowner approvals to implement this measure prior to construction.

Impact BIO-6: Loss of Wetlands and Other Waters of the United States and State (less than significant with mitigation)

Proposed Project

Construction of roads and houses associated with the Proposed Project would result in the loss of one California bulrush marsh and three ponds in the project area. The wetland and ponds are considered potential waters of the United States.

The Proposed Project would result in a loss of 1.4 acres of ponds and 0.3 acre of wetland habitat. This would represent a substantial adverse effect on a sensitive biological community (California bulrush marsh) and common biological communities (ponds) that provide habitat for a variety of plants and wildlife.

The proposed 2006 Restoration Plan (Zander Associates 2006) proposes 1.2 acres of restored seasonal wetland, but does not include any proposed restoration of ponds. As discussed above, the California bulrush wetland provides aquatic habitat for a number of special-status species including CRLF, and southwestern pond turtle.

In addition, construction activities and residential development could result in temporary and long-term increased inputs of fine sediment and toxic materials to the Carmel River, Intermittent Drainages 1 and 2, and the restored riparian woodland and created wetlands in the proposed habitat preserve. Inputs of sediment and toxic materials, such as oil and grease, could result in the mortality of riparian and wetland plants and wildlife. Sediment inputs could also alter the profiles of the drainages, reducing riparian area. Increased runoff resulting from added impervious surfaces in the project area could result in the alteration of drainage hydrology. Altered hydrology could result

in higher peak flows and a shorter period of flow in streams or inundation in wetlands. Shortening the period of flow in drainages could degrade the habitat value of these areas by reducing the dominance of riparian plants. Increasing peak flows in streams would reduce the stability of these channels. Increased peak flows would increase erosion and bank slumping, reducing the habitat value of these streams by choking the streambed and floodplain with fine sediment and reducing the stability of the bank and floodplain where riparian vegetation occurs.

This impact would be *potentially significant,* but would be reduced to a *less-than-significant* level by implementation of **Mitigation Measures BIO-3**, **BIO-5**, and **BIO-9a** as well as **Mitigation Measures HYD-1** through **HYD-5** (water quality measures, described in Chapter 3.2, *Hydrology and Water Quality*).

130-Unit Alternative

The 130-Unit Alternative would not affect any additional wetlands or other waters of the United States, therefore the impact analysis discussed for the Proposed Project remains the same under 130-Unit Alternative and the impact is *potentially significant*. Unlike the Proposed Project, the 130-Unit Alternative does not propose a restoration plan. However, implementation of **Mitigation Measure BIO-9b** and **Mitigation Measures HYD-1** through **HYD-5** would reduce the impact to a *less-than-significant* level.

Mitigation Measure BIO-9a: Create Ponds to Mitigate Permanent Loss of Pond Habitat

In order to ensure that implementation of the Proposed Project results in no net loss of wetland habitat functions and values, prior to construction the Project Applicant will compensate for the loss of pond habitat through onsite and/or offsite creation of pond habitat. The size and location(s) of the area(s) to be restored/created will be based on appropriate mitigation ratios derived in consultation with the regulatory agencies. The Project Applicant will replace lost pond habitat on a minimum 1: 1 compensation ratio (or greater if determined necessary by the Regional Water Board, USACE, or FWS).

Options for the restoration of suitable ponding habitat are the same as described above for **Mitigation Measure BIO-8**. If onsite pond creation on the remnant golf course is preferred, it would be appropriate because the Project impacts are to golf course ponds with a mix of adjacent golf course fairway and disturbed coyote brush scrub.

The Project Applicant will submit and receive approval of a formal proposal to the County for creation, management, and preservation of pond(s) in compliance with this measure prior to issuance of any building permit for this Project. The Project Applicant will obtain all necessary regulatory and landowner approvals to implement this measure prior to construction.

Mitigation Measure BIO-9b: Restore or Create Wetland and Pond Habitat to Mitigate Permanent Loss of Waters of the United States and State

In order to ensure that implementation of the 130-Unit Alternative results in no net loss of wetland habitat functions and values, prior to construction the Project Applicant will compensate for the loss of pond and wetland habitat through onsite and/or offsite creation of both pond and wetland habitat. A restoration plan for the 130-Unit Alternative will be developed upon project approval to compensate for the loss of wetlands and waters of the United States and state. The size and location(s) of the area(s) to be restored/created will be

based on appropriate mitigation ratios derived in consultation with the regulatory agencies. Mitigation ratios will be at least 1:1. Options for the restoration locations are the same as described above for **Mitigation Measure BIO-8**. If onsite pond creation on the remnant golf course is preferred, it would be appropriate because the Project impacts are to golf course ponds with a mix of adjacent golf course fairway and disturbed coyote brush scrub.

The Project Applicant will submit and receive approval of a formal proposal to the County for creation, management, and preservation of pond(s) in compliance with this measure prior to issuance of any building permit for this Project. The Project Applicant will obtain all necessary regulatory permits and landowner approvals to implement this measure prior to construction.

Impact BIO-7: Loss of Protected Trees (less than significant with mitigation)

Proposed Project

Construction activities associated with the Proposed Project could result in the disturbance or loss of individual protected trees, defined in the CVMP policies (2013 CVMP) as oak, madrone, or redwood trees 6 inches or more in diameter 2 feet above ground level. Protected trees could be removed or affected during staging, trimming for equipment access, and other construction-related activities. The loss of trees would conflict with the 2013 CVMP policies. Current Project design maps indicate that construction of the Proposed Project could result in disturbance or loss of 4 coast live oak trees and 20 redwoods which fall under the definition of protected trees in Monterey County. The proposed 2006 Restoration Plan (Zander Associates 2006) identifies that the Project Applicant would replant 16 coast live oaks, but does not specifically mention replanting of redwood trees. The policies do not distinguish between native and planted redwood trees; thus even if the removed 20 redwoods are planted, replacement is still required by ordinance.

As noted above, restoration is planned to occur as the fourth phase of the Project implementation and thus there would be a time lag between tree removal and replanting.

This impact would be *potentially significant*, but would be reduced to a *less-than-significant* level by implementation of **Mitigation Measure BIO-10**.

130-Unit Alternative

Similar to the Proposed Project, construction of the 130-Unit Alternative could damage or remove protected trees, which would be a *potentially significant* impact. However, with implementation of **Mitigation Measure BIO-10**, protected trees would be replaced at a minimum 1:1 ratio (Zander 2006). Implementation of this measure would reduce this impact to a *less-than-significant* level.

