Section 3.3
Biological Resources

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This section identifies impacts on biological resources located in the project area, including ESHAs; other sensitive habitats, including Monterey pine forest and wetlands; special-status plant and wildlife species; wildlife habitat, populations, movements, breeding, and nesting; and tree removal. This section will:

- Describe ESHA as defined in the existing LCP and proposed LCP, and based on consultation with the CCC.
- Describe sensitive natural communities (e.g., Monterey pine forest, unique vegetation, dunes, wetlands), some of which may also be identified as ESHA.
- Identify special-status plant and wildlife species, including listed and non-listed rare, threatened, or endangered species and habitats.
- Identify direct and indirect impacts on the resources identified above, including ESHA and other sensitive habitats; special-status plant and wildlife species; wildlife habitat, populations, movements, breeding, and nesting; and tree removal.
- The impact analysis will also include the following impacts:
    - Impacts of removing Monterey pine trees and other native trees (coast live oak and Gowen cypress) on the native forest habitat, existing native seed stock, and other sensitive habitat areas, and in relation to County regulations.
    - Impacts of tree removal and/or construction activities upon known or potential nesting raptors protected under the MBTA.
    - Indirect impacts on wetlands, such as alteration of drainage/water quality issues.

This analysis is based on review of an extensive body of existing studies and data (including a peer review of studies prepared for the applicant) and consultation with resources agencies. The prior analysis for the 2005 EIR has been updated to account for changes in project locations and elements. In addition to the information in the 2005 EIR, additional information was obtained through botanical surveys conducted in 2011 at the Equestrian Center, Collins Field, and surrounding areas; Area L; Area M Spyglass Hill; and Area F-2.

Due to the number of project locations and the complexity of the biological resources found in the project area, only a brief summary of the biological resources setting is presented in this section. A detailed biological resources setting is provided separately in Appendix F, including details of existing studies, reviews, and species characteristics. Appendix F presents the detailed baseline upon which the impacts identified below are based. Impacts are summarized in

Table 3.3-1. The detailed impact analysis is presented later in this section.

Impacts on biological resources in the Carmel River related to water supply and demand issues are addressed separately in Section 3.12, Water Supply and Demand.

Table 3.3-1. Summary of Project Impacts on Biological Resources

Impact Topic	Project Elements									Cumulative
	PBL	SBI	COL-EQC	Area M MH	Area M MR	RES SUB	RD	TRA	INF	
A. Environmentally Sensitive Habitat Areas										
BIO-A1. Project development would result in direct removal and indirect disturbance to ESHA areas while preserving far larger areas of ESHA.	—	—	⦿	⦿	⦿	⦿	⦿	—	⦿	⦿
Mitigation Measures:	BIO-A1. Develop and implement a site-specific resource management plan, based on the Master RMP, for each preservation area. BIO-A2. Dedicate conservation easements to the Del Monte Forest Foundation for all preservation areas. Additional Mitigation Measures for individual resources are noted below (BIO-B1, BIO-B2, etc.)									
B. Sensitive Habitats										
BIO-B1. Project development would result in direct disturbance and indirect impacts on Monterey pine forest (including maritime chaparral) while preserving far larger areas of Monterey pine forest (including maritime chaparral).	—	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿
Mitigation Measures:	BIO-A1, BIO-A2. See above. BIO-B1(C). Dedicate additional area of undeveloped Monterey pine forest.									
BIO-B2. Project development would result in potential direct and indirect disturbance of coastal dune habitat near Areas M and L while preserving the entire remnant dune area in Area M.	—	—	—	⦿	⦿	⦿	—	—	—	⦿
Mitigation Measures:	BIO-A1, BIO-A-2. See above. BIO-B2. Include additional measures in the resource management plan to avoid indirect impacts on dune habitat near Areas M and L.									
BIO-B3. Project would indirectly disturb Monterey pygmy forest and other sensitive plant habitat areas and plant and wildlife species in the HHNHA due to increased trail use and adjacent residential use.	—	—	—	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-A1, BIO-A2. See above. BIO-B3. Include additional measures in the resource management plan for Huckleberry Hill Natural Habitat Area to avoid indirect trail use impacts on sensitive resources and use directed lighting at the Corporation Yard residential area.									

Impact Topic	Project Elements									Cumulative
	PBL	SBI	COL-EQC	Area M MH	Area M MR	RES SUB	RD	TRA	INF	
C. Wetlands/Waters										
BIO-C1. Project development would result in potential disturbance of 0.06 acre of wetlands/drainages and result in indirect effects to wetlands and waters in and adjacent to project development areas.	—	—	⦿	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-C1. Avoid or compensate for the loss of wetlands and implement resource management measures to maintain wetlands in the preservation areas. HYD-A1. Ensure on-site detention of stormwater run-off at development sites and oil/grease separators at parking lots; prepare final drainage plan with flow calculations and construction detail, and implement approved drainage plan. HYD-A2. Maintain and monitor drainage and flood control facilities, and prepare annual report(s) that describe the condition, maintenance performed, and required improvements of drainage and flood control facilities. HYD-C1. Prepare and implement a stormwater pollution prevention plan to prevent and reduce sediments and contaminants in stormwater runoff during construction. HYD-C2. Provide regular inspection and maintenance of operational best management practices to ensure function and minimize the discharge of pollutants to surface water. HYD-C3. Prepare and implement an integrated pest management program for the relocated Pebble Beach Driving Range.									
D. Special-Status Plant Species										
BIO-D1. Project development would result in the direct loss of individual Yadon's piperia plants and habitat and indirect impacts on adjacent occupied piperia habitat, while preserving far larger areas of occupied piperia habitat.	—	—	—	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-A1, BIO-A2. See above. BIO-D1. Implement resource management measures to maintain and enhance Yadon's piperia habitat.									
BIO-D2. Project development would result in potential loss or disturbance of up to 16 Gowen cypress trees due to residential development while preserving 3.5 acres of Gowen cypress/Bishop pine pygmy forest.	—	—	—	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-A1, BIO-A2. See above. BIO-D2. Restore 1.6 acres of Gowen cypress/Bishop pine habitat at the Huckleberry Hill Natural Habitat Area, and implement resource management measures to maintain and enhance Gowen cypress habitat.									

Impact Topic	Project Elements									Cumu-lative
	PBL	SBI	COL-EQC	Area M MH	Area M MR	RES SUB	RD	TRA	INF	
BIO-D3. Project development would result in loss of one occurrence (0.2 acre) of Pacific Grove clover and indirect effects to a second occurrence.	—	—	⦿	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-D3. Redesign the proposed driving range to avoid Pacific Grove clover, or create or enhance a 0.2-acre compensation area for this species within another preservation area on the Monterey Peninsula. BIO-D4. Manage the Indian Village occurrence of Pacific grove clover to ensure its continued survival.									
BIO-D4. Project development would result in direct loss and indirect impacts to Hooker's manzanita habitat while preserving larger areas of habitat.	—	—	—	—	—	○	—	—	—	○
BIO-D5. Project development could result in potential loss or disturbance of pine rose and habitat for pine rose while preserving larger areas of development.	—	—	—	—	—	⦿	—	—	⦿	⦿
Mitigation Measures:	BIO-A1, BIO-A2. See above. BIO-D5. Conduct preconstruction surveys for pine rose, implement avoidance and protection measures, if found, and conduct construction monitoring.									
BIO-D6. Project development in Area L could result in indirect effects on one occurrence of Hickman's potentilla.	—	—	—	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-D6. Avoid hydrological effects to the Indian Village Hickman's potentilla population and expand existing protection and management.									
BIO-D7. Trail development could result in small amounts of lost habitat for special-status plant species.	—	—	—	—	—	—	—	⦿	—	⦿
Mitigation Measures:	BI0-D7. Minimize special-status species habitat disturbance during trail construction.									
E. Special-Status Wildlife Species										
BIO-E1. Project construction could result in direct mortality to California red-legged frog, degradation of aquatic habitat, loss of and degradation of upland habitats, which would be partially offset by preservation of existing known occupied and suitable habitat.	—	—	—	—	—	⦿	—	—	—	⦿

Impact Topic	Project Elements									Cumulative
	PBL	SBI	COL-EQC	Area M MH	Area M MR	RES SUB	RD	TRA	INF	
Mitigation Measures:	BIO-A1, BIO-A2. See above. BIO-E1. Conduct preconstruction surveys for California red-legged frog, implement protection measures if found, and conduct construction monitoring. BIO-E2. Design new California red-legged frog breeding habitat along Seal Rock Creek in accordance with criteria to establish California red-legged frog habitat characteristics.									
BIO-E2. Development in Areas L and M could result in loss of Smith's blue butterfly host plants, while preservation of Area M dunes will preserve host plant and habitat.	—	—	—	○	○	○	—	—	—	—
BIO-E3. Stormwater runoff from project developments during construction and operation could degrade nearshore water quality and result in indirect impacts on the southern sea otter, western snowy plover, California brown pelican and other marine resources, including the Carmel Bay Area of Special Biological Significance.	◉ (Applies to proposed project as a whole)									◉
Mitigation Measures:	HYD-A1, HYD-A2, HYD-C1, HYD-C2, HYD-C3. See above. GSS-C1. Prepare and implement an erosion and sediment control plan. GSS-D1. Dewater excavations and shore temporary cuts during construction of underground parking facilities.									
BIO-E4. Project construction and development would result in potential loss or disturbance to habitat occupied by certain non-listed special-status wildlife species while preserving large, unfragmented areas of habitat for these species.	See below by specific species									
Legless Lizard	—	—	—	◉	◉	◉	—	—	—	◉
Mitigation Measures:	BIO-A1, BIO-A2, BIO-B2. See above. BIO-E5. Conduct pre-construction surveys for legless lizard, implement protection measures if found, and conduct construction monitoring for ground-disturbing construction activities.									
California Horned Lizard	—	—	—	○	○	○	—	—	—	○
Western Pond Turtle	—	—	—	—	—	○	—	—	—	○
Monterey Dusky-Footed Woodrat	—	—	—	—	—	◉	—	—	—	◉
Mitigation Measures:	BIO-E6. Conduct a preconstruction survey for woodrats and woodrat nests, and implement protection measures if found for ground-disturbing construction activities.									

Impact Topic	Project Elements									Cumulative
	PBL	SBI	COL-EQC	Area M MH	Area M MR	RES SUB	RD	TRA	INF	
Pallid bat	—	—	—	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-E7. Retain dead trees or snags wherever feasible in development and preservation areas to provide roosting habitat for pallid bats.									
Ringtails and Monterey Ornate Shrew	—	—	—	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-A1, BIO-A2, BIO-B2. See above.									
F. Common Wildlife Habitat/Populations/Plant Communities										
BIO-F1. The project would remove habitat of common wildlife species and plant communities within Del Monte Forest while preserving far larger areas of habitat for common species.	⦿ (Applies to proposed project as a whole)									⦿
Mitigation Measures:	BIO-A1, BIO-A2. See above.									
G. Indirect Impacts on Habitat Resulting from Human Use										
BIO-G1. The project would increase trail use by pedestrians and equestrians and could adversely affect common and rare wildlife and plant species within existing and proposed preservation areas.	⦿ (Applies to proposed project as a whole)									⦿
Mitigation Measures:	BIO-B2, BIO-B3, BIO-D4, BIO-D6. See above. BIO-G1. Include additional measures in the resource management plan for Preservation Areas J, K and PQR to avoid indirect trail use impacts on sensitive resources.									
H. Wildlife Movement										
BIO-H1. The project would fragment certain existing forested habitats and could interfere with wildlife movement while preserving larger, unfragmented areas of habitat providing wildlife movement opportunities.	—	—	—	—	—	⦿	—	—	—	⦿
Mitigation Measures:	BIO-A1. BIO-A2. See above.									
I. Wildlife Breeding and Nesting										
BIO-I1. Project construction, including tree removal and grading, could result in potential disturbance to nesting raptors, including several special-status raptor species, if present during construction.	⦿ (Applies to proposed project as a whole)									⦿
Mitigation Measures:	BIO-I1. Conduct pre-construction and breeding-season raptor surveys and implement protection measures.									

Impact Topic	Project Elements									Cumulative
	PBL	SBI	COL-EQC	Area M MH	Area M MR	RES SUB	RD	TRA	INF	
J. Tree Removal										
BIO-J1. Project construction and development could result in removal or disturbance of native Monterey pine trees and coast live oak trees while preserving far larger areas and numbers of trees in the Del Monte Forest.	◉ (Applies to proposed project as a whole)									◉
Mitigation Measures:	BIO-A1, BIO-A2. See above. BIO-J1. Incorporate specific tree removal and replanting guidelines into the site-specific RMPs. BIO-J2. Protect retained trees from construction disturbance.									

Notes:
● = Significant unavoidable impact.
◉ = Significant impact that can be reduced to less than significant.
○ = Less-than-significant impact.
— = No impact or not applicable to the development site.
PBL – The Lodge at Pebble Beach; **SBI** –The Inn at Spanish Bay; **COL-EQC** – Collins Field–Equestrian Center–Special Events Area; **MH** – Area M Spyglass Hill New Hotel (Option 1); **MR** – Area M Spyglass Hill New Residential Lot (Option 2); **RES SUB** – Residential Subdivisions; **RD** – Roadway Improvements; **TRA** – Highway 1/Highway 68/17-Mile Drive Improvement; **INF** – Infrastructure Improvements. **CUMULATIVE** – Proposed Project's Contribution to Cumulative Impacts

Regulatory Setting

This section describes the federal, state, and local plans, policies, and laws that are relevant to biological resources in the project area.

Federal Regulations

National Environmental Policy Act

NEPA (42 USC 4321; 40 Code of Federal Regulations [CFR] 1500.1) is the nation's broadest environmental law. It provides an interdisciplinary framework for federal agencies to prevent environmental damage and contains action-forcing procedures to ensure that federal agency decision makers take environmental factors into account. NEPA applies to all federal agencies and to most of the activities they manage, regulate, or fund that affect the environment. It requires all agencies to consider and to publicly disclose the environmental implications of their proposed actions through the preparation of appropriate documents.

Because the proposed project may require an incidental take permit from the U.S. Fish and Wildlife Service (USFWS) pursuant to effects on the California red-legged frog (CRLF), a permit under the Clean Water Act (CWA) from the U.S. Army Corps of Engineers (USACE) pursuant to effects on wetlands at Area L (and possibly at Areas J, K, and/or L related to wetlands enhancement for breeding habitat), or both, compliance with NEPA may be required by the actions of these federal

agencies in issuing these permits. In some case, as in the notification of authorization under a USACE nationwide permit, NEPA compliance has already been completed programmatically. However issuance of individual, project-specific permitting would trigger requirement for further NEPA compliance.

This document was prepared to comply with the requirements of CEQA alone. NEPA compliance, if required, would be done separately.

Federal Endangered Species Act

The federal Endangered Species Act (ESA) protects species, and their habitats, that have been identified by USFWS or the National Oceanic and Atmospheric Administration (NOAA) Fisheries (formerly known as the National Marine Fisheries Service) as threatened or endangered. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range; *threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

The ESA is administered by USFWS and NOAA Fisheries. In general, USFWS has authority over listed terrestrial plants on lands under federal jurisdiction and over listed wildlife species, regardless of whether publicly or privately owned. Relevant to this project, USFWS has authority over the CRLF, the Southern sea otter, and any other listed wildlife species found in Del Monte Forest. Because Del Monte Forest lands are privately owned, USFWS has no direct permit authority over Yadon's piperia or any other listed plant species (Gowen cypress, Hickman's potentilla, Monterey clover and a number of dune plant species) found within the project area. However, when seeking a permit from USACE in regard to CWA Section 404, USACE will need to consult with USFWS on listed federal species; depending on the scope of the area for which USACE consults with USFWS, this consultation may or may not include listed federal plants. In general, NOAA Fisheries is responsible for protection of ESA-listed marine species and anadromous fish, whereas other listed species are under USFWS jurisdiction. Because no habitats that might contain listed fish would be directly affected by the proposed project, NOAA Fisheries, and its responsibility under ESA is not discussed further in this section. Provisions of Sections 7, 9, and 10 of ESA could be relevant to the proposed project and are summarized below.

Federal Endangered Species Act Prohibitions (Section 9)

ESA Section 9 prohibits the take of any fish or wildlife species listed under ESA as endangered. Take of threatened species is also prohibited under Section 9, unless otherwise authorized by federal regulations. *Take*, as defined by ESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." *Harm* is defined as "any act that kills or injures the species, including significant habitat modification." In addition, Section 9 prohibits removing, digging up, cutting, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction. Section 9 does not prohibit take of federally listed plants on sites not under federal jurisdiction.

Federal Endangered Species Act Authorization Process (Sections 7 and 10)

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 entities. Federal agency actions include activities that are:

- 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 lead federal agency) must consult with USFWS, 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 evaluating the nature and severity of the expected effect. In response, USFWS issues a biological opinion with a determination that the proposed action:

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

In cases where a nonfederal entity is undertaking an action that does not require federal authorization, the take of listed species must be permitted by USFWS through the Section 10 process. If the proposed project would result in the incidental take of a listed species, the project proponent must first obtain a Section 10(a)(1)(B) incidental take permit (ITP). *Incidental take* is defined under Section 10 as the 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.

Applicability to Proposed Project

The federal ESA could apply to the proposed project through several distinct regulatory processes. First, a federally listed wildlife species, CRLF, has been found on and adjacent to some of the areas affected by the proposed project; consequently, the proposed project might result in incidental take of a federally listed species. Absent any other federal permit, this process would be conducted in accordance with Section 10 of ESA, necessitating preparation of an HCP. As part of its review, USFWS would need to review, through an internal Section 7 consultation, the potential effects of issuing an ITP on federally listed species. An ITP can be issued through the Section 10 process that can allow for take of a federal species.

The requirements of ESA could also apply to any permit issued by USACE for fill of any jurisdictional wetlands (see discussion below). The applicant has proposed certain activities that are within the jurisdiction of CWA Section 404; they will require authorization for these activities from USACE. USACE is required to consult with USFWS regarding actions that may affect federally listed species

and for which a permit application is submitted. This process is conducted in accordance with Section 7 of ESA. A biological opinion can be issued through the Section 7 process that can allow for take of a federal species. The consultation may be limited to only those parts of the project involving federal jurisdictional wetlands.

Migratory Bird Treaty Act

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

MBTA applies to migratory birds, their occupied nests, and eggs within the project area.

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. CWA now serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

CWA empowers EPA to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. Point-source pollution is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint-source pollution originates over a broader area and includes urban contaminants in stormwater run-off and sediment loading from upstream areas. CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is CWA's primary regulatory tool.

The following discussions address specific sections of CWA.

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

CWA Section 404 regulates the discharge of dredged and fill material into waters of the United States. Waters of the United States refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands, including any or all of the following:

- Areas within the ordinary high water mark of a stream, including non-perennial streams with a defined bed and bank.
- Any stream channel that conveys natural run-off, even if it has been realigned.
- Seasonal and perennial wetlands, including coastal wetlands.

Applicants must obtain a permit from the USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. As

stated by the Counsel for EPA's January 19, 2001, determination in response to the *Solid Waste Agency of Northern Cook County (SWANCC) v. United States Army Corps of Engineers* ruling, non-navigable, isolated waters may not be regulated by the USACE as jurisdictional waters based solely on their use as habitat by migratory waterfowl.

The 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 in order for the NWP to apply to a given project. Waters of the United States in the project area are under the jurisdiction of the USACE San Francisco District. Wetland restoration is covered under NWP 27, and bridge or road crossings are covered under NWP 14.

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

Certain activities are exempt from the Section 404 permitting process. Exempt activities include:

- Farming, ranching, and forestry activities that are considered normal and ongoing (as of 1985 conditions), such as plowing, harvesting, and minor drainage of upland areas to waters of the United States.
- Construction and maintenance of stock ponds and irrigation ditches.
- Maintenance of drainage ditches.
- Construction of temporary sedimentation basins in upland areas.
- Construction and maintenance of farm, forest, and mining roads in accordance with best management practices (BMPs).
- Other activities regulated by an approved program of BMPs authorized by CWA Section 208(b)(4).

Section 404 permits may be issued only for the project's least environmentally damaging practicable alternative. That is, authorization of a proposed discharge is prohibited if there is a practicable alternative that would have less adverse impacts and lacks other significant adverse consequences.

Wetland Assessments on PBC Lands

Wetland assessments have been completed for various development proposals on PBC lands beginning with the proposed Lot Program in the mid-1990s[1]. The County of Monterey completed an initial assessment for its 1995 Draft EIR on the Lot Program based primarily on a reconnaissance level field review (County of Monterey 1995). Subsequently, the County determined that more detailed analyses were required, especially in critical areas proposed for development (e.g.

[1] There have been four distinct iterations of development and preservation proposed by the applicant, resulting in several biological studies over the years. As described in Chapter 1, Introduction, they are the Lot Program, Refined Alternative 2, Del Monte Forest and Preservation Plan, and the current proposed project.

proposed new golf course, proposed new equestrian center). During the period between May 1999 and August 2000, the County and the applicant jointly collected field data to complete a wetland delineation in conformance with requirements of the County's Local Coastal Program and the California Coastal Act on properties located within the proposed Lot Program development area. That delineation work was led by the County's consultant, Dr. Adrian Juncosa (EcoSynthesis), with assistance from the applicant's consultants, Michael Zander (Zander Associates) and Dr. Michael Josselyn (Wetlands Research Associates). The team also collected field data to determine the presence of "waters of the United States," including wetlands that could be subject to federal jurisdiction under CWA Section 404.

A wetland delineation report for the Refined Alternative 2 project was prepared for the County by Dr. Juncosa in August 2000 (Ecosynthesis Scientific & Regulatory Services, Inc. 2000) to address LCP requirements while PBC concurrently submitted a CWA Section 404 delineation report to the USACE for verification using Juncosa's data sheets. Meanwhile, PBC developed the Del Monte Forest and Preservation Plan based on a County-wide ballot initiative in November 2000 (Measure A) that defined the ultimate buildout of Del Monte Forest. Wetlands Research Associates prepared a wetlands assessment of the proposed Measure A plan on behalf of PBC, relying primarily on Juncosa's data supplemented by some additional work at selected sites in the project area (Wetland Research Associates 2001).

In November 2002, the USACE confirmed the Section 404 delineation for certain development areas, but Coastal Commission Ecologist Dr. John Dixon recommended further assessment and revisions to the County report to better define wetlands subject to the requirements of the LCP. Dr. Juncosa collected additional data and revised the County report (which now evaluated wetlands within development areas of PBC's Measure A plan) in May 2003 (Ecosynthesis Scientific & Regulatory Services, Inc. 2003). The locations and boundaries of some of the wetlands identified in the 2003 EcoSynthesis report, especially in the proposed new golf course area, remained in dispute with Coastal Commission staff when the Measure A plan was denied by the Coastal Commission in June 2007.

Between mid 2007 and late 2009, PBC and Coastal Commission staff negotiated a compromise development plan for PBC lands in Del Monte Forest that both agreed to support before all approving agencies. During that process several areas proposed for development under the compromise plan (e.g., Area B, Area K, Area L, and Area U) were re-evaluated for wetlands. Zander Associates biologists visited those areas in April and early May 2008 to evaluate potential wetland characteristics at specific locations. PBC, Zander Associates, County, and Coastal Commission staff met at Pebble Beach on April 22, 2008, to review some of those areas in the field. On June 9, 2008, Zander Associates produced a letter report that provided the results of the preliminary wetlands evaluation for those areas (See Appendix A in Zander Associates 2011)

In May 2010, Zander Associates conducted reconnaissance level surveys of all proposed development areas of the new Del Monte Forest Plan to confirm that wetland and other habitat characteristics had not substantially changed since more thorough surveys were done. Most of the areas selected for development in the new plan had been evaluated for wetlands under previous plans or by Zander Associates in 2008 as noted above. In August 2010, Zander Associates prepared a report summarizing the existing vegetation and wildlife habitat conditions, including wetlands, in the proposed development areas based on the extensive background information and the May 2010 reconnaissance (Zander Associates 2010).

In June 2011, Zander Associates revisited all Del Monte Forest Plan proposed development areas but focused on selected areas for data collection to supplement the previous wetland delineations noted above. Only areas that had been added to the development plans, or areas where there remained some question about the nature and extent of wetlands, were included in the 2011 delineation work. Other areas, especially those where the absence of wetlands was confirmed in the past, or areas now proposed for open space preservation, were not reevaluated. In a few cases, they reviewed and revised data collected for the previous delineations, but most disputed areas from the Measure A plan are now in designated open space preservation areas and are no longer critical to delineate.

A September 2011 report (Zander Associates 2011) presents the findings of this prior evaluation effort for all areas of proposed development for this project. To date, the USACE has not made a formal determination regarding the federal jurisdictional status of the wetlands identified in the 2008 report or 2011 report. However, during an October 2011 field visit, USACE staff indicated that they intended to verify the wetland delineation provided several modifications were made, including: 1) the USACE would take jurisdiction over a smaller area of certain wetlands identified in the report; and 2) the USACE would take jurisdiction over the erosion gully feature at Area I-2 as an "other water of the United States" that was not identified as such in the September 2011 report. The Coastal Commission has reviewed the 2011 report, and has concurred that the report identifies wetlands under Coastal Act jurisdiction (Butler pers. comm.).

Permits for Stormwater Discharge (Section 402)

CWA Section 402 regulates construction related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, administered by the EPA. In California, the State Water Resources Control Board (SWRCB) is authorized by EPA to oversee the NPDES program through the Regional Water Quality Control Boards (RWQCBs) (see the related discussion of the Porter-Cologne Water Quality Control Act, below).

NPDES permits are required for projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public notice of intent to discharge stormwater and to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities. In addition, it describes the BMPs that will be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Permittees are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

The applicant will prepare a SWPPP and Notice of Intent (NOI) to support the NPDES permit and comply with CWA Section 402.

Water Quality Certification (CWA Section 401)

CWA Section 401 requires that 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.

The RWQCB cannot provide Section 401 certification until after CEQA is complete. The applicant will apply for water quality certification from RWQCB to comply with CWA Section 401. The USACE will require compliance with Section 401 as a prerequisite to authorization of the project under Section 404.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires consultation by federal agencies with USFWS 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 USFWS comments on applications for permits under CWA Section 404 are conveyed to the USACE through the consultation process required by this coordination act. This act may apply to the proposed project through the USACE relevant to permitting for the project.

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

USFWS and the USACE may be issuing permits for the proposed project and would therefore be responsible for ensuring that permitted activities comply with EO 13112 and do not contribute to the spread of invasive species.

State Regulations

California Environmental Quality Act

CEQA is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. A project normally has a significant environmental impact on biological resources if it substantially affects a rare or endangered species or the habitat of that species; substantially interferes with the movement of resident or migratory fish or wildlife; or substantially diminishes habitat for fish, wildlife, or plants. The State CEQA Guidelines define rare, threatened, or endangered species as those listed under CESA and ESA, as well as other species that meet the criteria of the resource agencies or local agencies—for example, DFG-designated species of special concern and some California Native Plant Society (CNPS)-listed species (see further discussion below under Special-Status Species). The State CEQA Guidelines state that the lead agency preparing an EIR must consult with and receive written findings from DFG concerning project impacts on species listed as endangered or threatened. The effects of a proposed project on

these resources are important in determining whether the project has significant environmental impacts under CEQA.

California Endangered Species Act

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

California Native Plant Protection Act

Regarding rare plant species, CESA defers to the California Native Plant Protection Act (NPPA) of 1977, which 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 NPPA does not prohibit take of rare and endangered plants incident to possession or sale of real estate (Fish and Game Code 1908); as such 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 DFG of plans to change land use a minimum of 10 days prior to the change to allow DFG time to salvage the plants. However, if DFG fails to respond within these 10 days, then the land owner may proceed with the land use change (Fish and Game Code 1913(c)).

California Coastal Act of 1976

The California Coastal Act of 1976 (California Public Resources Code section 30000 et seq.) (California Coastal Act) requires preparation of a local coastal program (LCP) by local municipalities. The LCP consists of a land use plan and its implementing measures (e.g., zoning ordinances). Monterey County's LCP for Del Monte Forest was certified by the CCC in 1987 and is now the basis for issuance and review of coastal development permits by the County. The Coastal Act requires that proposed amendment of a local LCP be reviewed and certified by the CCC prior to issuance of any coastal development permit pursuant to the amendment.

The California Coastal Act requires the incorporation of California Coastal Act policies into local LCPs. Several California Coastal Act policies relevant to biological resources are noted below:

- California Coastal Act Section 30121 defines wetlands as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats."
- California Coastal Act Section 30233 (a) states that the diking, filling, or dredging of wetlands can only be permitted for certain specified activities where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects. The specified activities include several uses potentially relevant to this project, including: incidental public service purposes, including but not limited to, burying cables and pipes; restoration purposes; and nature study or similar resource-dependent activities.

- California Coastal Act Section 30107.5 defines an *environmentally sensitive area* as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities."
- California Coastal Act Section 30240 states that "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas." This section also states that "development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas."

The Del Monte Forest LUP is the certified document that implements the California Coastal Act within Del Monte Forest. The LUP contains a number of specifically applicable policies relevant to biological resources. These are discussed in a separate section below.

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. The 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.

Ringtail, golden eagle, American peregrine falcon, and white-tailed kite are the only fully protected species with potential to occur in the project area.

Additional Wildlife Protections

Section 3503 of the California Fish and Game Code prohibits the killing, possession, or destruction of bird eggs or of bird nests. Section 3503.5 and 3513 prohibit the killing, possession, or destruction of all nesting birds (including raptors and passerines). Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal MBTA. Section 3800 prohibits take of nongame birds. Mammals are protected under Section 4700.

Streambed Alteration Agreements (Section 1600 et seq.)

DFG has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under the California Fish and Game Code Sections 1600–1607. DFG has the authority to regulate all work under the jurisdiction of the State 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. Activities of agencies that are project proponents are regulated under Section 1601. Activities of private individuals who are project proponents are regulated under Section 1603. In practice, DFG marks its jurisdictional limit at the top of the stream or lake bank or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by 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 Section 404.

DFG enters into a streambed alteration agreement with an applicant and can impose conditions on the agreement to ensure that no net loss of wetland values or acreage will be incurred. The lake or streambed alteration agreement is not a permit but, rather, a mutual agreement between DFG and the applicant.

The applicant would apply for a streambed alteration agreement if any streams or their associated riparian habitats would be affected. For example, the entrance road at Residential Area L may affect a drainage.

Local Regulations

Existing Del Monte Forest Local Coastal Plan

Del Monte Forest Land Use Plan

The Del Monte Forest LUP serves as the specific land use plan for Del Monte Forest. This document is required to satisfy the requirements of two state-mandated planning programs: the LCP required by the California Coastal Act and the General Plan Program mandated by the General Planning Provisions of the California Government Code.

Monterey County Coastal Implementation Plan

Part 5 of the Monterey County CIP provides standards for development in Del Monte Forest and execution of the LUP and is part of the LCP. In many cases, policies listed in the LUP are also stated as standards in the CIP.

Del Monte Forest Open Space Management Plan

The OSAC Plan describes standards for designated open space forested areas in Del Monte Forest (County of Monterey 1984). The OSAC Plan has been incorporated into the County's LUP as Chapter 7. The objective of the OSAC Plan is "to ensure continued existence of the fundamental character of the Forest and its natural plant communities in concert with uses allowed by the Del Monte Forest Area LCP Land Use Plan." The OSAC Plan provides general open space management policies for 11 open-space classifications and site-specific forest maintenance standards for nine sites in Del Monte Forest.

