

**BIOLOGICAL IMPACT FORM
FOR COMPLIANCE WITH
SAN MATEO COUNTY LCP PROGRAM POLICY 7.5**

PIE RANCH (APN 089-230-210)
SAN MATEO COUNTY, CALIFORNIA

OCTOBER 2016

Prepared for:

Jered Lawson
Pie Ranch
2080 Cabrillo Hwy
Pescadero CA 94060
(650) 879-0971

Prepared by:

Tom Mahony, Principal
Coast Range Biological, LLC
PO Box 1238
Santa Cruz, CA 95061
(831) 426-6226
coastrange@sbcglobal.net

and

Mark Allaback, Wildlife Biologist
Biosearch Associates
PO Box 1220
Santa Cruz, CA 95061
(831) 662-3938
markallaback@sbcglobal.net



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1.0 REPORT SUMMARY

At the request of landowner Jered Lawson of Pie Ranch, Coast Range Biological, LLC and Biosearch Associates conducted a biotic assessment on a portion of the Pie Ranch property (APN 089-230-210) located at 2080 Cabrillo Highway, south of Pescadero, in unincorporated San Mateo County, California (“project site”). The San Mateo County Planning and Building Department raised concerns regarding potential biological impacts related to parking on the project site for two separate events on Pie Ranch: (1) the annual farm dinner, which takes place on the second Saturday in September, and draws approximately 300 people, with parking along Green Oaks Way and adjacent areas between Highway 1 and just above the man-made basin; and (2) the open farm day potluck and barn dance, which occurs on the third Saturday of each month throughout the year, and typically draws 100 to 150 people, with parking along Green Oaks Way. In addition, daily vehicle use occurs along Green Oaks Way for normal Pie Ranch farm and educational operations (including the farm stand along Highway 1), as well as for accessing residences to the east (Jered Lawson, Pie Ranch pers. comm. 2016).

The area evaluated for this biotic assessment includes: (1) the project site, where event parking occurs and where biological resource impact determinations are made; and (2) a “study area,” which includes the project site and adjacent areas extending outward 200-feet, where habitats are mapped and evaluated for the potential presence of special-status biological resources (including special-status plant and wildlife species¹ and sensitive habitats). Potential significant impacts that may occur to these resources as a result of event parking are identified and mitigation measures suggested to reduce impacts to less-than-significant levels. The report format follows San Mateo County’s “Biological Impact Form for compliance with Local Coastal Program Policy 7.5.”

One special-status plant species was observed on the study area, outside of the project site, during the October 2016 field visits: Monterey pine (*Pinus radiata*). All 44 special-status plant species identified for the region during the background literature search are unlikely to inhabit the project site because it is heavily disturbed and consists primarily of Developed/Ruderal and Agricultural habitats that lacks suitable habitat components (e.g., soil type, micro-habitat, plant community) required by special-status species (Appendix A). Portions of the surrounding study area in Central Coast Riparian Scrub, Coyote Brush Scrub, and Freshwater Wetland habitats could provide suitable habitat for some special-status plants known from the region, but these habitats will not be directly or indirectly impacted by the event parking and no additional studies or mitigation measures for special-status plant species (other than Monterey pine) are recommended in this report. A 50-foot buffer is recommended around all Monterey pine individuals observed on the study area. In addition, fencing and habitat enhancement around Central Coast Riparian Scrub should provide additional habitat benefits, such as opportunities for natural recruitment, for Monterey pine on the study area.

Three special-status wildlife species have been documented on the study area in the California Natural Diversity Database or were observed during the October 2016 field visits: monarch butterfly (*Danaus plexippus*), California red-legged frog (*Rana draytonii*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*). The study area is located within designated critical habitat for the federally-threatened California red-legged frog. At least eight other special-status wildlife species,

¹ Special-status species are defined here to include: (1) all plants and animals that are listed under the Federal or State Endangered Species Acts as rare, threatened or endangered; (2) all federal and state candidates for listing; (3) California Department of Fish and Wildlife Species of Special Concern; (4) plants that qualify under the definition of “rare” in the California Environmental Quality Act, section 15380; (5) all plants included in Lists 1 and 2 (and Lists 3 and 4 when they meet the definition of “rare”) in CNPS (2016); and (6) plants and animals considered “rare and endangered” in the San Mateo County Local Coastal Program.

though not observed during the reconnaissance field visits, could occur on the study area due to the presence of suitable habitat: Santa Cruz black salamander (*Aneides niger*), western pond turtle (*Emys marmorata*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), Allen's hummingbird (*Selasphorus sasin*), Nuttall's woodpecker (*Picoides nuttallii*), olive-sided flycatcher (*Contopus cooperi*), oak titmouse (*Baeolophus inornatus*), and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) (Appendix A). The San Francisco garter snake is state and federally-endangered, and also designated as a state "fully-protected" species. In addition, trees, shrubs, and herbaceous vegetation on the study area provide nesting habitat for other native bird species protected under the Migratory Bird Treaty Act and state Fish and Game Code. Mitigation measures for special-status wildlife species are included in Section 5.0 of the report.

Sensitive habitats observed on the study area include Central Coast Riparian Scrub along Green Oaks Creek and a natural sag pond, which meets the San Mateo County Local Coastal Program definition of "Riparian Corridor." No direct impacts to Central Coast Riparian Scrub will occur from the project, and, per the Local Coastal Program, a 30-foot buffer was applied around this habitat. Freshwater Wetland habitat is present in the natural sag pond as well as a man-made basin. Neither of these habitats will be directly impacted by event parking, and per the Local Coastal Program, a 100-foot buffer was applied around the sag pond. No buffers are required around the man-made basin, but a 50-foot buffer was applied since this basin could potentially support special-status wildlife species. Mitigation measures are included in Section 5.0 to enhance sensitive habitats on the study area.