Mitigation Measure BIO-10: Compensate for Removal of Protected Trees

The Project Applicant will replace protected trees at a minimum ratio of 1:1 in an upland areas and planting will be concurrent with tree removal. Any trees planted as remediation for failed plantings will be planted as stipulated here for original plantings, and will be monitored for a period of 5 years following installation. The Project Applicant will also obtain a tree removal permit as required by the 1986 CVMP and 2013 CVMP and the County Zoning Ordinance (Title 21).

B. Impact on Wildlife

Impact BIO-8: Loss or Disturbance of California Red-Legged Frog Aquatic and Upland Habitat (including Movement Corridors) and Potential Loss of Adults, Larvae, or Eggs (less than significant with mitigation)

Proposed Project

Construction of the Proposed Project would result in the filling of the California bulrush wetland and ponds 1, 2, and 3, which provide potential breeding habitat and aestivation/dispersal habitat, respectively, for CRLF (totaling 0.3 acre of wetland breeding habitat and 1.4 acres of aestivation/dispersal habitat at the ponds). If CRLF were present in the California bulrush wetland or ponds, filling of these areas would result in the loss of aquatic habitat and the potential mortality of adults, larvae, or eggs. The Project would also create a substantial impediment to CRLF movement between the Carmel River, across the golf course, and the small (<0.05 acre) pond/wetland in the CMS Biological Sciences Habitat area where CRLF have been anecdotally reported. If CRLF are using the school pond/wetland, the Project would block movement to and from the pond due to the presence of Rio Road and residential development.

Project construction would also remove up to 10.9 acres of additional potential aestivation/upland habitat which consists of disturbed/open coyote brush scrub habitat (CRLF have been anecdotally reported in Intermittent Drainage 2). Some of the coyote brush scrub and riparian drainage areas on the project site may be too steep to be suitable for aestivation, but these areas still provide forage and cover adjacent to suitable aquatic habitat in the ponds. Further, it is possible (but speculative) that CRLF aestivation may also be occurring in the annual grassland area (approximately 5 acres) within the CMS Biological Sciences Project Area (north of the organic garden) and creation of a barrier to movement from the Carmel River could limit the use of this upland area as well.

The proposed 2006 Restoration Plan (Zander Associates 2008) would restore 8.3 acres of native grassland and 15.1 acres of riparian scrub and woodland for a total of 23.4 acres of upland habitat suitable for aestivation, foraging, and movement along the Carmel River. Thus, the Proposed Project would replace the upland habitat removed from the site due to residential and road development on a greater than 1:1 basis (23.4 acres created vs. 14 acres removed). Taking into account the potential additional indirect loss of approximately 5 acres of aestivation habitat within the CMS Biological Sciences Habitat, the Project would still provide greater than 1:1 replacement and the new upland would be more contiguous and in greater proximity to the Carmel River and undeveloped habitat areas in Palo Corona Regional Park to the south of the river.

Given the potential for CRLF to be present on the project site, construction activities associated with the Proposed Project could directly affect individual CRLF if present during construction due to the movement of construction equipment and indirectly affect adjacent aquatic habitat due to potential erosion/sedimentation and release of petroleum and hazardous materials used during construction.

After construction, indirect impacts on CRLF aquatic habitat would include increased runoff and potential increase of urban contaminants flowing into the river could result in changes to the quality of aquatic habitat (as described under Impact BIO-4) for the CRLF within the Carmel River. These changes could result in the loss of or diminish the quality of breeding habitat for the CRLF.

Although the proposed 2006 Restoration Plan would result in an increase in upland habitat for the CRLF along the Carmel River and would replace lost wetland habitat, the plan does not call for

replacement of suitable breeding habitat (i.e., wetlands) to mitigate for the direct removal of the ponds on the site and the indirect effect on migration to the CMS pond/wetland, and thus the Project would have a *significant* impact related to the loss of suitable breeding habitat for the CRLF. Further, given that the habitat restoration is only proposed to occur after development of the first three phases of residential development, there would also be a temporal loss of aquatic and upland habitat which is also considered a *significant* impact.

The potential for the loss of breeding habitat and the temporary loss of aquatic and upland habitat and potential substantial disturbance or mortality of CRLF, a federally threatened species, would be a *significant impact*. This impact would be minimized and reduced to a *less-than-significant* level by implementation of **Mitigation Measures BIO-3 and BIO-5** through **BIO-7** and **Mitigation Measures BIO-11** through **BIO-15**, described below.

130-Unit Alternative

The 130-Unit Alternative would not affect any additional CRLF aquatic habitat, but would affect areas that serve as upland/dispersal habitat. Potential direct and indirect impacts from the 130-Unit Alternative would be the same as those analyzed for the Proposed Project, and therefore, would be a *significant* impact. This impact would be minimized and reduced to a *less-than-significant* level by implementation of **Mitigation Measures BIO-3 and BIO-5** through **BIO-7** and **Mitigation Measures BIO-11** through **BIO-15** described below.

Mitigation Measure BIO-11: Conduct Formal Site Assessment and Consult with U.S. Fish and Wildlife Service to Determine if Protocol-Level Surveys are Necessary OR Assume CRLF Presence

Prior to construction, the applicant will retain qualified biologists to conduct a formal site assessment of the Proposed Project or 130-Unit Alternative site for CRLF according to FWS' *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (August 2005). The site assessment includes assessing the project area and a 1-mile area around the project area. The assessment will include the adjacent CMS pond/wetland and adjacent annual grassland area. The results of the site assessment will be submitted to the Ventura FWS field office, which will determine if protocol-level surveys are necessary. If these surveys are determined to be necessary, they will be conducted according to the guidelines and a report of the survey results will be submitted to FWS. Based on the results of the site assessment and surveys, FWS would provide guidance on how the CRLF should be addressed through the federal ESA Section 7 or Section 10 process. If CRLF are not found during protocol-level surveys and FWS concurs with this negative finding for both the project site and the adjacent CMS habitat, no further mitigation would be necessary; however, it is uncertain if FWS would concur with this finding, given that red-legged frogs are known to occur in the Carmel River and CRLF are anecdotally reported at the CMS habitat site.

Alternatively, if acceptable to FWS, the applicant can assume that CRLF are present and not do the surveys.

If CRLF are found, the FWS otherwise determines that the site is CRLF habitat, or it is assumed that CRLF are present, **Mitigation Measures BIO-12** through **BIO-14** will be implemented.