Proposed LCP Amendment

As described in Chapter, 2, Project Description, the proposed LCP Amendment will make significant changes in the LUP and CIP related to ESHA if adopted. The proposed project includes amendments to the Del Monte Forest LCP to amend, delete, and add text to policies of the Del Monte Forest LUP and to amend, delete, and add text to the regulations of the CIP, Part 5. The key changes in the proposed LUP relative to biological resource protection are as follows:

- Chapter 2, Resource Management Element. This chapter would be revised and updated to reflect current conditions. Major changes are proposed to allow for exception to ESHA and other

resource policies, but only for Concept Plan development areas due to the extensive land preservation encompassed in the Concept Plan. Major changes are also proposed in how to delineate ESHA to require identification based on current physical conditions and current evaluation of sensitivity, whereas the existing LCP defines ESHA in terms of a defined list of habitats (Appendix A). Other changes include moving technical detail to the CIP concerning tree removal requirements and grading, addition of new policies seeking to minimize shoreline armoring and bluff protection and a number of other changes.

- Chapter 3. Land Use and Development Element. This chapter would be revised and updated to reflect current conditions and the Concept Plan would be added to the LUP. The most substantive change to this chapter is to add the Concept Plan as a specifically allowed development in Del Monte Forest, including exceptions to certain ESHA and other requirements.
- Chapter 6. Implementation and Administration. This chapter is proposed to be updated to reflect current practices in implementing the LCP. References to the OSAC Plan and site-specific shoreline public access design criteria were deleted (see discussion below).
- Chapter 7. Del Monte Forest Open Space Management Plan (OSAC). This chapter would be removed in favor of policies in the LUP that provide for forest protection and in favor of an implementation plan to be developed outside the LUP (making the LUP document more of a policy document and leaving technical detail to other documents). The existing Open Space Management Plan will be used as a key resource for development of a new Master Resource Management Plan that will be prepared with the participation of the same interested groups (e.g., County, CCC, PBC, OSAC, PBCSD, CNPS Del Monte Forest Foundation, etc.) that originally helped to develop the OSAC Plan.
- Appendix A, List of Environmental Sensitive Habitats. As described above, changes are proposed to require delineation of ESHA based on current resource conditions and evaluations of sensitivity instead of through use of a specific list. The LUP Appendix A is proposed to be deleted.

Table 2-6 in Chapter 2, Project Description provides a more detailed summary of proposed changes to the LUP. The Proposed LUP is included in Appendix D of the EIR. The key changes in the proposed CIP are similar in intent and scale to those proposed for the LUP. The proposed CIP is included in Appendix D.

Environmental Setting

Del Monte Forest lies on the Monterey Peninsula, an area that is overlain by nutrient-poor, sandy soils derived from uplifting ancient marine terraces and decomposed granite soils. Most of Del Monte Forest is subject to marine fog incursion and other maritime climatic influences, such as wind and salt spray. Historically, fires occurred frequently and were an integral part of ecosystems found on the peninsula. All these physical influences have resulted in the evolution and/or persistence of many plants, biological communities, and conditions that are endemic to the Monterey Peninsula.

Due to the multiple project development and preservation sites and the complexity of the biological resources found in the proposed project area, a detailed existing setting for biological resources is presented in Appendix F. What follows is a summary overview of the biological resources in the project area. For further detail and site-specific descriptions of the resources, please refer to

Appendix F which presents the detailed baseline upon which the impact assessment above was based.

Biological Communities

The project area is dominated by six major biological communities: Monterey pine forest, central maritime chaparral (Monterey Phase), Monterey pygmy forest, central dune scrub, riparian habitats, and wetland habitats. Shoreline and marine habitats are also briefly described below as background for assessment of indirect effects (e.g., run-off). The descriptions of biological communities were derived from sources discussed in Appendix F.

Monterey Pine Forest

Monterey pine forest is the dominant biological community, occupying approximately 684 acres (including development and preservation areas) within the project area. Monterey pine forest is found on or adjacent to all the project sites within the project area as summarized in Table 3.3-2.

Table 3.3-2. Acreages of Monterey Pine Forest Within Project Areas

Project Location/Element	Total Acres
The Lodge at Pebble Beach	0.00
The Inn at Spanish Bay	
Conference Center Expansion	0.00
New Guest Cottages	3.20
New Employee Parking	4.45
Collins Field–Equestrian Center–Special Events Area	
Driving Range Relocation from Area V to Collins Field	1.10
Equestrian Center Reconstruction	2.07
Special Events Staging Area Grading & Expansion	1.77
Area M Spyglass Hill	
New Resort Hotel (Option 1)	6.50[1]
New Residential Lots (Option 2)	6.50[1]
Residential Lot Subdivisions	
Area F-2 (16 lots)	19.50
Area I-2 (16 lots)	18.74
Area J (5 lots)	9.85
Area K (8 lots)	10.57
Area L (10 lots)	18.16
Area U (7 lots)	23.03
Area V (14 lots)	17.65
Collins Residence (4 lots)	0.00
Corporation Yard (10 lots)	4.25
Preservation Areas	
Area B	19.74
Area C	29.88
Area F-1	10.24

Project Location/Element	Total Acres
Area F-3	17.12
Area G	60.53
Area H	50.89
Area I-1	38.82
Area N	48.87
Area O	19.98
Area PQR	245.89
Roadway Improvements	
SR 1/SR 68/17-Mile Drive Intersection Reconfiguration	0.33
Internal Road Improvements	0.40
Total	**683.53**

Sources:
LSA 2001, WWD Corporation 2011.
Note:
[1] Does not include Monterey pines on dunes located on part of 34.12 acres of preservation area which are classified as dune habitat.

The natural range of native Monterey pine forest comprises five areas: three in California and two on islands off the coast of Baja California. The three occurrences of Monterey pine forest in California are on and adjacent to the Monterey Peninsula, near Año Nuevo in San Mateo and Santa Cruz Counties, and in and around Cambria in San Luis Obispo County (Figure 3.3-1).

The Monterey Peninsula supports the largest Monterey pine forest of the extant natural occurrences (Figure 3.3-2). It is estimated that Monterey pine forest historically covered approximately 18,000 acres on the Monterey Peninsula and vicinity, of which approximately 9,400 acres of Monterey pine forest with natural understory (i.e., undeveloped forest) remained as of 1994 (Jones & Stokes 1994a). Estimates of the historical extent and remaining undeveloped forest vary depending on inventory methodology. Another study conducted in the mid-1990s (Huffman 1994) estimated that the historical extent of the Monterey pine forest in the Monterey area covered 11,000 to 12,000 acres and that the remaining undeveloped natural stands cover about 6,400 acres (Huffman and Associates 1994). The extent of remaining native stands of Monterey pine forest at Año Nuevo (1,500 acres), Cambria (2,300 acres), Cedros Island (370 acres), and Guadalupe Island (220 trees in 2001) are far smaller than those on the Monterey Peninsula (Jones & Stokes 1996b; Rogers 2002). For this report, the estimate of undeveloped Monterey pine forest used is 9,289 acres (Monterey County 2005). As described in Appendix F, approximately 3,100 acres are currently protected from development.

More than 70 pathogens are known to affect Monterey pine (Offord 1964). In addition to pathogens, more than 56 insect species are known to attack Monterey pine (Furniss and Carolin 1977). Important fungal diseases that affect California's native stands and plantations include pine pitch canker, which affects many parts of the tree; western gall rust and coast gall rust, which attack the stem; and annosus root rot, shoestring fungus rot, and velvet top fungus, which are diseases of the root system. Monterey pine has evolved in the presence of all of these diseases except the pitch canker, which has recently entered California and is now found in all three California populations of

Monterey pine forest. Pine pitch canker and other pathogens are discussed in more detail in Appendix F.

Monterey pine forest provides a variety of microhabitat conditions that may be used by several common wildlife species. The canopy may be used as perching, roosting, and nesting sites by raptors such as red-tailed hawks. Small insectivorous birds, such as pygmy nuthatch and Townsend's warbler, forage on the trunks and branches of the pines. Dark-eyed junco, Northern flicker, and rufous-sided towhee forage on or near the forest floor. Anna's hummingbird also occurs in Monterey pine forest, foraging on nectar produced by shrub and herbaceous plant species in the understory. The scattered coast live oak trees in the Monterey pine forest produce acorns, an important food source for Western scrub-jays, acorn woodpeckers, and black-tailed deer. Downed wood on the forest floor provides cover for amphibians such as slender and arboreal salamanders.

Central Maritime Chaparral

Central maritime chaparral (Monterey phase) is found scattered through the project area in project sites and occurs in openings in the forest. Specific locations of maritime chaparral in the project area have not been delineated as this community most commonly occurs in Del Monte Forest within Monterey pine forest, often as an understory assemblage. Thus, no specific mapping of this community has been developed.

The Monterey phase of central maritime chaparral is limited to the coastal areas of stabilized Pleistocene dunes between Watsonville and the Carmel Highlands. The largest patches of this chaparral type are found on BLM lands at the former Fort Ord. The Monterey phase of central maritime chaparral includes endemic species not found in other chaparral communities. The community as represented in Del Monte Forest includes shaggy-barked, Hooker's, and sandmat manzanita which may occur with coyote brush, sticky monkeyflower, California lilac, Monterey ceanothus, and other shrubs and herbs.

Birds such as orange-crowned warbler, rufous-sided towhee, California thrasher, and California quail feed and nest in chaparral. California mouse, brush rabbit, Heerman's kangaroo rat, and brush mouse find forage and cover in dense chaparral, while narrow-faced kangaroo rat favors sparsely vegetated openings within the thick vegetation. These small mammals are preyed upon by gray fox, bobcat, spotted skunk, and western rattlesnake. Chaparral communities also provide important forage and cover for resident black-tailed deer.

Monterey Pygmy Forest

Monterey pygmy forest is found at the HHNHA and is the largest stand of this natural community known to occur in California. The only other occurrence is found inland of the Point Lobos Peninsula.

The dominant trees in Monterey pygmy forest are Bishop pine (*Pinus muricata*) and Gowen cypress (*Cupressus goveniana* spp. *goveniana*). These trees are typically 10 to 25 feet tall. Monterey pines are sometimes scattered through the pygmy forest; they grow taller (about 20 to 30 feet) than Bishop pine or Gowen cypress, but are severely stunted in comparison to their normal height. The understory of mature pygmy forest is dominated by shaggy-barked manzanita and huckleberry, with occasional California coffeeberry.

Open canopy stands of pygmy forest support a more diverse shrub understory, including shaggy-barked manzanita, Hooker's manzanita, chamise, and huckleberry. Scattered individuals of bush monkeyflower, toyon, and black sage may be present. Open canopy pygmy forest occurs at sites of recent fires and on the most shallow, severe pygmy forest soils. These soils also have easily damaged cryptogamic crusts of special interest.

Monterey pygmy forest can be subdivided into three types: stands that support pure Bishop pine, stands that are a mix of Bishop pine and Gowen cypress, and stands that are nearly pure Gowen cypress. Preliminary evidence indicates that these types may represent a sequence in soil development, with pure Gowen cypress pygmy forest occurring on the shallowest and most acidic soils, the mixed pygmy forest on intermediate soils, and Bishop pine pygmy forest on the least extreme of the pygmy forest soils (Jones & Stokes 1996a).

Central Dune Scrub

In the project area, approximately 34.12 acres of remnant dune (Signal Hill Dune) occur along the western edge of Area M (Resort Hotel/Residential Lots) and the northern end of Preservation Area N; and 3.74 acres occurs west of the area proposed for residential development at Area L (Zander Associates 2001a). Central dune scrub is the predominant plant community in these areas. It is characterized by low-to-prostrate growing vegetation that often consists of succulents. This coastal community is typically dominated by herbaceous perennial or subshrub species with a subdominance of annual species that grow on sand dunes and form associations based on the stability of the sand. Where the sand is dynamic, herbaceous plants spread by burying long rhizomes deep in the sand; these species are adapted to the constant accumulation and erosion of sand caused by the wind. As the sand becomes more stable, the species diversity increases from the low herbaceous species to shrubby species that provide greater cover. Dunes that have been stabilized for longer periods of time may also be vegetated by Monterey pine forest or central maritime chaparral.

Total cover in central dune scrub communities varies from 20% to 100%. Herbaceous species in this community include sand verbena, beach bur, live-forever, dune aster, beach evening primrose, sand mat, and dune blue grass. Shrubby species may include coyote brush, mock heather, dune wild buckwheat, and lizardtail.

Wildlife diversity is greater in dune scrub than in other dune communities because soils are more stable and vegetation is more abundant. White-crowned sparrow is a common nesting species and golden-crowned sparrow is a common winter visitor in dune scrub habitat. Deer mouse and brush rabbit burrow in the more stable soils and feed on seeds and native vegetation. Western fence lizard is common. These small animals are preyed upon by raptors, foxes, and coyote.

The former Spyglass Quarry, a sand mine, is adjacent to the east side of the Signal Hill Dune ESHA. Much of the dune habitat in this area, including most of the sandy dune substrate, was removed in the course of sand mining. Moreover, portions of the site have been used for equestrian activities, as a skeet-shooting range, and for equipment and materials staging and storage.

Remnant dune areas are shown in the biological resource figures in Appendix F for the areas adjacent to the proposed New Resort Hotel (Option 1) and New Residential Lots (Option 2) in Area M Spyglass Hill and in the previously preserved area adjacent to Area L.

Wetland Habitat and Federal/State Waters

Wetlands

Wetlands are uncommon and important biological resources in Del Monte Forest. A total of 9.59 acres of wetlands occur within the project area: 0.06 acre within development site boundaries and 9.53 acres within proposed preservation areas (see Table 3.3-3 in this Section and Appendix F). Additional wetlands are located within the existing preserved area in HHNHA and SFB Morse Botanical Preserve.

Table 3.3-3. Summary of Wetlands and Riparian Areas Within Project Development and Preservation Areas

Project Location/Element	Freshwater Marsh	Seasonal Wetland	Total Wetland Area (acres)	Riparian Linear Feet (LF)
The Lodge at Pebble Beach	0.00	0.00	0.00	0
The Inn at Spanish Bay				
Conference Center Expansion	0.00	0.00	0.00	0
New Guest Cottages	0.00	0.00	0.00	0
New Employee Parking	0.00	0.00	0.00	0
Collins Field–Equestrian Center–Special Events Area				
Driving Range Relocation from Area V to Collins Field	0.00	0.00	0.00	0
Equestrian Center Reconstruction	0.00	0.00	0.00	0
Special Events Staging Area Grading & Expansion	0.00	0.03	0.03	0
Area M Spyglass Hill				
New Resort Hotel (Option 1)	0.00	0.00	0.00	0
New Residential Lots (Option 2)	0.00	0.00	0.00	0
Residential Lot Subdivisions				
Area F-2 (16 lots)	0.00	0.00	0.00	0
Area I-2 (16 lots)[a]	0.00	0.00	0.00	0
Area J (5 lots)	0.00	0.20	0.20	917
Area K (8 lots)	0.00	0.59	0.59	553
Area L (10 lots)[b]	0.00	0.06	0.06	215
Area U (7 lots)[c]	0.00	1.99	1.99	0
Area V (14 lots)	0.00	0.87	0.87	0
Collins Residence (4 lots)	0.00	0.00	0.00	0
Corporation Yard (10 lots)	0.00	0.44	0.44	0
Preservation Areas				
Area B	0.00	0.00	0.00	1,147
Area C	0.81	0.00	0.81	0
Area F-1	0.00	0.00	0.00	0
Area F-3	0.00	0.00	0.00	0
Area G	0.00	0.00	0.00	0
Area H	0.00	1.30	1.30	0

Project Location/Element	Freshwater Marsh	Seasonal Wetland	Total Wetland Area (acres)	Riparian Linear Feet (LF)
Area I-1	0.00	0.00	0.00	2,309
Area N	0.00	1.57	1.57	0
Area O	0.00	0.00	0.00	0
Area PQR	0.00	1.73	1.73	5,300
Roadway Improvements				
SR 1/SR 68/17-Mile Drive Intersection Reconfiguration	0.00	0.00	0.00	0
Internal Road Improvements	0.00	0.00	0.00	0
Total Wetlands in Project Development and Preservation Areas	**0.81**	**8.77**	**9.59**	**10,441**

Source:
WWD Corporation 2011.

Notes:
[a] The erosional gully at I-2 is not considered a wetland according to the California Coastal Commission. Although the USACE has indicated during a field review that they intend to take jurisdiction over the erosional gully as an "other water of the U.S.," the USACE did not indicate that the gully qualified as a wetland.
[b] Includes human-made drainage on west side of Area L.
[c] Includes small human-made drainage receiving Equestrian Center run-off.

For the purpose of this Draft EIR, wetlands are grouped into freshwater marsh, seasonal wetlands and streams/drainages. These general wetland types are described below. The biological resource figures in Appendix F show the locations of wetlands for all development and preservation areas in the project area.

Freshwater Marsh

Freshwater marsh is located on the proposed preservation Area C (0.81 acre). Freshwater marsh is characterized by year-round surface ponding or soil saturation from groundwater seepage and/or run-off. This wetland type primarily supports hydrophytic herbaceous vegetation such as sedges, soft rush iris-leaved rush, horsetail, and cattails. Freshwater marsh occurs in openings in the forest canopy; Monterey pine does not tolerate prolonged soil saturation. Cattails and rushes growing in freshwater marshes provide nesting habitat and cover for species such as sora, red-winged blackbird, and marsh wren. Pacific treefrog and western toad use marshes for egg laying and larval development. These aquatic species are preyed upon by such species as garter snakes and raccoons. Northern rough-winged swallow and violet-green swallow forage for insects over marshes.

Seasonal Wetland

The project development areas contain 8.77 acres of seasonal wetland (County of Monterey 1997; Wetlands Research Associates 2001; Ecosynthesis Scientific & Regulatory Services, Inc. 2000, 2003; WWD Corporation 2011). Approximately 0.06 acres of seasonal wetlands are present in areas that would be disturbed, and 8.71 acres of seasonal wetlands occur in the proposed preservation areas. According to previously conducted wetland studies, many of these areas appear to have been created by road construction and other anthropogenic sources.

Seasonal wetlands in the project area occur where soil is saturated to a level below the surface, or where surface saturation occurs but is of relatively short duration, or is seasonal. These wetlands are typically dominated by toad rush and sedges with a subdominance of spikerush, hydrophytic grasses, and other hydrophytes.

Streams/Drainages

Within areas of development, there are only three drainage features that would be affected by the project, of which only two are considered drainages by the County under jurisdiction of the Del Monte Forest Land Use Plan.

- There is a small human-made drainage in Area U that receives Equestrian Center run-off; this drainage is considered a wetland under Coastal Act jurisdiction and may also be considered a state jurisdictional water by the Central Coast RWQCB and DFG; however, the USACE has indicated that it is unlikely to take federal jurisdiction over this feature.
- There is a small drainage on the west end of Area L that receives run-off from the Spyglass Hill golf course that is considered a wetland under the Coastal Act, that the USACE considers a wetland under federal jurisdiction, and which the Central Coast RWQCB and DFG are also likely to consider state jurisdictional waters.

The impact analysis to wetlands presented below also addresses these two drainages.

The third drainage feature is in Area I-2 and consists of an approximately 780-foot-long erosion gully through the easterly part of this site. The gully was created by stormwater run-off diverted from a roadway and adjacent areas upslope. The local roadway drainage problem that created the gully has since been remedied, and the gully no longer receives the local roadway drainage, but receives local upslope drainage now that it has been created. Localized run-off also follows pedestrian and equestrian trails through the length of Area I-2. During reconnaissance surveys in May 2010 and June 2011, the channel was dry and without any ponding or saturated conditions.

The channel is an artificial, human-induced feature of the landscape in this area, not a natural watercourse and does not exhibit wetland characteristics under any one of the three wetland parameters. Although the gully shows evidence of flash flows (e.g. scour, deposition of material) during the rainy season, under normal circumstances (i.e. without concentrated surface run-off from areas upslope diverted toward the area), it would not occur in the area. The Coastal Commission has indicated that the gully does not qualify as a wetland under the Coastal Act. The USACE has indicated in a field review that it intends to take jurisdiction over the gully as an "other water of the United States" but not as a wetland. It is also possible that the Central Coast RWQCB may take jurisdiction over the gully under the Porter-Cologne Water Quality Control Act and DFG may take jurisdiction under Section 1600 of the Fish and Game Code. While these jurisdictional permits may ultimately be required for fill of the erosion gully, the County considers the gully to be an atypical situation previously created by inadequate roadway drainage, lacking riparian or wetland habitat, and to lack normal stream or drainage function. As such, although federal and state permits may ultimately be required in relation to this gully, the County does not consider it to be a drainage or stream under local jurisdiction of the LUP.

There are various drainages within preservation areas, including tributaries to Seal Rock Creek in preservation areas in Area I-1, J, K, and L, tributaries to Pescadero Creek in Area PQR, and an unnamed drainage on the east side of Area B (see Figure 3.7-1 in Section 3.7, Hydrology and Water

Quality). None of these drainages would be directly affected by the project. Hydrologic and water quality impacts are discussed in Section 3.7, Hydrology and Water Quality.

Riparian Habitat

In the project area, approximately 10,441 linear feet of riparian habitat occurs in and adjacent to Areas B, I-1, J, K, L, and PQR (WWD Corporation 2011). Refer to Table 3.3-3 and to the tables and biological resources figures in Appendix F. Riparian habitats in the project area occur along intermittent and perennial drainage systems. These drainage systems generally drain to the west and north, eventually discharging into either Carmel Bay or the Pacific Ocean.

Riparian habitat in the project area is generally dominated by sedges, rushes, nettle, poison oak, and hemlock. Woody riparian species, such as willows, occur along a few drainages in the project area (Wetlands Research Associates 2001).

The moist conditions associated with riparian areas provide habitat for California newt, Pacific treefrog, California slender salamander, and arboreal salamander. As discussed below, some of the riparian habitat (in lower Seal Rock Creek) is occupied by CRLF, and other riparian areas and adjacent wetlands provide suitable habitat for the species. The thickly vegetated understory is used by Wilson's warbler, dark-eyed junco, common bushtit, and song sparrow for nesting and cover. Riparian corridors provide important forage, cover, and water for resident black-tailed deer, as well as serving as travel corridors for predators such as coyote.

Marine Habitat

Del Monte Forest marine resources include significant intertidal areas, offshore rocks which are used as major rookeries, roosting, and haul-out sites, extensive kelp beds which support numerous species of sport fish as well as the threatened southern sea otter, the endangered California brown pelican, the Carmel Bay State Ecological Resource, and the Carmel Bay Area of Special Biological Significance (ASBS) (County of Monterey 1984). Most of the Pebble Beach planning area drains to Carmel Bay. The remaining watersheds drain directly to the Pacific Ocean (see Figure 3.7-1 in Section 3.7, Hydrology and Water Quality).

Environmentally Sensitive Habitat Areas

Environmentally Sensitive Habitat Areas are defined under the California Coastal Act (Public Resources Code, Section 30107.5) as:

> Areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activities and developments. In addition, some of these sensitive habitats require further protection from disturbance, and this subset of sensitive habitats is called environmentally sensitive habitat areas.

While the current LUP provides a specific list of ESHA in Del Monte Forest in Appendix A, the County has decided for this project to use the definition in the Coastal Act as the definition for ESHA and has identified ESHAs based on the current resources on the ground, Coastal Commission staff guidance, and the current understanding of the sensitivity of different ecological areas and resources. For this project, the County has used the Coastal Commission findings for Measure A from June 2007 (CCC 2007) to guide identification of ESHA, and the CCC findings regarding ESHA are hereby incorporated by reference for the purposes of identifying ESHA for this project only.

Resource areas that qualify as ESHAs are summarized in Table 3.3-4. The biological resource maps in Appendix F show the locations of ESHA in different project areas. In many areas, the entire site is considered ESHA, while in some areas only part of the site is considered ESHA.

Table 3.3-4. Environmentally Sensitive Habitat Areas within Project Development and Preservation Areas

Project Location/Element	ESHA	ESHA Location
The Lodge at Pebble Beach	None within project area	
The Inn at Spanish Bay		
Conference Center Expansion	None within project area	
New Guest Cottages	None within project area	
New Employee Parking*	Monterey pine forest (except for disturbed areas on east side of lot)	Parking lot area
Collins Field–Equestrian Center–Special Events Area		
Driving Range Relocation from Area V to Collins Field	None within project area; isolated occurrence of PG clover in existing active recreational use area is not considered ESHA because PG clover can exist in disturbed environments	
Equestrian Center Reconstruction	Monterey pine forest on west side of equestrian center is ESHA; other Monterey pine forest is not ESHA.	West side of center
Special Events Staging Area Grading and Expansion	Monterey pine forest (w/YP) on north side of staging area is ESHA	North side of special event area
Area M Spyglass Hill		
New Resort Hotel (Option 1)	Monterey pine forest	North side of hotel
New Residential Lots (Option 2)	Monterey pine forest	North side of subdivision
Residential Lot Subdivisions		
Area F-2 (16 lots)*	Monterey pine forest (w/YP, GC, MC/HM)	Development area
Area I-2 (16 lots)*	Monterey pine forest (w/YP, MC/HM)	Development area
Area J (5 lots)*	Monterey pine forest (w/YP)	Development area
Area K (8 lots)*	Monterey pine forest (w/YP)	Development area
Area L (10 lots)*	Monterey pine forest	Development area
Area U (7 lots)	Monterey pine forest [Note: fragmented Monterey pine forest not considered ESHA, but intact forest in Lot 7 considered ESHA]	Lot 7 Development area
Area V (14 lots)	Yadon's piperia [Note: areas of Monterey pine forest to be removed are not considered ESHA]	Lot 10 and 11 Development area
Collins Residence (4 lots)	None within project area	None
Corporation Yard (10 lots)	None within project area	None
Roadway Improvements		
Internal Road Improvements	Monterey pine forest	Along existing roadways
SR 1/SR 68/17-Mile Drive Intersection Reconfiguration	None within project area	None

Project Location/Element	ESHA	ESHA Location
Preservation Areas (includes Open Space Parcels with Conservation Easements)		
Area B (19.8 acres)	Monterey pine forest (w/YP) Riparian habitat along unnamed drainage [Note: small disturbed area not considered ESHA]	Preservation area
Area C (29.9 acres)*	Monterey pine forest Wetlands	Preservation area
Area F-1 (10.2 acres)*	Monterey pine forest (w/YP, MC/HM, GC)	Preservation area
Area F-3 (17.1 acres)*	Monterey pine forest (w/YP, MC/HM) Gowen's Cypress/Bishop Pine Forest	Preservation area
Area G (60.5 acres)*	Monterey pine forest (w/YP, MC/HM) Monterey Clover Habitat	Preservation area
Area H (50.9 acres)*	Monterey pine forest (w/YP, MC/HM, SM, HO) Wetlands, riparian habitat	Preservation area
Area I-1 (38.8 acres)*	Monterey pine forest (w/YP, MC/HM, SM, HO) Riparian/CRLF Habitat (Seal Rock Creek) Wetlands	Preservation area
Area I-2 (0.3 acres)*	Monterey pine forest (w/MC/HM)	Preservation area
Area J (6.1acres)*	Riparian/CRLF Habitat (Seal Rock Creek) Monterey pine forest (w/YP)	Preservation area
Area K (5.8 acres)*	Monterey pine forest (w/YP) Riparian/CRLF Habitat, wetlands	Preservation area
Area L (9.2 acres)*	Monterey pine forest (w/YP) Riparian/CRLF habitat (Seal Rock Creek), wetlands	Preservation area
Area M (34.1 acres)*	Remnant dunes with ESHA plants and host-plant for Smith's blue butterfly	Preservation area
Area N (48.9 acres)*	Monterey Pine forest (w/YP) Seasonal Pond/CRLF habitat Wetlands	Preservation area
Area O (20.0 acres)*	Monterey pine forest (w/YP, MC/HM)	Preservation area
Area PQR (245.9 acres)*	Monterey pine forest (w/YP, MC/HM, SM, HO) Riparian habitat (Pescadero Creek trib.) Sandmat manzanita (sig. occurrence)	Preservation area
Area U (17.4 acres)*	Monterey pine forest (w/YP) Wetlands	Preservation area
Area V (12.8 acres)*	Monterey pine forest (w/YP) Wetlands	Preservation area
Corporation Yard (4.3 acres)*	Monterey pine forest (w/YP, MC/HM)	Preservation area

Notes: Based on CCC findings for Measure A
* = Entire site considered ESHA
CRLF = California red-legged frog
HM = Hooker's manzanita
HO = Hickman's onion
MC = Monterey chaparral (co-located with Hooker's Manzanita as understory to pine forest)

Project Location/Element	ESHA	ESHA Location
PG = Pacific Grove		
SM = Sandmat manzanita		
YP = Yadon's piperia		

Monterey Pine Forest

Although locally abundant in Del Monte Forest, native Monterey pine forest is extremely rare. The world's remaining native Monterey pine forests are found in just five locations on the face of the globe: three in coastal California (in Año Nuevo, Cambria, and the Monterey peninsula) and two on Mexican islands off the coast of Baja California (the Guadalupe and Cedros Islands). The Monterey Peninsula occurrence has always been and remains the largest of the native Monterey pine forests; it is also the native forest that has suffered the largest reduction over time, primarily due to residential, golf course, and highway/road developments that have cut forest acreage roughly in half—a reduction of over 9,000 acres.

DFG considers Monterey pine forest a natural community of special concern and is identified by DFG in the CNDDB (2011). Natural communities of special concern are habitats that are especially diverse, regionally uncommon, or of special concern to local, state, and federal agencies. Monterey pine has a CNPS Rank of 1B.1 (California Native Plant Society 2011), but the species is not listed as rare, threatened, or endangered by the state or federal government.

The Monterey pine forest community also provides a variety of biological functions and values for a wide range of special-status plants (including Yadon's piperia, Hooker's Manzanita, sandmat manzanita, Hickman's onion, and pine rose) and for resident and migratory wildlife species, (including CRLF, Monterey dusky-footed woodrat, and various raptor and other bird species). In certain locations with a Hooker's manzanita understory, the Monterey pine forest also includes maritime chaparral, which is a unique vegetation community on its own.

Monterey pine forest overall is not specifically identified as ESHA in the current Del Monte Forest LUP (County of Monterey 1984). However, remnant coastal dune habitat where the natural landform is stabilized by Monterey pine forest or other native vegetation and the endemic Monterey pine/Bishop pine association is specified in the LUP as ESHA.

The existing LCP does not specifically identify all Monterey pine forest as ESHA. For this project, the County has determined, based on Coastal Commission precedent, that intact large contiguous areas of Monterey pine forest meets the Coastal Act definition of ESHA. For the proposed project, this means that all Monterey pine forest is considered ESHA with the following exceptions:

- Inn at Spanish Bay. The fragmented remnant forest (approximately 7.7 acres) at The Inn at Spanish Bay, west of 17-Mile Drive, is not considered ESHA because this area is small in extent, partially disturbed, fragmented, contains no special-status plant species and provides limited value for common and rare wildlife species.
- Area B Parking Facility. The 2.9 acre area where the new parking lot is planned is partially ESHA except for the area of prior disturbance on the east side of the proposed lot.
- Equestrian Center. Monterey pine forest or individual Monterey pines within the developed areas of the Equestrian Center are not considered ESHA.

- Part of Area V. The forested areas (approximately 1 acre) between the existing Pebble Beach Driving Range and Stevenson Drive to the west and Forest Lake Road to the east, and which do not contain Yadon's piperia or wetlands, is not considered ESHA because this area is small in extent partially disturbed, fragmented, contains no special-status plan species, and provides limited value for common and rare wildlife species.
- Part of Collins Field. The 4-acre area at the corner of Ondulado Drive and Stevenson Drive is not considered ESHA because this area is small in extent, disturbed, fragmented, contains no special-status plant species, and provides limited value for common and rare wildlife species. The area has historically been used for parking and special events staging.
- SR 1/SR 68/17-Mile Drive Interchange. The project area for the interchange improvement is located within a disturbed and degraded urbanized area of Monterey pine forest which is not considered ESHA.