2.0 PROJECT AND PROPERTY DESCRIPTION

The project site is located on the lower (southwestern) portion of Pie Ranch, along Green Oaks Way, east of Highway 1, and northeast of Ano Nuevo State Park in southwestern San Mateo County, California (APN 089-230-210) (Figure 1). The project site covers ~1.7-acres and includes parking areas for two separate events on Pie Ranch: (1) the annual farm dinner, which takes place on the second Saturday in September, and draws approximately 300 people, with parking along Green Oaks Way and adjacent areas between Highway 1 and just above the man-made basin (approximately corresponding to the "project site" boundary in Figure 2); and (2) the open farm day potluck and barn dance, which occurs on the third Saturday of each month throughout the year, and typically draws 100 to 150 people, with parking along Green Oaks Way. The study area covers ~13-acres and includes the project site and a 200-foot buffer (Figures 1 and 2).

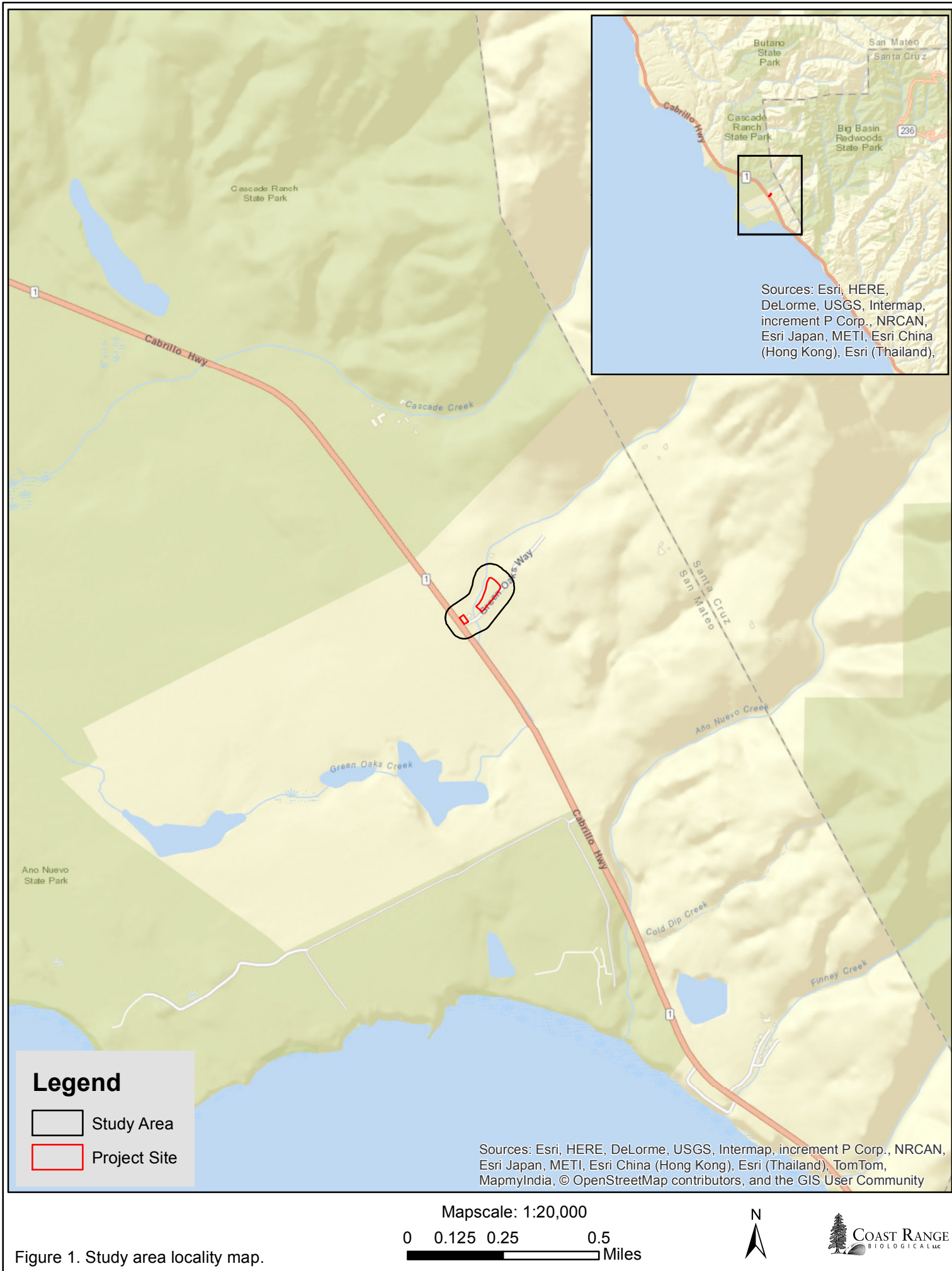
The project site is heavily disturbed by past and current land use, including Green Oaks Way (a dirt access road serving Pie Ranch and private residences offsite), another dirt road to the north, a barn and other outbuildings, dirt parking areas, and agricultural areas (Figure 2). Land uses on the surrounding study area include agricultural land to the north and west, and undeveloped land to the south and east. Highway 1 traverses the southwestern portion of the study area. Outside of the study area, land uses consist primarily of undeveloped, low density residential, or agricultural lands. Photographs of the study area are included in Appendix B.