Mitigation Measure BIO-12: Restrict Filling of Ponds/Wetlands and Initial Ground-Disturbing Activities in CRLF Habitat to the Dry Season (May 1 to October 15)

To minimize mortality of CRLF eggs, larvae, and adults, the Project Applicant or its contractor would only perform construction activities that would result in fill of ponds 1, 2, and 3, and the California bulrush wetland during May 1 through October 15. During this time of year, CRLF would have left breeding areas to aestivate underground and would not be present in ponds. CRLF may still be present at ponds during this time of year; however, the number of individuals is likely to be lower than earlier in the season. Therefore, prior to filling, ponds will be surveyed for CRLF (see **Mitigation Measure BIO-14**). To minimize disturbance of breeding and dispersing CRLF, initial construction activity (including grading) within and CRLF upland habitat (as defined above) will be conducted during the dry season between May 1 and October 15 or before the onset of the rainy season, whichever occurs first. If construction activities are necessary in upland habitat between October 16 and April 30, the Project Applicant will contact the FWS Ventura field office for approval to extend the work period.

Mitigation Measure BIO-13: Conduct a Preconstruction Survey for CRLF

Prior to construction activities, the Project Applicant or its contractor will obtain the services of a qualified FWS-approved biologist. The biologist will conduct a preconstruction survey 2 weeks prior to the onset of work for CRLF. The name and credentials of the biologist will be submitted to FWS for approval at least 15 days prior to the commencement of work. The survey will include all suitable breeding, foraging, cover, and aestivation habitat in the construction area. Aestivation areas adjacent to the work area will be fenced and avoided. If potential aestivation burrows cannot be avoided, they will be excavated by hand prior to construction and the approved biologist will move individuals to natural burrow sites within 0.25 mile of the construction site. If a CRLF is found within aquatic habitat, the biologist will contact FWS to determine if relocation of any life stages is appropriate. The biologist will document the results of the survey on construction survey log sheets, which will be kept on file at the County.

Mitigation Measure BIO-14: Monitor Initial Ground-Disturbing Construction Activities within CRLF Habitat

The Project Applicant or its contractor will retain the services of a qualified FWS-approved biologist to monitor initial ground-disturbing construction activities within CRLF upland habitat. The biologist will look for CRLF during grading, excavation, and vegetation removal activities. If a CRLF is discovered, construction activities will cease until the frog has been removed from the construction area and released near aquatic habitat within 0.25 mile from the construction area. Any relocation of these species would require take authorization from the FWS.

Mitigation Measure BIO-15: Compensate for the Removal and Disturbance of CRLF Breeding Habitat

The Project Applicant will compensate for the permanent loss of suitable breeding habitat for CRLF by creating or preserving suitable aquatic habitat within a FWS-approved conservation area (and preserving adjacent upland habitat). The location and size of the compensation aquatic habitat area will be determined in consultation with FWS through the ESA Section 7 process, but under no circumstances should the compensation area be calculated on less than a 1:1 ratio (1 acre for each 1 acre lost) and potentially more if a greater ratio is determined by the

FWS. The actual compensation ratio will be determined in consultation with FWS. The conservation area will be permanently restricted from development and will be managed for the benefit of CRLF with funding for the management guaranteed in perpetuity. A management plan for the conservation area will be developed by the Project Applicant and approved by FWS and the County prior to construction.

Options for the restoration of suitable aquatic habitat include:

- Onsite Habitat Preserve – The 2006 Restoration Plan for the Proposed Project could be modified, or the newly developed restoration plan (upon approval of the 130-Unit Alternative) could include, suitable breeding ponds for CRLF within the habitat preserve. The 2006 Restoration Plan proposal for provision of upland habitat would provide sufficient adjacent upland habitat to the created ponds that can be managed for the benefit of the CRLF.
- Onsite in Remnant Golf Course – Given that the project's effects are to golf course ponds with a mix of adjacent golf course fairway and disturbed coyote brush scrub, it would be appropriate to create new ponds on the retained portions of the golf course south of the Carmel River as compensation for Project effects. The area south of the river is directly adjacent to the Palo Corona Regional Park and thus new ponds would have good connectivity to the river and to adjacent undeveloped upland habitat. In this scenario, the Project Applicant would be responsible to create, manage, and preserve the new ponds only. The location of the ponds relative to the adjacent upland habitat would need to be approved by FWS.
- Palo Corona Regional Park – There are suitable locations in the nearby Palo Corona Regional Park for creation of aquatic habitat with adjacent suitable upland habitat. Because the site is already controlled by the Regional Park District, the Project Applicant would be responsible to construct the new pond or ponds and to fund the management of the ponds in perpetuity, but not the management of adjacent upland habitat.

Given the timing concerns noted above, the applicant will be required to create the new aquatic habitat concurrently with any disturbance to existing aquatic habitat and with any indirect effects to the potential CRLF aquatic habitat at the CMS pond/wetland site.

The Project Applicant will submit and receive approval of a formal proposal to the County for creation, management, and preservation of pond(s) in compliance with this measure prior to issuance of any building permit for this Project. The Project Applicant will obtain all necessary regulatory and landowner approvals to implement this measure prior to construction

Impact BIO-9: Loss or Disturbance of Southwestern Pond Turtle Aquatic Habitat and Potential Loss or Disturbance of Southwestern Pond Turtles (less than significant with mitigation)

Proposed Project

Construction of the Proposed Project would result in the filling of the California bulrush wetland which provides potential aquatic habitat for southwestern pond turtle. If southwestern pond turtles are present in the wetland, filling of this area would result in the loss of aquatic habitat and the potential mortality of adult or juvenile turtles. Southwestern pond turtles may also use the CMS pond/wetland.

Construction activities (such as grading and movement of heavy equipment) adjacent to the Carmel River and along Intermittent Drainages 1 and 2 could result in injury or mortality of southwestern pond turtles or pond turtle nests containing eggs or young individuals if these areas are being used for egg deposition. Declines in populations of western pond turtles throughout the species range have been documented (Jennings and Hayes 1994). Loss of individuals within the project area could diminish the local population and lower reproductive potential, which could contribute to the further decline of this species. The loss of upland nesting sites or eggs would also decrease the local population.

Because the habitat preserve would be constructed adjacent to the Carmel River, the conversion of golf turf to natural habitat would replace and provide additional upland and nesting habitat along the river for turtles, which would compensate for the loss of upland habitat. However the 2006 Restoration Plan does not provide for replacement of the lost pond habitat, which is a *significant* impact.