Coastal Sand Dunes

Coastal dune is a sensitive biological community because it provides habitat for several special-status plant and wildlife species (including the Smith's blue butterfly) in the Monterey Bay region and has been reduced from its historic extent along the California coast and is thus considered ESHA. Remnant dunes are found in the Signal Hill area adjacent to Area M Spyglass Hill (approximately 34.12 acres). Coastal dunes are also found west of the development area at Area L. Most of these dune areas were previously placed in a conservation easement and are not part of the current project but an additional small area will be added to the preservation area (0.74 acre).

Maritime Chaparral

Central maritime chaparral has a patchy distribution from Monterey County to northern Santa Barbara County. There are about 60 species of manzanita in the world. All of these species are found in California and most are found nowhere else. Within California, many are endemic to small geographic areas. The central maritime chaparral in Del Monte Forest generally occurs as understory within native Monterey pine forest and is typically characterized by the presence of shaggy-barked Manzanita, huckleberry, blue blossom, and Hooker's manzanita. DFG lists central maritime chaparral as a rare habitat type in the CNDDB. As individual species, Hooker's manzanita is a low growing, mound forming, evergreen shrub endemic primarily to Monterey County. CNPS lists this species as 1B.2 (rare, threatened, or endangered).

Central maritime chaparral is rare and is considered valuable due to its important ecosystem function of providing habitat for individual rare species, as those terms are understood in a Coastal Act and LUP (and LCP overall) context. Because it also is easily disturbed and degraded by human activities and developments (e.g., by conversion to residential or recreation use), it meets the definition of ESHA under the Coastal Act and the LUP (and the LCP). Although not explicitly mapped, there is a presumption that central maritime chaparral within the LCP amendment area includes, at a minimum, the mapped areas of Hooker's manzanita.

Monterey Pygmy Forest and Disjunct Bishop Pine Forest, Mixed and Pure Stands

DFG considers Monterey pygmy forest (Gowen cypress/Bishop pine) a sensitive biological community because it is restricted in distribution. The forest community also provides a variety of biological functions and values to resident and migratory wildlife species. The areas of pygmy forest

on Huckleberry Hill are considered ESHA under the Del Monte Forest LUP (County of Monterey 1984). Additionally, an adjacent portion of a proposed preservation area (Area F-3) also contains a mixed stand of Bishop pine/Gowen cypress (approximately 3.5 acres) and is also considered ESHA. These communities are not found within proposed development areas.

Natural Wetlands and Seasonal Ponds

Natural wetlands provide habitat for terrestrial and aquatic wildlife, help to protect water quality, are sensitive to disturbance and are relatively rare in the coastal zone and thus are considered ESHA. Human-made wetlands are found within two development areas: Area L (golf course drainage related) and Area U (equestrian center drainage related). Other natural and human-made wetlands are also found in many of the preservation areas. Human-made detention ponds and ditches, while also helping to protect water quality, are not considered ESHA because they are much less susceptible to disturbance, and are created features that can be easily recreated.

Natural seasonal ponds in the project area are considered ESHA. A natural seasonal pond area (approximately 15 feet in diameter, roughly 0.004 acre) was delineated within a drainage in the Area N preservation area.

Riparian Habitat

Riparian habitats are considered sensitive biological communities because they provide a variety of ecological and water quality functions. DFG also supports a "no net loss" policy for riparian habitat acreage and value. A number of riparian areas (approximately 10,441 linear feet) are located within proposed preservation areas. No riparian areas are within development sites.

California Red-Legged Frog Habitat

CRLF was federally listed as threatened on June 24, 1996. It is also a state species of special concern. The CNDDB lists numerous occurrences of CRLF in Monterey County; however, only one of these is from the Monterey Peninsula. CRLFs have been identified in the lower watershed of Seal Rock Creek; in water hazards immediately adjacent to Spyglass Hill Golf Course; and in two locations in the proposed Area N preservation area. Since the CRLF population in these areas is the only known CRLF on the Monterey Peninsula, and given the threatened status of this species, natural aquatic habitat (including Seal Rock Creek) and supporting riparian corridors are considered ESHA in Del Monte Forest. Human-made aquatic habitat, such as golf course ponds, drainage swales, and retention/detention ponds are not considered ESHA, because such habitats are human made and far less susceptible to damage as they can be readily recreated.

Yadon's Piperia

Yadon's piperia (also referred to as Yadon's rein orchid) was federally listed as endangered in 1996 and has a CNPS Rare Plant Rank of 1B.1. Distribution of this species is centered in the Monterey Peninsula, where plants are found throughout large undeveloped tracts of Del Monte Forest. The species' range extends north to Las Lomas near Santa Cruz County and south to near Palo Colorado Canyon along the Big Sur Coast. Yadon's piperia has been found only 4–6 miles inland despite searches of lands further east. The county has determined that due to the rarity of this species, its highly limited range, and the fact that the center of the population is on the Monterey Peninsula

(specifically within the Del Monte Forest part of the peninsula), all areas within the project area containing Yadon's piperia meet the Coastal Act definition of ESHA.

LUP-Specified ESHA Plants and Other Federal/State–Listed Plants

Project areas that support the following specified special-status plants are considered ESHA by the LUP:

- Hickman's potentilla (also known as Hickman's cinquefoil; known from Indian Village, adjacent to Area L).
- Menzies' wallflower (Area L preserved dunes and Area M preservation area).
- Tidestrom's lupine (Area M preservation area).
- Monterey clover habitat, Gowen cypress area (Area G preservation area).
- Sandmat manzanita, significant occurrences only (Area PQR preservation area).
- Monterey Indian paintbrush (Area L preserved dunes and Area M preservation area).
- Pt. Lobos buckwheat (a synonym for seacliff buckwheat), in shoreline areas within Smith's blue butterfly habitat (Area M preservation area).

Project areas that support the following specified listed plants are also considered ESHA because these plants are threatened or endangered, though not mentioned by name in the LUP:

- Monterey spineflower (Area L preserved dunes and Area M dunes preservation area).
- Sand gilia (Area M dune preservation area).
- Beach layia (Area M dune preservation area).
- Gowen's cypress individuals (Area F-2 development area).

Special-Status Species

Special-status species are plants and animals that are legally protected under CESA, the federal ESA, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing (such as Species of Special Concern identified by DFG or CNPS List 1B species and other species that meet the CEQA definition of "rare"). The CNPS is a private organization dedicated to the preservation of native plant species and vegetation communities. Although CNPS is a private organization, CNPS' *Inventory of Rare and Endangered Vascular Plants of California* (California Native Plant Society 2011) contains useful information about the distribution and rarity of native plants and is a common reference used by professional botanists to identify plant species that fit the definition of *rare* under CEQA.

The definitions used to identify special-status species for this analysis other than federal or state listed species are presented in Appendix F.

Special-Status Plants

Extensive botanical surveys have been conducted through the entire Del Monte Forest and have resulted in the identification of several special-status plants, primarily associated with Monterey pine forest and coastal dune and terrace communities. The most recent and comprehensive surveys

were conducted during the spring and summer months of 2001; these covered the entire Del Monte Forest. The results of these surveys are reported in the Del Monte Forest Plan Biological Resources Report —Special-Status Species (Zander Associates 2001b) and are summarized in this section. An updated reconnaissance was completed in 2010 to confirm that conditions are relatively unchanged from the earlier period (Zander Associates 2010).

Based on a review of botanical survey results, the CNDDB (2011), the prior uncertified Final EIR (County of Monterey 1997), the prior certified Final EIR (Monterey County 2005), other sources of information (see the "Approach and Methods" section of this Section), and the presence of suitable habitat conditions, a number of special-status plants were identified as having the potential to occur in Del Monte Forest and surrounding region (see Appendix F). Sixteen of these species have been documented in the project area, and several others are located in nearby areas. Table 3.3-5 summarizes the total acres of occupied habitat and/or number of individual species located on each of the project sites. Special-status plant population/occurrences in the project area are shown on a site-by-site basis in the biological resource figures in Appendix F.

The USFWS has developed a draft recovery plan for five plant species on the Monterey Peninsula, three of which have been documented within project development and/or preservation areas: coastal dunes milk vetch, Monterey clover (occurs in one of the preservation areas of the project), Hickman's potentilla, Yadon's piperia (occurs in the project area), and Gowen cypress (occurs in the project area) (U.S. Fish and Wildlife Service 2002a). Recovery plans were developed for these species because of their narrow distributions and immediate threats from coastal development. Detailed information on each of these species can be found in Final Recovery Strategies for Six Coastal Plant Species on the Monterey Peninsula (Jones & Stokes 1996a) and Draft Recovery Plan for Five Plants from Monterey County (U.S. Fish and Wildlife Service 2002a). Where appropriate, information from this report is discussed in Appendix F.

Table 3.3-5. Special-Status Plant Location Summary by Project Area

Project Location/Element	Yadon's Piperia		Hooker's Manzanita Habitat	Other Special-Status Plants Occurrences
	Acres	Individuals	Acres	
The Lodge at Pebble Beach	0.0	0	0.0	Monterey pine (planted)
The Inn at Spanish Bay				
New Guest Cottages	0.0	0	0.0	Monterey pine
New Employee Parking	0.0	0	0.0	Monterey pine
Collins Field–Equestrian Center–Special Events Area				
Pebble Beach Driving Range Relocation from Area V to Collins Field	0.0	0	0.0	Pacific grove clover (0.20 acre)
Equestrian Center Reconstruction	0.0	0	0.0	Monterey pine
Special Events Area Grading and Expansion	0.5	201	0.0	Monterey pine
Area M Spyglass Hill				Monterey pine, Monterey spineflower, Menzies' wallflower, beach layia, sand gilia, Tidestrom's' lupine, and Monterey Coast paintbrush in dune preservation area
New Resort Hotel (Option 1)	0.0	0	0.0	Monterey pine
New Residential Lots (Option 2)	0.0	0	0.0	Monterey pine
Residential Lot Subdivisions				
Area F-2 (16 lots)	1.92	514	18.40	Monterey pine, Gowen cypress, pine rose, sandmat Manzanita
Area I-2 (16 lots)	1.59	203	15.60	Monterey pine, pine rose
Area J (5 lots)	2.02	2,470	0.0	Monterey pine
Area K (8 lots)	4.49	5,931	0.0	Monterey pine
Area L (10 lots)	0.08	4	0.0	Monterey pine, Monterey spineflower, Menzies' wallflower, Monterey Coast paintbrush in existing conservation area at west end; pine rose in preservation area at east end. Hickman's potentilla in adjacent Indian Village preservation area.
Area U (7 lots)	2.46	2,119	0.0	Monterey pine
Area V (14 lots)	6.25	3,893	0.0	Monterey pine

Project Location/Element	Yadon's Piperia Acres	Yadon's Piperia Individuals	Hooker's Manzanita Habitat Acres	Other Special-Status Plants Occurrences
Collins Residence (4 lots)	0.0	0	0.0	
Corporation Yard (10 lots)	0.36	3	0.02	Monterey pine
Preservation Areas				
Area B	1.98	274	0.0	Monterey pine
Area C	0.0	0	0.0	Monterey pine
Area F-1	4.52	2,486	3.58	Monterey pine, Gowen cypress
Area F-3	1.42	135	16.80	Monterey pine, Gowen cypress, pine rose, sandmat manzanita, Hickman's onion
Area G	4.90	757	33.50	Monterey pine, Monterey clover, pine rose, Hickman's onion
Area H	4.70	624	22.50	Monterey pine, pine rose, sandmat manzanita, Hickman's onion
Area I-1	9.50	2,970	9.80	Monterey pine, pine rose, sandmat manzanita, Hickman's onion
Area N	25.45	27,967	0.0	Monterey pine
Area O	18.84	23,874	1.85	Monterey pine
PQR	43.10	56,132	29.10	Monterey pine, sandmat manzanita, Hickman's onion
Roadway Improvements				
Internal Road Improvements	0.0	0	0.0	Monterey Pine
SR 1/SR 68/17-Mile Drive Intersection Reconfiguration	0.0	0	0.0	Monterey pine (planted)
Total	**134.08**	**130,557**	**151.15**	

Sources:
Zander Associates 2001b ; WWD Corporation 2011.

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Special-Status Wildlife

Based on a review of wildlife survey results (Zander Associates 2001b and 2010), the California Natural Diversity Database (2011), the prior uncertified Final EIR (County of Monterey 1997), the certified Final EIR (Monterey County 2005), CRLF assessments and surveys (Wetlands Research Associates 2002a, 2002b, and 2003), and other sources of information (see description of data sources in Appendix F), a number of special-status wildlife species were initially identified as having the potential to occur in the project area (see Appendix F). Of these, 13 special-status species were determined to be present or have suitable habitat within project development and preservation areas with 3 additional special-status species found in adjacent offshore areas.

Four special-status wildlife species have been documented in project development and preservation areas:

- CRLF.
- Monterey dusky-footed woodrat.
- Sharp-shinned hawk.
- White-tailed kite.

Suitable habitat for the following 9 additional special-status species has been identified on project development and preservation areas, and thus these species have the potential to occur in the project areas:

- Smith's blue butterfly.
- Black legless lizard.
- Silvery legless lizard.
- California horned lizard.
- Western pond turtle.
- Pallid bat.
- Ringtail.
- Monterey ornate shrew.
- Cooper's hawk.

The following three additional special-status species might be present in shoreline habitats and marine areas offshore:

- Southern sea otter.
- California brown pelican.
- Western snowy plover.

The project does not contain any marine areas. However, these species were included in the project baseline in order to assess whether indirect effects related to project run-off might affect them.

Impacts Analysis

Methodology

Approach

Monterey Pine Forest. The impact analysis for Monterey pine forest in the project area is based on the extent of the habitat affected within the development and preservation areas, as summarized in Table 3.3-6, and the extent of undeveloped Monterey pine forest in Del Monte Forest, the Monterey region, and in California. The area of forest that would be directly affected at each project site was derived from information provided by the applicant (WWD Corporation 2011). The areas of removal for proposed residential lots presumes up to 15,000 square foot removal for each lot. ICF reviewed the data originally provided by the applicant and several revisions were made to ensure that the numbers accurately represented disturbance and preservation areas. ICF calculated all indirect habitat impact acreages. The general disturbance areas are shown in the Biological Resource maps in Appendix F. The project's effects in a regional context are summarized in Table 3.3-7.

Special-Status Species. The impact analysis for each special-status plant species documented in the project area is based on the number of individuals and the extent of the population. The most current data on population numbers and occupied habitat areas were used in this analysis (see discussion of data sources in Appendix F). The analysis recognizes that special-status plant populations may fluctuate annually, depending on amount of rainfall, herbivory, survey and counting methods (e.g., counting vegetative plants rather than flowering plants), and other factors that may result in an increased or decreased number of individual plants. However, the County determined that the best available existing data should be used to prepare this Draft EIR. The area of disturbance and number of individuals that would be directly affected at each project site were provided by the applicant (WWD Corporation 2011) and reviewed by ICF.

The impact analysis for each special-status wildlife species documented or with potential to occur in the project area is based on the species' presence, presence of suitable habitat, and the extent of the population that occurs within and outside the project area. The most current data on species occurrences and occupied habitat areas was used in this analysis (see discussion of data sources in Appendix F). The analysis recognizes that occurrences of special-status wildlife species (e.g., CRLF) may fluctuate annually depending on environmental conditions, survey methods, and other factors that may result in the presence or absence of species.

Tree Removal. Two methods were used to determine the number of trees removed by the proposed project. For The Lodge at Pebble Beach, The Inn at Spanish Bay, the Equestrian Center—Collins Field—Special Events Area, and Area M Spyglass Hill, tree surveys were completed to determine the number of trees present and the proposed impact. For all other project locations, the impact was based on previous vegetation mapping and stand sampling, with the number of trees affected determined from the footprint of the proposed project elements. The analysis conservatively assumed that all trees would be removed within a 15,000 square foot area of disturbance within each building envelope of the proposed residential lots.[2]

[2] Policies in the proposed LCP amendment require minimization of forest/tree removal to the minimum necessary for development and thus it is expected that on average, forest/tree removal will not exceed 15,000 square feet; however, there may be locations where removal may be higher or lower than 15,000 square feet.

Criteria for Determining Significance

In accordance with CEQA, the State CEQA Guidelines, Monterey County plans and policies, and agency and professional standards, a project impact would be considered significant if the project would:

A. Environmentally Sensitive Habitat Areas

- Result in any direct or indirect disturbance of habitats designated as ESHA, as defined by the Coastal Act, which results in disruption of protected resources and habitat values.

B. Sensitive Habitats

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local, state, or federal regional plans, policies, or regulations, including those resulting in long-term degradation of a sensitive plant community because of substantial alteration of a land form or site conditions (e.g., alteration of wetland hydrology).
- For direct and indirect effects on Monterey pine forest within Del Monte Forest, a "substantial adverse effect" is defined in this document as "*the loss, conversion, and/or fragmentation of Monterey pine forest such that the natural forested character is not retained to the maximum extent feasible consistent with allowable development under the Del Monte Forest Land Use Plan" (per LUP Policy 31)", or "such that long-term protection of the natural forest resource is not achieved (per LUP Policy 32), including preservation of forest plant associations, forest geographic and genetic diversity, native soil cover, and overall forest health"*.
- For cumulative effects on Monterey pine forest on a regional basis, a "substantial adverse effect" is defined in this document as "*the loss, conversion, and/or fragmentation of Monterey pine forest such that the future conservation of Monterey pine forest, in absence of an adopted regional conservation plan, would be uncertain*"; uncertainty is defined as the loss of more than 5% of existing undeveloped Monterey pine forest on a regional basis. While public agencies, private organizations, and individuals have conducted numerous studies on the conservation of Monterey pine and Monterey pine forest, no regional forest conservation plan has been adopted. In light of the prior reduction of forest areas, current threats posed by development, alteration of natural forest succession (through fire suppression), the effect of pathogens (such as pine pitch canker), and the introduction of exotic species, a conservative approach to further losses of Monterey pine forest is warranted until a regional forest conservation plan can be adopted and implemented. While at present there is no definitive scientific method or consensus by which to establish a fixed amount and location of preservation needed to secure the overall conservation of Monterey pine forest, in this document an interim loss of no more than 5% (meaning preservation of 95% of the extant resource) is identified as providing a reasonable certainty that options for future conservation will not have been foregone.

C. Wetlands/Waters

- Result in direct loss through direct removal or filling of wetlands or waters as defined by CWA Section 404, or wetlands that meet the Coastal Act definition, or result in substantial adverse affects on wetlands by hydrological interruption or other means. Result in direct or indirect impacts on state waters as defined by CWA Section 401, the Porter-Cologne Water Quality Act, or streams as defined by Section 1600 of the California Fish and Game Code.

D. Special-Status Species

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by designation of DFG or USFWS including reducing the number or restricting the range of an endangered, rare, or threatened species.

E. Wildlife Habitat/Populations/Plant Communities

- Substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community.

F. Indirect Habitat Impacts Resulting from Human Use

- Result in substantial disturbance of protected wildlife or their habitats from human activities related to equestrian and pedestrian trail siting and use.

G. Wildlife Movement

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, by blocking or fragmenting access, or by permanently eliminating known wildlife corridors in areas known for frequent and substantial wildlife movement that provide important links between habitat areas.

H. Wildlife Breeding and Nesting

- Impede the use of native wildlife nursery sites or directly harm nesting species protected under the provisions of the Migratory Bird Treaty Act.

I. Tree Removal

- Remove any Monterey cypress, Gowen cypress or Bishop pine trees within their indigenous range except in cases where life, property, or existing access is immediately threatened, or where a diseased tree is determined by a qualified professional forester to represent a severe and serious infection hazard to the rest of the forest.
- Inadvertently remove or damage trees not planned for removal, introduce non-local tree stock such that genetic diversity is diminished and/or spread tree disease (such as pitch canker) during tree removal.

Project Impacts and Mitigation Measures

A. Environmentally Sensitive Habitat Areas

Impact BIO-A1. Project development would result in direct removal and indirect disturbance to ESHA while preserving far larger ESHA. (Less than significant with mitigation)

The evaluation of impacts on areas designated as ESHA is based on the identification of ESHA based on current conditions and sensitivity as discussed above, and as presented in Table 3.3-4 above and in the biological resource figures in Appendix F. Since ESHA areas, such as Monterey pine forest (most project areas) or Yadon's piperia, are also considered significant biological resources per other significance criteria, this section summarizes the results of subsequent impact analyses. For

details of the resource impact analysis itself, please refer to the resource by resource discussions below.

It is long standing practice of the CCC that impacts on ESHA for non-resource dependent development are to be avoided rather than mitigated. The project's proposed visitor-serving and residential development are not resource dependent, although some of the ancillary developments, such as trail development and internal Del Monte Forest roadway improvements are resource dependent because their locations are fixed in areas containing ESHA. As described in Chapter 2, Project Description, the project analyzed in this Draft EIR under CEQA includes both the proposed development project as well as the LCP Amendment. As noted above, the LCP Amendment would specifically allow the proposed project's development to be permitted. The agreement between the CCC staff and the applicant identifies that the CCC staff has determined that the LCP Amendment represents a balancing of impacts on ESHA due to development located within and adjacent to previously disturbed areas with the opportunity to preserve far larger areas of ESHA containing extensive, intact, contiguous habitat and high ecological values.

ESHA impacts can be summarized as follows.

- **Monterey Pine Forest, including Maritime Chaparral.** The proposed project would result in the removal of up to 41 acres of Monterey pine forest (most of which is ESHA), including at least 12 acres of maritime chaparral understory. The project would also result in indirect effects to up to 44 additional acres of Monterey pine forest (most of which is ESHA), including at least 22 acres of maritime chaparral understory. The project would preserve 598 acres of Monterey pine forest (all of which is ESHA), including 117 acres of maritime chaparral understory. In concept, the proposed preservation of such areas would substantially offset the direct and indirect effects of the project. However, implementation of Mitigation Measures BIO-A and BIO-A2, as discussed below, is required to formalize dedication of these areas and to prepare and implement site-specific resource management plans for preservation areas for the benefit of Monterey pine forest, including maritime chaparral.
- **Coastal Dunes Habitat, including ESHA Dune Plants and Smith's Blue Butterfly Habitat.** The proposed project would not result in the removal of any coastal dunes habitat, but could result in indirect effects at Area L or Area M dunes due to intrusion by new residents, hotel users, escaped (invasive) landscaping, or pesticide drift. The proposed project would result in the preservation of 34 acres of coastal dunes at Area M. In concept, the proposed preservation of this area would substantially offset the direct and indirect effects of the project. However, implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-B2, as discussed below, is required to formalize dedication of these areas, implement resource management plans for preservation areas for the benefit of coastal dunes habitat, ESHA dune plants, and Smith's blue butterfly, and include specific measures to avoid indirect effects at Areas L and M.
- **Monterey Pygmy Forest.** The proposed project would not result in the removal of any Monterey pygmy forest. The project may result in indirect effects to Monterey pygmy forest in the HHNHA due to increased trail use and adjacent residential use. Implementation of Mitigation Measure BIO-B3, as discussed below, is required to manage indirect effects due to increased trail use and to adjacent residential use.
- **Riparian Habitat.** The proposed project would not result in removal of any riparian habitat. All riparian habitat is protected by setback areas. The project would result in preservation of

approximately 10,415 linear feet of riparian habitat. This is a beneficial impact; no mitigation is required.

- **Natural Wetlands/Seasonal Ponds.** The proposed project would result in the removal or fill of up to 0.06 acres of wetlands at Area L and Area U. The proposed project could also result in indirect effects to wetlands due to run-off at Areas J, K, L, U and V. The project will result in preservation of 9.5 acres of wetlands. In concept, the proposed preservation of such areas would substantially offset the direct and indirect effects of the project. However, implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-C1, as discussed below, is required to formalize dedication of these areas and implement resource management plans for preservation areas for the benefit of natural wetlands and seasonal ponds, and to avoid or compensate for wetland losses. Mitigation measures HYD-A1, A2, C1, C2, and C3 are also required to address potential hydrological and water quality impacts on wetlands.
- **Yadon's Piperia.** The proposed project would result in the removal of up to 6 acres of Yadon's piperia habitat and indirect impacts on 3 acres of habitat. The proposed project would result in the preservation of 125 acres of Yadon's piperia habitat, including critical habitat areas identified by the USFWS (in Areas B, G, H, I-1, L and PQR), and a substantial majority of the plants overall known population.[3] In concept, the proposed preservation of such areas substantially offsets the direct and indirect effects of the project. However, implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-D1, as discussed below, is required to formalize dedication of these areas and implement resource management plans for preservation areas for the benefit of Yadon's piperia.
- **Gowen Cypress.** The project could result in removal of individual Gowen cypress in Area F-2. The project would result in the preservation of Gowen cypress in Areas F-1 and F-3 which are adjacent to a larger area of Gowen cypress habitat in the HHNHA (which was previously dedicated by the applicant). In concept, the proposed preservation of such additional areas would substantially offset the direct and indirect effects of the project. However, implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-D2, as discussed below, is required to formalize dedication of these areas, implement resource management plans for preservation areas for the benefit of ESHA, and restoring degraded areas of Gowen cypress habitat.
- **California Red-Legged Frog Habitat.** The proposed project would not result in the removal of any aquatic habitat for the CRLF, but may result in mortality of individuals during construction, would remove upland habitat, and could indirectly degrade CRLF habitat due to project run-off. The project would also result in the preservation of CRLF habitat in Areas J, K, L and N. In concept, the proposed preservation of such areas substantially offsets the direct and indirect

[3] The applicant previously dedicated the 372 acre HHNHA containing Yadon's piperia habitat of 38 acres, which contains a large piperia occurrence. The applicant has also entered into a Memorandum of Understanding (MOU) with the USFWS to preserve 99 acres of Monterey pine forest and Yadon's piperia habitat outside the Del Monte Forest (83 acres at the Aguajito site in the County of Monterey and 16 acres at the Old Capitol site in the City of Monterey). The prior dedication of the HHNHA is an existing condition and thus is not credited as mitigation for the current project. As discussed below, the proposed preservation of Yadon's piperia habitat within the Del Monte Forest included with the proposed project is considered adequate preservation to offset project impacts, with implementation of resource management for this species. Thus, any additional dedications done by the Applicant at the Aguajito or Old Capitol sites outside the Del Monte Forest pursuant to the MOU between USFWS and the Applicant are in addition to that included in the current project and/or required as mitigation by Monterey County.

effects of the project. However, implementation of Mitigation Measures BIO-A1, BIO-A2, BIO-E1, and BIO-E2, as discussed below, is required to formalize dedication of these areas, implement resource management plans for preservation areas for the benefit of CRLF, limit construction period impacts, and provide additional and enhanced compensatory frog breeding habitat.

Mitigation Measure BIO-A1. Develop and implement a site-specific resource management plan, based on the Master Resource Management Plan, for each preservation area.

The applicant will be required to develop and implement site-specific RMPs (SSRMPs) for the following areas:

- Signal Hill Dunes—SSRMP for the Signal Hill Dune Preservation Area in Area M.
- Area NOUV—Combined SSRMP for the contiguous preservation areas in Areas N, O, U, and V and the preserved occurrence of Pacific Grove clover in Collins Field (if the in-situ preservation mitigation option is selected).
- Area B & C—Combined SSRMP for Preservation Area B and C.
- Huckleberry Hill Natural Habitat Area (HHNHA) and Contiguous Areas—combined SSRMP for contiguous areas including HHNHA/SFB Morse Preserve, Preservation Areas F-1, F-3, G, H, I-2 and Corporation Yard and possibly a portion of Area D.
- Lower Seal Rock Creek Area—combined SSRMP for Preservation Areas I-1, J, K and L and management of Hickman's potentilla and Pacific Grove clover in Indian Village.
- Preservation Area PQR.

The SSRMPs will be developed by a qualified third-party biologist under contract to the County, will be based on the guidance and framework provided in a County-approved Master RMP (Appendix C), and will be reviewed and approved by the County.

Each SSRMP will include specific management measures identified for biological resources in this Draft EIR if said resource is contained in the preservation area for which the SSRMP is being prepared. These resources include:

- Monterey pine forest (including maritime chaparral understory).
- Monterey pygmy forest.
- Coastal dune habitat.
- Riparian habitat.
- Wetlands and waters.
- Special-status plant species.
- Special-status wildlife species, including CRLF.
- Nesting raptors and MBTA-regulated bird species.
- Pallid bat (standing dead trees throughout the project area).

For each resource being protected, the SSRMP will include:

- A description of the resource and detailed description of the management measures to protect the resource.

- Specific protection, restoration, and management methods, including timing and personnel.
- Monitoring methods and reporting procedures, including timing and personnel.

For Monterey pine forest restoration and management and for each special-status plant that is targeted for reestablishment, transplantation, propagation, outplanting, or *in situ* management, the USFWS policy guidelines regarding controlled propagation of listed species will be followed for the reintroduction or establishment of new populations of federally listed species (65 FR 56916). As such, each site-specific RMP will contain the following elements regarding special-status plants:

- Detailed transplantation, propagation, and outplanting methods.
- Description and mapped locations for "donor sites."
- Site selection methods (donor sites, reestablishment sites, and transplantation sites).
- Site protection measures (e.g., type and location of fencing).
- Adaptive management plan (including weed control).
- Success criteria.
- Monitoring and reporting methods (monitoring and reporting will be conducted annually for the first 5 years and every 2 years after 5 years until the success criteria have been met).

Each SSRMP will include an annual work plan and monitoring report to be approved by the County. The work plan will include an education program for maintenance staff whereby a qualified biologist will provide information on special-status plant and wildlife species. The applicant will ensure that the measures are implemented by monitoring for a minimum period of 20 years.

Mitigation Measure BIO-A2. Dedicate conservation easements to the Del Monte Forest Foundation for all preservation areas.

The applicant will be required to dedicate conservation easements to the Del Monte Forest Foundation or other approved entity for proposed preservation areas, which includes over 635 acres of undeveloped land within Areas B, C, F-1, F-3, G, H, I, J, K, L, M, N, O, PQR, U, V, and Corporation Yard as identified in Appendix C.

The conservation easements will incorporate specific development prohibitions based on the protection measures outlined in the Master RMP (Appendix C) and the SSRMPs to be developed (per Mitigation Measure BIO-A1). The conservation easements will contain specific restrictive language that permanently prohibits all future development in the preservation areas, with the following exceptions:

- Existing trails and utility uses and their maintenance.
- New recreational trails and utility lines within the applicant's proposed preservation areas.
- Limited expansion of trails, but not expansion of formal recreational facilities, utility lines or corridors, nor construction of any additional supporting facilities.

The conservation easements will also contain:

- A guarantee of full funding for implementation and monitoring by the applicant of all agency-approved resource management methods established in all agreements and MOUs.
- A statement that these dedicated areas cannot be used for the mitigation of any other past, present, or future projects.

The intent of this language is to prevent the possibility of later revision, amendment, or interpretive disputes concerning the conservation easements that might directly or indirectly result in the loss of habitat area and quality that is intended and required solely as mitigation for this project's effects. The intent is also to ensure the implementation of proposed resource management activities that are intrinsic to enhancing and maintaining the forest's ecological values, such as implementation of resource and wildfire management practices.