2.1 Vegetation

Six habitats are present on the study area: Central Coast Riparian Scrub, Freshwater Wetland, Coyote Brush Scrub, Monterey Cypress, Agricultural, and Developed/Ruderal (Figure 2). Central Coast Riparian Scrub², consisting primarily of the *Salix lasiolepis* Shrubland Alliance³, occurs along Green

² Vegetation nomenclature follows Holland (1986).

³ Alliance nomenclature follows Sawyer et al. (2009).



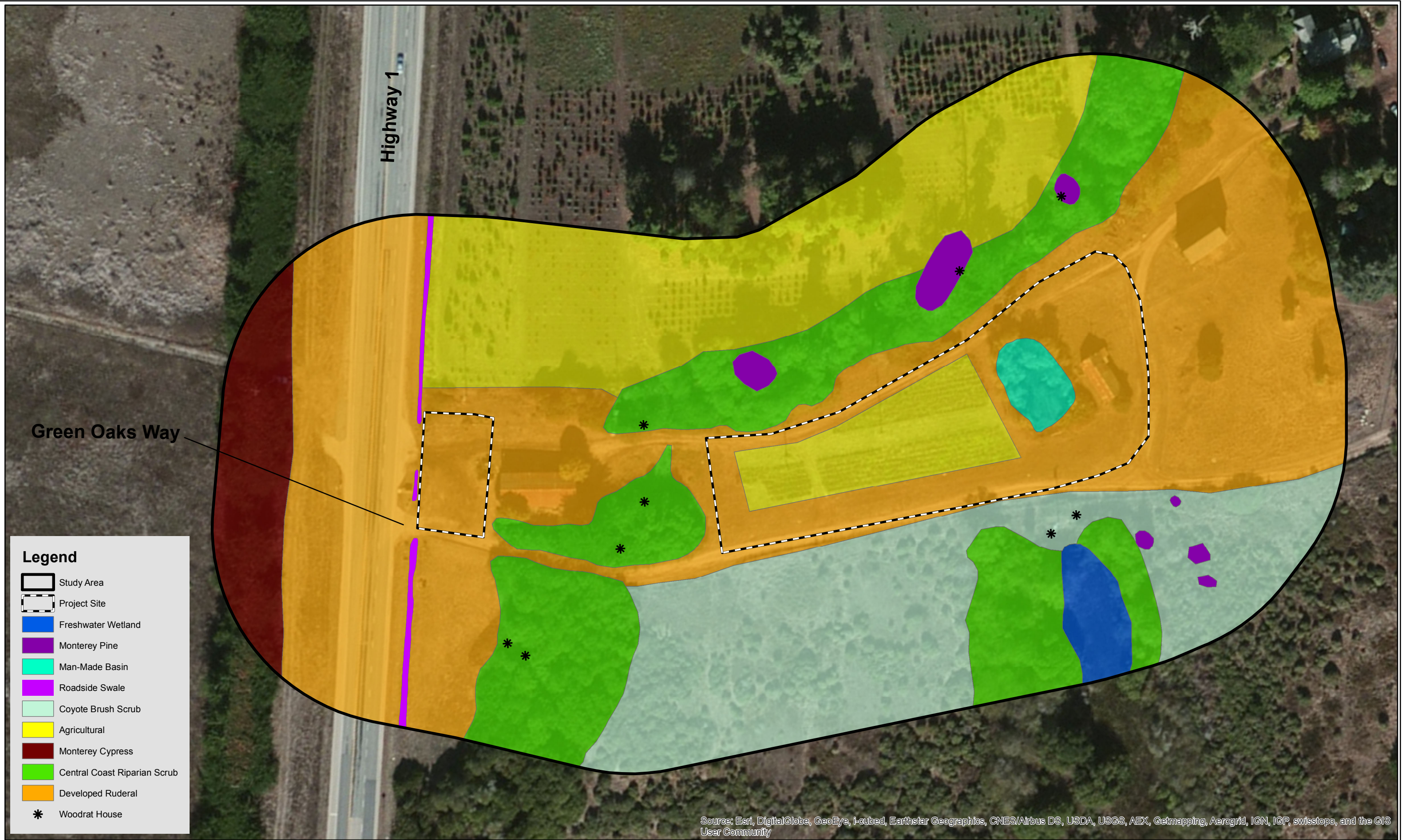


Figure 2. Habitat map of the study area.

Oaks Creek and a natural sag pond in the northeastern portion of the study area, and is dominated by a canopy of arroyo willow (*Salix lasiolepis*⁴), with occasional red willow (*Salix laevigata*), Pacific willow (*Salix lasiandra* var. *lasiandra*), red alder (*Alnus rubra*), coast live oak (*Quercus agrifolia*), Douglas-fir (*Pseudotsuga menziesii*), and Monterey pine (*Pinus radiata*). The understory consists of a dense mixture of native shrubs and herbaceous species, including California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), stinging nettle (*Urtica dioica*), red elderberry (*Sambucus racemosa*), and horsetail (*Equisetum* sp.), along with occasional non-native species such as poison hemlock (*Conium maculatum*), Himalayan blackberry (*Rubus armeniacus*), and garden nasturtium (*Tropaeolum majus*).