For these reasons, this impact would be *potentially significant*, but would be reduced to a *less-than-significant* level by implementation of **Mitigation Measure BIO-16**.

130-Unit Alternative

The 130-Unit Alternative would not affect any additional southwestern pond turtle aquatic habitat, but similarly to the Proposed Project, it would affect the California bulrush wetland, which would be a *potentially significant* impact. This impact would be reduced to a *less-than-significant* level by implementation of **Mitigation Measure BIO-16**.

Mitigation Measure BIO-16: Conduct a Preconstruction Survey for Southwestern Pond Turtles and Monitor Construction Activities within Suitable Aquatic Habitat

To avoid construction-related impacts on southwestern pond turtles, the Project Applicant will retain a qualified wildlife biologist to conduct a preconstruction survey for southwestern pond turtles no more than 48 hours before the start of construction within suitable aquatic habitat (as discussed above) and upland habitat (along the Carmel River and Intermittent Drainages 1 and 2). The wildlife biologist will look for adult pond turtles, in addition to nests containing pond turtle hatchlings and eggs. If an adult southwestern pond turtle is located in the construction area, the biologist will move the turtle to a suitable aquatic site, outside the construction area. If an active pond turtle nest containing either pond turtle hatchlings or eggs is found, the Project Applicant will consult DFW to determine and implement appropriate avoidance measures, which may include a "no-disturbance" buffer around the nest site until the hatchlings have moved to a nearby aquatic site.

In addition to the preconstruction survey, a qualified biological monitor will be present during initial construction activities within aquatic and upland habitat, as described above in **Mitigation Measure-BIO-14**. If a southwestern pond turtle is observed within the construction area, the biological monitor will attempt to capture and move the turtle to a suitable aquatic site, outside the construction area.

Impact BIO-10: Potential Loss or Disturbance of Breeding or Wintering Western Burrowing Owls and Their Burrows (less than significant)

Proposed Project

The Proposed Project site does not contain extensive areas suitable for ground squirrel burrows that could be utilized by burrowing owls. A general rule of thumb is that a breeding pair of owls requires approximately 6.5 acres of habitat (The California Burrowing Owl Consortium 1993). The open coyote bush scrub habitat in the Proposed Project area consists of small, fragmented patches. During the August 20, 2014 field survey, very few ground squirrel burrows were observed and surveys conducted by Rana Creek Habitat Restoration in 2003 and 2004, and Zander Associates in 2008 (Zander 2008) exhibited similar results; burrowing owls were not observed nor were any suitable burrows observed outside the golf course. There are no CNDDB records of burrowing owls within 5 miles of the project area. In addition, the proposed 2006 Restoration Plan would create 8.3 acres of native grassland that would likely be colonized by ground squirrels. Therefore this impact is considered *less than significant*. No mitigation is required.

130-Unit Alternative

Similar to the Proposed Project, the 130-Unit Alternative site does not contain extensive areas suitable for ground squirrel burrows. The open coyote bush scrub could be utilized by ground squirrels. The majority of this habitat is the same as described above for the Proposed Project, as well as a small sliver located in Lot 130 to the east side of the coast live oak woodland habitat (**Figure 3.3-1**). However, during the August 20, 2014 field survey, very few ground squirrel burrows were observed and there are no CNDDB records of burrowing owl within 5 miles of the project area. Therefore this impact is considered to be *less than significant*. No mitigation is required.

Impact BIO-11: Potential Loss or Disturbance of Tricolored Blackbirds and Their Breeding Habitat (less than significant with mitigation)

Proposed Project

Potential breeding habitat for tricolored blackbirds is present within the California bulrush wetland (0.3 acre) in the Proposed Project site. As mentioned previously, the potential for tricolored blackbird to nest in these areas is low. However, if tricolored blackbirds were breeding in this area, filling of this wetland would result in the removal of breeding habitat and the potential loss of tricolored blackbird adults, young, or eggs. The proposed 2006 Restoration Plan does not propose the creation of vegetation conditions suitable for tricolored blackbird (i.e., perennial emergent wetland). Because the population of tricolored blackbirds has declined significantly from historic levels throughout its range (Beedy and Hamilton 1997), loss of individual tricolored blackbirds and their young or eggs and loss of nesting habitat would be *significant*, but would be reduced to a *less-than-significant* level by implementation of **Mitigation Measures BIO-17** and **BIO-18**. Implementation of these measures would also ensure compliance with the MBTA.

130-Unit Alternative

The 130-Unit Alternative would not affect any additional tricolored blackbird breeding habitat; however, similar to the Proposed Project, the 130-Unit Alternative would affect the California bulrush wetland which could support tricolored blackbird adults, young, and eggs, loss of which

would be a *significant* impact. This impact would be reduced to a *less-than-significant* level by implementation of **Mitigation Measures BIO-17** and **BIO-18**.

Mitigation Measure BIO-17: Conduct Surveys for Nesting Tricolored Blackbirds

The Project Applicant will retain a qualified biologist to conduct two surveys for nesting tricolored blackbirds in the California bulrush wetland during the breeding season (late March through June). The biologist will survey suitable breeding habitat within the project area. The first survey will be conducted during the spring prior to construction, and if, as determined by the qualified biologist, suitable habitat remains on the project site, the second survey may be conducted while construction is in progress. If construction spans multiple years and suitable habitat remains, this surveys are required on an annual basis. If no nesting tricolored blackbirds are found, no further action is necessary. If tricolored blackbirds are found to be nesting within the project area, the Project Applicant will consult DFW to determine and implement appropriate avoidance measures, which may include a "no-disturbance" buffer around the nest site until the breeding season has concluded.

Mitigation Measure BIO-18: Redesign Restoration Plan (Proposed Project) to Replace Lost Tricolored Blackbird Nesting Colony Habitat or Incorporate Tricolored Blackbird Nesting Habitat into the Newly Developed 130-Unit Alternative Restoration Plan (If Present).

The Project Applicant will replace lost tricolored blackbird nesting habitat in coordination with DFW if a tricolored blackbird nesting colony is documented (per **Mitigation Measure BIO-16** above) in the California bulrush wetland. This mitigation is not required if the nesting habitat would not be affected or if only individual nesting is documented in the project area.