Significance Determination after Mitigation. With the LCP Amendment's balancing of the priorities under the Coastal Act supporting the preservation of larger areas of intact ESHA at the expense of limited impacts on ESHA with areas that are previously disturbed or are adjacent to existing development, and with the implementation of the mitigation measures noted above, the project's impacts on ESHA are considered less than significant.

B. Sensitive Habitats

Impact BIO-B1. Project development would result in direct disturbance and indirect impacts on Monterey pine forest (including maritime chaparral) while preserving far larger areas of Monterey pine forest (including maritime chaparral). (Less than significant with mitigation)

As noted in the "Environmental Setting" section and in the detailed setting in Appendix F, all stands of undeveloped Monterey pine forest are considered sensitive communities for the purposes of this analysis.

Impacts Related to Development Areas. The proposed project would require the removal of existing undeveloped Monterey pine forest to accommodate project developments. In addition, as a result of the removal of understory vegetation and soil modification by the activities of future residents, additional areas of undeveloped forest would be converted to a suburban forest without native understory.

In addition to direct removal of forest by grading and type conversion due to understory modification, indirect effects on Monterey pine forest could also result from:

- Disturbance of the root zone and soil compaction from adjacent grading and trenching activities.
- Changes in soil and hydrologic conditions from increased irrigation and run-off.
- Increased exposure to fertilizers and herbicides from adjacent developed areas.
- Fragmentation of remnant stands.
- Increased susceptibility to insects and diseases, including pitch canker for Monterey pine.
- Loss of genetic diversity for Monterey pine.

Due to property maintenance, soil can become compacted in heavy use areas, preventing native understory and pine regeneration. The greater exposure of forest edge to development and landscaping might also result in increases within the forest of foot traffic, pesticides, herbicides, irrigation water, cats, dogs, yard waste, and trash. As mature trees die and tree regeneration is

suppressed over time, native Monterey pine and coast live oak canopy could be replaced by nonnative ornamental trees.

The focus of this impact analysis is on undeveloped native Monterey pine forest supporting a Monterey pine– and coast live oak–dominated overstory and native undisturbed understory. Accordingly, this impact analysis of residential development is based on an assumption that the undeveloped Monterey pine forest within the building envelope will be substantially converted to suburban forest through removal of native understory, suppression of natural overstory regeneration, and curtailment of effective forest ecosystem management practices.

A summary of the quantitative extent of project effects by area is presented in Table 3.3-6. Monterey pine forest removal, type conversion, and fragmentation/indirect effects would occur at all project development locations except at The Lodge at Pebble Beach and in all project development elements except for the Conference Center at The Inn at Spanish Bay, the Collins Residence, and the Corporation Yard. Narrative discussions of impacts on Monterey pine forest by project location are provided below. Analysis of central maritime chaparral (Monterey phase) has been subsumed in the analysis of Monterey pine forest, because it most commonly occurs as inclusions within Monterey pine forest in the project area.

Table 3.3-6. Summary of Project Effects on Monterey Pine Forest

Project Location/Element	Disturbed Acres	Indirect Acres	Preserved Acres	Total Acres
The Lodge at Pebble Beach	0.00	0.00	0.00	0.00
The Inn at Spanish Bay				
Conference Center Expansion	0.00	0.00	0.00	0.00
New Guest Cottages	3.20	0.00	0.00	3.20
New Employee Parking	2.81	1.64	0.00	4.45
Collins Field–Equestrian Center–Special Events Area				
Pebble Beach Driving Range Relocation from Area V to Collins Field	0.61	0.49	0.00	1.10
Equestrian Center Reconstruction	1.41	0.66	0.00	2.07
Special Events Staging Area Grading and Expansion	1.77	0.00	0.00	1.77
Area M Spyglass Hill				
New Resort Hotel (Option 1)	5.00	1.50	0.00[a]	6.50
New Residential Lots (Option 2)	2.43	4.07	0.00[1]	6.50
Residential Lot Subdivisions				
Area F-2 (16 lots)	7.11	12.39	0.00	19.50
Area I-2 (16 lots)	5.74	13.00	0.00	18.74
Area J (5 lots)	1.81	1.99	6.05	9.85
Area K (8 lots)	3.18	1.55	5.84	10.57
Area L (10 lots)	4.48	4.43	9.25	18.16
Area U (7 lots)	2.45	3.14	17.44	23.03
Area V (14 lots)	1.19	3.70	12.76	17.65
Collins Residence (4 lots)	0.00	0.00	0.00	0.00

Project Location/Element	Disturbed Acres	Indirect Acres	Preserved Acres	Total Acres
Corporation Yard (10 lots)	0.00	0.00	4.25	4.25
Preservation Areas				
Area B	0.00	0.00	19.74	19.74
Area C	0.00	0.00	29.88	29.88
Area F-1	0.00	0.00	10.24	10.24
Area F-3	0.00	0.00	17.12	17.12
Area G	0.00	0.00	60.53	60.53
Area H	0.00	0.00	50.89	50.89
Area I-1	0.00	0.00	38.82	38.82
Area N	0.00	0.00	48.87	48.87
Area O	0.00	0.00	19.98	19.98
Area PQR	0.00	0.00	245.89	245.89
Roadway Improvements				
Internal Road Improvements	0.40	0.00	0.00	0.40
SR 1/SR 68/17-Mile Drive Intersection Reconfiguration	0.33	0.00	0.00	0.33
Total (with Area M Option 1)	**41.49**	**44.49**	**597.83**	**683.53**
Total (with Area M Option 2)	**38.92**	**47.06**	**592.91**	**683.53**

Source:
LSA 2001, WWD Corporation 2011.
Note:
[a] Does not include Monterey pines retained in the dune preservation area.

Table 3.3-7. Summary of Project Impacts on Monterey Pine Forest in a Regional Context (acres)

Location	Historic Size[a]	Present Size[b]	Preserved at Present[c]	Change in Size[b]	Preserved by Project[b]
Project Areas	N/A	684	0	-41	598
Del Monte Forest outside of Project Areas	N/A	1,031	474	0	0
Subtotal Del Monte Forest	*N/A*	*1,715*	*474*	*-41*	*598*
Percents			*28%*	*-2%*	*+35%*
Monterey Region Outside of Del Monte Forest	N/A	7,694	2491	0	0
Subtotal Monterey Region	*18,324*	*9,405*	*2965*	*-41*	*598*
Percents			*32%*	*<1%*	*+6%*
Ano Nuevo	1,500	1,500	30		
Cambria	3,500	2,300	100		
Subtotal California	*23,324*	*13,205*	*3,095*	*-41*	*598*
Percents			*23%*	*<1%*	*+5%*
Cedros Island (Mexico)	370	370			
Guadalupe Island (Mexico)	Unknown	<1			
Subtotal Mexico	*370*	*370*	*3,095*		

Location	Historic Size[a]	Present Size[b]	Preserved at Present[c]	Change in Size[b]	Preserved by Project[b]
Total	**23,694**	**13,575**	**23%**	**-41**	**598**
Percents				***<1%***	***+4%***

Sources:

[a] Jones & Stokes 1996b

[b] Project information from WWD Corporation 2011. Source for other than project information is Jones & Stokes 1996b.

[c] Jones & Stokes 1996b; Huffman & Associates 1994; Zander Associates 2002a; Pebble Beach Company 2003; Monterey County 2002. See Appendix F.

The discussions below summarize project effects by location.

- **New Guest Cottages.** Development of New Guest Cottages at The Inn at Spanish Bay would result in the removal of about 3.2 acres of Monterey pine forest west of 17-Mile Drive.
- **New Employee Parking.** Development of New Employee Parking in Area B at The Inn at Spanish Bay would result in removal of about 2.81 acres of forest and indirect impacts on 1.64 acres of undeveloped Monterey pine forest.
- **Pebble Beach Driving Range Relocation from Area V to Collins Field.** Relocation and construction of the new driving range at Collin Field would result in the removal (0.61 acre) and type conversion (0.49 acre) of Monterey pine forest along the site margins.
- **Equestrian Center Reconstruction.** Demolition and reconstruction of the equestrian center would result in the removal (1.41 acre) and type conversion (0.66 acre) of Monterey pine forest along the site margins.
- **Special Events Staging Area.** Grading and expansion of the Special Events Staging Area would result in the removal (1.77 acre) of Monterey pine forest along the north edge of the site.
- **Residential Area F-2.** Development of Area F-2 for residential use would result in the removal (7.11 acres) and type conversion (12.39 acres) within a partially fragmented area of Monterey pine forest presently situated between fairways of the Poppy Hills Golf Course.
- **Residential Area I-2.** Development of Area I-2 for residential uses would result in removal (5.74 acres) and type conversion (13.0 acres) within a long, relatively narrow fragmented strip of land that borders golf course and residential development along Viscaino and Ronda Roads.
- **Residential Area J.** Development of Area J for residential uses would result in impacts on an area of Monterey pine forest within fragmented stands of forest bordering existing residences and fairways of Hole 13 and the northern portion of Hole 12 of the Spyglass Hill Golf Course. These impacts would entail an estimated removal of and type conversion of 1.81 acres within the building envelope and 1.99 acres of indirect effects on the remaining lots. Dedication of conservation easements located northeast of Spyglass Woods Drive and northeast and southeast of the intersection of Stevenson and Spyglass Woods Drives comprising 6.05 acres is also part of this project element.
- **Residential Area K.** Development of Area K for residential uses would result in impacts on an area of Monterey pine forest at the edge of an existing stand of forest on Spyglass Hill Golf

Course. Area K spans Stevenson Drive and is situated between the fairways of Holes 11 and 8 of the Spyglass Hill Golf Course. These impacts would entail an estimated removal and type conversion of 3.18 acres within the building envelope and indirect effects on the remaining 1.55 acres. Dedication of a conservation easement on 5.84 acres is also proposed as part of this project element.

- **Residential Area L.** Residential development at Area L would result in removal of 4.48 acres and type conversion of 5.17 acres of Monterey pine forest. Area L is located south and east of The Dunes Road and north of Holes 6 and 7 of the Spyglass Hill Golf Course. Dedication of a conservation easement on 8.51 acres of Monterey pine forest in Area L is also proposed as part of the project.

- **Residential Area U.** Residential development at Area U would result in removal of 2.45 acres and type conversion of 3.14 acres of Monterey pine forest. Area U is located south of Drake Road, north of Portola Road, and west of Stevenson Drive. Dedication of a conservation easement on 17.44 acres in the western and northeastern portions of Area U is also proposed as part of the project.

- **Residential Area V.** Residential development at Area V would result in removal of 1.19 acres and type conversion of 3.70 acres of Monterey pine forest. Area V is located south of Drake Road, north of Portola Road, and west of Stevenson Drive. Dedication of a conservation easement on 12.76 acres area in the western and northern portions of Area V is also proposed as part of the project

- **Internal Road Improvements.** Improvements at four road intersections would require removal of approximately 0.4 acre of Monterey pine forest. The Highway 1/68 and 17-Mile Drive Intersection improvements would require removal of individual planted Monterey pine trees; these are not included as an impact on pine forest in this analysis (they are included in assessment of tree removal under Impact BIO-J1 below).

- **Preservation Areas.** In addition to the proposed preservation areas discussed above for Residential Areas L, U, and V, the project also includes preservation in Areas B, C, F-1, F-3, G, H, I-1, N, O, and PQR for a total of 598 acres of Monterey Pine Forest.[4]

Significance Determination before Mitigation. The proposed project would result in direct loss of up to 41 acres of Monterey pine forest, which represents approximately 2% of the remaining undeveloped Monterey pine forest in Del Monte Forest and less than 1% of the undeveloped forest in the Monterey region (Table 3.3-7).

Indirect effects on up to 47 acres of Monterey pine forest are more difficult to quantify, given that the degree of fragmentation and character and extent of other indirect effects are site-specific. Indirect effects would occur most prominently directly adjacent to direct removal or type conversion and/or directly adjacent to areas of development activity.

[4] As noted above, the applicant has entered into a Memorandum of Understanding with the USFWS to preserve another 99 acres of Monterey pine forest/Yadon's piperia habitat (83 acres at Aguajito and 16 acres at the Old Capitol site). These additional areas are outside the Del Monte Forest and are not part of the proposed project being analyzed in this Draft EIR. These areas are not required as mitigation for project effects as the proposed preservation within the Del Monte Forest, along with required resource management of the preservation areas, is considered adequate mitigation to address the identified significant impacts to Monterey pine forest.

The project would also result in preservation of 598 acres of Monterey pine forest, which would increase preserved areas of remaining native Monterey pine forest in the world by 5%, and would represent a 6% increase of preservation in the Monterey region and a 35% increase in preservation of forest in Del Monte Forest.

In concept, the proposed preservation of such areas would substantially offset the direct and indirect effects of the project. However, the proposed project includes no formal commitment to manage the preservation areas for the benefit of Monterey pine forest and maritime chaparral. Thus the project's adverse direct and indirect effects represent a significant impact. Mitigation Measures BIO-A1 and BIO-A2 discussed above are required to formalize dedication of these areas and to prepare and implement site-specific resource management plans for preservation areas for the benefit of Monterey pine forest, including maritime chaparral. Implementing these measures would reduce this impact to a less-than-significant level.

Significance Determination after Mitigation. Implementation of Mitigation Measures BIO-A1 and BIO-A2 would reduce impacts on Monterey pine forest to a less-than-significant level.

Impact BIO-B2. Project development would result in potential direct and indirect disturbance of coastal dune habitat near Areas M and L while preserving the entire remnant dune area in Area M. (Less than significant with mitigation)

The Signal Hill remnant dunes directly adjacent to the proposed hotel or residential area at Area M contain populations of five endemic dune species that are state- and/or federally listed (Monterey spineflower, Menzies' wallflower, beach layia, sand gilia, and Tidestrom's lupine). The coastal dune habitat and two of these species are identified as environmentally sensitive habitat areas in the Del Monte Forest LUP. Plant surveys conducted in May 2011 confirmed that none of the special-status plant species associated with the Signal Hill Dune occurs within the proposed development area. There is also dune habitat containing special-status plant species at Area L outside of the areas proposed for residential development.

Impacts Related to Development Areas. Development in Areas L and M would avoid direct impacts on coastal dune habitat but would introduce new land use activities, listed below, that would have indirect impacts on this habitat:

- Disturbance of the root zone and soil compaction from adjacent grading and trenching activities.
- Changes in soil and hydrologic conditions from increased irrigation and run-off.
- Increased exposure to fertilizers and herbicides from adjacent developed areas.
- Trampling of plants by humans, equestrians, and pets. Depending on the time of year (e.g., when the plants are flowering or fruiting), this type of disturbance could lead to increased mortality and decreased reproductive success. This impact could be substantial, especially during large golf tournaments if spectators encroach on remnant habitat areas.
- Spread of invasive nonnative plants from landscaped areas that may displace special-status plant species.

Impacts on special-status wildlife species associated with the dune habitat areas are described separately under Impacts BIO-E4 (Smith's blue butterfly) and BIO-E5 (legless lizards, California horned lizard).

Proposed Preservation. As part of the project, the applicant is proposing to dedicate conservation easements for 34.12 acres of dune habitat immediately east of the Area M Spyglass Hill proposed New Resort Hotel/New Residential Lots. The dune habitats at Area L were mostly previously dedicated; approximately 0.74 acres of new dedication of dune area is included in this project.

Significance Determination before Mitigation. In concept, the proposed preservation of this area would substantially offset the direct and indirect effects of the project. However, Mitigation Measures BIO-A1 and BIO-A2 described above and BIO-B2 discussed below are required to formalize dedication of these areas, implement resource management plans for preservation areas for the benefit of coastal dunes habitat, and ESHA dune plants, and include specific measures to avoid indirect effects at Areas L and M.

Mitigation Measure BIO-B2. Include additional measures in the resource management plan to avoid indirect impacts on dune habitat near Areas M and L.

The applicant previously prepared a site-specific RMP for coastal dune scrub (Zander Associates 2001a) for a previously proposed DMF/PDP project. The applicant subsequently prepared a Biological Resources Review for the current project that summarized recommended mitigation measures to maintain and manage dune habitat in Area L as well as in Area M (Zander Associates 2010). As part of the project conditions of approval, a site-specific RMP will implement protection, restoration, and preservation measures to avoid direct and deleterious indirect effects to special-status dune plant species within the dune habitat in Preservation Areas L and M including the following:

- Irrigation systems will be designed to ensure that, under windless conditions, restored dune habitat is not subject to substantial overspray.
- Drainage improvements will direct run-off from roads and paved surfaces away from dune habitat. Drainage improvements within the adjacent Spyglass Hill Golf Course will be located entirely within the golf course, not dune habitat.
- Nonnative species will be removed and controlled to prevent invasion of dune species habitat.
- Rare plant dune restoration areas will be located away from the perimeter of existing golf courses.
- Permanent physical barriers will be installed along the edge of the "Green Trail," the Dunes Road, and other portions of the dune habitat as necessary to prevent encroachment into this habitat. Adequate signage will identify dune habitat and indicate that pedestrian traffic within such areas is not permissible.
- Monitoring shall be conducted as necessary to support resource management.

Significance Determination after Mitigation. Implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-B2 would reduce this impact to a less-than-significant level.

Impact BIO-B3. Project would indirectly disturb Monterey pygmy forest and other sensitive plant habitat areas and plant and wildlife species in the HHNHA due increased trail use and adjacent residential use. (Less than significant with mitigation)

The proposed project would not result in the removal of any Monterey pygmy forest or other habitats in the HHNHA. The project may result in indirect effects to Monterey pygmy forest and

other sensitive habitats in the HHNHA (including Monterey pine forest, rare plants, wetlands, and riparian areas) due to increased trail use and indirect effects to wildlife within the HHNHA (which could include pallid bat, Monterey shrew ringtail, CRLF, and nesting raptors) and to special status plant species due to indirect effects from the residential area at the Corporation Yard. The project would result in preservation of 4.25 acres of Monterey pine forest adjacent to the Corporation Yard residential area and 17.1 acres in Area F-3; both are adjacent to the HHNHA.

Increased trail use could result in trampling of special-status plant species, disturbance of wildlife, introduction of invasive non-native plant species, and increased erosion and disturbance at stream crossings. New residential use could also result in indirect impacts due to light intrusion at the edge of the preservation area, escape of non-native landscaping species, as well as impacts of domestic pets (including predation by domestic cats and possible escape and creation of feral cat colonies).

In concept, the proposed preservation of such areas around the HHNHA substantially offsets the indirect effects of the project. However, Mitigation Measures BIO-A1 and BIO-A2 discussed above and BIO-B3 discussed below are required to formalize dedication of these adjacent areas, implement resource management plans for preservation areas for the adjacent areas, and manage indirect effects within the HHNHA due to increased trail use and adjacent residential use.

Mitigation Measure BIO-B3. Include additional measures in the resource management plan for Huckleberry Hill Natural Habitat Area to avoid indirect trail use and other impacts on sensitive resources, and use directed lighting and provide environmental education for new residences at the Corporation Yard residential area.

The following measures will be incorporated into the site-specific RMPs and Annual Work Plan and Monitoring Plan required by Mitigation Measure BIO-A1 to control trail use impacts in the HHNHA:

- Implement an annual program of erosion control and trail maintenance along trails in the HHNHA.
- Permanently close and revegetate all informal “social” trails in the HHNHA.
- Provide environmental education about the sensitive resources of the HHNHA for new residents at the Corporation Yard including measures that individuals can implement to lower their impact such as staying on marked trails, crossing drainages only at marked crossings, and avoiding the introduction of invasive species.
- Monitor trails and trail crossings of drainages during the wet season, temporarily close single-track trails and other HHNHA trails when monitoring identifies that a substantial erosion potential exists, and conduct periodic maintenance as necessary to prevent soil erosion and sedimentation from subsequent storm events. The applicant will develop a protocol for implementing monitoring, temporary trail closures, and periodic maintenance that will be incorporated into the HHNHA RMP.
- Conduct at least annual (and more frequent if necessary) weed control surveys of the HHNHA (both along trails and off trails) and use manual, mechanical, and appropriate chemical or other means of control where infestation of noxious weeds is identified.
- Monitor HHNHA for feral animals (i.e. dogs, cats) and in cooperation with the Monterey County Animal Services, and remove feral colonies to protect native wildlife species.

The following measures will be incorporated into site conditions for all residential development at the Corporation Yard:

- Outside lighting will not be directed at the HHNHA preservations areas.
- Outside lighting will be directed downward or inward toward development areas.
- Provide environmental education about the sensitive resources of the HHNHA to homebuyers and residents at the Corporation Yard residential area including measures that individuals can implement to lower their impact such as crossing drainages at marked crossings, staying on designated trails, controlling pets (including keeping cats indoors and dogs on leash), avoiding spread of non-native invasive species, and directing temporary and permanent lighting inward (as opposed to outward into adjacent preservation areas).

C. Wetlands/Waters

Impact BIO-C1. Project development would result in potential disturbance of 0.06 acre of wetlands/drainages and result in indirect effects to wetlands and waters in and adjacent to project development areas. (Less than significant with mitigation)

Seven project elements contain wetlands (see Table 3.3-3). The project would also directly affect two small drainages at two locations (Area L and Area U); as described previously, both of these drainages are classified as wetlands as well. The proposed project would avoid development within all wetlands and waters except for these small areas within Areas L and U.

As discussed above, the USACE has indicated an intention to take jurisdiction over the erosional gully in Area I-2 as an "other water of the United States." It is possible that the Central Coast RWQCB may also assert jurisdiction over this gully under state law (Porter-Cologne Water Quality Act) or that DFG may take jurisdiction under Section 1600 of the state Fish and Game Code. However, the California Coastal Commission does not consider the gully to be a wetland under the Coastal Act and Monterey County does not consider the gully to be a drainage, wetland, or riparian area under the Del Monte Forest Land Use Plan for the reasons previously discussed.

Impacts Related to Development Areas. Direct impacts on wetlands would occur as a result of development activities described below:

- Approximately 0.03 acre of a seasonal wetland/drainage in Area L falls within the proposed access road alignment. This wetland would be subject to fill or disturbance as a result of road construction.
- Approximately 0.03 acre of a seasonal wetland/drainage in Area U would be filled for residential development.

Indirect impacts on wetlands/drainages would occur as a result of the activities described below:

- Existing LUP Policy No. 27 (LUP Amendment Policy No. 25) requires a setback of 100 feet from wetlands, but allows for landscape alteration within the 100-foot buffer if accomplished in conjunction with restoration and enhancement, if it is demonstrated that no significant disruption of environmentally sensitive habitat will result. Infringement into the 100-foot buffer would occur in Areas K and V.
- Wetlands and drainages adjacent to project development sites would be subject to indirect impacts. Topographic modification and removal of forest cover in watersheds supporting

existing wetlands, addition of irrigation flow, and use of herbicides and pesticides could result in indirect changes of existing wetlands. Modification of supporting watersheds could change the hydrologic regime both in terms of volume and timing of flow. Addition of flow could result in perennialization of seasonal wetlands. Additional storm flows could result in channelization of wetlands and erosion. Run-off from development sites could contain herbicides and pesticides and other contaminants related to site activity.

Proposed Preservation. Approximately 9.47 acres of wetlands would be preserved within Areas C, G, J, K, L, N, PQR, U, V, and the Corporation Yard.

Significance Determination before Mitigation. In concept, the proposed preservation of such areas would substantially offset the direct and indirect effects of the project. However, Mitigation Measures BIO-A1 and BIO-A2 discussed above and BIO-C1 discussed below are required to formalize dedication of these areas and implement resource management plans for preservation areas for the benefit of natural wetlands and seasonal ponds, and to avoid or compensate for wetland losses. Mitigation Measures HYD-A1, HYD-A2, HYD-C1, HYD-C2 and HYD-C3 (refer to Section 3.7, Hydrology and Water Quality) are also required to address potential hydrological and water quality impacts onwetlands and waters. With implementation of these measures, impacts on waters and wetlands would be reduced to a less-than-significant level.

Mitigation Measure BIO-C1. Avoid or compensate for the loss of wetlands and implement resource management measures to maintain wetlands in the preservation areas.

The applicant will modify the lot in Area U and the roadway in Area L to avoid direct impacts on wetlands/drainages, and/or the applicant will compensate for the loss of wetlands and wetland functions through creation of new wetlands or enhancement of existing wetlands in one or more preservation areas, such that no net loss of wetland functions occurs. The applicant previously prepared a Wetland Management Plan for the project that includes general measures for wetland and riparian management within preservation areas. These measures include maintaining existing water budgets, protecting water quality, restoring hydrologic continuity and movement corridors for wildlife, enhancing plant community diversity, and regulating use (Wetlands Research Associates 2001). These measures will be incorporated into the site-specific RMPs specified in Mitigation Measure BIO-A1.

Hydrology and water quality Mitigation Measures HYD-A1 (stormwater detention and treatment), HYD-A2 (maintance and improvement of drainage and flood control facilities), HYD-C1 (stormwater pollution prevention plan for construction), HYD-C2(inspection and maintenance of best management practices), and HYD-C3 (integrated pest management for the relocated driving range), would reduce indirect hydrology and water quality impacts on waters and wetlands to a less-than-significant level. All are discussed in greater detail in Section 3.7, Hydrology and Water Quality.

Significance Determination after Mitigation. Implementation of Mitigation Measures BIO-A1, BIO-A2, BIO-C1, and HYD-A1, HYD-A2, HYD-C1, HYD-C2 and HYD-C3 would reduce impacts on wetlands relating to loss of function to a less-than-significant level.

D. Special-Status Plant Species

Yadon's Piperia

Impact BIO-D1. Project development would result in the direct loss of individual Yadon's piperia plants and habitat and indirect impacts on adjacent occupied piperia habitat, while preserving far larger areas of occupied piperia habitat. (Less than significant with mitigation)

Seventeen project elements contain occupied habitat for Yadon's piperia, which is federally listed as endangered. Seven project elements would disturb approximately 6 acres of occupied habitat and the loss of about 4,507 plants (Table 3.3-8). Overall, 125 acres of occupied habitat would be preserved (122,570 total plants) in Del Monte Forest, which is 94% of the 134 acres of occupied Yadon's piperia habitat in the project area.[5]

Impacts Related to Development Areas. Direct and indirect effects on Yadon's piperia would occur as a result of the development activities described below.

- Special Events Staging Area Grading and Expansion would result in the loss or disturbance of a portion of a small occurrence (0.50 acre with 201 individual plants).
- Residential Lot Subdivision Areas F-2 (Lots 1, 5, 9, 15 and 16); I-2 (Lots 1, 3, 4, 5, 6, and 12); J (Lots 1, 4, and 5); K (all lots); U (one lot); and V (two lots) would also affect this species. As noted above, it was conservatively assumed that construction, landscaping, or indirect effects would eventually remove the entire population within proposed lot areas for the purposes of the analysis in this Draft EIR. Small, isolated occurrences are found on these project sites, with the exception of Areas J and K, which support substantial numbers (2,470 and 5,931 plants). Collectively, development from these five project elements could result in the loss of 5.65 acres of occupied habitat (4,306 plants).

Indirect impacts on piperia within open space and preservation parcels located adjacent to the project elements are described below:

- Trampling of plants by humans, equestrians, and pets. Depending on the time of year (e.g., when the plant is flowering or fruiting), such disturbance could lead to increased mortality and decreased reproductive success. This impact could be substantial, especially during large golf tournaments if spectators encroach on remnant habitat areas.
- Mowing and other road maintenance activities.
- Changes in soil and hydrologic conditions from increased irrigation and run-off.
- Increased exposure to fertilizers and herbicides from the residential areas.
- Spread of invasive nonnative plants from landscaped areas that may displace Yadon's piperia.

[5] As noted above, the applicant has previously dedicated the HHNHA, which contains another 38 acres of occupied Yadon's piperia habitat. The applicant has also entered into a MOU with the USFWS to preserve another 99 acres of Monterey pine forest/Yadon's piperia habitat (83 acres at the Aguajito site in the County of Monterey and 16 acres at the Old Capitol site in the City of Monterey). The HHNHA is a previous dedication and is part of the existing baseline. As described in this Draft EIR, the County has determined that the proposed preservation included with the project in the Del Monte Forest, along with resource management, is adequate to reduce identified significant impacts to a less than significant level. Thus, the preservation of additional piperia habitat at the Old Capitol and Aguajito sites under the Applicant's MOU with the USFWS is considered in addition to that proposed or required to address significant impacts identified in this EIR.

Table 3.3-8. Summary of Project Impacts on Special-Status Plant Species

	Yadon's piperia (acres)				Yadon's Piperia (individuals)				Hooker's manzanita (acres)				Hickman's Onion (acres)		
Project Location/Element	**Total**	**Dist.**	**Indirect**	**Pres.**	**Total**	**Dist.**	**Indirect**	**Pres.**	**Total**	**Dist.**	**Indirect**	**Pres.**	**Total**	**Dist.**	**Pres.**
The Lodge at Pebble Beach	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
The Inn at Spanish Bay															
Conference Center Expansion	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Guest Cottages	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Employee Parking	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Collins Field–Equestrian Center–Special Events Area															
Driving Range Relocation from Area V to Collins Field	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equestrian Center Reconstruction	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Special Events Staging Area Grading and Expansion	0.50	0.50	0.00	0.00	201	201	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area M Spyglass Hill															
New Resort Hotel (Option 1)	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Residential Lots (Option 2)	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residential Lot Subdivisions															
Area F-2	1.92	1.60	0.32	0.00	514	474	40	0	18.40	7.00	11.40	0.00	0.00	0.00	0.00
Area I-2	1.59	1.22	0.37	0.00	203	196	7	0	15.60	4.70	10.62	0.28	0.00	0.00	0.00
Area J	2.02	0.28	0.53	1.21	2,470	128	732	1,610	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area K	4.49	2.45	1.11	0.93	5,931	3,507	1,795	629	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area L	0.08	0.00	0.00	0.08	4	0	0	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area U	2.46	0.02	0.13	2.31	2,119	0	900	1,219	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area V	6.25	0.08	0.09	6.08	3,893	1	6	3,886	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Collins Residence (4 lots)	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporation Yard (10 lots)	0.36	0.00	0.00	0.36	3	0	0	3	0.02	0.00	0.00	0.02	0.00	0.00	0.00
Preservation Areas															
Area B	1.98	0.00	0.00	1.98	274	0	0	274	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Project Location/Element	Yadon's piperia (acres)				Yadon's Piperia (individuals)				Hooker's manzanita (acres)				Hickman's Onion (acres)		
	Total	**Dist.**	**Indirect**	**Pres.**	**Total**	**Dist.**	**Indirect**	**Pres.**	**Total**	**Dist.**	**Indirect**	**Pres.**	**Total**	**Dist.**	**Pres.**
Area C	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area F-1	4.52	0.00	0.00	4.52	2,486	0	0	2,486	3.58	0.00	0.00	3.58	0.00	0.00	0.00
Area F-3	1.42	0.00	0.00	1.42	135	0	0	135	16.80	0.00	0.00	16.80	<.0.10	0.00	<0.10
Area G	4.90	0.00	0.00	4.90	757	0	0	757	33.50	0.00	0.00	33.50	<.0.10	0.00	<0.10
Area H	4.70	0.00	0.00	4.70	624	0	0	624	22.50	0.00	0.00	22.50	<.0.10	0.00	<0.10
Area I-1	9.50	0.00	0.00	9.50	2,970	0	0	2,970	9.80	0.00	0.00	9.80	<.0.10	0.00	<0.10
Area N	25.45	0.00	0.00	25.45	27,967	0	0	27,967	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area O	18.84	0.00	0.00	18.84	23,874	0	0	23,874	1.85	0.00	0.00	1.85	0.00	0.00	0.00
Area PQR	43.10	0.00	0.00	43.10	56,132	0	0	53,132	29.10	0.00	0.00	29.10	5.50	0.00	5.50
Roadway Improvements															
Internal Road Improvements	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR 1/SR 68/17-Mile Drive Intersection Reconfiguration	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**134.08**	**6.15**	**2.55**	**125.38**	**130,557**	**4,507**	**3,480**	**122,570**	**151.15**	**11.70**	**22.02**	**117.43**	**5.60**	**0.00**	**5.60**

Sources: Zander Associates 2001b; WWD Corporation 2011

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Proposed Preservation. The applicant has proposed to preserve extensive areas of occupied habitat (125 acres) containing an estimated 122,570 individuals in nine preservation areas as well as in open space and preservation parcels within five residential lot subdivisions (J, K, L, U, and V). Preservation of these lands is proposed to be accomplished through amendments to the LCP to change land uses and densities, dedication of conservation easements to the Del Monte Forest Foundation, and management of the newly dedicated lands by PBC for the benefit of biological resources. The proposed project would also protect the single largest known occurrence of Yadon's piperia within preservation areas in N,O,U and V (total 56,946 plants on 53 acres) and the second largest known occurrence in Area PQR (56,132 plants on 43 acres).[6]

Preservation of Yadon's piperia by the proposed project is considered important to the recovery of the species for several interrelated reasons:

- **Extinction probability.** Work done in the field of conservation biology has shown that the extinction probability increases as size of a population or species decreases (Shaffer 1981; Lande 1988; Lawton 1995), thus the preservation of a large number of plants and occupied habitat, particularly in Areas M, N, O, U, V, and PQR, along with areas previously preserved such as the HHNHA, may substantially reduce the probability that the Del Monte Forest population and the species might become extinct.