Freshwater Wetland occurs in two areas on the study area: a man-made basin on the northern portion of the project site and the sag pond in the northeastern portion of the study area. The Freshwater Wetlands are dominated by wetland-classified plant species, including California tule (*Schoenoplectus californicus*), as well as arroyo willow, red willow, and Pacific willow. Coyote Brush Scrub, consisting of the *Baccharis pilularis* Shrubland Alliance, is dominated by coyote brush (*Baccharis pilularis*), with California aster (*Symphyotrichum chilense*), California blackberry, poison hemlock, and red elderberry also present. Monterey Cypress consists of a planted stand of Monterey cypress (*Hesperocyparis macrocarpa*) in the southwestern portion of the study area along Highway 1. Agricultural habitat consists of actively cultivated areas, including a tree farm in the western portion of the study area and cultivated *Watsonia* and *Amaryllis belladonna* in the central portion of the project site. Developed/Ruderal habitat consists of Developed areas, such as Highway 1 and existing buildings, and Ruderal areas, including dirt roads, staging areas, and pasture. Ruderal habitat is dominated by bare ground or non-native grasses and forbs, including ripgut brome (*Bromus diandrus*), wild oats (*Avena* sp.), Italian ryegrass (*Festuca perennis*), summer mustard (*Hirschfeldia incana*), bull thistle (*Cirsium vulgare*), barley (*Hordeum murinum*), wild radish (*Raphanus sativus*), cutleaf plantain (*Plantago coronopus*), rough cat's-ear (*Hypochaeris radicata*), and bristly ox-tongue (*Helminthotheca echinoides*). In addition, non-native ornamental and other species from past farming operations are present in this area, including walnut (*Juglans* sp.), sweet gum (*Liquidambar styraciflua*), willow (*Salix* sp.), and deodar cedar (*Cedrus deodara*). A list of plant species observed on the study area is included in Appendix C.

2.2 Wildlife

Wildlife expected on the study area include a variety of native species common in western San Mateo County, as well as some species that are tolerant of human disturbance. The Central Coast Riparian Scrub and adjacent areas could provide a movement corridor for a variety of wildlife, such as mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*). San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) houses were observed in portions of the Central Coast Riparian Scrub supporting a dense understory. Western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis catenifer*) may use open areas. A variety of native birds are expected to use the dense Central Coast Riparian Scrub during the breeding season. Birds observed on the study area include Anna's hummingbird (*Calypte anna*), California towhee (*Pipilo crissalis*), Bewick's wren (*Thryomanes bewickii*) and Steller's jay (*Cyanocitta stelleri*). Wildlife species observed on the study area are included in Appendix D.

⁴ Botanical nomenclature follows Baldwin et al. (2012).

2.3 Topography and Soils

The study area occurs between ~150 and ~200 feet elevation (USGS 1991). The project site and surrounding study area are generally level, sloping gradually to the southwest. Three soil types have been mapped on the study area (NRCS 2016):

- LmB—Lockwood loam, gently sloping
- LwB—Lockwood loam, gently sloping, seeped
- SaC2—Santa Lucia loam, sloping, eroded

Lockwood loam, gently sloping is a well-drained soil derived from alluvium and generally found on alluvial fans. A typical profile consists of loam from 0 to 26 inches and clay loam from 26 to 60 inches of soil profile. Depth to water table and a restrictive feature is typically >80 inches beneath the surface. Lockwood loam, gently sloping, seeped is a somewhat poorly-drained soil derived from alluvium and generally found on alluvial fans. A typical profile consists of loam from 0 to 26 inches and clay loam from 26 to 60 inches of soil profile. Depth to water table is typically near the surface and the depth to a restrictive feature is typically >80 inches beneath the surface. Santa Lucia loam, sloping, eroded is a well-drained soil derived from shale and generally found on mountain slopes. A typical profile consists of channery loam from 0 to 14 inches, very channery loam from 14 to 24 inches, and unweathered bedrock from 24 to 28 inches of soil profile. Depth to water table is typically >80 inches and depth to a restrictive feature (lithic bedrock) is typically 24 to 28 inches beneath the surface.

Lockwood loam, gently sloping, seeped, is listed as a Hydric Soil on the National Hydric Soils List (NRCS 2015) when found in depressions. Lockwood loam, gently sloping and Santa Lucia loam, sloping, eroded are not listed as hydric soils on the National Hydric Soils List.

2.4 Hydrology

The principal hydrologic sources for the study area are direct precipitation, surface and sub-surface runoff from the surrounding watershed, and drainage through Green Oaks Creek (hereafter referred to as “creek”) (USGS 1991). The creek was dry during the October 2016 field visits. The creek typically dries up during the dry season, at least during the past several years (Jered Lawson, pers. comm. 2016). Water was observed in the creek during a previous riparian delineation in September 2011, and was considered perennial in that year (CRB 2011).

The creek drains southwest across the study area and eventually into the Pacific Ocean. The creek is mapped on the USGS (1991) Franklin Point topographic quadrangle, and is mapped as Riverine in the National Wetlands Inventory (NWI) (USFWS 2016a). No other streams are mapped for the study area in the NWI or Franklin Point USGS quad, but the sag pond is mapped as Freshwater Pond in the NWI.

A man-made basin, apparently excavated decades ago as a detention basin for dairy wastewater, is present in the central portion of the project site (Figure 2). The basin was dry during the field visits. A roadside drainage swale is present along Highway 1. The swale is man-made, excavated for roadside drainage, and lacks a defined bed, bank, and Ordinary High Water Mark, but likely conveys water for brief periods during the rainy season and eventually drains into Green Oaks Creek, off of the study area.