Impact BIO-12: Potential Loss or Disturbance of Monterey Dusky-Footed Woodrat or Their Nests (less than significant with mitigation)

Proposed Project

Construction activities within riparian woodland and forest along the Carmel River and intermittent drainages could destroy Monterey dusky-footed woodrat middens (nests) and injure or kill individuals, and remove suitable habitat. Impacts on Intermittent Drainages 1 and 2 would occur during construction of the two proposed access roads to the proposed development. Because the proposed habitat preserve would be constructed adjacent to the Carmel River, the conversion of golf turf to natural habitat would replace and provide additional riparian habitat along the river for woodrats, which would compensate for the amount of riparian forest/woodland habitat removed by the Project.

Because of the limited range of this subspecies, it is considered rare. Only four occurrences have been recently documented in Monterey County (California Department of Fish and Wildlife 2014). Loss of individuals within the project area could diminish the local population and lower reproductive potential, which could result in a local decline of this subspecies. For these reasons, this impact would be *potentially significant*, but would be reduced to a *less-than-significant* level by implementation of **Mitigation Measure BIO-19**.

130-Unit Alternative

The 130-Unit Alternative would affect the habitats described above for the Proposed Project as well as an additional 0.8 acres of coast live oak woodland in Lot 130. Loss of individuals from construction of the 130-Unit Alternative would be *potentially significant*. Implementation of **Mitigation Measure BIO-19** would reduce this impact to a *less-than-significant* level.

Mitigation Measure BIO-19: Conduct Surveys for Woodrat Middens and Relocate Woodrats and Middens Prior to Construction Activity

The Project Applicant will retain a qualified biologist to conduct a survey for woodrat middens in all suitable habitat in the Proposed Project area or 130-Unit Alternative area that will be affected by construction. This survey will be conducted in the non-breeding season (between October 1 and December 31) prior to any clearing or grading activities in the project area. If no middens are found within this area, no further action is required.

Any active middens that will not be in areas of Project-related grading or vegetation removal will be avoided and protected with a minimum 25-foot buffer. Middens that cannot be avoided will be dismantled and relocated during the non-breeding season (between October 1 and December 31) prior to land clearing activities to allow animals to escape harm and to reestablish territories for the next breeding season. Dismantling will be done by hand, allowing any animals to escape either along existing woodrat trails or toward other available habitat. If a litter of young is found or suspected, nest material should be replaced, and the nest left alone for 2 to 3 weeks before a recheck to verify that young are capable of independent survival before proceeding with nest dismantling. The biologists will attempt to relocate any removed middens to the same area where woodrats are released.

Impact BIO-13: Potential Loss or Disturbance of Tree and Shrub Nesting Migratory Birds and Raptors (less than significant with mitigation)

Proposed Project

Coyote brush scrub, Monterey pine stands, and riparian forest in and adjacent to the Proposed Project site provide suitable nesting habitat for special-status birds including white-tailed kite, purple martin, and yellow warbler. These habitats also provide suitable nesting habitat for non-special–status migratory birds, including red-shouldered hawk, red-tailed hawk, Nuttall's woodpecker, California thrasher, spotted towhee, wrentit, Anna's hummingbird, and red-winged black bird. Because the habitat preserve would be constructed adjacent to the Carmel River, the conversion of golf turf to natural habitat would replace shrubs and trees that would be lost during construction. Removed trees would be replaced at a 1:1 (and sensitive species greater than 1:1)as part of the 2006 Restoration Plan. However, the restoration is proposed to be completed after residential development and thus there would be a temporary *potentially significant* loss of nesting habitat. **Mitigation Measure BIO-5** is recommended to reduce this temporary impact to a *less-than-significant* level.

If construction occurs during the breeding season (February 1 to September 15), construction activities (e.g., vegetation removal, grading, noise) that occur within the project area could result in nest abandonment and subsequent loss of eggs or developing young at active nests located in or near the project area. This impact would be *potentially significant* if the subsequent population declines affected the viability of the local population. This impact would also be in conflict with the

2010 General Plan update. Disturbance that results in nest abandonment and death of young or loss of reproductive potential at active nests would also violate California Fish and Game Code Sections 3503 (active bird nests) and the MBTA. Implementation of **Mitigation Measure BIO-20** would reduce this impact to a *less-than-significant* level and avoid violating the MBTA and California Fish and Game Code.

130-Unit Alternative

The habitats described above for the Proposed Project, as well as the coast live oak woodland in Lot 130, provide suitable nesting habitat for special-status migratory birds. Loss of nests, eggs, or young would be *potentially significant*. Implementation of **Mitigation Measure BIO-20** would reduce this impact to a *less-than-significant* level.

Mitigation Measure BIO-20: Remove Vegetation during the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds and Raptors

During construction of the Proposed Project or 130-Unit Alternative, the Project Applicant or its contractor will ensure that construction contractors remove trees and shrubs only during the nonbreeding season for migratory birds (September 16 through January 30). In addition, removal of vegetation or filling of ponds or wetlands in the project area will also take place during the nonbreeding season to avoid impacts on nesting birds in these areas. To further minimize impacts, one of the following options will be implemented.

- If construction activities are scheduled to occur during the breeding season (February 1 through September 15), a qualified wildlife biologist will be retained by the Project Applicant to conduct focused nesting surveys in and adjacent to the project area. The surveys will be conducted within 1 week prior to initiation of construction activities and at any time between February 1 and September 15. The area surveyed shall include all construction areas as well as areas within 300 feet outside the boundaries of the areas to be cleared or as otherwise determined by the biologist. If the Project is constructed in phases, a nest survey shall be required prior to implementation of each phase and when construction stops at a portion of the site where suitable nesting habitat remains for more than 15 days. Additionally, if construction spans multiple years, at least one nest survey shall be conducted at the beginning of each year of Project implementation between February and May.
- If no active nests are detected during surveys, then no additional mitigation is required. If surveys indicate that migratory bird or raptor nests are found in any areas that would be directly affected by construction activities, a no-disturbance buffer will be established around the site to avoid disturbance of the nest site until after the breeding season or after a wildlife biologist determines that the young have fledged (usually late-June to mid-July). The extent of these buffers will be determined by a wildlife biologist and will depend on the level of noise or construction disturbance, line of site between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors will be analyzed in order to make an appropriate decision on buffer distances. The buffers will be maintained until the breeding season has ended or until a qualified biologist determines that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

- If construction activities begin prior to the breeding season (i.e., if construction activity begins between September 16 and January 30), then construction can proceed until it is determined that an active migratory bird or raptor nest is subject to abandonment as a result of construction activities. Construction activities must be in full force, including at a minimum, grading of the site and development of infrastructure, in order for construction to continue (a minor activity that initiates construction but does not involve the full force of construction activities will not qualify as "pre-existing construction"). If any birds or raptors nest in the vicinity(300 feet for raptors and 50 feet for passerines) of the Project under this pre-existing construction condition, then it is assumed that they are or will habituate to the construction activities. Under this scenario, a nesting bird survey will still be conducted on or after February 1 to identify any active nests in the vicinity, and active sites will be monitored by a wildlife biologist periodically until after the breeding season or after the young have fledged (usually late-June to mid-July). If active nests are identified on or immediately adjacent to the project site, then all non-essential construction activities (e.g., equipment storage, meetings) will be avoided in the immediate vicinity of the nest site; however, construction activities can proceed.