- **Importance of preserving large contiguous habitat blocks.** Abundant data indicates that large pieces of contiguous habitat with high numbers of the species in question and with a low perimeter to area ratios are of more conservation value and have a greater probability of persistence than small, fragmented habitat patches with lower numbers of individuals (Shaffer 1981; Lande 1988; Saunders et al. 1991). Rationale supporting this conclusion include the slowing of random genetic drift in large occurrences and the consequent maintenance of genetic diversity; the buffering effect of high numbers against catastrophic events (especially important in this species because it sets significantly more seed upon outcrossing (pollination from different plants) compared to selfing (self pollination) [Doak and Graff 2001] so it would be expected to be affected by bottlenecks); the increased extinction probability of small occurrences due to random demographic processes; the decrease in deleterious edge effects in larger occurrences; and the greater ease of managing large areas compared to fragments.

- **Metapopulation dynamics.** Given that piperia seeds are extremely light and wind dispersed (although most seeds will fall comparatively close to the parent plant, orchid seeds may disperse as far as 5 to 10 kilometers, and even much farther [Rasmussen 1995]), it can be argued that Yadon's piperia occurrences on the Monterey Peninsula function as a metapopulation. A metapopulation is a group of populations, each occurring on a discrete patch of land, which interact via the processes of patch extinction and colonization. In the case of Yadon's piperia, colonization of empty patches would occur by seed dispersal. Work done on metapopulation dynamics indicates that, as a general "rule of thumb," decreasing extinction probability of patches is more important for the persistence of the metapopulation than is increasing the likelihood of colonization of new patches (Etienne and Heesterbeek 2001). In general, an increased rate of patch extinction compared to patch colonization will greatly increase the extinction probability of a metapopulation (Hanksi 1991). In addition, it can be argued that the largest patches would likely function as superior sources of seeds for the colonization of new sites or recolonization of extinct patches.

[6] The applicant previously preserved HHNHA, which also contains a large occurrence of 38 acres of piperia habitat.

- **Importance of occupied and adjacent unoccupied habitat.** Areas M,N,O,U,V, and PQR not only contain a high proportion of occupied habitat compared to other smaller planning areas, it also has much high-quality potential habitat that serves to buffer the occupied habitat. Unoccupied habitat that is contiguous with occupied habitat and has the same edaphic profile and vegetation structure has a high probability of being suitable habitat for Yadon's piperia. The occurrence of this unoccupied habitat in Areas M,N,O,U,V and PQR gives the species room for expansion and room to shift its distribution as vegetation structure changes with time through the creation of gaps or forest maturation. It is likely that suitable habitat exists in a continually shifting patch mosaic. If Areas M,N,O,U,V (preserve areas only) and PQR (all of the area) were not preserved but were subject to future development, it would be possible that Yadon's piperia could become marginalized onto many small habitat islands in a matrix of residential or recreational development, with no room for expansion and no safe haven in the event of an unforeseen loss of some of the existing occurrences due to random or other events. As noted above, large occurrences are far more resilient to such potential impacts than are small occurrences.

Significance Determination before Mitigation. In concept, the proposed preservation of such extensive areas of habitat substantially offsets the direct and indirect effects of the project. However, Mitigation Measures BIO-A1 and BIO-A2 discussed above and BIO-D1 discussed below are required to formalize dedication of these areas and implement resource management plans for preservation areas for the benefit of Yadon's piperia. Mitigation Measure BIO-D1 will be implemented to ensure that the proposed preservation areas are effectively managed to preserve the populations of Yadon's piperia.

Mitigation Measure BIO-D1. Implement resource management measures to maintain and enhance Yadon's piperia habitat.

The following resource management measures will be incorporated into site-specific RMPs for preservation areas:

- Maintain natural conditions (including current drainage patterns and understory vegetation) and prohibit understory clearing in proposed Yadon's piperia preservation areas (Zander Associates 2001b).
- Protect the populations adjacent to existing golf courses (preservation parcels at Areas K and L) from unintended disruptions by pedestrians and golfers by fencing the perimeter of the forested open space areas if pedestrian traffic could affect such areas. Temporary protective fencing will be particularly important during large golf tournaments and during the species' blooming and fruiting period if pedestrian traffic could affect such areas. The fencing (temporary or permanent) must be tall enough to deter golfers from entering the forested area but designed to allow wildlife movement.
- Remove nonnative invasive species within preservation areas. Focus on species that currently pose a high threat to Yadon's piperia.
- Restrict maintenance activities in areas that support Yadon's piperia. This would include modifying road maintenance activities (including mowing) to avoid the flowering and fruiting season for Yadon's piperia.
- Maintain, sign, and direct use of designated trails to reduce the potential for informal access through areas known to support Yadon's piperia. Any new trail alignments will avoid

occupied piperia habitat to the greatest extent possible. PBC will install and maintain vehicle barriers at key locations to reduce the potential for off-road vehicle/BMX/mountain bike access (U.S. Fish and Wildlife Service–Pebble Beach Company 2007). PBC will close and restore all informal trails within existing piperia habitat.

- Manage stormwater run-off from roads, building areas trails, and other impervious surfaces to reduce effects on known piperia habitat areas. PBC will repair erosion gullies on trails and in other areas as determined necessary through periodic site inspections (U.S. Fish and Wildlife Service–Pebble Beach Company 2007).
- Implement a program of landowner, utility worker, and golf course personnel education to inform those parties about the sensitivities of living and working in areas adjacent to piperia habitat (U.S. Fish and Wildlife Service–Pebble Beach Company 2007).
- The applicant will continue to support research directed toward increased understanding of beneficial piperia habitat management and enhancement methods (U.S. Fish and Wildlife Service–Pebble Beach Company 2007). PBC will fund research into Yadon's piperia plant dynamics if monitoring of preservation areas indicates substantial diminishment of existing plant populations in preservation areas. If populations are shown through monitoring to be stable over time, then enhancement activities beyond the activities described above are not required. If populations are shown through monitoring to be substantially declining over time, then enhancement activities beyond the activities described above, will be required which may include protection against herbivory, increased invasives management, vegetation management, or other adaptive management actions.

Significance Determination after Mitigation. Implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-D1 would reduce impacts on Yadon's piperia to a less-than-significant level.

Impact BIO-D2. Project development would result in potential loss or disturbance of up to 16 Gowen cypress trees due to residential development while preserving 3.5 acres of Gowen cypress/Bishop pine pygmy forest. (Less than significant with mitigation)

Residential Lot Subdivision Area F-2 contains 16 native individual Gowen cypress, which is federally listed as threatened. These trees are part of the larger population (CNDDB Occurrence #1) found in HHNHA[7]and adjacent areas, which is the primary population of Gowen cypress.

Impacts Related to Development Activities. Construction activities associated with developing 5 of the 10 residential lots within Area F-2 (Lots 7, 8, 9, 12 and 14) would result in removal of up to 16 scattered Gowen cypress trees. Gowen cypress are adjacent to, but not within the construction footprint of the Congress Road improvements, and thus are not expected to be affected by that project element.

Additional impacts on the species could result from:

- Disturbance of the root zone and soil compaction from adjacent grading and trenching activities.
- Changes in soil and hydrologic conditions from increased irrigation and run-off.
- Increased exposure to fertilizers and herbicides from adjacent developed areas.

[7] HHNHA, which contains the most significant occurrence of Gowen cypress/Bishop pine in the Del Monte Forest, was previously dedicated by the Applicant as required by the existing LCP.

Proposed Preservation. The proposed project would preserve 3.5 acres of Gowen cypress/Bishop pine forest in Area F-3, which is a designated ESHA. Another small group of Gowen cypress trees would be preserved in Area F-1. All of these areas would be managed for the long-term health and sustainability of the Gowen cypress/Bishop pine forest.

Significance Determination before Mitigation. While applicant-proposed preservation would reduce the level of project-related impacts on Gowen cypress, the project, as proposed, could still result in a substantial adverse effect on Gowen cypress for the following reasons:

- The proposed project could reduce the population in Areas F-2 by about 16 trees. Species listed as threatened are likely to become endangered in the near future.
- Removal and disturbance of Gowen cypress trees conflicts with USFWS's recommendations for habitat and population recovery. The draft recovery plan states that "further losses of existing trees and its habitat should be prevented" (U.S. Fish and Wildlife Service 2002a).
- Although the applicant has proposed to dedicate substantial preservation areas containing large occupied Gowen cypress habitat, preservation alone might not offset the losses to existing populations.

Based on these factors, the impacts on Gowen cypress from the proposed project are considered significant. Implementing Mitigation Measures BIO-A1 and BIO-A2 discussed above and BIO-D2 discussed below would require the applicant to restore habitat at the HHNHA to offset the losses of Gowen cypress due to the project and to manage preservation areas effectively for the benefit of this species in order to preserve the Gowen cypress population.

Mitigation Measure BIO-D2: Restore 1.6 acres of Gowen cypress/Bishop pine habitat at the Huckleberry Hill Natural Habitat Area and implement resource management measures to maintain and enhance Gowen cypress habitat.

Restoration. Restoration of 1.6 acres of Gowen cypress/Bishop pine habitat at the HHNHA shall include the following:

- The first step will be elimination of existing nonnative vegetation and native species that do not occur within the adjacent undisturbed native forest though slashing, uprooting or targeted herbicide application.
- Restoration may need to be phased in order to control non-native invasive species colonization.
- Gowen cypress and Bishop pine seedlings grown from Huckleberry Hill stock will be outplanted in the fall with the objective of having sapling densities of at least 400 per acre.
- Initial planting densities will be 10 to 30% higher than target density (exact percentage to be determined in the RMP for HHNHA).
- Replacement plantings and contingent actions carried out in accordance with monitoring of success criteria.

Resource Management: The following resource management measures will be implemented:

- Landscaping in residential development areas adjacent to the HHNHA (Corporation Yard and Areas F-2 and I-2) will be prohibited from using cultivated horticultural Gowen cypress

trees to avoid genetic contamination of the native Gowen cypress trees in the nearby HHNHA and SFB Morse Botanical Preserve (Webster 2002).

- Identify management issues unique to Gowen cypress/Bishop pine forest and develop specific management measures necessary to maintain this habitat type in Area F-1, F-3, and the HHNHA. Incorporate these measures into the site-specific RMPs required by Mitigation Measure BIO-A1.

Significance Determination after Mitigation. Implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-D2 would reduce this impact to a less-than-significant level.

Impact BIO-D3. Project development would result in loss of one occurrence (0.2 acre) of Pacific Grove clover and indirect effects to a second occurrence. (Less than significant with mitigation)

A small population of Pacific Grove clover at the west end of Collins Field would be removed by relocation of the Pebble Beach Driving Range from Area V to that location. Habitat for Pacific Grove clover would be replaced by managed turfgrass. This impact is considered significant because it could result in the reduction of the number and range of a rare species. This species has persisted at this location (and a number of other locations) in disturbed settings. However without appropriate management, occurrences within such disturbed locations could be extirpated.

A second population of Pacific Grove clover, at the Indian village site, could be affected by increased trail and recreational use due to the new residences at Area J, K and L.

Impacts Related to Development Activities. A small population of Pacific Grove clover, consisting of several hundred plants in a 0.2-acre stand within a managed turf area, was discovered at the west end of Collins Field in 2008 (Zander Associates 2010) and confirmed to be present in 2011. Relocation of the Driving Range to Collins Field would include planting and managing turfgrass at that location, which would replace the habitat and extirpate this occurrence of Pacific Grove clover. New residences at Areas J, K, and L would likely increase recreational use of the Indian Village site, where a second occurrence of Pacific Grove clover is present.

Significance Determination before Mitigation. The proposed project could eliminate one of only twelve occurrences of Pacific Grove clover, a state-listed rare species, and indirectly affect a second occurrence. Most of these occurrences are small and face various threats, and the species has a CNPS Rare Plant Rank of 1B.1, indicating that it could be considered endangered. Implementation of Mitigation Measure BIO-D3 (either avoid the occurrence at Collins Field by redesigning the driving range or create a new occurrence in a preservation area) and Mitigation Measure BIO-D4 (manage the occurrence at Indian Village to ensure its survival) would reduce project impacts on Pacific Grove clover to a less-than-significant level. Mitigation Measure BIO-D3-A would mitigate impacts on Pacific Grove clover at Collins Field by redesigning the driving range to avoid the occurrence, and Mitigation Measures BIO-D3-B would mitigate impacts on Pacific Grove clover at Collins Field by creating a new occurrence of Pacific Grove clover within one of the preservation areas. Either of these options would mitigate the project's impact on Pacific Grove clover at Collins Field to a less-than-significant level.

Mitigation Measure BIO-D3: Redesign the proposed driving range to avoid Pacific Grove clover, or create or enhance a 0.2-acre compensation area for this species within another preservation area in the Monterey Peninsula.

Two options for mitigation (avoidance or restoration) are provided below. Either of these options would mitigate the project's impact on this species to a less-than-significant level.

Avoidance Option: With this option, development of the relocated Driving Range would avoid the identified 0.20 acre habitat area for Pacific Grove clover. The following resource management measures would be implemented:

- Conduct a preconstruction survey to identify the location and extent of the occurrence at Collins Field.
- Avoid the Pacific Grove clover occurrence by installing protective fencing prior to construction. A 4-foot-tall, brightly colored (usually yellow or orange), synthetic-mesh fence (or an equivalent approved by the County) will be installed before construction equipment is allowed to be moved onto the site and before construction activities take place. No construction activities, including grading, will be allowed until this condition is satisfied. No grading, clearing, or storage of equipment or machinery, or similar activity, may occur until a representative of the County has inspected and approved all temporary construction fencing. The temporary fencing will be maintained until all construction activities are complete. No grading, trenching, or movement of construction equipment will be allowed within fenced areas. All construction activities will be restricted from this fenced area. The contractor may remove the fencing only after all construction activities have been completed.
- Define specific management and enhancement methods for the Pacific Grove clover population and incorporate these methods into a site-specific RMP, annual workplan, and monitoring report.
- Monitoring of Pacific Grove clover and its habitat will be conducted to assess the existing population.

Restoration Option: With this option, the applicant would hire a qualified biologist to identify a suitable location on the Monterey Peninsula (preferably in Del Monte Forest) to recreate a new population of Pacific Grove clover and/or enhance an existing population (such as the population at Indian Village) to expand the occupied habitat area by a minimum of 0.20 acre over existing conditions as follows.

- Plans for such creation or enhancement will be submitted for review and approval by Monterey County and by DFG prior to the issuance of a building or grading permit for the relocated Driving Range. The selected site must either be already permanently preserved (by ownership in fee by an approved preservation organization like the Del Monte Forest Foundation or control of a conservation easement) or will be preserved through a new conservation easement.
- The applicant will create and/or enhance existing populations to increase the occupied habitat area by a minimum of 0.20 acre compared to existing conditions. The applicant will demonstrate success at expanding Pacific Grove clover occupied habitat prior to any disturbance of the existing population at Collins Field.
- Annual monitoring of the new site will be provided for a minimum of 5 years and may be extended for a longer period, as necessary based on the County's determination, after consultation with DFG, to demonstrate that the population is self-sustaining. The applicant will be responsible for management of the new or expanded population in perpetuity.

- Define specific management and enhancement methods for the Pacific Grove clover population and incorporate these methods into a site-specific RMP, annual workplan, and monitoring report.

Monitoring of Pacific Grove clover and its habitat will be conducted to assess the existing population.

Mitigation Measure BIO-D4. Manage the Indian Village occurrence of Pacific Grove clover to ensure its continued survival.

The applicant will implement the following:

- With the approval of the Del Monte Forest Foundation (property owner), the applicant will manage the existing Pacific Grove clover population at Indian Village to ensure its survival. The site population will be monitored periodically to examine potential changes over time. Alterations to current disturbance regimes should be cautiously attempted. Disturbance regimes should be gradually transitioned toward controlled disturbance management. Fencing of the population will not be required if monitoring shows the population to be stable over time.
- A resource management plan, describing management measures for this population that has been approved by the Del Monte Forest Foundation will be provided to Monterey County for review and approval prior to issuance of the first building or grading permit for residential development at Areas J, K and L. Monterey County will circulate and consider comment from DFG prior to approval of the plan. The RMP will follow the same requirements as indicated in Mitigation Measure BIO-A1 above. The applicant will be responsible to implement the plan in perpetuity.

Significance Determination after Mitigation. Mitigation Measure BIO-D3 would prevent the net loss of occupied Pacific Grove clover habitat and require actions to preserve and manage habitat for this species in perpetuity. Mitigation Measure BIO-D4 would offset potential impacts of increased recreational use by managing the Indian Village occurrence. Project impacts on Pacific Grove clover would be reduced to a less-than-significant level with the implementation of this measure.

Impact BIO-D4. Project development would result in direct loss and indirect impacts on Hooker's manzanita habitat while preserving larger areas of habitat. (Less than significant)

Two project development elements (Residential Lot Subdivisions in Areas F-2 and I-2) contain occupied habitat for Hooker's manzanita. Hooker's manzanita has a CNPS Rare Plant Rank of 1B.2, indicating that it is considered a rare species and threatened in parts of its range. The proposed project would result in the loss of approximately 11.7 acres and indirect effects on 22 acres of habitat (see Table 3.3-8). This impact is not considered significant because the species is not currently threatened or endangered, this project would not restrict the range of this species and because the proposed preservation would offset the impact by decreasing the likelihood that the species would become endangered in the near future.

Impacts Related to Development Activities. Two project elements would result in direct impacts on Hooker's manzanita:

- Construction, landscaping, and other alterations associated with proposed residential lots within Area F-2. Lots 1, 2, 15 and 16 support high-density Hooker's manzanita, and the rest of

the site supports low-density Hooker's manzanita. Development of Area F-2 would result in the loss of up to 7.0 acres of occupied habitat.

- Construction, landscaping, and other alterations at most of the 16 residential lots (Lots 4 to 16) in Area I-2. Hooker's manzanita occurs in high density on these lots. Development of the residential lots on I-2 could result in the loss of up to 4.7 acres of occupied habitat.

Hooker's manzanita would be indirectly affected by:

- Construction of residences in Areas F-2 and I-2, disturbing Hooker's manzanita through disturbance of the root zone and soil compaction from adjacent grading and trenching activities.
- Changes in soil and hydrologic conditions from increased irrigation and run-off.
- Increased exposure to fertilizers and herbicides from adjacent developed areas.

Proposed Preservation. The proposed project would preserve 117 acres of Hooker's manzanita habitat in Areas F-1, F-3, G, H, I-1, I-2, O, PQR, and the Corporation Yard.

Significance Determination before Mitigation. Preservation of large areas of Hooker's manzanita in Del Monte Forest and other locations in the Monterey Peninsula area greatly increases the stability of this species and decreases the likelihood that the species would become endangered. Project impacts, either by direct removal of plants or through habitat modification, would not result in a significant impact on Hooker's manzanita for the following reasons:

- The proposed project would preserve and manage 117 acres of occupied habitat for Hooker's manzanita. These preservation areas would substantially add to the portions of the Del Monte Forest Hooker's manzanita population already preserved and protected in perpetuity within the HHNHA.
- Two of the largest, unfragmented occurrences of Hooker's manzanita are already protected on public lands. These include a 5,217-acre occurrence at the former Fort Ord, mostly on U.S. Bureau of Land Management (BLM) lands, and a 154-acre occurrence in the Huckleberry Hill Nature Preserve at the Presidio of Monterey, and the project would add substantially to these preserves.
- The occurrences of Hooker's manzanita on Areas F-2 and I-2 that would be affected by the proposed project occur along the edge of Poppy Hill Golf Course and are already fragmented by development.

Therefore, potential impacts on Hooker's manzanita would be considered less than significant.

Impact BIO-D5. Project development could result in potential loss or disturbance of pine rose and habitat for pine rose while preserving larger areas of development. (Less than significant with mitigation)

Three project elements (Residential Lot Subdivision in Areas F-2, I-2, and L) contain occupied habitat for pine rose. This species may also be found in development areas in Area U and V and at roadway improvement locations. Pine rose has a CNPS Rare Plant Rank of 1B.2, indicating it is considered a rare species and threatened in parts of its range. Although pine rose has been identified in the Project area, it has not been adequately mapped or censused. Therefore, although the proposed project would result in the loss of pine rose and its habitat, the impact cannot be quantified. This impact is considered significant because it would result in the reduction of the number and range of a rare species.

Impacts Related to Development Activities. Pine rose would be directly affected by Residential Lot Subdivisions in Areas F-2 and I-2.

Proposed Preservation. Pine rose would be preserved in five proposed Preservation Areas: F-3, G, H, I-1, and L. Because the species has not been adequately mapped in these areas, the amount of preservation cannot be quantified.

Significance Determination before Mitigation. The small number of reported occurrences (11) and current level of threats indicate that this species may warrant listing as endangered within the foreseeable future. The proposed project could result in a significant impact on pine rose for the following reasons:

- The proposed project would reduce the number and area of one of only 11 occurrences of pine rose. Most of these occurrences are small and face various threats, and one population has already been extirpated.
- Although the applicant has proposed to dedicate preservation areas containing occupied pine rose habitat, neither the impact nor the preservation benefit can be quantified, and preservation alone cannot offset the losses to existing populations.

Based on these factors, the impacts on pine rose from the proposed project would be considered potentially significant. Implementing Mitigation Measure BIO-D5 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-D5. Conduct preconstruction surveys for pine rose, implement avoidance and protection measures, if found, and conduct construction monitoring.

The applicant will hire a qualified biologist and ensure the following measures will be incorporated into construction specifications and implemented to protect pine rose:

- Prior to construction, a qualified biologist will conduct preconstruction surveys at proposed development sites in Areas F-2, I-2, L, U, and V and roadway improvement locations to identify the location and extent of the occurrences of pine rose. This will be documented and mapped for use by the construction contractor.
- During construction, the construction contractor will avoid and protect identified occurrences of pine rose by installing protective fencing prior to construction. A 4-foot-tall, brightly colored (usually yellow or orange), synthetic-mesh fence (or an equivalent approved by the County) will be installed before allowing any construction equipment to be moved onto the site and before any construction activities take place. No construction activities, including grading, will be allowed until this condition is satisfied. No grading, clearing, or storage of equipment or machinery, or similar activity, may occur until a representative of the County has inspected and approved all temporary construction fencing. This restriction applies to both on-site and off-site improvements. The temporary fencing will be maintained until all construction activities are complete. No grading, trenching, or movement of construction equipment will be allowed within fenced areas. All construction activities will be restricted from this fenced area. If necessary for project development, the County must first approve any encroachment within the fenced area. The contractor may remove the fencing only after all construction activities have been completed and equipment removed from the site.

- A qualified biologist will be present for monitoring during all ground-disturbing construction activities.
- If avoidance and protection is not possible, a qualified biologist will remove and transplant pine rose to suitable areas located in Preservation Area G, H, I-1, and/or L.

Significance Determination after Mitigation. Implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-D5 would reduce impacts on pine rose to a less-than-significant level.

Impact BIO-D6. Project development could result in indirect effects on one occurrence of Hickman's potentilla. (Less than significant with mitigation)

This species is currently known to exist only at the Indian Village location in Del Monte Forest and at a second location in the hills above Martini Creek (near Devil's Slide) in San Mateo County. The Indian Village population occurs on approximately 0.25 acre of habitat, has ranged between 5 and 35 plants and is presently (as of 2008) limited to only 11 plants. The population is within a fenced exclosure with no vegetation management. Efforts to augment this population through the introduction of outplanted individuals carried out in the 1990s were not successful. Despite these efforts and several management activities undertaken to improve habitat conditions, the population does not appear to be increasing in abundance (U.S. Fish and Wildlife Service 2009).

The Indian village site is a degraded meadow in an opening within a Monterey pine forest just north of the proposed subdivision at Area L. At its closest, the access road for the subdivision is about 150 feet from the nearest part of the meadow. The meadow once supported a larger cover of the native California oatgrass. However, it now supports a larger cover of nonnative species, including brome (*Bromus hordeaceus, B. mollis, B. diandrus*), wild oat (*Avena barbata*), vulpia (*Vulpia myuros*), ryegrass (*Lolium multiflorum*), foxtail barley (*Hordeum leporinum [jubatum]),* velvet grass (*Holcus lanatus*), and tall fescue (*Festuca arundinaceae*). The thicker cover provided by the nonnative grasses may be shading out Hickman's potentilla (U.S. Fish and Wildlife Service 2009).

USFWS has noted alterations in hydrology occurred due to prior reconstruction of the Spyglass Hill Golf Course, and continue to the present. Water flow now reportedly occurs throughout the year as a result of irrigating the golf course, whereas the original prairie habitat that supports this species may have been moist during the spring months, but would have been dry over the course of the year. An effort has been made to divert this flow, but may be only partially effective, according to USFWS. Year-round water flow has allowed the spread of invasive species, such as tall fescue (*Festuca arundinacea*), velvet grass (*Holcus lanatus*), and reed (*Juncus sp.),* that are competing with Hickman's potentilla. Pebble Beach Company has undertaken various management activities, including mowing, selectively spraying nonnative species, and hand-weeding directly around Hickman's potentilla individuals in efforts to maintain suitable habitat for the species (U.S. Fish and Wildlife Service 2009).

Predation by mule deer on the Indian Village population of Hickman's potentilla in Monterey County has been observed. Herbivory by voles, snails, slugs, gophers and mice may also be affecting the population. With so few individuals comprising this population (11 individuals as of 2008), predation exacerbates the threat of extirpation of this population.

Impacts Related to Development Activities. Project construction would not directly affect the Indian Village population. However, the new residential subdivision at Areas J, K and L could have the following indirect effects:

- Changes in hydrology. In Area L, proposed Lots 6 through 10 and the easternmost part of the access road and the cul-de-sac are located south of Indian Village; and drainage could be directed toward the occurrence of Hickman's potentilla due to new pavement as well as new irrigation for residential landscaping. The proposed drainage plan is that each individual lot would include a closed detention facility to have a metered release of pre-construction 10-year design run-off rate and overflow. Individual lot drainage would enter the storm drain along the access road and discharge into the stream flowing through the west end of the subdivision, which is well west of Indian Village. While the drainage design would capture storm-related flow and direct it away from Indian Village, it is unclear whether sub-10 year flow and routine irrigation would be fully captured or not by the proposed facilities.
- Introduction of non-native species. New residential development could increase the presence of non-native species for landscaping that could escape and affect the Indian Village site.
- Increased recreational access to Indian Village. With 10 new residences in Area L immediately adjacent to Indian Village, there would likely be increased use of the site by residents, their guests, and their pets. Access could degrade the existing conditions of the meadow and the Hickman's potentilla population. The new residences at Areas J and K are also close to Indian Village and could also contribute to recreational effects.

Proposed Preservation. The proposed project would preserve portions of Area L to the east of proposed subdivision, including areas upgradient of the Indian Village population adjacent to the Spyglass Hill golf course. However, this would not benefit the Hickman's potentilla population as it would not change existing conditions.

Significance Determination before Mitigation. Given the precarious nature of the Hickman's potentilla population at Indian Village and the fact that this population is only one of two known occurrences, any adverse impact on this population is considered significant. This impact would be reduced to a less-than-significant level by implementing Mitigation Measure BIO-D6, because it would require the applicant to ensure that no increase of run-off from the new residential development would affect the Indian Village site and would require the applicant to continue and expand management of the Hickman's potentilla population to offset any potential indirect effects of increased recreational access.

Mitigation Measure BIO-D6. Avoid hydrological effects to the Indian Village Hickman's potentilla population and expand existing protection and management.

Prior to construction, the applicant will implement the following:

- Demonstrate that the drainage design for Residential Area L will not increase flows to the Indian Village due to new impervious surfaces and new residential irrigation. The final design will be reviewed and approved by Monterey County prior to issuance of the first building or grading permit for Area L.
- With the approval of the Del Monte Forest Foundation (property owner), the applicant will improve management of the existing population as follows:
    - Move and/or consolidate all active recreation activities (picnicking, events, outdoor education etc.) to one area. If recreation can be better controlled, grassland on the site could recover and Hickman's potentilla would have a better chance to establish. All designated habitat will be fenced off from pedestrian and equestrian traffic. Signage will be used to inform site users to avoid sensitive habitat areas.

- The site will be managed to keep grasses from outcompeting Hickman's potentilla and to prevent Monterey pines from creating excessive shade. An adaptive management program should be applied that would test light, mowing, and grazing as possible vegetation management techniques.
- Herbivory will be managed by fencing of the population to prevent deer and large animal access. The site and adjacent areas will also be managed for slugs, snails, voles, gophers, and mice (as feasible) to reduce predation.
- The applicant will continue and expand efforts to reduce hydrologic effects of year-round flows from the Spyglass Hill golf course. One possible approach may be to intercept flows from the golf course and redirect them to enter the new storm drain along the new access road for new residences in Area L. This may require a resizing of the storm drain to handle the additional drainage.

- A resource management plan, describing these measures, that has been approved by the Del Monte Forest Foundation will be provided to Monterey County for review and approval prior to issuance of the first building or grading permit for residential development at Areas J, K and L. Monterey County will circulate and consider comment from both USFWS and DFG prior to approval of the plan. The RMP will follow the same requirements as indicated in Mitigation Measure BIO-A1 above. The applicant will be responsible to implement the plan in perpetuity.

Impact BIO-D7. Trail development could result in small amounts of lost habitat for special-status plant species. (Less than significant with mitigation)

Impacts Related to Development Activities. The project includes new trails in Area PQR and along the Haul Road in the HHNHA on existing fire roads, and thus removal of sensitive biological resources is not expected for these trails. The relocated trails in Area J and K and one short 0.25 mile trail in Area PQR would not be on existing fire roads and thus would require a limited amount of vegetation clearance (perhaps 3–5 feet) to establish the new trails. Tree removal would not be necessary for these trails, but it is possible that a small amount of habitat for special-status plant species may be removed for trail establishment. The new trails in Area J and K could cross areas of Yadon's piperia habitat, and the new trail at Area PQR would cross an area of Yadon's piperia and Hickman's onion habitat. It is also possible that the trail areas could contain pine rose, although this is unknown at present. It is unlikely that the trail areas contain Gowen cypress, Monterey cypress, Hickman's potentilla, Pacific Grove clover or dune plants given the habitats at these new trail locations do not contain suitable habitat for these species.