3.0 METHODOLOGY

Prior to conducting field studies, a background literature search was conducted to determine which special-status species and sensitive habitats have potential to inhabit the study area region based on documented occurrences and range distribution (Appendix A). The primary sources for this search included the California Natural Diversity Data Base (CNDDB) (CDFW 2016), CNPS Inventory of Rare and Endangered Plants (CNPS 2016), and the U.S. Fish and Wildlife Service list of threatened or endangered species (USFWS 2016b) records for the Franklin Point and surrounding USGS 7.5' quadrangles⁵. In addition, other lists and publications were consulted, including the CDFW Special Animals list (CDFW 2015), Zeiner et al. (1988; 1990a; 1990b), eBird (2016), the NWI (USFWS 2016a), Web Soil Survey (NRCS 2016), topographic maps (USGS 1991), the San Mateo County Local Coastal Program (LCP), and Baldwin et al. (2012).

Reconnaissance-level field studies were conducted on October 4 and 11, 2016. The project site and accessible portions of the study area were traversed on foot to document habitat conditions to determine the potential for occurrence of special-status biotic resources (much of the study area was not viewed on foot due to private property constraints; these areas were surveyed using aerial photography and binoculars). The potential for occurrence of special-status species was assessed based on the presence of necessary habitat characteristics, confirmed records from the region, and the biologist's knowledge of the target species. No focused surveys were performed.

3.1 Special-status Species

Potential for occurrence of special-status species was evaluated based on the presence of suitable habitat characteristics. Where habitat is lacking or otherwise degraded or unsuitable for a particular species, no further recommendations are made in this report since the species is unlikely to inhabit the project site or surrounding study area. For species that are present on the study area (based on field observations and/or documentation during the background literature search), or for species which could potentially occur on the study area (based on the presence of suitable habitat), mitigation measures are recommended to reduce any potential significant project impacts to less-than-significant levels (CEQA Guidelines, Appendix G).

3.2 Sensitive Habitats

Sensitive Habitats are defined in the LCP as "any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria: (1) habitats containing or supporting rare and endangered species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat; (7) existing game and wildlife refuges and reserves, and (8) sand dunes. Sensitive habitat areas include, but are not limited to, riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species."

Wetlands are defined in the LCP as "an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants

⁵ The initial raw species list was refined to remove species that are documented in the general region but are not expected to occur on the study area due to range limitation or extirpation, or occur in habitats obviously lacking from the study area, such as marine habitats. The remaining species were analyzed for their potential to occur on the study area (Appendix A).

which normally are found to grow in water or wet ground. Define wetland as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Such wetlands can include mudflats (barren of vegetation), marshes, and swamps. Such wetlands can be either fresh or saltwater, along streams (riparian), in tidally influenced areas (near the ocean and usually below extreme high water of spring tides), marginal to lakes, ponds, and man-made impoundments. Wetlands do not include areas which in normal rainfall years are permanently submerged (streams, lakes, ponds and impoundments), nor marine or estuarine areas below extreme low water of spring tides, nor vernal wet areas where the soils are not hydric. In San Mateo County, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bullrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat.”

Riparian Corridors are defined in the LCP as the “limit of riparian vegetation (i.e. a line determined by the association of plant and animal species normally found near streams, lakes, and other bodies of fresh water: red alder, jaumea, pickleweed, big leaf maple, narrowleaf cattail, arroyo willow, broadleaf cattail, horsetail, creek dogwood, black cottonwood, and box elder). Such an area must contain at least a 50% cover of some combination of the plants listed.”

Potential sensitive habitats on the project site were mapped in the field with a Trimble GPS unit (sub-meter accuracy) and overlain on a digital orthophoto (dated June 8, 2014) using ArcGIS mapping software. Other habitats were drawn directly onto the orthophoto based on variation in texture, color, and structure. The project site boundary was approximated onto the orthophoto based on the parking plan prepared by POST.

4.0 RESULTS

4.1 Special-status Plants

Forty-four special-status plant species are documented to occur in the study area region based on the background literature search discussed in Section 3.0. A list of these species, their status, and their typical habitats is presented in Appendix A. A search of the CNDDB GIS database found one special-status plant species documented on the study area: Monterey pine. Numerous other special-status plants are documented within three miles of the study area (CDFW 2016) (Figure 3). The study area is not located within any designated critical habitat for federally-listed plant species (USFWS 2016c). The field visits occurred outside the typical blooming period of most plant species, and no floristic surveys were conducted.

No special-status plant species were observed on the project site during the October 2016 reconnaissance surveys, but one special-status plant species was observed on the surrounding study area: Monterey pine (Figure 2). This species is discussed below. All 44 special-status plant species identified for the region during the background literature search are unlikely to inhabit the project site because it is heavily disturbed and consists primarily of Developed/Ruderal and Agricultural habitats that lacks suitable habitat components (e.g., soil type, micro-habitat, plant community) required by special-status species (Appendix B-4). Portions of the surrounding study area in Central Coast Riparian Scrub, Coyote Brush Scrub, and Freshwater Wetland habitats could provide suitable habitat for some special-status plants known from the region (Appendix A), but these habitats will not be directly or indirectly impacted by event parking and no additional studies or mitigation measures for special-status plant species (other than Monterey pine, discussed below) are recommended.