Impact BIO-14: Potential Loss or Disturbance of Pallid Bat and Non-Special–Status Bats Species (less than significant with mitigation)

Proposed Project

Removal of trees with cavities during Project construction could result in the mortality, injury, or disturbance of bats if they were roosting within these trees when they were removed. Because construction would not occur at night, the foraging activities of bats would not be disturbed. Alternative roosting sites (other trees) are available near the project area and bats may use these alternate sites if construction activities discourage them from using trees within the project area. However, there may be some permanent loss of suitable roosting habitat if trees with suitable cavities are removed. Because the habitat preserve would be constructed adjacent to the Carmel River, the conversion of golf turf to natural habitat would replace trees that would be lost during construction and over time, these may provide roosting habitat for bats. Loss of individual pallid bats within the project area could diminish the local population and lower reproductive potential, which could result in a local decline of this species. This impact would be *potentially significant*, but would be reduced to a *less-than-significant* level by implementation of **Mitigation Measure BIO-21**.

130-Unit Alternative

Similar to the Proposed Project, trees throughout the 130-Unit Alternative site, including Lot 130, provide roosting habitat for bat species. Loss of pallid bat individuals would be a *potentially significant* impact; however **Mitigation Measure BIO-21** would reduce the impact to a *less-than-significant* level.

Mitigation Measure BIO-21: Conduct a Survey for Suitable Roosting Habitat and Evidence of Roosting Bats and Avoid Disturbing Them

During April to September before construction begins, the Project Applicant will retain a qualified bat biologist who will survey trees that will be removed in the project area and identify any snags, hollow trees, or other trees with cavities that may provide suitable roosting habitat for pallid bats and non-special–status bats. This survey will be conducted before any tree

removal occurs. If no suitable roosting trees are found, removal of trees may proceed (in accordance with **Mitigation Measure BIO-11**). If snags, hollow trees, or other trees with suitable cavities are found, these will be examined for roosting bats. If bats are not found and there is no evidence of use by bats, removal of trees may proceed. If bats are found or evidence of use by bats is present, trees will not be removed until DFW is consulted for guidance on measures to take to avoid and minimize disturbance of the bats. Measures may include excluding bats from the tree prior to their hibernation period and before construction begins. Bat boxes will be installed within the habitat preserve to compensate for the temporal loss of roosting habitat. Bat boxes will be installed prior to the removal of any trees used by bats on a minimum 1:1 basis (1 bat box for each identified active bat location).

Impact BIO-15: Temporary and Permanent Impact on Steelhead Trout and other Carmel River Fish (less than significant with mitigation)

Proposed Project

The Proposed Project could result in five different potential impacts on steelhead and other fish in the Carmel River: construction-related impacts, stormwater runoff from residential development, changes in habitat due to changes in water use levels, changes in habitat due to changes in stream morphology, and potential fish stranding during high-flow events.

Construction Impact

Runoff from proposed construction activities could temporarily degrade water quality in Carmel River (see Chapter 3.2, *Hydrology and Water Quality*), which may adversely affect fish downstream from the site. These temporary disturbances would result in adverse effects on special-status fish species. This impact would be *potentially significant*, but would be reduced to a *less-than-significant* level by implementation of **Mitigation Measures HYD-1** through **HYD-5** (see Chapter 3.2, *Hydrology and Water Quality*).

Stormwater Runoff From Residential Development

As described in Chapter 3.2, *Hydrology and Water Quality*, the Project would result in increased residential stormwater runoff that may contain contaminants that could affect the water quality in the Carmel River. This would be a *significant* water quality impact and a *significant* biological impact on steelhead and other fish in the Carmel River. **Mitigation Measures HYD-1** through **HYD-5** see Chapter 3.2, *Hydrology and Water Quality*) would reduce this potential water quality and biological resource impact to a *less-than-significant* level.

It should be noted that the benefit of habitat conversion from active golf course use (with its associated herbicide and fertilizer use) to residential and park/habitat preserve uses should result in a net reduction in loading of herbicides and fertilizer into the Carmel River given the reduction in irrigated acreage from approximately 57 acres at present to fewer than 20 acres with the Project (3 acres of irrigated/maintained park, 3 acres of irrigated parkways, 4 acres of retained golf course, and perhaps as much as 5 to 10 acres within residential lots).

Changes in Water Use

As analyzed in Chapter 3.10, *Public Services, Utilities, and Recreation*, the Project is expected to reduce withdrawals from the Carmel River alluvial aquifer during wet, average, dry, and very dry

years. Reduction in withdrawals from the Carmel River alluvial aquifer would mean that normal (i.e., non-storm event) flows in the lower part of the river would be greater with the Project than without. Increased flows could contribute to improved steelhead migratory access, larger areas of rearing habitat, improved riparian vegetation and/or improved water quality (dissolved oxygen, temperature, etc.) in the river and in the Carmel lagoon. This would be a *beneficial* impact on steelhead and other fish species in the Carmel River. No mitigation is required.

Stream Morphology

As analyzed in Chapter 3.2, *Hydrology and Water Quality*, filling of a portion of the 100-year floodplain for residential development would increase high-flow stream velocities in a small (100 to 200 foot) section of the Carmel River adjacent to the Proposed Project. As discussed above under Impact BIO-4, this change could result in limited bank erosion and loss of riparian vegetation. This impact can be mitigated to a *less-than-significant* level through **Mitigation Measure BIO-7**.

Regarding steelhead migration upstream on the Carmel River, during normal flow conditions, flow velocities are not expected to increase in any substantial way that might affect migration or energy expended during migration.

However, during high-flow events, as discussed in Chapter 3.2, *Hydrology and Water Quality*, flow velocities would increase at certain locations in the Project reach. However, it should be noted that high-flow events (such as 10-year flows) would constitute a very small portion of the upstream migration period for steelhead in any given year.