Proposed Preservation. The proposed project would preserve large areas of habitat for special-status plant species, including extensive areas of Yadon's piperia and Hickman's onion habitat.

Significance Determination before Mitigation. Preservation of large areas of special-status species habitat substantially offsets this impact. However, inadvertent loss of special-status species, including Yadon's piperia, Hickman's onion, or pine rose, if present, is considered a significant impact than can be reduced to a less-than-significant level with implementation of the following mitigation measure.

Mitigation Measure BIO-D7. Minimize special-status species habitat disturbance during trail construction.

The applicant will hire a qualified biologist to ensure trail design and construction minimizes special-status species habitat, avoids tree removal, and avoids removal of special-status plant species, other than Hooker's manzanita, wherever feasible.

E. Listed Federal Wildlife Species

California Red-Legged Frog

Impact BIO-E1. Project construction could result in direct mortality to California red-legged frog, degradation of aquatic habitat, and loss of and degradation of upland habitats, which would be partially offset by preservation of existing known occupied and suitable habitat. (Less than significant with mitigation)

Wetland Research Associates (Wetlands Research Associates 2002a, 2002b, and 2003) conducted surveys in 2002 and 2003 within the Del Monte Forest watersheds of areas containing suitable aquatic habitat for CRLF. ICF reviewed the results of these surveys. CRLF has been found at the following locations in Del Monte Forest:

- In a plunge pool in a drainage ditch along Drake Road and in a seasonal pond in Drainage I in Preservation Area N.
- Along the lower portion of Seal Rock Creek below Forest Lake Road to the mouth of the creek and along the margins of several water hazards on the Spyglass Hill Golf Course near tributaries of Seal Rock Creek (see biological resource figures in Appendix F).

In addition, other suitable aquatic habitat was identified in the following areas, but surveys in 2002 and 2003 did not identify any observed CRLF in these areas:

- Portions of the tributaries of Seal Rock Creek that cross through proposed preservation areas in Area I-1.
- Portions of the riparian drainage on the east side of proposed preservation area in Area B.
- Portions of Sawmill Gulch tributaries within SFB Morse Botanical Preserve/HHNHA near Congress Road.
- Portions of the tributaries of Pescadero Creek in Area PQR.
- Two quarry detention ponds on the Corporation Yard site. One has since been filled in connection with the closing and reclamation of the granite rock quarry; the other is in a proposed preservation area.
- Several water hazards on the Spanish Bay and Poppy Hills golf courses.
- Several freshwater marsh wetlands within the Area C preservation area.
- Wetlands within Areas M, N, O, and U, the HHNHA, Area H, and Areas PQR.

Based on information to date, the lower portion of Seal Rock Creek is occupied breeding habitat. No other occupied breeding habitat has been identified in Del Monte Forest. The lower portion of Seal Rock Creek appears to be the center of the known Del Monte Forest population of CRLF.

The wetlands and drainage in Areas M, N,O, U, and V provide foraging and dispersal habitat for CRLF. The wetlands and drainage in this area are not considered breeding habitat due to their high salinity and seasonal character. The deep (3.5 feet) natural pool in Area N is a semi-permanent water source; however, long-term year-round monitoring has identified that salinity levels in this pool are too high (+7.0%) to support either red-legged frog eggs or larvae. It is likely that the CRLF individuals found in this area dispersed from lower Seal Rock Creek.

Other suitable aquatic habitat within Del Monte Forest may also provide foraging and dispersal habitat (and breeding habitat where conditions are appropriate), although no documented CRLF use of these areas (outside of lower Seal Rock Creek) has been identified.

Impacts Related to Development Areas. Direct and indirect effects on CRLF frog would occur as a result of the development activities described below.

- Construction and grading for the development areas will impact 0.06-acre of wetland in Areas L and U. CRLF could be killed or injured during construction activities.

Indirect impacts on CRLF within open space and preservation parcels located adjacent to the project elements include:

- Recreational open space management activities, including brush clearing, and mowing.
- Increased run-off of pesticides and fertilizers from the proposed driving range and equestrian center maintenance activities.
- Habitat conversion from forest to development would decrease the cover in areas through which CRLF must move between sites, thereby increasing exposure to mortality factors such as predation and human disturbances (e.g., road mortality).
- Increased disturbance by pedestrian and equestrian traffic in and near riparian areas or other suitable habitat adjacent to development.
- Deleterious effects to hydrology and water quality of aquatic habitat for CRLF from project related disturbance. The effects of the proposed project on the long-term water quality and hydrology (e.g. drainage) of wetlands is described in Section 3.7, Hydrology and Water Quality. The water quality and hydrology analysis concluded that the potential long-term water quality and hydrologic impacts could be reduced to a less-than-significant level with implementation of the mitigation in Section 3.7, Hydrology and Water Quality.

Proposed Preservation. The proposed project includes the following measures that would enhance habitat for CRLF and suitable habitat in the area.

- As part of the proposed project, 0.79-acre of wetlands and approximately 1,659 linear feet of riparian habitat would be preserved under conservation easements within adjacent upland habitat in Areas J, K, and L, which are within the center of the Seal Rock population. In addition, Preservation Area I-1 is immediately upstream and would preserve approximately 2,309 linear feet of riparian habitat. All of these areas provide suitable CRLF habitat. Establishment of proposed preservation areas within Areas J, K, and L provide additional protection to the documented CRLF occurrence in Seal Rock Creek and in adjacent Indian Village.
- As part of the proposed project, an additional 8.68 acres of other wetlands and approximately 6,447 linear feet of riparian habitat would be dedicated within Del Monte Forest, much of which contains suitable aquatic habitat that may be used by CRLF in the future.

Significance Determination before Mitigation. While applicant-proposed preservation would reduce the level of project-related impact on CRLF, the project, as proposed, would still result in a significant effect, either directly or through habitat modifications, on CRLF for the following reasons:

- The proposed project would encroach into upland areas adjacent to aquatic habitat for CRLF reducing the upland migration habitat.
- Although the applicant has proposed to dedicate substantial preservation areas containing large areas of habitat, preservation alone cannot offset the potential indirect effects to CRLF.

Species listed as threatened are likely to be endangered (i.e. close to extinction) in the immediate or near future, and even small increments of loss would be considered substantial. CRLF is rare locally and was only recently (Wetlands Research Associates 2002a, 2002b, 2003) found on the peninsula. There are only a few known occurrences in the project vicinity (the Drake Pool/Drainage I pond, lower Seal Rock Creek, and nearby Spyglass Hill Golf Course water hazards). Therefore, impacts on CRLF from the proposed project are considered significant, taking into account both the adverse effects of proposed development and the effects of the proposed preservation. Implementing Mitigation Measures BIO-A1and BIO-A2 discussed above and BIO-E1 and BIO-E2 discussed below would ensure that the proposed preservation areas are effectively managed to preserve the populations of CRLF and that new breeding habitat is created to enhance the viability of the lower Seal Rock population.

Mitigation Measure BIO-E1. Conduct preconstruction surveys for California red-legged frog, implement protection measures if found, and conduct construction monitoring.

The applicant will hire a qualified biologist and ensure the following measures will be incorporated into construction specifications and implemented to protect CRLF:

- Conduct preconstruction surveys in all upland areas within 300 feet of aquatic habitat in areas proposed for temporary or permanent disturbance in Areas J, K, L U and V. The Equestrian Center and the Corporation Yard residential area do not need to be surveyed, but exclusion fencing will be placed to prevent ingress by CRLF during construction.
- If CRLF are found, capture and relocate to nearby suitable habitat within a preservation area to encourage perpetuation of the individual and species. It may be necessary to construct temporary exclusion fencing to prohibit CRLF from entering construction areas.
- Use signs and fencing as necessary during construction to maintain a suitable buffer around all wetlands.
- Have a qualified biologist present for monitoring during ground-disturbing construction activities at Areas J, K, L, U, and V within 300 feet of aquatic habitat.

Mitigation Measure BIO-E2. Design new California red-legged frog breeding habitat along Seal Rock Creek in accordance with criteria to establish California red-legged frog habitat characteristics.

The applicant will hire a qualified restoration ecologist and biologist to design three new CRLF breeding ponds along Seal Rock Creek in Areas, J, K, L and/or Indian Village. The restoration ecologist and biologist will determine the most suitable locations to create CLRF breeding ponds based on the size and natural characteristics of each preservation area, as well as the number of

feasible breeding ponds to most benefit CRLF breeding requirements. The following CRLF habitat characteristics will be incorporated into the designs for the new breeding ponds:

- Water depth: ponded water depth should be at least 3 feet with water present through July, drying down completely every other year in August–October.
- Planting locations: a fringe of native species should be planted around the ponds' perimeter, with a mix of native bullrush and spikerush.
- Monitoring: vegetation monitoring should be incorporated with the overall revegetation monitoring plan to ensure that plantings survive. Replanting should occur if success criteria are not met for planting survival. Sediment removal should be conducted, if required to maintain ponded water depth. The minimum monitoring period should be 5 years after planting. A survival rate of 75% after 5 years should be attained before monitoring ceases.
- These standards should be reviewed during federal biological opinion development to verify that they are adequate.

Significance Determination after Mitigation. Implementing Mitigation Measures BIO-E1 and BIO-E2 would reduce impacts on CRLF to a less-than-significant level.

Smith's Blue Butterfly

Impact BIO-E2. Development in Areas L and M could result in loss of Smith's blue butterfly host plants, while preservation of Area M dunes will preserve host plant and habitat. (Less than significant)

The Smith's blue butterfly forage plant, seacliff buckwheat, occurs in the remnant dunes in Areas M and L. The remnant dune area on Area L has been previously preserved.

Seacliff buckwheat (*Eriogonum parviflorum*) is considered to be ESHA by the existing Del Monte Forest LUP in shoreline areas within Smith's blue butterfly habitat. Specifically, the LUP lists Pt. Lobos buckwheat (*Eriogonum parviflorum ssp lucidem*), which is an older synonym for seacliff buckwheat, as ESHA when it occurs within "shoreline areas within Smith's blue butterfly habitat."

Smith's blue butterfly has not been observed within the areas of seacliff buckwheat in Areas M and L; therefore, these areas are not currently considered to be ESHA for this reason (but are ESHA as coastal dunes for other reasons, as noted above).

During the past 31 years, Dr. Richard Arnold, a recognized expert in this species, has conducted several presence-absence surveys for the Smith's blue in various portions of Pebble Beach without ever finding the butterfly. In 2000, Dr. Arnold conducted an extensive survey at the Signal Hill Dune and various locations along the 17-Mile Drive throughout the butterfly's entire flight season and did not find the butterfly. In 2008, Dr. Arnold checked for the Smith's blue butterfly at 12 locations along 17-Mile Drive where Seacliff buckwheat grows naturally or has been planted in recent years. However, no life stages of the Smith's blue butterfly were observed at these nearby, off-site locations. According to Dr. Arnold, the negative survey findings at these nearby locations during 2008 and in prior years indicate that the butterfly does not occur in the Pebble Beach portion of the Monterey coast, even when good-quality habitat is present (Arnold, 2011).

Since the Smith's blue butterfly occurs both north and south of the Pebble Beach area on the Monterey Coast, its absence at Pebble Beach is curious. The nearest known populations are at the Naval Postgraduate School to the north and at Pt. Lobos to the south. While there is no definitive explanation as to why the butterfly is absent from Pebble Beach, it is suspected that the extensive conversion of sand dune habitat to urbanization along the coastal portions of the cities of Monterey, Pacific Grove, and Carmel has created a habitat gap that is a greater distance than butterflies from the nearest known locations can normally travel. In addition, substantial portions of these coastal areas are at least partially forested and subject to persistent, dense coastal fog throughout the summer months, which poses another obstacle for this species (Arnold, 2011).

Based on these findings, it is considered unlikely that the Smith's blue butterfly is present in the Area L or Area M dunes or adjacent areas. Although the project may affect the host plant for this species due to increased trail use through dune areas, given the absence of the species, this is unlikely to affect the species itself. The proposed project includes preservation of approximately 34 acres of coastal dunes habitat in Area M and the Area L dunes were previously preserved. Thus, the project is expected to have less-than-significant impacts on Smith's blue butterfly.

Marine and Shoreline Resources

Impact BIO-E3. Stormwater run-off from project developments during construction and operation could degrade nearshore water quality and result in indirect impacts on the southern sea otter, western snowy plover, California brown pelican, and other marine resources, including the Carmel Bay Area of Special Biological Significance. (Less than significant with mitigation)

As described above, there is no marine habitat within the project area, which is inland from the coast. Marine habitat along the shoreline and in the nearby offshore waters might be indirectly affected by run-off from proposed development during construction or operation and any related water quality effects. Water quality effects are described in Section 3.7, Hydrology and Water Quality, including construction erosion, stormwater run-off, golf course stormwater and pest management activities, reclaimed wastewater use, and Equestrian Center waste management activities.

Impacts Related to Development Areas. Indirect effects on marine and shoreline species (southern sea otter, western snowy plover, California brown pelican, and other marine resources, including the Carmel Bay ASBS) could occur as a result of project development and grading activities, associated run-off, and pesticide and pollutant run-off.

Significance Determination before Mitigation. The proposed project could result in a significant indirect impact on marine and shoreline resources for the following reasons:

- Grading and construction activities as part of the proposed project would expose areas of open soil and could lead to erosion, sedimentation, and nutrient addition to aquatic and marine resources.
- Pesticide and pollutant run-off from maintenance activities would negatively affect shoreline and marine resources.

Hydrology and water quality Mitigation Measures HYD-A1, HYD-A2, HYD-C1, HYD-C2 and HYD-C3 as discussed under Impact BIO-C1 in addition to geology and soils Mitigation measures GSS-C1 (erosion and sediment control plan) and GSS-C2 (dewatering controls) would reduce indirect

hydrology and water quality impacts on waters and wetlands to a less-than-significant level. These measures are discussed in greater detail in Section 3.7, Hydrology and Water Quality and Section 3.6, Geology and Soils.

Significance Determination after Mitigation. Mitigation Measures identified above would mitigate the proposed project's water quality indirect effects on marine and shoreline resources.

Rare Wildlife Species (Non-Listed)

Impact BIO-E4. Project construction and development would result in potential loss or disturbance to habitat occupied by certain non-listed special-status wildlife species while preserving areas of habitat for these species. (Less than significant with mitigation)

This impact discussion covers potential project effects on rare wildlife species, with the exception of several special-status raptor species, which are discussed separately in Impact BIO-I1.

Black or silvery legless lizards. Areas of potential habitat for legless lizards occur in dune habitat on Areas M and in Area L. The project would not include direct disturbance of dune habitat. However, indirect effects to legless lizard within open space and preservation parcels located adjacent to the project elements would include:

- Recreational open space management activities, including brush clearing, and mowing.
- Increased run-off from landscaped areas.
- Increased run-off of pesticides and fertilizers from the proposed landscaped areas' maintenance activities.
- Increased disturbance by pedestrian and equestrian traffic in and near riparian areas or other suitable habitat adjacent to development.

Proposed Preservation. The proposed project includes preservation of 34 acres of coastal dune habitat in Area M. The dunes at Area L were previously conserved.

Significance Determination before Mitigation. While applicant-proposed preservation would reduce the level of project-related impact on legless lizard and habitat, the project, as proposed, could still result in a substantial adverse indirect effect. Species listed as species of special concern are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their lifecycle. Even small increments of loss to this species would be considered substantial. Legless lizards are rare within dune habitat and habitats with sandy soils, but the species ranges are relatively widespread. Dune habitat within the project area is limited to Area M and the western portion of Area L. Therefore, the impacts on silvery and black legless lizards from the proposed project are considered significant, taking into account both the adverse effects of proposed development and the effects of the proposed preservation Implementing Mitigation Measure BIO-E5 in combination with Mitigation Measures BIO-A1 and BIO-B2 both discussed above, will ensure that the construction impacts on these species are minimized and proposed preservation areas are effectively managed to preserve the populations of silvery and black legless lizards.

Mitigation Measure BIO-E5. Conduct pre-construction surveys for legless lizard, implement protection measures if found, and conduct construction monitoring for ground-disturbing construction activities.

The applicant will hire a qualified biologist to conduct pre-construction surveys and construction monitoring to protect legless lizard. Prior to construction or restoration activities in or near remnant dune areas in Areas L and M, the biologist will conduct a pre-construction survey for legless lizards where there is potential for project impacts from construction and restoration activities. The survey will be done within 48 hours before ground disturbing activities.

This survey will include the following steps:

- Systematic subsurface searching (legless lizards are fossorial [burrowing]).
- Staking the limits of the survey areas and fencing them with small-mesh construction fencing, buried to a minimum depth of 6 to 10 inches below grade to reduce the likelihood of lizards reentering the construction zone.
- Capture and release of found legless lizards into nearby remnant dune areas designated by the project biologist.

During ground-disturbing activities during construction, a qualified biologist will be present and will have the authority to temporarily stop construction activities if legless lizards are found, and until such legless lizards can be successfully relocated.

Significance Determination after Mitigation. Implementation of Mitigation Measure BIO-E5 will require the applicant to conduct pre-construction surveys of suitable habitat in Areas M and L to avoid impacts during construction activities, and Mitigation Measures BIO-A1 and BIO-B2 will require dune preservation areas to be managed for the benefit of this species. Potential impacts on silver and black legless lizards due to loss or disturbance of habitat would be reduced to a less-than-significant level.

California Horned Lizard

Areas of potential habitat for California horned lizards occur in dune habitat on Areas M and L.

Impacts Related to Development Areas. Only small, isolated areas of marginally suitable habitat for the species would be affected by the proposed project. Indirect effects on California horned lizard could occur as a result of increased trail use and encroachment.

Proposed Preservation. The proposed project includes preservation of 34 acres of coastal dune habitat in Area M. The dunes at Area L were previously conserved.

Significance Determination. The project would preserve remnant dune habitat in Area M, and dune habitat in Area L was previously conserved. This species is common throughout chaparral habitats across an extensive geographic range and is not known from the project area. Because the statewide status of the California horned lizard is relatively robust, and because the species is unlikely to occur in significant numbers in the small areas of marginal habitat found in the project area, this impact is considered less than significant.

Western Pond Turtle

Potential habitat for western pond turtle occurs in riparian habitat and ponds in the preservation areas of Areas B and L, and in a pond in the preservation area of the Corporation Yard.

Impacts Related to Development Areas. Western pond turtles have not been previously reported in the area of the proposed project. Direct and/or indirect effects on western pond turtle would not be expected.

Proposed Preservation. The proposed project would preserve the riparian habitat and ponds in Areas B and L, and the detention pond in the preservation area of the Corporation Yard.

Significance Determination. Because riparian habitat and ponds in the preservation areas in Areas B and L, and the detention pond in the preservation area of the Corporation Yard, will be preserved, and lack of reports of this species within the area, impacts are considered less than significant.

Monterey Dusky-Footed Woodrat

Area PQR contains occupied habitat (and nests) for Monterey dusky-footed woodrat along a drainage that would be preserved as natural open space. Although not found in other areas to date, this species may also occur in other wooded areas near riparian areas in Del Monte Forest.

Impacts Related to Development Areas. New trails in Preservation Area PQR near riparian areas are all on existing fire roads and thus no construction disturbance would occur to riparian areas for the new trails. It is possible that construction in other wooded areas near riparian areas in Areas J, K, or L may encounter woodrats.

Proposed Preservation. The proposed project includes the preservation of Area PQR, which contains occupied Monterey dusky-footed woodrat habitat.

Significance Determination before Mitigation. While applicant-proposed preservation would reduce the level of project-related impact on woodrat, the project, as proposed, could still result in a substantial adverse effect, either directly or through habitat modifications, on this species for the following reasons:

- Grading and construction activities associated with residential construction in Areas J, K and L near riparian areas could result in woodrat mortality or injury and nest disturbance, if present

Indirect effects to Monterey dusky-footed woodrat include:

- Increased disturbance by pedestrian and equestrian traffic in and near forested areas.

Although the applicant has proposed to dedicate substantial preservation areas containing large areas of habitat, preservation alone cannot offset the potential direct effects to woodrats and nests.

Species listed as species of special concern are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their lifecycle. Even small increments of loss of this species would be considered substantial. Monterey dusky-footed woodrat is rare within densely forested habitat, but the species is known to occur in the general area. Potential impacts on this species would occur if the species were present in areas of forest removal in Areas J, K, and L near riparian areas. Therefore, the impacts on Monterey dusky-footed woodrat from the proposed project are considered significant, taking into account both the adverse effects of proposed development and the effects of the proposed preservation. Impacts on this species would be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-E6.

Mitigation Measure BIO-E6. Conduct a preconstruction survey for woodrats and woodrat nests, and implement protection measures if found for ground-disturbing construction activities.

The applicant will hire a qualified biologist to implement the following measures to protect woodrats.

- Prior to any construction or restoration activities in wooded terrain in Areas J, K and L conduct a preconstruction survey for woodrats and woodrat nests where there is potential for project effects from construction and restoration activities. This survey will be conducted by a qualified third-party consultant under contract to the County and will include the following steps:
  - The survey will be conducted during the winter prior to construction when visibility is improved due to dormancy of poison oak.
  - The biologist will identify and flag all woodrat nests. If nests are determined to be occupied, each woodrat will be relocated to suitable habitat in consultation with DFG. If young are observed in a nest, nesting material will be replaced until the young have been weaned. Following weaning, the nest will be dismantled and relocated to suitable habitat.
- During ground-disturbing construction activities, all woodrat nests will be avoided. A qualified biologist will be present and will have the authority to temporarily stop construction activities if woodrats or woodrat nests are found, and until such woodrats or woodrat nests can be successfully relocated, as described above.

Significance Determination after Mitigation. Implementation of Mitigation Measure BIO-E6 would reduce impacts on woodrat to a less-than-significant level.

Pallid Bat

The Inn at Spanish Bay Employee Parking area (in Area B), and Residential Areas K, U, and V contain suitable habitat for pallid bats.

Impacts Related to Development Areas. Removal of tree roosting sites could directly affect this species and eliminate potential habitat, resulting in an adverse effect on population levels. Clearing of forest habitat may remove foraging and roosting habitat, but the increase of edge habitat could balance this effect by increasing foraging habitat and in the long term. Construction within these areas could result in direct or indirect mortality to pallid bat or this species roosts.

Proposed Preservation. The proposed project includes the preservation of extensive areas of Monterey pine forest containing suitable habitat for bats.

Significance Determination before Mitigation. While applicant-proposed preservation would reduce the level of project-related impact on pallid bat, the project, as proposed, would still result in a substantial adverse effect, either directly or through habitat modifications, on this species for the following reasons:

- Grading and construction activities associated with the Spanish Bay Employee Parking and residential development in Area K, U, and V could directly result in pallid bat mortality or injury and roost disturbance.

Indirect effects to pallid bat within foraging habitat located within the proposed project include:

- Decrease of forested foraging habitat near The Inn at Spanish Bay Employee Parking Area and Areas K, U, and V resulting in reduced individual fitness and potential bat mortality.
- Recreational open space management activities, including brush clearing, and mowing.
- Increased disturbance by pedestrian and equestrian traffic in and near forested areas.

Although the applicant has proposed to dedicate substantial preservation areas containing large areas of habitat, preservation alone cannot offset the potential direct and indirect effects to pallid bat.

Species listed as species of special concern are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their lifecycle. Even small increments of loss of this species would be considered substantial. Potential impacts on this species would occur in The Inn at Spanish Bay Employee Parking and Areas K, U, and V. Therefore, the impacts on pallid bat from the proposed project are considered significant, taking into account both the adverse effects of proposed development and the effects of the proposed preservation. Disturbance of tree roosting sites of this species are considered a potentially significant impact that would be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-E7.

Mitigation Measure BIO-E7. Retain dead trees or snags wherever feasible in development and preservation areas to provide roosting habitat for pallid bats.

In all development and preservation areas, dead trees or snags will be left in place wherever feasible to provide roosting habitat for pallid bats. While roosting habitat will be lost due to tree removals, this mitigation will require retention of sufficient roosting habitat for pallid bats in preservation areas to avoid significant adverse effect on pallid bat population levels.

Significance Determination after Mitigation. Implementation of Mitigation Measure BIO-E7 would reduce impacts on pallid bat relating to loss or disturbance of habitat to a less-than-significant level.

Ringtails and Monterey Ornate Shrew

There is potential habitat for ringtails and Monterey ornate shrew in riparian and adjacent forest habitat within the project area.

Impacts Related to Development Areas. No riparian habitat will be removed by the project; however, some potential habitat for ringtails and Monterey ornate shrews exists in adjacent forest habitats that will be removed within development sites by the proposed project.

Proposed Preservation. The proposed project includes the preservation of all riparian habitat and the majority of adjacent forested habitat within preservation areas, which contains suitable habitat for ringtails and Monterey ornate shrew.

Significance Determination. Although proposed preservation will substantially offset impacts on ringtail and Monterey ornate shrew habitat, directed resource management of Monterey pine forest (per Mitigation Measures BIO-A1 and BIO-A2) is required to reduce the level of project-related impacts on ringtail and Monterey ornate shrew to a less-than-significant level.

F. Common Wildlife Habitat/Populations/Plant Communities

Impact BIO-F1. The project would remove habitat of common wildlife species and plant communities within Del Monte Forest while preserving far larger areas of habitat for common species. (Less than significant with mitigation)

Impacts Related to Development Areas. In addition to the impacts on sensitive biological communities and special-status species discussed above, project development would also affect common wildlife and plant species that currently reside within forested areas that would be removed at the project development sites throughout the project area. No dune or riparian areas would be removed by the project.

Proposed Preservation. The proposed preservation dedications would provide for retention of extensive forested areas, containing wetlands and riparian areas throughout Del Monte Forest for common wildlife and plant species. Preservation areas also include extensive areas of dunes habitat.

Significance Determination. Overall forest impacts were previously assessed for Monterey pine forest, which is a sensitive community, and it was determined that these impacts can be reduced to a less-than-significant level with the implementation of Mitigation Measures BIO-A1 and BIO-A2.

G. Indirect Impacts on Habitat Resulting from Human Use

Impact BIO-G1. The project would increase trail use by pedestrians and equestrians, which could adversely affect common and rare wildlife and plant species within existing and proposed preservation areas. (Less than significant with mitigation)

Impacts Related to Development Areas. In addition to the impacts on sensitive biological communities and special-status species discussed above, project development would also affect other common wildlife and plant species that currently reside within forested and dune areas where the proposed project would result in increased pedestrian and equestrian trail use.

The impacts of new trails at the New Employee Parking (connecting the parking lot to The Inn at Spanish Bay), Area F-2, and Area I-2 are addressed in the description of direct and indirect development impacts above. The impacts of increased trail use in dune areas in Areas L and M were previously addressed in analysis of impacts on dunes under Impact BIO-B2 above. The impacts of increased trail use in the HHNHA due to new residences at the Corporation Yard were previously addressed in analysis under Impact BIO-B3 above. The potential for indirect impacts on Pacific Grove clover and Hickman's potentilla due to increased residents in Areas J, K, and L was also discussed above under Impacts BIO-D4 and BIO-D6, respectively.

The project also includes new trails in Area PQR and relocated trails in Area J and K. Use of these new trails (both those on fire roads and especially the smaller new trails not on fire roads) could result in indirect disturbance by pedestrians and horses to common and rare plant and wildlife species and their habitats in adjacent areas.

Proposed Preservation. The proposed project includes the preservation of approximately 598 acres of Monterey pine forest containing extensive areas of wetlands, riparian areas, and special-status species. The project also includes preservation of approximately 34 acres of dune habitat.

Significance Determination. Disturbance of special-status plant and wildlife species habitat due to trail use would be a significant impact.

Mitigation Measure BIO-B2, discussed above, would address impacts on dunes from increased trail use. Mitigation Measure BIO-B3, discussed above, would address impacts on sensitive habitats in HHNHA due to increased trail use. Mitigation Measures BIO-D4 and BIO-D6, discussed above, would address indirect impacts on the Pacific Grove clover and Hickman's potentilla occurrences in the Indian Village Area due to increased trail use and access.

Similarly, there could be indirect effects to sensitive resources in areas of new trails in Areas J, K and PQR. With implementation of Mitigation Measure BIO-G1, impacts due to new trail use in Areas J, K, and PQR would be reduced to a less-than-significant level.

Mitigation Measure BIO-G1. Include additional measures in the resource management plan for Preservation Areas J, K, L and PQR to avoid indirect trail use impacts on sensitive resources.

The applicant will incorporate the following measures into the site-specific RMPs and Annual Work Plan and Monitoring Plan required by Mitigation Measure BIO-A1 to control trail use impacts in Areas J, K and PQR:

- Implement an annual program of erosion control and trail maintenance.
- Permanently close and revegetate all informal "social" trails.
- Provide environmental education about the sensitive resources for new residents of Areas J and K including measures that individuals can implement to lower their impact such as staying on marked trails, crossing drainages only at marked crossings, and avoiding the introduction of invasive species.
- Monitor trails and trail crossings of drainages during the wet season, temporarily close single-track trails and other trails when monitoring identifies that a substantial erosion potential exists, and conduct periodic maintenance as necessary to prevent soil erosion and sedimentation from subsequent storm events. The applicant will develop a protocol for implementing monitoring, temporary trail closures, and periodic maintenance that will be incorporated into the SSRMPs for these areas.
- Conduct at least annual (and more frequent if necessary) weed control surveys (both along trails and off trails) and use manual, mechanical, and appropriate chemical or other means of control where infestation of noxious weeds is identified.

H. Wildlife Movement

Impact BIO-H1. The project would fragment certain existing forested habitats and could interfere with wildlife movement while preserving larger areas of habitat providing wildlife movement opportunities. (Less than significant with mitigation)

Impacts Related to Development Areas. Proposed project development would partially fragment existing forested habitats in Areas J, K and L, and has the potential to interfere with wildlife movement. Areas F-2 and I-2 are already fragmented areas and thus the level of additional fragmentation is relatively less than Areas J, K and L, which are less fragmented at present.

Proposed Preservation. The proposed project would retain 598 acres of forested areas in the proposed preservation areas that would provide for wildlife movement. Specifically, the project would preserve riparian corridors along Seal Rock Creek and tributaries to Pescadero Creek as well

as in Area B that would function as movement corridors. The project would also preserve wildlife movement through extensive wooded areas in Areas L, G, H, M, N, O, U, V, and PQR.

Significance Determination. Fragmentation of Monterey pine forest and fragmentation of habitat for CRLF and other special-status wildlife species was previously analyzed above, and it was determined that impacts on the forest and special-status species could be reduced to a less-than-significant level by implementing associated mitigation measures. Thus, with Mitigation Measures BIO-A1 and BIO-A2 identified previously, the project is not expected to substantially disrupt wildlife movements or migration.

I. Wildlife Breeding and Nesting

Impact BIO-I1. Project construction, including tree removal and grading, could result in potential disturbance to nesting raptors, including several special-status raptor species, if present during construction. (Less that significant with mitigation)

This impact discussion focuses on raptor nesting. As discussed in the detailed setting in Appendix F, the project area provides potential nesting habitat for several common hawk species (such as red-shouldered hawk and American kestrel) and several special-status species of hawks (such as sharp-shinned hawk, Cooper's hawk, and white-tailed kite) as well as common owl species. In prior avian surveys (Tenney 2001, 2003), certain raptors have been documented nesting in or adjacent to some of the project development and preservation areas.

Impacts Related to Development Areas. The proposed project could result in potential disturbance to raptors nesting within forested habitats throughout the development areas.

Proposed Preservation. The proposed project would dedicate preservation areas that contain suitable nesting habitat for certain raptors.