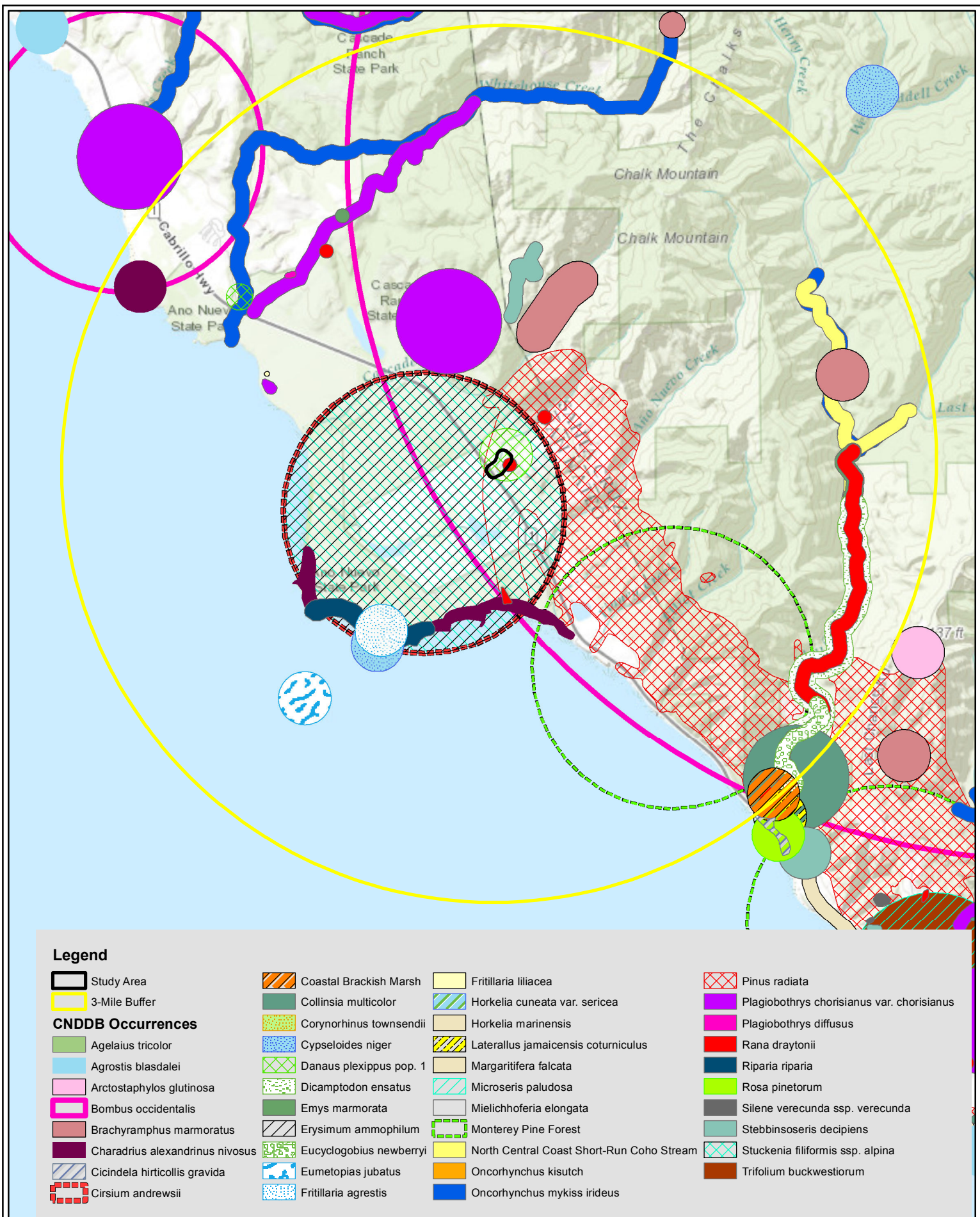


Figure 3. CNDDDB map of special-status species in the study area region.

Data Source: CDFW (2016)

Mapscale: 1:55,000

0 0.25 0.5 1 1.5 2 Miles



Monterey Pine

Monterey pine is a perennial evergreen tree in the Pinaceae family. Though widely planted and naturalized, there are only three native stands in California: Ano Nuevo, Cambria, and the Monterey Peninsula (CNPS 2016). The species is not listed as threatened or endangered under the state or federal Endangered Species Acts, but has a California Native Plant Society (CNPS) Rare Plant Rank of 1B.1 (plants rare, threatened, and endangered in California and elsewhere/seriously endangered in California). It typically occurs in closed-cone coniferous forest and cismontane woodland between 80 and 600 feet elevation (CNPS 2016). It has been documented on the study area in the CNDDDB as part of the larger Ano Nuevo population (Figure 3; CDFW 2016). During the reconnaissance field visits, seven small stands or individual trees were observed on the study area, outside of the project site, primarily along Green Oaks Creek, with additional individuals in the northeastern portion of the study area near the sag pond (Figure 2; Appendix B-2).

According to Section 7.42 of the LCP:

“Prevent any development on or within 50 feet of any rare plant population. When no feasible alternative exists, permit development if: (1) the site or a significant portion thereof is returned to a natural state to allow for the reestablishment of the plant, or (2) a new site is made available for the plant to inhabit.”

Though no “development” is proposed on the project site, a 50-foot buffer was applied around Monterey pine occurrences on the study area as per LCP guidelines (Figure 4). No impacts to Monterey pine on the study area are anticipated from event parking because: (1) parking occurs in Developed/Ruderal habitat; (2) buffers are recommended around existing trees, and (3) Mitigation Measures in Section 5.0 provide recommendations for habitat protection and enhancement around existing trees.