Swimming speeds for adult steelhead have been estimated as 0 to 5 feet per second (fps) for cruising (a speed that can be maintained for hours), sustained speeds of 5 to 14 fps (a speed that can be maintained for minutes), and darting speeds of 14 to 26 fps (a single burst, not sustainable) (Bjornn and Reiser 1991; Bell 1990). Maximum velocity that enables upstream migration of adult steelhead has been estimated as 8 fps (Bjornn and Reiser 1991).

There are 19 cross-sections in the HEC-RAS model along the Project reach. Based on the flood modeling done for the Project, under existing 10-year flow conditions channel velocities in the Project reach range from 3.5 fps to 10.9 fps and one cross-section (Station 52) has a flow that is greater than 8 fps. Assuming linear changes in flow between cross-sections, flows greater than 8 fps likely occur over a reach of about 180 feet in length under existing conditions. With the Project, 10-year flow channel velocities in the Project reach would range from 2.2 fps to 13.6 fps and two cross-sections (Stations 63 and Station 64) would have flows greater than 8 fps. Assuming linear change in flow between cross-sections, flows greater than 8 fps likely would occur over a reach of about 280 feet. Thus, the Project would increase the length that steelhead would have to exceed the maximum velocity that enables upstream migration for a distance of about 100 feet for flows under 10-year conditions. The increased velocities for the reach with flows greater than 8 fps are within the range of sustained speeds for adult steelhead, and thus migration would not be impeded, even under 10-year flow conditions. While steelhead would exert greater energy in the short reach with flows greater than 8 fps under 10-year flow conditions, distance-averaged velocity over the entire Project reach during 10-year flow conditions would actually slightly decrease from 5.8 fps to 5.5 fps indicating that steelhead should exert nearly the same effort as under existing 10-year flow conditions. Thus, this would be *a less-than-significant* impact for 10-year flow conditions. No mitigation is required.

It should be noted that 10-year flow conditions occur infrequently and for a limited duration, and thus the duration of this impact in any given year is limited.

For less than 10-year flow conditions, channel velocities would be far less than those for 10-year flow conditions for the vast majority of steelhead migration windows, and this is also considered a *less-than-significant* impact for less than 10-year flow conditions. No mitigation is required.

High-Water Flow Stranding Potential

The excavation of approximately 120,000 cubic yards of soil from the lower floodplain and creation of a basin within the park/habitat preserve area could strand fish during high-flow events.

The 10-year flow is 11,000 cubic feet per second. The water surface elevation (WSEL) for this 10-year flow at the upstream end of the basin would be 33.0 feet whereas the lip of the basin is 35 feet. At the middle of the basin, the 10-year WSEL would be 33.4 feet compared to the basin edge would be between 34 and 35 feet. At the downstream end of the basin, the 10-year WSEL would be 32.2 feet and the basin edge elevation would be between 29 and 30 feet. Thus, for a 10-year flow event, the basin would not overtop at the upper end or middle, but flow would enter from the lower end of the basin. The 10-year flow was the smallest flow analyzed, so it is unknown if the basin would fill from the lower end more frequently such as for a 5-year or 2-year event.

Since there is no outlet channel from the basin, it is possible that steelhead and other fish could be stranded in the basin during high-flow events at a more frequent interval than every 10 years. If steelhead were to become trapped in the new basin, this would be a *potentially significant* impact. Although this impact would be infrequent and thus would not be expected to result in stranding of large numbers of steelhead that might affect population levels, **Mitigation Measure BIO-22** would minimize potential mortality of individual steelhead during high-flow events and thus this impact would be reduced to a *less-than-significant* level.

130-Unit Alternative

The 130-Unit Alternative would not affect any additional fish habitat, therefore the 130-Unit Alternative would result in similar impacts on steelhead trout and other Carmel River fish described above for the Proposed Project. The analysis of construction impacts, stormwater runoff from residential development, and stream morphology would remain the same for the 130-Unit Alternative as the Proposed Project and could be *significant* but would be reduced to *less-than-significant* levels with the implementation of **Mitigation Measures HYD-1** through **HYD-6**. Of note, the 130-Unit Alternative would result in the lowering of withdrawals from the Carmel Valley aquifer, which would benefit flows for the Carmel River and would result in dedication of water for instream beneficial uses. High-water flow stranding from construction of the new site basin would be a *significant* impact but would be reduced to a *less-than-significant* level with implementation of **Mitigation Measure BIO-22**.

Mitigation Measure BIO-22: Rescue Steelhead, if Stranded in Site Basin During High-Flow Events

The Project Applicant will apply to the NOAA Fisheries and to the DFW for permission to rescue steelhead if they become trapped in the new site basin. The Project Applicant will be responsible for arranging the inspection of the basin after any storm event that results in temporary filling from the Carmel River. Steelhead will be rescued from the basin and either returned to the

Carmel River immediately and/or be held at an appropriate facility (such as the MPWMD Sleepy Hollow facility) until it is safe to return them to the river. The Project Applicant may choose to effect this mitigation through arrangement with organizations that are already involved with fish rescue on the Carmel River such as MPWMD and the Carmel River Steelhead Association.

The Project Applicant will obtain all necessary approvals and make all implementation arrangements for steelhead rescue prior to the construction of the new site basin and will provide proof of such permits and arrangements to the County.

C. Impact on Wildlife Movement, Corridors, and Nursery Sites

Impact BIO-16: Potential Adverse Impact on Wildlife Movement, Wildlife Corridors, and Nursery Sites (less than significant with mitigation except as it relates to CRLF and southwestern pond turtle discussed above)

Proposed Project

The Project would not impede east-west wildlife movement along the Carmel River and with the implementation of the proposed 2006 Restoration Plan (Zander Associates 2006) would enhance the extent and quality of the adjacent riparian corridor along the Project frontage with the river.

However, construction of the residential development and associated roads would interfere with the movement of terrestrial wildlife movement along two corridors.

- North-south movement through the CMS habitat area.
- North-south movement to and from agricultural/undeveloped parcels along Val Verde Drive.

Wildlife movement corridors are shown on **Figure 3.3-3.**

Wildlife Movement to and Through the CMS Habitat Area

While it would not be physically impossible for terrestrial wildlife to move through the new residential area to reach the CMS habitat area, it is likely that the diversity of wildlife would be reduced within the remnant scrub and grassland areas within the CMS habitat project area due to impediments to wildlife movement from the Proposed Project. Avian species would not have a physical barrier to movement to the CMS site, but due to the removal of scrub and riparian habitat on the Hatton and Stemple Parcels which provides cover for a number of species, the diversity of avian species on the CMS site could also decline.