Significance Determination before Mitigation. Raptors are protected against take, including destruction of nests, pursuant to Section 3503 and 3503.5 of the California Fish and Game Code and the MBTA. Disturbance from construction activities or destruction of any active raptor nest would violate these statutes and would be considered a significant impact.

In the coastal region, raptors typically begin nesting activity in March. Hawks might be present at the nest site through June 30 and possibly later. Therefore, tree removal that occurs from July 1 through February 28 would not be likely to result in harm to nesting raptors and no mitigation would be required. If tree removal occurs at any time between March 1 and June 30, and nesting raptors are present, this impact would be considered significant. Implementing Mitigation Measure BIO-I1 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-I1. Conduct pre-construction and breeding-season raptor surveys and implement protection measures.

The applicant will hire a qualified biologist to implement the following measures to protect raptors:

- Prior to construction activities, conduct pre-construction raptor surveys during the breeding season (typically February 1 through July 31) no more than 30 days prior to construction. The survey will include all accessible suitable habitat within 250 feet of areas where ground clearing, tree removal, residential development, or infrastructure

improvements will occur, or where other construction activities could result in disturbance of nesting raptors.

- Conduct a breeding-season survey (typically February 1 through July 31) prior to tree removal or construction activities in all areas (including a 100-foot buffer) where trees will be removed for construction, resource management, residential development, and infrastructure improvements, or where other construction activities could result in disturbance of nesting raptors.
    - The breeding-season survey will be conducted during the season when trees are to be removed and will be valid only for that season. Subsequent surveys will be required if tree removal is delayed into the next breeding season.
    - If an active raptor nest is found in any tree to be removed or within the 100-foot buffer, the project biologist will establish a site-specific, non-disturbance buffer zone around the nest site. Tree and vegetation removal may begin when the biologist determines that the nest is no longer being used for that season (typically around July 31) or if it can be demonstrated that the nesting birds are not being affected by construction activities.
    - If no active raptor nests are found in any of the trees to be removed or within a 100-foot buffer from construction activities, no further mitigation will be required. In addition, trees may be removed without any mitigation during the non-breeding season (typically August 1 through January 31).

Significance Determination after Mitigation. Implementing Mitigation Measure BIO-I1 would reduce impacts on nesting raptors to a less-than-significant level.

J. Tree Removal

Impact BIO-J1. Project construction and development could result in removal or disturbance of native Monterey pine trees and coast live oak trees while preserving larger areas and numbers of trees in Del Monte Forest. (Less than significant with mitigation)

As described in Table 2-3 in Chapter 2, Project Description, the proposed project would result in the removal of the following trees:

- Under Area M Spyglass Hill Option 1, 2,808 Monterey pine trees (≥12 inches in diameter) and 2,878 Monterey pine trees (<12 inches in diameter).
- Under Area M Spyglass Hill Option 2, 2,686 Monterey pine trees (≥12 inches in diameter) and 2,846 Monterey pine trees (<12 inches in diameter).
- 199 coast live oak trees (≥12 inches in diameter) and 756 coast live oak trees <12 inches in diameter (under either Spyglass Hill option).

Table 3.3-9 summarizes the types and sizes of native trees that would be removed from each of the project sites. This table also identifies whether the trees are natural occurrences or planted. Although the native tree species at The Inn at Spanish Bay, The Lodge at Pebble Beach, and the SR 1/SR 68/17-Mile Drive intersection are not indigenous to the sites (they were planted as part of the landscaping [Webster 2002]), they are included in this analysis.

Table 3.3-9. Summary of Project Tree Removal

Project Location/Element	Monterey Pine				Coast Live Oak			
	Removed (< 12")	Removed (> 12")	Retained (< 12")	Retained (> 12")	Removed (< 12")	Removed (> 12")	Retained (< 12")	Retained (> 12")
The Lodge at Pebble Beach*	4	15	0	0	49	51	0	0
The Inn at Spanish Bay								
Conference Center Expansion	0	0	0	0	0	0	0	0
New Guest Cottages	177	128	0	0	14	3	0	0
New Employee Parking	68	105	0	0	44	25	0	0
Collins Field–Equestrian Center–Special Events Area								
Driving Range Relocation from Area V to Collins Field	44	88	0	0	0	0	0	0
Equestrian Center Reconstruction*	44	68	0	0	5	10	0	0
Special Events Staging Area Grading & Expansion*	122	123	0	0	15	2	0	0
Area M Spyglass Hill								
New Resort Hotel (Option 1)	90	299	47	137	0	0	0	0
New Residential Lots (Option 2)	58	177	79	259	0	0	0	0
Residential Lot Subdivisions								
Area F-2	764	462	0	0	0	0	0	0
Area I-2	201	287	10	14	0	0	0	0
Area J	54	190	182	635	127	9	424	30
Area K	421	302	774	555	191	32	351	58
Area L	594	426	1,226	879	269	45	555	93
Area U	169	170	1,203	1,212	21	2	148	17
Area V	82	83	880	887	10	1	108	13
Collins Residence	0	2	0	0	9	16	0	0
Corporation Yard	2	6	191	166	1	0	38	0
Preservation Areas								
Area B	0	0	543	839	0	0	345	197
Area C	0	0	747	2,396	0	0	149	149
Area F-1	0	0	563	307	0	0	0	0

Project Location/Element	Monterey Pine				Coast Live Oak			
	Removed (< 12")	Removed (> 12")	Retained (< 12")	Retained (> 12")	Removed (< 12")	Removed (> 12")	Retained (< 12")	Retained (> 12")
Area F-3	0	0	1,584	642	0	0	0	0
Area G	0	0	10,290	3,632	0	0	0	0
Area H	0	0	4,020	4,224	0	0	51	0
Area I-1	0	0	4,969	3,416	0	0	1747	0
Area N	0	0	3,372	3,396	0	0	415	49
Area O	0	0	1,379	1,389	0	0	170	20
Area PQR	0	0	24,589	19,179	0	0	4,426	1,967
Roadway Improvements								
Internal Road Improvements	16	26	0	0	1	0	0	0
SR 1/SR 68/17-Mile Drive Intersection Reconfiguration	25	28	0	0	0	0	0	0
Total With Area M Option 1	**2,878**	**2,808**	**56,568**	**43,905**	**756**	**199**	**8,928**	**2,594**
Total With Area M Option 2	**2,846**	**2,686**	**56,600**	**44,027**	**756**	**199**	**8,928**	**2,594**

Sources:

Zander Associates 2001, LSA 2001, Webster 2002, WWD Corporation (2010, 2011)

Note:

Totals may not add due to rounding (as some tree estimates were based on density calculations).

* In addition, 6 planted Monterey cypress will be removed at the Lodge at Pebble Beach, 21 planted Monterey cypress will be removed at the Equestrian Center, and 8 planted Monterey cypress will be removed at the Special Events Area.

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Impacts Related to Development Areas. Individual native trees would be directly removed during construction activities and future maintenance and management activities in development and open space areas. Additional short-term and long-term impacts on native trees could result from:

- Disturbance of the root zone and soil compaction from adjacent grading and trenching activities.
- Changes in soil and hydrologic conditions from increased irrigation and run-off.
- Increased exposure to fertilizers and herbicides from adjacent developed areas.
- Increased susceptibility to insects and diseases, including pitch canker for Monterey pine and potentially sudden oak death for coast live oaks (sudden oak death has not been reported on the Monterey Peninsula but has been reported in coast live oak in Big Sur and Prunedale).

Proposed Preservation. Direct and indirect impacts may be offset as a result of the following three elements that are part of the proposed project.

- Approximately 44,000 individual Monterey pine trees (>12 inches) and larger numbers of smaller trees would be retained within preservation and development areas, with the bulk of these trees located within preservation areas.
- Approximately 2,600 coast live oak trees (>12 inches) and larger numbers of smaller trees would be retained within preservation and development areas, with the bulk of these trees located within preservation areas.

Determination of Significance Before Mitigation. Mitigation Measure BIO-J1 would require appropriate controls for tree diseases during tree removal and replanting and require use of locally-derived tree stock when planting new trees. Implementing Mitigation Measure BIO-J2 would protect native trees during construction activities. These mitigation measures, as well as Mitigation Measures BIO-A1and BIO-A2 described above, would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-J1. Incorporate specific tree removal and replanting guidelines into the site-specific RMPs.

The applicant will hire a qualified arborist to develop tree removal and replanting guidelines that include the following stipulations.

- Utilize removal and disposal techniques for Monterey pine trees infected with pitch canker, following principles delineated by the Pitch Canker Task Force.
- Evaluate oak trees for symptoms of sudden oak death and the presence of the pathogen Phytophthora ramorum. If infection is identified within development areas, the maximum number of uninfected coast live oaks will be retained and incorporated into the preservation area. If any infected oaks are identified within areas of oak removal, removal and disposal activity and techniques will incorporate current best management and control recommendations for pathogen control from the California Oak Mortality Task Force.
- For tree replacement planting, tree stock must be derived from healthy, mature local trees, preferably growing more than 500 feet from known non-local plantings. A qualified forester or arborist will make selection of suitable trees for planting stock.
- Seed sources will be from stands that exhibit characteristics similar to those in the target planting areas.

- Monterey pine forest planting stock will include pitch canker–resistant individuals from a diverse genetic background. Coast live oak planting stock selection will follow current recommendations of the California Oak Mortality Task Force in the event that sudden oak death is identified in any oaks assessed within Del Monte Forest.
- The understory, duff, and/or soil at replanting locations will be treated as necessary to maximize the vigor and long-term success of mitigation plantings.
- A qualified County-approved forester or arborist will monitor replacement plantings annually during the first 5 years, and every 5 years thereafter up to 20 years, as part of the overall monitoring plan.

Mitigation Measure BIO-J2. Protect retained trees from construction disturbance.

During construction, the applicant will ensure that construction specifications include measures to protect retained trees from disturbance. The following tree protection measures will be implemented:

- Around each tree or group of trees to be preserved adjacent to construction sites, a boundary of orange fencing supported by wood or metal stakes (or functional equivalent) will be erected along the approximate drip lines of such protected trees or closer where specifically approved by a qualified forester, arborist, or the County of Monterey. Where guidance of a tree professional is used, encroachment into the drip line of retained trees may occur in order to minimize tree removals.
- No excavation, storage of excavated fill, equipment, or construction materials, nor parking of vehicles will be permitted within the drip lines of these fence-protected trees.
- No soil may be removed from within the drip line of any tree and no fill of additional soil will exceed two inches within the drip lines of trees, unless it is part of approved construction, is reviewed by a qualified forester or certified arborist, and is approved by architectural review staff.
- Bark injury to any tree from equipment or materials will be prevented by faithfully respecting the tree protection fencing required above.
- Roots exposed by excavation will be pruned to promote callusing, closure, and regrowth, and will be re-covered as soon as possible if tree health is to be reasonably maintained.
- All tree work will be monitored by a qualified forester or certified arborist and completed by qualified tree service personnel.
- Site-specific and individual tree recommendations per individual residential lot will be addressed on each individual lot as specific site plans for construction are developed.
- Diseased trees (especially pitch canker–infected trees) from which disease might spread to nearby forested areas (as verified in writing by a qualified professional forester selected from the County's list of consulting foresters) will be removed.

Determination of Significance after Mitigation. In principle, the proposed dedication of substantial areas of undeveloped forest would substantially offset the proposed project's direct and indirect effects. However, without defined resource management, tree removal is considered a potentially significant impact. This impact would be reduced to a less-than-significant level with implementation of Mitigation Measures BIO-A1, BIO-A2, BIO-J1, and BIO-J2.

Cumulative Impacts and Mitigation Measures

The impact zone for cumulative impact on biological resources was determined to be as follows:

- **Del Monte Forest.** The Del Monte Forest impact zone was chosen for the cumulative analysis where identified project impacts are of a nature that would not contribute to a cumulative impact on the range and distribution of the sensitive biological resource. Resources assessed using the Del Monte Forest impact zone included: ESHA within Del Monte Forest; wetlands; black and silvery legless lizard; California horned lizard; Monterey dusky-footed woodrat; southwestern pond turtle; pallid bat; ringtail; Monterey ornate shrew; and native trees.
- **Central Coast Recovery Unit.** This impact zone for discussing cumulative impacts for the federally listed CRLF is the Central Coast Recovery unit (including the Central Coast ranges from San Mateo and Santa Clara counties to Ventura and Los Angeles counties) identified in the USFWS Recovery Plan. The proposed project is within the Central Coast recovery unit for CRLF, but not within the designated core area of the unit, which is the Carmel River watershed.
- **Monterey Peninsula and beyond.** A regional impact zone was chosen for the cumulative analysis of sensitive biological resources that occur in the project area, would be affected by the proposed project, have distributions outside the Monterey Peninsula, and where the identified project impacts are of a nature that they may contribute to a cumulative impact on the range and distribution of a sensitive biological resource. The Monterey Peninsula and beyond zone represents the probable area in which project effects on biological resources could interact with other cumulative development and have a significant effect on a sensitive biological resource. The effects of other developments beyond Del Monte Forest are addressed generically for this impact analysis due to the wide area of assessment. Resources assessed on a regional basis include Monterey pine forest, Monterey pygmy forest, Yadon's piperia, Gowen cypress, Pacific Grove clover, Hooker's manzanita, sandmat manzanita, pine rose, CRLF, Smith's blue butterfly, and nesting raptors.

The methodology for determining cumulative impacts is described in Analysis of Cumulative Impacts at the beginning of Chapter 3. This analysis used specific projections of development within Del Monte Forest (as discussed below) and a general assessment of cumulative impacts occurring in the Monterey region and beyond.

- **Potential Future Single-Family Dwellings in Del Monte Forest (96 potential dwelling units).** As described above, there are 96 undeveloped vacant lots in Del Monte Forest as of September, 2011. These lots are available for residential development and this analysis presumes that they may be developed in the future. These lots are scattered throughout Del Monte Forest. Many of them contain Monterey pine forest including maritime chaparral. Where Monterey pine forest is intact, unfragmented, and connected to larger areas of forest, it may meet the definition of ESHA. Where sites contain Monterey pygmy forest, natural wetlands, riparian areas, coastal dunes, habitat for Yadon's piperia or CLRF, or habitat for certain special-status plants, these areas would also be considered ESHA similar to the ESHA findings for the proposed project. Despite the presence of ESHA, due to constitutional limitations on takings, it is a normal practice to allow one dwelling unit per legal lot, even if there are impacts on ESHA, to avoid extinguishing all economic value of private property. Apart from biological resources, the primary constraint on future development in Del Monte Forest is water supply. However, as described in Section 3.12, Water Supply and Demand, the applicant is allowed to sell a portion of their water entitlement to residential users. As such, this analysis assumes that single-family

development in Del Monte Forest can feasibly obtain water pursuant to purchase of a portion of the applicant's water entitlement.

- **Potential Development in Area X and Y (9 potential dwelling units; of which two are included in the 96 noted above).** These two areas presently have a resource constraint overlay in the existing Del Monte Forest LUP for traffic, sewer, and water limitations for development. These areas are not owned by the applicant. The proposed LCP Amendment describes that existing sewer capacities are adequate for allowable development in Del Monte Forest and that traffic solutions have been adopted to address traffic issues. Water availability remains restrictive, but the applicant is allowed to sell part of its water entitlement to residential users; as such there is a viable water supply for these potential dwelling units.

  Area X (23 acres, 8 potential dwelling units based on County issued certificates of compliance) is located just north of Pescadero Point and north of 17-Mile Drive. The nearest proposed project site is the Lodge at Pebble Beach. The southern half of Area X is within an ESHA containing native Monterey cypress according to Figure 2 of the Del Monte Forest LUP (County of Monterey 1984) and thus could not be developed for housing, except for one single family dwelling unit (to avoid constitutional takings). Other sensitive biological resources may also be present.

  Area Y (20 acres, 1 potential dwelling unit) is located southwest and adjacent to Area R, which is included within proposed project Preservation Area PQR. The area is north of Del Ciervo Road. Based on the aerial photography and biological resource mapping for Area PQR (see Appendix F), this area is covered by Monterey pine forest, and is directly adjacent to an area containing Yadon's piperia, Hooker's manzanita, and a significant occurrence of sandmat manzanita. These sensitive plants are likely to be present on the site. As such, it is presumed that most if not all of this site is ESHA using the Coastal Act definition, and that future development would be limited to a single lot/dwelling unit.

Based on the information presented in this section, the proposed project would not contribute to cumulative impacts on the following sensitive biological resources, that are not found within project development sites, and thus would not be adversely affected by the project:

- Monterey clover.
- Monterey cypress (native).

A. Environmentally Sensitive Habitat Areas

Impact BIO-A1(C). Cumulative development could result in direct removal and indirect disturbance to ESHA; the project would contribute to loss of ESHA areas but would preserve far larger ESHA. (Less than significant with mitigation)

The impact zone for the cumulative analysis of ESHA is Del Monte Forest because the ESHA context is localized to the area of jurisdiction for the Del Monte Forest LUP (impacts on resources beyond their ESHA context is provided below). Cumulative ESHA impacts, as discussed below for each resource, can be summarized as follows.

- **Monterey Pine Forest, including Maritime Chaparral.** As discussed below, cumulative development inside Del Monte Forest could result in loss of Monterey pine forest and maritime chaparral. The proposed project would contribute to this cumulative impact through removal of up to 41 acres of Monterey pine forest (most of which is ESHA) including at least 12 acres of maritime chaparral understory. The project will preserve 598 acres of Monterey pine forest (all

of which is ESHA), including 117 acres of maritime chaparral understory. In concept, the proposed preservation of such areas would substantially offset the direct and indirect effects of the project. However, mitigation measures BIO-A1 and BIO-A2, as discussed above, formalize dedication of these areas and require preparation and implementation of site-specific resource management plans for preservation areas for the benefit of Monterey pine forest, including maritime chaparral. Considering the balancing provisions of the Coastal Act and the balance struck in the proposed LCP Amendment and the identified mitigation, the project would not contribute considerably to significant impacts on Monterey pine forest or maritime chaparral ESHA.

- **Coastal Dunes Habitat, including ESHA Dune Plants Habitat.** As discussed below, cumulative development within Del Monte Forest could increase trail use within coastal dune habitat. The proposed project will not result in the removal of any coastal dunes habitat, but could result in indirect effects at Area L or Area M dunes due to intrusion by new residents, hotel users, escaped invasive landscaping, or pesticide drift. The proposed project will result in the preservation of 34 acres of coastal dunes at Area M and 0.74 acres at Area L. In concept, the proposed preservation of this area would substantially offset the direct and indirect effects of the project. However, mitigation measures BIO-A1, BIO-A2, and BIO-B2, as discussed above, are required to formalize dedication of these areas, implement resource management plans for preservation areas for the benefit of coastal dunes habitat and ESHA dune plants and include specific measures to avoid indirect effects at Areas L and M. Considering the balancing provisions of the Coastal Act and the balance struck in the proposed LCP Amendment and the identified mitigation, the project would not contribute considerably to significant impacts on coastal dune ESHA.

- **Monterey Pygmy Forest/Sensitive Habitat in the HHNHA.** As discussed below, cumulative development within Del Monte Forest could result in indirect effects on the sensitive habitats in the HHNHA due to increased trail use. The proposed project will not result in the removal of any Monterey pygmy forest or any sensitive habitat in the HHNHA. The project may result in indirect effects to Monterey pygmy forest/other sensitive habitats in the HHNHA due to increased trail use. Mitigation measure BIO-B3, as discussed below, is required to manage indirect effects due to increased trail use. Considering the balancing provisions of the Coastal Act and the balance struck in the proposed LCP and the identified mitigation, the project would not contribute considerably to significant impacts on Monterey pygmy forest ESHA or ESHA within HHNHA.

- **Riparian Habitat.** As discussed below, cumulative development within Del Monte Forest could result in effects to riparian habitat. The proposed project will not result in removal of any riparian habitat. All riparian habitat is protected by setback areas. The project will result in preservation of approximately 10,415 linear feet of riparian habitat. The project would not contribute to significant impacts on riparian ESHA.

- **Natural Wetlands/Seasonal Ponds.** As discussed below, cumulative development within Del Monte Forest could result in direct and indirect effects to natural wetlands and seasonal ponds. The proposed project will result in the removal or fill of up to 0.06 acres of wetlands/drainages at Area L and Area U. The proposed project could also result in indirect effects to wetlands due to run-off at the Equestrian Center and Areas J, K, L, U, and V. The project will result in preservation of 9.5 acres of wetlands. In concept, the proposed preservation of such areas would substantially offset the direct and indirect effects of the project. However, mitigation measures BIO-A1, BIO-A2, and BIO-C1, as discussed above, are required to formalize dedication of these areas and implement resource management plans for preservation areas for the benefit of

natural wetlands and seasonal ponds, and to avoid or compensate for wetland losses. Mitigation measures HYD-A1, A2, C1, C2, and C-3 are also required to address potential hydrological and water quality impacts on wetlands and waters. Considering the balancing provisions of the Coastal Act and the balance struck in the proposed LCP and the identified mitigation, the project would not contribute considerably to significant impacts on wetland/seasonal pond ESHA.

- **Yadon's Piperia.** As discussed below, cumulative development within Del Monte Forest could result in loss of Yadon's piperia, if present. The proposed project will result in the removal of up to 6 acres of Yadon's piperia habitat and indirect impacts on 3 acres of habitat. The proposed project will result in the preservation of 125 acres of Yadon's piperia habitat in Del Monte Forest and a substantial part of the plant's overall known population.[8] In concept, the proposed preservation of such areas substantially offsets the direct and indirect effects of the project. However, mitigation measures BIO-A1, BIO-A2, and BIO-D1, as discussed above, are required to formalize dedication of these areas and implement resource management plans for preservation areas for the benefit of Yadon's piperia. Considering the balancing provisions of the Coastal Act and the balance struck in the proposed LCP and the identified mitigation, the project would not contribute considerably to significant impacts on Yadon's piperia ESHA.

- **Gowen Cypress.** As discussed below, cumulative development within Del Monte Forest could result in loss of Gowen cypress. The project could result in removal of individual Gowen cypress in Area F-2. The project will result in the preservation of Gowen cypress in Areas F-1 and F-3.[9] In concept, the proposed preservation of such areas would substantially offset the direct and indirect effects of the project. However, mitigation measures BIO-A1, BIO-A2, and BIO-D2, as discussed above, are required to formalize dedication of these areas, implement resource management plans for preservation areas for the benefit of ESHA, and either avoid removal of all Gowen cypress or restore off-site areas of Gowen cypress. Considering the balancing provisions of the Coastal Act and the balance struck in the proposed LCP and the identified mitigation, the project would not contribute considerably to significant impacts on Gowen cypress ESHA.

- **California Red-Legged Frog Habitat.** As discussed below, cumulative development within Del Monte Forest could result in loss of CRLF. The proposed project would not result in the removal of any aquatic habitat for the CRLF, but may result in mortality of individuals during construction, would remove upland habitat, and could indirectly degrade CRLF habitat due to project run-off. The project will also result in the preservation of CRLF habitat in Areas J, K, L and N. In concept, the proposed preservation of such areas substantially offsets the direct and indirect effects of the project. However, mitigation measures BIO-A1, BIO-A2, and BIO-E1 and E2, as discussed above, are required to formalize dedication of these areas, implement resource management plans for preservation areas for the benefit of CRLF, limit construction period impacts, and provide compensatory frog breeding habitat. Considering the balancing provisions

[8] As noted above, the applicant previously dedicated the HHNHA, which contains another 38 acres of occupied Yadon's piperia habitat. The applicant also entered into a memorandum of understanding (MOU) with USFWS to preserve another 99 acres of Monterey pine forest/Yadon's piperia habitat (83 acres at the Aguajito site in the County of Monterey and 16 acres at the Old Capitol site in the City of Monterey). The prior dedication of HHNHA is part of the existing baseline. The preservation of additional piperia habitat outside Del Monte Forest pursuant to the MOU with USFWS is not required as mitigation to address significant impacts identified in this EIR that are addressed through the preservation and resource management of extensive piperia habitat in Del Monte Forest.

[9] The applicant's prior dedication of the HHNHA included the most significant occurrences of Gowen Cypress in Del Monte Forest.

of the Coastal Act and the balance struck in the proposed LCP and the identified mitigation, the project would not contribute considerably to significant impacts on CRLF ESHA.

B. Sensitive Habitats

Impact BIO-B1 (C). Cumulative development would result in significant loss of Monterey pine forest (including maritime chaparral) to which the project would contribute. (Less than significant with mitigation)

The impact zone for the cumulative analysis of Monterey pine forest is the full extent of native Monterey pine forest, but the focus of the analysis is on the Monterey region of native Monterey pine forest, as this is the population to which the project can contribute effects.

Prior to Europeans entering California and Baja California, indigenous Monterey pine forest is estimated to have covered about 24,000 acres at three locations in California and two islands off the coast of Baja, Mexico (Jones & Stokes 1996b). The present extent of Monterey pine forest with undeveloped understory is less than 13,600 acres (Jones & Stokes 1996b). The forest at Monterey was the largest historically, larger than the combined areas of all other indigenous forest occurrences.

The Monterey pine forest at Monterey is still the largest occurrence but has also undergone the greatest transformation as a result of human activities including logging, urban, suburban, institutional, and recreational development. As of 1994, approximately 9,400 acres of Monterey pine forest with undeveloped understory remained on public and private lands; approximately 1,554 acres remained of Monterey pine forest with mostly closed canopy but with cleared or closely managed understory vegetation in large-lot developed areas; and approximately 2,811 acres remained in suburban neighborhoods with much of the pine canopy removed, but usually greater than 20% canopy cover remaining, and understory in unnatural landscaped vegetation, paved surfaces, and structures (Jones & Stokes 1994a).

As described above under Impact BIO-B1, the proposed project would result in removal/conversion of less than 1% of the remaining Monterey pine forest with undeveloped understory in the Monterey region that would also represent less than 1% of all known remaining undeveloped Monterey pine forest in California and Mexico. The project would contribute to the impacts on Monterey pine forest that are occurring as a result of ongoing development elsewhere and other locations in the region, existing lot development in Del Monte Forest, and potential future development in the existing lots in Area X and Y in Del Monte Forest.

As described above under discussion of significance criteria, for cumulative effects to Monterey pine forest on a regional basis, a *substantial adverse effect* is defined in this document as "the loss, conversion, and/or fragmentation of Monterey pine forest such that the future conservation of Monterey pine forest, in absence of an adopted regional conservation plan, would be uncertain;" uncertainty is defined as the loss of more than 5% of existing undeveloped Monterey pine forest on a regional basis.

To examine cumulative effects on a quantitative basis, potential regional development was assessed by:

- Identifying the undeveloped forested areas within Monterey County (from the prior 2005 Final EIR, Monterey County 2005).

- Identifying the undeveloped forested areas presently protected by means of state or local government ownership (like Pt. Lobos State Park), conservation organization ownership (such as the Big Sur Land Trust or the Del Monte Forest Foundation), and conservation easements (see table in Appendix F of the 2005 EIR, [Monterey County 2005]).
- Identifying the amount of forest retention "normally" occurring under current County permitting practices by reviewing prior environmental impact reports and permit conditions for projects (such as Canada Woods/86%, Monterra Ranch/75%, and Del Mesa Carmel/88%). Based on these examples and to take account that some of the retained forest near development may be subject to indirect effects over time, a presumption was made that "normal" County permitting practice was requiring retention of approximately 75% of undeveloped forest through environmental review and conditions of approval for projects that propose substantial removal of undeveloped Monterey pine forest. This retention is the equivalent of adoption of a 3:1 preservation-to-forest loss mitigation ratio.
- Identifying the amount of likely forest removal in non-protected areas, presuming 75% of forest is retained as condition of approval.
- Adding the project's contribution to net forest loss to the other cumulative loss.

Based on these assumptions, cumulative development (including the project) could result in a loss of 1,451 acres or about 16% of the extant undeveloped forest in Monterey County (Table 3.3-10).

Table 3.3-10. Summary of Cumulative Impact Analysis for Monterey Pine Forest

Element	Acres	Notes
Project Contribution		
Project Removal	41	Direct removal of forest, represents 0.4 % loss in Monterey Region
Cumulative Impact		
Undeveloped Monterey Pine Forest in Monterey Region in 2002	9,289	Prior Draft EIR
"Unprotected" Areas of Forest in Monterey Region in 2002	5,640	All areas not identified as protected
Area of forest expected to be retained > 2002	4,233	Based on review of environmental impact reports and project conditions, 75% of forest is "normally" being retained as condition of development
Forest areas presumed lost due to cumulative development > 2002	1,410	Unprotected areas not retained (excludes project area)
Cumulative impact including project contribution	1,451	Represents 16% loss in Monterey Region
Additionally-Required Mitigation for Cumulative Contribution		
Retention to Meet 75% goal		
Proposed Project Retention	642	94% of project area of 684 acres
Required Additional Retention to meet 95% goal	7	

Element	Acres	Notes
Additionally Required Preservation Areas		
Portion of Area D, Old Capitol or Aguajito Sites	7	Mitigation only requires a portion of these areas to be dedicated. Areas at Old Capitol or Aguajito to be dedicated as part of MOU between USFWS and PBC may be used for this mitigation.

Significance Conclusion. The project's contribution to a cumulative impact on Monterey pine forest would be reduced with the applicant's proposed preservation as well as Mitigation Measures BIO-A1 and BIO-A2 described above. The project would retain nearly 94% of the extant forest within the project area. While the proposed preservation and the mitigation identified would help to reduce cumulative impacts, absent an adopted regional forest conservation plan, the project would still result in the net loss of up to 41 acres of forest (see Table 3.3-10). Loss of up to 41 acres of forest in the context of the potential overall cumulative loss of 16% of the extant forest in the Monterey Region would be a considerable contribution to a significant cumulative impact, even with mitigation.

Mitigation Measure BIO-B1(C) is recommended in order to avoid considerable contributions of this project to significant cumulative impacts on Monterey pine forest.

Mitigation Measure BIO-B1(C). Dedicate additional area of undeveloped Monterey pine forest.

The applicant will dedicate additional areas (minimum of 7 acres) of undeveloped pine forest to offset the contribution of the proposed project to a substantial cumulative loss of Monterey pine forest. This amount was calculated by identifying the additional amount of preservation needed to provide 95% retention of Monterey pine forest in the project area. The applicant owns several different areas, any one of which could be used for this mitigation:

- Area D, which is west of Highway 1, mostly north of the Sawmill Gulch site, and adjacent to the HHNHA. If this site is selected, 7 acres would be preserved contiguous to forested areas within Del Monte Forest (although located outside the jurisdictional coastal zone) adjacent to the HHNHA. The portion of Area D to be preserved would include 1) the entire area between Congress Road and SFB Morse Drive (Parcel G, approximately four acres); and 2) approximately three acres to the east of SFB Morse Drive (part of Parcel F).
- The Old Capitol site is east of Highway 1 in the City of Monterey and south of Del Monte Shopping Center and contains Monterey pine forest, Yadon's piperia, and possibly other sensitive biological resources. The applicant has entered into a MOU with USFWS to preserve 16 acres of Monterey pine forest at this site containing Yadon's piperia (USFWS-PBC 2007). The 7 acres required by this measure could be fulfilled within 16 acres required by the MOU.
- The Aguajito site is east of Highway 1, south of Highway 68, and north of Jack's Peak County Park and contains Monterey pine forest, Yadon's piperia and possibly other sensitive biological resources. The applicant has entered into a MOU with USFWS to preserve 83 acres of Monterey pine forest at this site containing Yadon's piperia (U.S. Fish and Wildlife Service –Pebble Beach Company 2007). The 7 acres required by this measure could be fulfilled within 83 acres required by the MOU.