4.2 Special-status Wildlife

Forty-two special-status wildlife species were analyzed for their potential occurrence on the project site and surrounding study area because they: (1) occur in habitats present in the general vicinity of the study area, and (2) have ranges that include western San Mateo County (Appendix A). A search of the CNDDDB GIS database found documented occurrences of two special-status wildlife species on the study area: monarch butterfly (*Danaus plexippus*) and California red-legged frog (*Rana draytonii*) (Figure 3). The study area is located within designated critical habitat for one federally-listed wildlife species: California red-legged frog (USFWS 2016c).

In addition to documented occurrences of monarch butterfly winter roosting habitat and California red-legged frog on the study area, one additional special-status species was observed on the study area during the October 2016 field visits: San Francisco dusky-footed woodrat (Figure 2; Appendix B-5). At least eight other special-status wildlife species, though not observed during the reconnaissance field visits, could occur on the study area due to the presence of suitable habitat: Santa Cruz black salamander (*Aneides niger*), western pond turtle (*Emys marmorata*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), Allen's hummingbird (*Selasphorus sasin*), Nuttall's woodpecker (*Picoides nuttallii*), olive-sided flycatcher (*Contopus cooperi*), oak titmouse (*Baeolophus inornatus*), and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*). The San Francisco garter snake is state and federally-endangered, and also designated as a state “fully-protected” species. In addition, trees, shrubs, and herbaceous vegetation on the study area provide nesting habitat for other native bird species protected under the Migratory Bird Treaty Act (MBTA) and state Fish and Game Code. These species are discussed below.



Figure 4. Sensitive habitats and buffers on the study area.

The remaining special-status wildlife species analyzed are considered absent or to have a low potential to inhabit the project site or study area, and it is therefore unlikely they would be adversely impacted by event parking (Appendix A). These species are not discussed further.

Monarch Butterfly (*Danaus plexippus*) Federal Status: None; State Status: Roost Sites Sensitive

Monarch butterflies overwinter in two main regions in North America: central Mexico and coastal California. The California coast is a major area of winter aggregation for monarchs residing west of the Rocky Mountains, and monarchs generally begin arriving in mid-October and stay through March (Oberhauser and Solenksy 2004). In California, monarchs roost in ~15 different species of trees during the winter, but three species account for most of the roost sites: blue gum eucalyptus (*Eucalyptus globulus*), Monterey pine, and Monterey cypress (Oberhauser and Solenksy 2004). Factors important to monarchs during overwintering include moderate temperatures, access to moisture and nectar, protection from strong winds, and cool temperatures and filtered sunlight at the roost site (CDFW 2016; Oberhauser and Solenksy 2004). The monarch butterfly is not listed (e.g., threatened or endangered) by federal or state regulatory agencies (though it has been petitioned for listing under the federal Endangered Species Act), but its winter roost sites are considered sensitive habitats by CDFW, and adverse impacts to sensitive habitat may be considered significant under CEQA.

A documented monarch butterfly winter roost site is present on the study area (Figure 3), in Monterey pine and Douglas-fir along Green Oaks Creek, as well as blue gum eucalyptus along Green Oaks Way, just east of the study area (CDFW 2016). Impacts to monarch butterfly winter roosting habitat are not anticipated from event parking because: (1) the annual farm dinner, the largest event on the project site, takes place annually in early-mid September, and monarchs typically don't arrive to the area until mid-October (Oberhauser and Solenksy 2004); (2) parking for the open farm day potluck and barn dance, which occurs once per month throughout the year, occurs along Green Oaks Way, away from monarch habitat along Green Oaks Creek; and (3) fencing and habitat enhancement proposed in this report will provide a buffer to existing monarch butterfly habitat along the creek (Figure 4), as well as areas for natural recruitment of Monterey pine and Douglas-fir, where monarch butterflies have been observed roosting (CDFW 2016). Therefore, with the incorporation of Mitigation Measures in Section 5.0, no significant adverse impacts to monarch butterfly roosting habitat on the study area are anticipated from event parking.

Santa Cruz Black Salamander (*Aneides flavipunctatus niger*), Federal Status: None; State Status: Species of Special Concern

The Santa Cruz black salamander occurs in moist microhabitats in a variety of vegetation communities including deciduous woodlands, coniferous forests, open oak woodlands and meadows. The subspecies *niger* is isolated and occupies a limited range in Santa Cruz, Santa Clara and San Mateo counties. Recent genetic analysis indicates that four separate lineages are present in California, and that the southern disjunct lineage (*niger*) should be considered a separate species (Rissler and Apodaca 2007). The Santa Cruz black salamander is designated as a state Species of Special Concern.

Santa Cruz black salamanders have been found in San Mateo County on lands managed by the Midpeninsula Open Space District (M. Westphal, pers. comm.). In Santa Cruz County, the species is known from U. C. Santa Cruz, Corralitos Creek and a variety of locations in the south portion of the county (C. Lay, C. Steiner, pers. comm.; Allaback and Laabs, pers. obs.). Portions of the study area, including Central Coast Riparian Scrub, could provide habitat for the species. It is only expected to be active on rainy nights. Mitigation Measures in Section 5.0 for fencing and habitat enhancement will provide buffering of existing habitat for the species, and no significant adverse impacts to the species

from event parking are anticipated with the incorporation of these measures.