The CMS habitat area is no doubt important to the environmental education mission of the habitat project and the school and is used by a variety of species (as documented by the bird counts and other studies done by students) and the connection of the CMS habitat area to the Carmel River is important to both the environmental education mission and to the diversity of species found on the CMS site. However, under CEQA, this biological resource analysis is focused on the significance of the physical impact on biological resources. Consideration of the impact of the Project on adjacent land uses, including the CMS Biological Sciences Project and environmental education is addressed separately in Chapter 3.5, *Land Use*.

While wildlife movement would be diminished between the Carmel River and the CMS habitat site and this would diminish the environmental education opportunities on the school property itself,

this is not considered a significant physical impact on wildlife movement corridors for the following reasons.

- The primary east-west wildlife movement corridor in the project area is the Carmel River. The Project, with implementation of the proposed 2006 Restoration Plan, would increase the amount and quality of the riparian habitat immediately adjacent to the Carmel River which would improve the value of the river as a wildlife corridor compared to existing conditions.
- North-south wildlife movement at the mouth of Carmel Valley from south of the Carmel River to undeveloped areas north of Carmel Valley is already somewhat impaired at present due to the presence of residential and commercial development, roadways (in particular Carmel Valley Road), as well as institutional uses (such as CMS and the community church) and the CMS habitat area is located within that partially developed context.
- The CMS habitat area is relatively small, is used frequently by students for environmentally education activities (that introduce frequent human intrusion of noise and presence) and is surrounded by development (school, church, golf course, and Carmel Valley Road), and thus is not a pristine wildlife movement corridor at present. Further, the corridor is fairly narrow (~300 feet at the narrowest point), which means that wildlife movement throughout this area is always in close proximity to human disturbances.
- Even with loss of the wildlife movement corridor through the CMS habitat area, there would remain larger north-south movement corridors across the retained golf course between Rio Road (east) and the Rancho Cañada Golf Course parking lot (approximately 700 feet wide) and between the Rancho Cañada clubhouse and residential development to the east (approximately 1,600 feet wide). Wildlife using these corridors must also cross Carmel Valley Road which would be an impediment to less motile species, but the road has a similar effect along the entire length of the multi-lane section.

As described under the *California Red-Legged Frog* and *Southwestern Pond Turtle* sections, the Project is expected to potentially impede movement of special-status species (including CRLF and southwestern pond turtle), if they are present, from the Carmel River to the pond/wetland and adjacent areas on the CMS habitat area and this would be a *significant* impact. With the implementation of **Mitigation Measures BIO-4** through **BIO-7** and **BIO-9a** which would create and restore habitat for these species, the impact would be reduced to a *less-than-significant* level.

Overall, when evaluating the effectiveness of the CMS corridor in providing north-south wildlife movement opportunity in this portion of Carmel Valley, the loss of this corridor, considered in isolation, would be *less than significant*.

Wildlife Movement to the Agricultural and Undeveloped Areas East of Val Verde Drive

While it would not be physically impossible for terrestrial wildlife to move through the new residential area to reach the agricultural and undeveloped areas along Val Verde Drive, wildlife movement would be impeded and thus it is likely that the diversity of wildlife would be reduced within these areas, especially terrestrial wildlife moving from the Carmel River to these areas.

The agricultural and undeveloped areas along Val Verde drive do not provide an effective wildlife corridor from the Carmel River to undeveloped areas north of Carmel Valley Road as the area immediately north of Carmel Valley Road relative to Val Verde Drive is a developed residential area and thus wildlife movement (while still possible) is somewhat impeded in the areas north of the road.

Although construction of the new residential development would impede wildlife movement to these areas, this would be a less- than-significant impact on wildlife movement and wildlife corridors for similar reasons as those cited above relevant to the CMS habitat area.

Project Impact on Nursery Sites

Wildlife nursery sites that would be affected by the Project include: the ponds/wetlands at the golf course and at CMS (which provide breeding habitat for CRLF, and other birds, reptiles, and amphibians); scrub habitat (which provides nesting habitat for birds); trees (which provide nesting habitat for birds and bats); and riparian habitat (which provides nesting habitat for Monterey dusky-footed woodrats, birds, and other species).

These impacts are addressed in the discussion above concerning impacts on vegetation and special-status species and mitigation is identified for the significant impact associated with impacts on breeding habitat. The mitigation measures would reduce these impacts to a *less-than-significant* level.

130-Unit Alternative

Similarly to the Proposed Project, the 130-Unit Alternative would not impede wildlife movement beyond those impacts described above for the Proposed Project. Lot 130 is already developed. With the implementation of **Mitigation Measures BIO-4** through **BIO-7** and **BIO-9b**, the impact would be reduced to a *less-than-significant* level.

D. Impact Related to Adopted Conservation Plans and Local Policies/Ordinances for the Protection of Biological Resources

Impact BIO-17: Potential Conflict with Local Policies/Ordinances (less than significant with mitigation)

Proposed Project

There are no adopted habitat conservation plans, natural communities conservation plan, or other approved local, regional, or state habitat conservation plans that apply to the project area.

The Project impact related to the County tree preservation policy or ordinance is addressed above under Impact BIO-7.

Analysis of Project consistency with applicable policies of the 2013 CVMP is provided in **Appendix D** of this Recirculated Draft EIR. The specific consistency of the Project with policies related to vegetation and wildlife is analyzed in **Appendix D** and the Project has been determined to be consistent with these policies with implementation of mitigation in this chapter.

Thus, relevant to local adopted policies and ordinances for the protection of biological resources, the Project would have a *less-than-significant* impact with implementation of **Mitigation Measure BIO-10** (for trees)**.**

130-Unit Alternative

There are no adopted habitat conservation plans, natural communities conservation plans, or other approved local, regional, or state habitat conservation plans that apply to the 130-Unit Alternative area.

The 130-Unit Alternative impacts would be similar to the Proposed Project. Therefore impacts and mitigation discussed under the Proposed Project apply to the 130-Unit Alternative. With mitigation identified in this chapter, the 130-Unit Alternative would have a *less-than-significant* impact on local adopted policies and ordinances for the protection of biological resources and the implementation of **Mitigation Measure BIO-10** (for trees).