Resource management of the 7-acre dedicated area will be conducted in accordance with Mitigation Measures BIO-A1. The dedications will be in accordance with the requirements of Mitigation Measure BIO-A2.

Impact BIO-B2(C). Cumulative development could result in potential disturbance of coastal dune habitat to which the project could contribute indirect effects. (Less than significant with mitigation)

The impact zone for the cumulative analysis of coastal dunes is Del Monte Forest because this is the only location wherein the project could contribute effects to coastal dunes.

Project development will result in potential indirect disturbance of coastal dune habitat and associated special-status plant species, which will be substantially offset by preservation of the Area M dunes. Cumulative development within Del Monte Forest could contribute resident and visitor recreational use in remnant dune areas. With identified mitigation for direct impacts (BIO-A1, A2, and B2), which will require restoration and management of the dune areas for the benefit of biological resources found in the dunes, the project's contribution to a cumulative impact is mitigated to a less-than-significant level.

Impact BIO-B3(C). Cumulative development could indirectly disturb Monterey pygmy forest and other sensitive habitat areas in the HHNHA due to trail use to which the project could contribute. (Less than significant with mitigation)

The impact zone for the cumulative analysis of Monterey pygmy forest is the Monterey Peninsula and beyond as this community is found in areas beyond Del Monte forest.

The Monterey pygmy forest found at the HHNHA is the largest stand of this natural community known to occur in California. The only other occurrence is found inland of the Point Lobos Peninsula. As discussed above, increased use of the trails in the HHNHA and SFB Morse Botanical Preserve would occur due to the new residential housing at the Corporation Yard. Cumulative development in Del Monte Forest might also contribute additional recreational use of the HHNHA.

The applicant's proposed preservation and Mitigation Measures BIO-A1, BIO-A2, and BIO-B3 present a comprehensive set of preservation, resource management, and trail use management measures that would be expected to reduce the proposed project's contribution to a cumulative impact on the Monterey pygmy forest in HHNHA to a less-than-significant level.

C. Wetlands/Waters

Impact BIO-C1(C). Cumulative development could result in direct and indirect effects to wetlands/waters to which the project would contribute. (Less than significant with mitigation)

The cumulative impact zone is limited to waters and wetlands in Del Monte Forest as this is the only area in which the project could contribute effects.

Cumulative residential development could also affect wetland/waters or riparian areas within Del Monte Forest directly or indirectly.

Proposed project impacts on riparian areas were discussed above and found to be less than significant as the project would not disturb any riparian areas. The project also includes

preservation of extensive riparian areas. The project does not contribute considerably to a significant cumulative impact on riparian areas.

Proposed project impacts on wetlands/waters were discussed above. Mitigation is required to avoid and reduce impacts on these resources to a less-than-significant level. The project also includes preservation of extensive areas containing wetlands areas and streams in Del Monte Forest. With identified mitigation, the project's contribution to a significant cumulative impact would be reduced to a less-than-significant level.

D. Special-Status Plant Species

Impact BIO-D1(C). Cumulative development could result in the direct loss of individual Yadon's piperia plants and habitat and indirect impacts on adjacent occupied piperia habitat to which the project will contribute (Less than significant with mitigation)

The impact zone for the cumulative analysis of Yadon's piperia is the full extent of the plant's population which is located on Monterey Peninsula and beyond.

The distribution of Yadon's piperia is centered in the Monterey Peninsula, where plants are found throughout large undeveloped tracts of Del Monte Forest. The species' range extends north to Las Lomas near Santa Cruz County and south to near Palo Colorado Canyon along the Big Sur Coast. Currently, there are an estimated 25,758 plants that are protected within the Del Monte Forest project area, Monterey Peninsula (outside the project area), Point Lobos, and Prunedale, which constitutes about 15% of the known total population. There are several other small occurrences within Del Monte Forest and beyond (including the Marina and Palo Colorado Canyon occurrences outside the Monterey Peninsula), however, they are not currently protected and could be affected by future development activities (U.S. Fish and Wildlife Service 2002b).

Cumulative impacts on Yadon's piperia that would occur as a result of other projects include:

- Potential future residential development on existing vacant lots in Del Monte Forest (unknown extent of Yadon's piperia due to lack of surveys).
- Other development in the Monterey Peninsula, and beyond.

Based on the impact analysis conducted for Yadon's piperia, the proposed project would result in the estimated loss of 6 acres of occupied habitat and up to 4,507 individual plants. This impact would result in the loss of approximately 3% of the known population in Del Monte Forest, on the Monterey Peninsula, and the total known population. As part of the project, the applicant has proposed to offset impacts on the species by dedicating new conservation easements for an estimated 125 acres of occupied habitat and an estimated 122,570 plants.[10] This preservation component would represent approximately 89% of the known Del Monte Forest population, 83% of the known Monterey Peninsula population, and 71% of the known total population. In combination

[10] The applicant previously dedicated the HHNHA, which contains another 38 acres of occupied Yadon's piperia habitat. The applicant has also entered into an MOU with USFWS to preserve another 99 acres of Monterey pine forest/Yadon's piperia habitat (83 acres at the Aguajito site in the County of Monterey and 16 acres at the Old Capitol site in the City of Monterey). The prior dedication of the HHNHA is part of the existing baseline. Additional dedication of piperia habitat outside Del Monte Forest pursuant to the MOU would be in excess of that required to address significant impacts identified in this EIR that would be mitigated through preservation and resource management of lands within Del Monte Forest.

with prior preservation, which protects approximately 15% of the total known population, approximately 86% of the total known population would be preserved.

As noted above, other potential projects may also result in loss of Yadon's piperia, both in terms of acreage and numbers. Mitigation will be required to address the project's direct and indirect impacts as described above and is considered adequate to reduce the direct and indirect impacts on a less-than-significant level. Thus, with the proposed preservation and with implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-D1, the project's contribution to this cumulative impact would be less-than-significant.

Impact BIO-D2(C). Cumulative development could result in potential loss or disturbance of Gowen cypress trees due to residential development to which the project would contribute loss of individual Gowen cypress trees. (Less than significant with mitigation)

The impact zone for the cumulative analysis of Gowen cypress is the Monterey Peninsula and beyond as this species is found in areas beyond Del Monte Forest.

There are only two known stands of Gowen cypress and they are located in and adjacent to the HHNHA in Del Monte Forest and the Point Lobos State Reserve. As described above under Impact BIO-D2, the proposed project could result in the loss of approximately 16 native Gowen cypress within portions of Areas F-2. As part of the proposed project, 3.5 acres of Bishop pine/Gowen cypress forest within Area F-3 and additional area in F-1 containing Gowen cypress would be preserved both of which are connected to the HHNHA occurrence.[11]

It is possible, but unknown if, other residential development in Del Monte Forest may affect Gowen cypress. Regardless, the proposed preservation and the implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-D2 would reduce the project's contribution to a significant cumulative impact to a less-than-significant level.

Impact BIO-D3(C). Cumulative development could result in loss of Pacific Grove clover and the project would contribute to that loss (Less than significant with mitigation)

The impact zone for the cumulative analysis of Pacific Grover Clover is the Monterey Peninsula and beyond as this community is found in areas beyond Del Monte Forest.

Pacific Grove clover is limited to Monterey County and is known to exist on 12 sites, including Asilomar State Beach, Point Lobos State Reserve, Lobos Ranch, Spanish Bay, 17-Mile Drive, Indian Village, the existing Equestrian Center, Monterra Ranch, September Ranch, and an inland occurrence just south of Highway 68 and Laguna Seca Ranger Station. Eight of these occurrences are on private property and the remaining four occurrences are protected by the state and Big Sur Land Trust.

Impacts on this species from future development activities in areas that support unprotected populations of Pacific Grove clover could result in a significant cumulative impact on the species. As described above, the Pacific Grove clover occurrence within the proposed Driving Range Relocation site could be directly affected by the project and the occurrence at Indian Village could be affected indirectly. Thus, the proposed project could contribute considerably to a significant cumulative impact. However, implementation of Mitigation Measures BIO-D3 and BIO-D4 would reduce the proposed project's contribution to this cumulative impact to a less-than-significant level.

[11] The prior dedication of the HHNHA contains the most substantial occurrences of Gowen cypress in the Del Monte Forest.

Impact BIO-D4(C). Cumulative development could result in direct loss and indirect impacts on Hooker's manzanita habitat to which the project could contribute. (Less than significant)

The impact zone for the cumulative analysis of Hooker's manzanita is the Monterey Peninsula and beyond as this species is found in areas beyond Del Monte Forest.

The species' range extends from southern Santa Cruz County south to Monterey County. The primary populations occur in Larkin Valley, Prunedale Hills, old Fort Ord, Monterey Peninsula, and the northern end of the Santa Lucia Range (see figure in Appendix F showing distribution). The largest population is located at old Fort Ord and managed by BLM. Hooker's manzanita is found throughout Del Monte Forest. A substantial population of Hooker's manzanita (the most abundant occurrence of the species within Del Monte Forest) is found in the HHNHA.

Cumulative impacts on Hooker's manzanita that would occur as a result of other projects include:

- Potential future residential development in Del Monte Forest.
- Other development in Del Monte Forest, on the Monterey Peninsula, and beyond.

The proposed project would result in the loss of approximately 12 acres of habitat. The project would preserve 117 acres of Hooker's manzanita habitat.

Taking into account the nature of the populations affected by the proposed project, the level of impact, the proposed preservation, and resource management, the project's contribution to cumulative impacts is considered less than significant.

Impact BIO-D5(C). Cumulative development could result in potential loss or disturbance of pine rose and habitat for pine rose. (Less than significant with mitigation)

The impact zone for the cumulative analysis of pine rose is the Monterey Peninsula and beyond as this species is found in areas beyond Del Monte Forest.

Pine rose is endemic to California and occurs in the San Francisco Bay Area, central coast, and Southern Coast Ranges. According to the CNDDB (2002), there are four extant occurrences documented in Monterey County; one of these occurrences is on private property (Del Monte Forest lands) and the remaining three are on public lands (Veterans Memorial Park, Point Lobos State Reserve, and Manzanita County Park).

Development in Del Monte Forest, on the Monterey Peninsula, and beyond may result in losses of this species.

As described above, the proposed project would potentially disturb several occurrences of pine rose in the project area and would preserve or conserve other areas where this species has been reported. Because the project would disturb several occurrences and the documented extant occurrences are somewhat limited, the proposed project could contribute considerably to significant cumulative impact. Implementation of Mitigation Measures BIO-A1, BIO-A2, and BIO-D-5 would reduce the project's contribution to a significant cumulative impact to a less-than-significant level.

Impact BIO-D6(C). Cumulative development could result in potential loss or disturbance of Hickman's potentilla or its habitat. (Less than significant with mitigation)

The impact zone for the cumulative analysis of Hickman's potentilla is the Monterey Peninsula and beyond as this species is found in one area near Montara in San Mateo County.

The Montara occurrence has been preserved and is being managed or will be managed by the California State Parks and the Golden Gate National Recreation Area (U.S. Fish and Wildlife Service 2009). Threats to this population include non-native species, possible effects of grazing management, hydrologic change, and shading by encroaching Monterey pine due to fire regime alteration (U.S. Fish and Wildlife Service 2009).

As described above, the proposed project could indirectly effect the Hickman's potentilla population in Indian Village. Because the project would disturb one occurrence and there are identified threats to the only other documented occurrence, the proposed project could contribute considerably to significant cumulative impact. Implementation of Mitigation Measures BIO-D6 would reduce the project's contribution to a significant cumulative impact to a less-than-significant level.

E. Special-Status Wildlife Species

Impact BIO-E1(C). Cumulative development could result in direct mortality to California red-legged frog, degradation of aquatic habitat, loss of and degradation of upland habitats to which the project could contribute. (Less than significant with mitigation)

The impact zone for the cumulative analysis of CRLF is the Central Coast Recovery Unit.

Historically, CRLF was known from 46 counties in California, but the taxon is now extirpated from 24 of these counties (U.S. Fish and Wildlife Service 2002c). CRLF occurs in isolated localities in the Sierra Nevada, Northern Coast, and northern Transverse Ranges, but is still relatively common in the San Francisco Bay area (including Marin County) and along the central coast (U.S. Fish and Wildlife Service 2002a).

This taxon is widespread in Monterey County and nearly all coastal drainages from Garrapata Creek south to Salmon Creek, including the Little and Big Sur River drainages and the vicinity of Pfeiffer State Beach, support CRLF. CRLFs occur in the Carmel River watershed and most of its tributaries. More than 350 adults have been observed on Rancho San Carlos, a private ranch on the upper portion of the Carmel River Valley (U.S. Fish and Wildlife Service 2002a).

The CNDDB lists multiple occurrences of CRLF in Monterey County not including the recent documented occurrences found on the Monterey Peninsula. CRLF is rare locally and was only recently (2002) found on the Monterey Peninsula within or near the project site. CRLFs have been found at several locations in Seal Rock Creek (in Area L and Indian Village) and nearby water hazards on the Spyglass Hill golf course; and in the Drake Pool and a seasonal pond near Drake Road at the proposed Area N preservation area.

As described above, the proposed project would disturb wetlands at Area L and U that may be utilized by CRLF and will have a range of indirect effects due to development. The proposed project would preserve portions of other areas where either this species occurs or there is suitable, but presently unoccupied habitat (based on surveys to date).

Cumulative development elsewhere in Del Monte Forest, on the Monterey Peninsula, and beyond may also result in losses of this species or its habitat.

Cumulative losses of occupied CRLF habitat in Del Monte Forest (and elsewhere) would be considered a significant cumulative impact. Because the project would contribute to the loss of occupied foraging and dispersal habitat, the project's contribution is considerable. Implementation

of Mitigation Measures BIO-A1, BIO-A2, BIO-E1 andBIO-E2 would reduce the contribution of the proposed project to a less-than-significant level.

Impact BIO-E2(C). Cumulative development could result in indirect effects to Smith's blue butterfly host plants and Smith's blue butterflies to which the project could contribute (Less than significant)

The impact zone for the cumulative analysis of Smith's blue butterfly is the Monterey Peninsula and beyond as this species is found in areas beyond Del Monte Forest.

Smith's blue butterfly is found in coastal sand dunes along the central California coast in San Luis Obispo, Monterey, Santa Cruz, and San Mateo Counties (Arnold pers. comm..). Although Smith's blue butterfly is known to occur in the general Monterey vicinity, there are no historical records from Pebble Beach or Pacific Grove (Entomological Consulting Services 2000; Arnold 2011).

As discussed above, Smith's blue butterfly is not considered likely to be present on the project sites containing dunes. Although the project could result in indirect disturbance of its host plants, due to the unlikely presence of this species, the project is not expected to have any actual impact on this species.

Cumulative development outside Del Monte Forest could result in direct disturbance or increased recreational use of trails through remnant dune habitat that may contain host plants and Smith's blue butterflies. The potential loss of Smith's blue butterflies or its host plants would be a considerable contribution to a cumulative impact. However, given that this species is unlikely to occur within the project sites, the project would not contribute to any cumulative impacts.

Impact BIO-E3(C). Cumulative stormwater run-off could degrade nearshore water quality and result in indirect impacts on the southern sea otter, western snowy plover, California brown pelican and other marine resources, including the Carmel Bay Area of Special Biological Significance to which the project would contribute. (Less than significant with mitigation)

The impact zone for the cumulative analysis of marine resources is the marine areas offshore of Del Monte Forest and Carmel Bay and the watersheds leading to these marine areas.

As described above, there is no marine habitat within the project area, which is inland from the coast. Water quality effects were assessed in Section 3.7, Hydrology and Water Quality, including construction erosion, storm water run-off, golf course stormwater and pest management activities, reclaimed wastewater use, and Equestrian Center waste management activities. The conclusion of the water quality analysis in Section 3.7 is that the proposed project's operational effects on water quality would be less than significant and that its construction impacts on water quality could be mitigated to a less-than-significant level. The project's construction contribution to cumulative water quality impacts can be mitigated by the mitigation identified for construction run-off and thus the project's contribution to any cumulative impact on marine habitats, marine resources, and marine special-status species is considered less than significant.

Impact BIO-E4(C). Cumulative development could result in potential loss or disturbance to habitat occupied by certain non-listed special-status wildlife species. (Less than significant with mitigation)

The impact zone for the cumulative analysis of non-listed special-status wildlife species is Del Monte Forest as the project's effects on these species is limited in scale and extent and could contribute only to population level effects in the localized area.

Black or silvery legless lizards. These species are rare locally and have a restricted distribution on the Monterey Peninsula. Project development would result in indirect effects to suitable, but marginal habitat. Cumulative development in Del Monte Forest might increase recreational use of trails in areas of suitable habitat, like dunes. With the implementation of the applicant's proposed preservation and the mitigation measures identified for direct impacts (BIO-A1, A2, B2, and E5), the project's contribution would not be considerable.

California horned lizard. This species is common throughout chaparral habitats across an extensive geographic range and is not known from the project area. Because the statewide status of the California horned lizard is relatively robust, and because the species is unlikely to occur in significant numbers in the small areas of marginal habitat found in the project area, the project's potential contribution to a cumulative impact would not be considerable.

Southwestern pond turtle. The project would not remove any habitat for the southwestern pond turtle. The project would result in preservation of a number of areas in Del Monte Forest that contain suitable habitat and may contain southwestern pond turtle. Although cumulative development may affect southwestern pond turtle, the project's contribution is not considerable.

Monterey Dusky-footed woodrats. Area PQR contains occupied habitat (and nests) for Monterey dusky-footed woodrat along a drainage that would be preserved as natural open space. The project includes new trails in PQR but the trails that cross drainage areas are all along existing fire roads, so there will be no new disturbance of riparian areas associated with trail construction. This is the only known woodrat location in Del Monte Forest and no other projects would affect this location. Forest clearing in Areas J, K, or L near riparian areas may disturb woodrat nests, if this species is present there. The potentially significant direct impact can be reduced to a less-than-significant level with implementation of the mitigation (BIO-E6) described above. Although cumulative development may affect this species in other locations, the project's contribution is not considerable, with mitigation.

Pallid bats. Cumulative projects that could also affect pallid bat habitat within Del Monte Forest include potential future residential developments in Del Monte Forest.

The proposed project could remove tree roosting sites and thus directly affect this species and eliminate potential habitat, resulting in an adverse effect on population levels. Clearing of forest habitat may remove foraging and roosting habitat, but the increase of edge habitat and moister, irrigated environment in development areas could balance this effect by increasing foraging habitat and insect availability in the long term. The proposed project would also dedicate conservation easements for approximately 598 acres of Monterey pine forest. The project's contribution to a cumulative impact would be mitigated to a less-than-significant level with implementation of the mitigation identified above for direct impacts (BIO-E7).

Ringtails and Monterey Ornate Shrew. Cumulative projects that could also affect habitat for these species within Del Monte Forest include potential future residential development.

Some potential habitat for ringtails and ornate shrews in forest habitats adjacent or near to riparian areas will be removed by the proposed project. The preservation of all riparian habitat within preservation areas, along with directed resource management as required by mitigation measures identified for direct impacts (BIO-A1 and BIO-A2) would reduce the project's contribution to a cumulative impact to a less-than-significant level.

F. Common Wildlife Habitat/Populations/Plant Communities

Impact BIO-F1(C). Cumulative development would remove habitat of common wildlife species and plant communities within Del Monte Forest to which the project would contribute. (Less than significant with mitigation)

The impact zone for the cumulative analysis of common plants and wildlife habitat is Del Monte Forest because the project's impact on common plants and wildlife is limited to Del Monte Forest.

Cumulative residential development in Del Monte Forest could affect habitat for common species including Monterey pine forest and wetlands (other sensitive communities addressed separately above). Under cumulative plus project conditions, the proposed project could contribute to the reduction of the habitat of common wildlife species and plant communities within Del Monte Forest. This impact is offset by the applicant's proposed preservation and the mitigation recommended above for Monterey pine forest and wetlands (BIO-A1 and BIO-A2). With identified mitigation for direct impacts, the project's contribution to a cumulative impact is mitigated to a less-than-significant level.

G. Indirect Impacts on Habitat Resulting from Human Use

Impact BIO-G1(C). Cumulative development would increase trail use by pedestrians and equestrians in Del Monte Forest, which could affect common and rare wildlife and plant species along trails and the project would contribute to this effect. (Less than significant with mitigation)

The impact zone for the cumulative analysis of trail use is Del Monte Forest because the project's trail use impacts are limited to the trails in Del Monte Forest.

Cumulative residential development in Del Monte Forest could contribute additional trail users that may affect biological resources found along trails. Under cumulative plus project conditions, the proposed project could contribute to increased trail use by pedestrians and equestrians. This impact is offset by the applicant's proposed preservation dedications and the mitigation recommended for impacts related to trail use (BIO-B2, BIO-B3, BIO-D4, BIO-D6, and BIO-G1). With identified mitigation for direct impacts, the project's contribution to a cumulative impact is mitigated to a less-than-significant level.

H. Wildlife Movement

Impact BIO-H1(C). Cumulative development would fragment certain existing forested habitats and could interfere with wildlife movement to which the project would contribute. (Less than significant with mitigation)

The impact zone for the cumulative analysis of wildlife movement is Del Monte Forest because the project's impact on wildlife movement is limited to the animals moving in and through Del Monte Forest.

Cumulative residential development in Del Monte Forest could also affect wildlife movement areas, although single-family development's effect on wildlife movement will be limited as most of the vacant lots (with the exception of Areas X and Y) are in areas surrounded by existing development.

Under cumulative plus project conditions, the proposed project could contribute to interference with wildlife movement. This impact is offset by the applicant's proposed preservation and the mitigation recommended above for Monterey pine forest and wetlands (BIO-A1 and BIO-A2). With identified mitigation for direct impacts, the project's contribution to a cumulative impact is mitigated to a less-than-significant level.

I. Wildlife Breeding and Nesting

Impact BIO-I1(C). Cumulative development, including tree removal and grading, could result in potential disturbance to nesting raptors, including several special-status raptor species, if present during construction to which the project would contribute. (Less that significant with mitigation)

The impact zone for the cumulative analysis of nesting raptors is the Monterey Peninsula and beyond as raptors range far beyond Del Monte Forest.

The project area provides potential nesting habitat for several species of hawks and owls (raptors). Raptors are protected against take, including destruction of nests, pursuant to Section 3503.5 of the California Fish and Game Code and the federal MBTA.

Cumulative projects that would also remove trees that may be used by nesting raptors include other development in Del Monte Forest and in the region and could also affect nesting raptors.

The proposed project includes removal of trees that may contain nesting raptors. The proposed project also contains preservation of suitable nesting raptor habitat in forested areas. Preconstruction raptor surveys and buffers are required as mitigation (BIO-I1) for direct impacts. Mitigation is also required for impact on Monterey pine forest for project impacts (BIO-A1 and BIO-A2). Collectively, the applicant's proposal and mitigation for direct impacts on nesting raptors and for impacts on Monterey pine forests would reduce the project's contribution to a cumulative impact to a less-than-significant level.

J. Tree Removal

Impact BIO-J1(C). Cumulative development would result in removal or disturbance of native Monterey pine trees and coast live oak trees to which the project would contribute. (Less than significant with mitigation)

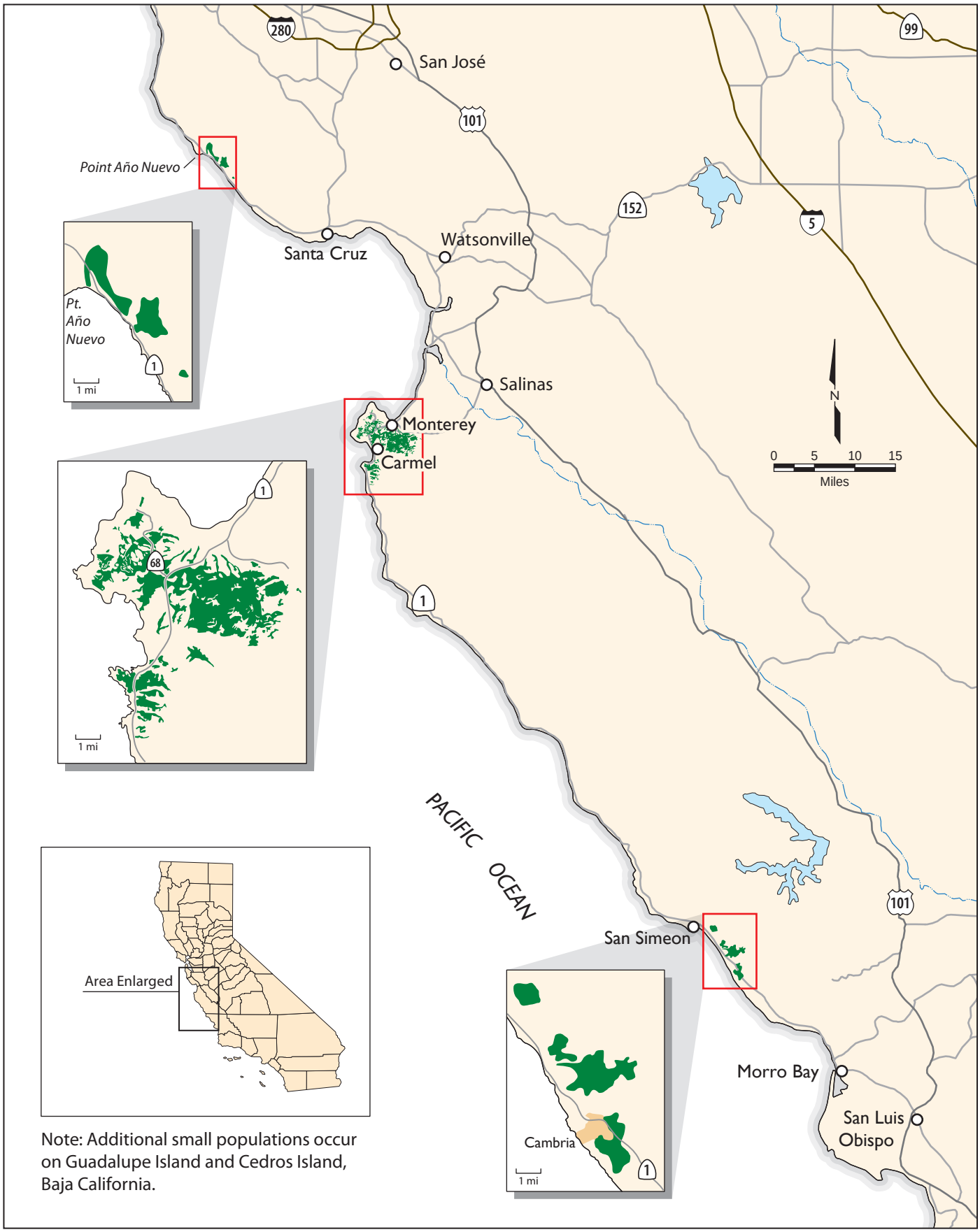
The impact zone for the cumulative analysis of tree removal is Del Monte Forest as individual tree removal impacts are localized to Del Monte Forest.

Cumulative projects that would also remove more than a few native trees include residential development in Del Monte Forest, which could also result in removal of native trees.

Proposed project impact on Monterey pine forest, Monterey pygmy forest, and Gowen cypress was discussed above. The proposed project would also include removal of substantial numbers of coast live oaks.

The project includes preservation of extensive areas containing native trees within Del Monte Forest. As noted above, mitigation measure BIO-J1 and BIO-J2 require incorporation of tree removal and replanting guidelines in site-specific RMPs and protection of retained trees during construction.

With the proposed preservation and resource management, and the identified mitigation measures for impact on Monterey pine forest and native trees for project impacts, the project's contribution to a cumulative impact on native trees would be less than significant.



Note: Additional small populations occur on Guadalupe Island and Cedros Island, Baja California.

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Figure 3.3-1
Distribution of Native Monterey Pine Forest in California

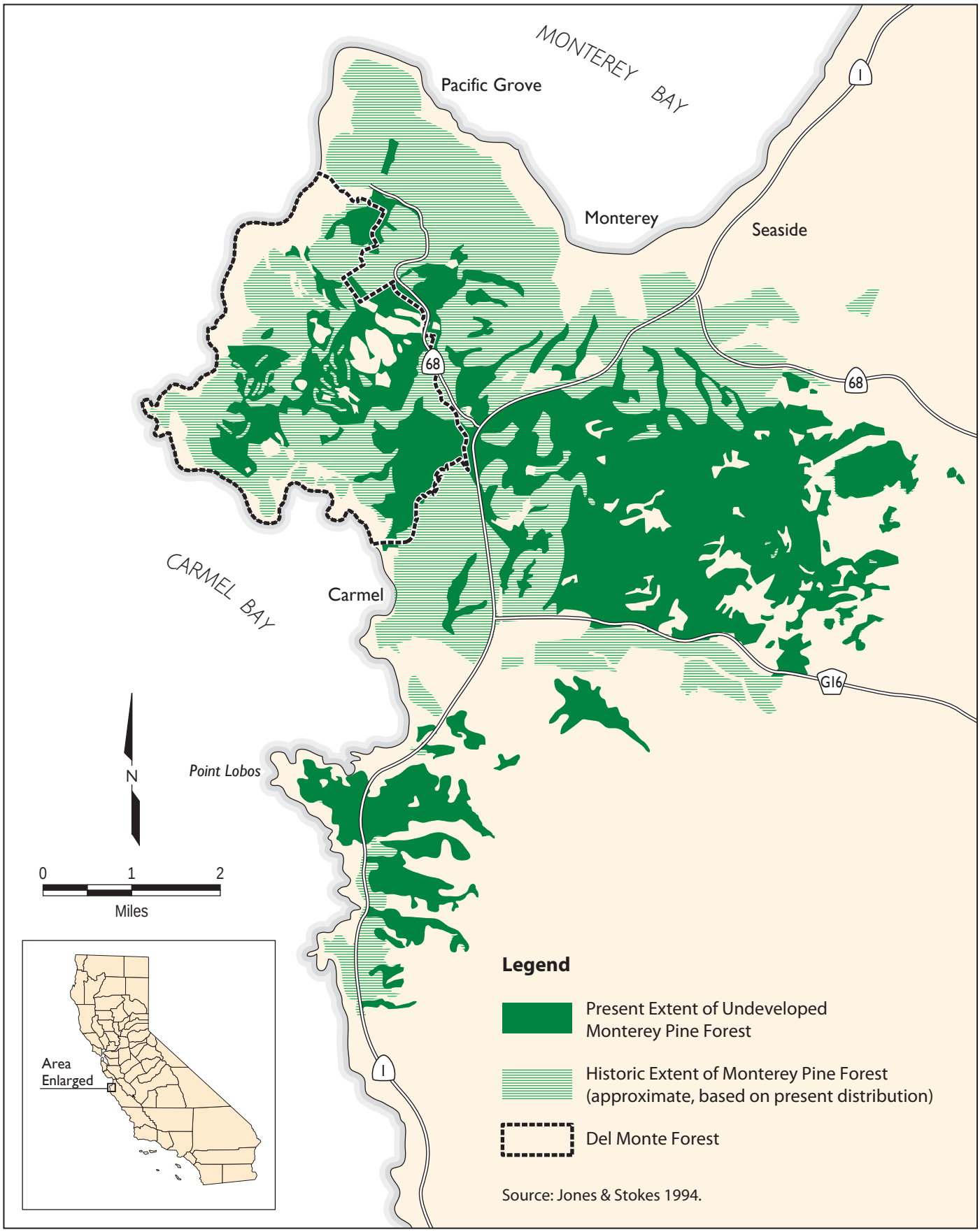

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Figure 3.3-2
Distribution of Native Monterey Pine Forest in the Monterey Region