California Red-legged Frog (*Rana draytonii*), Federal Status: Threatened; State Status: Species of Special Concern

The California red-legged frog (CRLF) is a large (85-138 mm), nocturnal species that historically occupied much of central and southern California. The species requires still or slow-moving water during the breeding season, where it deposits large egg masses, usually attached to submerged or emergent vegetation. Breeding typically occurs between December and April, depending on annual environmental conditions and locality. Eggs require 6 to 12 days before hatching and metamorphosis occurs 3.5 to 7 months after hatching (Stebbins 2003). Following metamorphosis between July and September, juveniles generally do not travel far from aquatic habitats. Movements of individuals generally begin with the first rains of the weather-year, in response to receding water or following the breeding season (Fellers and Kleeman 2007). Radio-telemetry data indicates that individuals generally engage in straight-line movements irrespective of riparian corridors and can move up to two miles (Bulger, et al. 2003; Fellers and Kleeman 2007). California red-legged frogs utilize a variety of water sources during the non-breeding season, and females are more likely than males to depart from perennial ponds shortly after depositing eggs (Fellers and Kleeman 2007). They may take refuge in small mammal burrows, leaf litter or other moist areas during periods of inactivity or whenever it is necessary to avoid desiccation (Rathbun et al. 1993; Jennings and Hayes 1994). Occurrence of this frog has shown to be negatively correlated with presence of introduced bullfrogs (Moyle 1973; Hayes and Jennings 1986, 1988), but both species coexist at some locations, particularly along the coast. Genetic studies indicate that the nominal subspecies *draytonii* and *aurora* represent separate lineages and are therefore distinct species (Shaffer, et al. 2004).

The study area is located within designated Critical Habitat for CRLF (USFWS 2016c), and CRLF has been documented in the sag pond in the northeastern portion of the study area (CDFW 2016). The 1999 record included a report of a calling CRLF, which suggests breeding activity, although the observation does not appear to have been made during the breeding season (CDFW 2016). Most of the project site does not provide upland habitat for CRLF although the species is expected to pass through during dispersal events, and the Central Coast Riparian Scrub provides foraging and sheltering habitat, especially when standing water is present. The man-made basin provides suitable habitat, and if it holds water through August it may provide breeding habitat. Buffers are recommended around CRLF habitat, including the man-made basin, sag pond, and Central Coast Riparian Scrub (Figure 4). Mitigation measures to address potential impacts to CRLF, including protocol-level surveys for the species, are included in Section 5.0.

Western Pond Turtle (*Emys marmorata*), Federal Status: None; State Status: Species of Special Concern.

The western pond turtle (WPT) ranges from western Washington to northern Baja California, mostly west of the Sierra Nevada-Cascade crest (Stebbins 2003; Ernst et al. 1994). It inhabits permanent freshwater ponds, lakes, marshes, streams and rivers (Bury and Holland 1993). Pond turtles favor sites with deep pools and with an abundance of basking sites, such as partially submerged logs or rocks, matted emergent vegetation or exposed shorelines. Undercut banks, root masses and boulder piles provide underwater escape cover (Bury and Holland 1993). Western pond turtles can move across terrestrial habitats in response to fluctuating water level, an apparent adaptation to the variable rainfall and unpredictable flows that occur in many coastal California drainage basins (Rathbun et al. 1992). In addition, they can over-winter on land or in water or remain active in the winter, depending on environmental conditions (Rathbun et al. 1993; Jennings and Hayes 1994). Females travel from aquatic sites into open, grassy areas to lay eggs in a shallow nest (Holland 1992; Rathbun et al. 1992).

Nests have been reported from up to 500 meters from water bodies (Jenning and Hayes 1994). During dispersal, pond turtles can move up to two kilometers in search of suitable habitat and can tolerate a minimum of seven days without water (Jennings and Hayes 1994).

Marginal aquatic habitat for the species is present in the man-made basin and sag pond, and disturbed grassland provides marginal nesting habitat for known populations in the region. Mitigation Measures in Section 5.0 for fencing and habitat enhancement will provide buffering of existing habitat for the species, and no significant adverse impacts to the species from event parking are anticipated with the incorporation of these measures.

San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*), Federal Status: Endangered; State Status: Endangered, Fully Protected

The San Francisco garter snake (SFGS) is found only on the San Francisco peninsula in San Mateo County and the northern portion of Santa Cruz County (Barry 1978; Brode 1990; USFWS 2006). It is an extremely colorful snake with a bright orange-red head, blue belly, greenish-yellow dorsal stripe and red and black stripes along either side. It grows to a length of three to four feet (Stebbins 2003). It occupies freshwater marshes, ponds, sloughs, and associated riparian corridors, especially where dense shoreline vegetation is present. It also uses a variety of upland habitats including grassland, woodland and coastal scrub in proximity to these aquatic habitats. During the fall and winter, it stays relatively inactive underground in rodent burrows, up to at least 150 meters from aquatic habitat (McGinnis, et al. 1987). During the spring and summer, it occupies dense vegetation near ponds or marshes and adjacent scrub and open upland habitat for temperature regulation and cover. Females produce between 12 and 24 live young in July or August. Adults feed primarily on larger frogs including red-legged frogs, but may also take fish, salamanders, newts and earthworms. Pacific treefrogs appear to be an important part of the diet of young snakes (Larsen 1994). It is rarely seen but can sometimes be observed near the water's edge, basking on warm days, or when it retreats to water. Much of the range of the SFGS lies within a heavily urbanized area, and alteration and isolation of habitats has been identified as the primary threat to the subspecies (Brode 1990). Agricultural development, overgrazing and illegal collecting have also been implicated in its decline.

There are no documented occurrences of SFGS on the study area, but numerous documented occurrences within three miles of the study area⁶, including three occurrences within ~one mile of the study area in the vicinity of Ano Nuevo State Park (CDFW 2016). Potential habitat is present on the project site and study area. Individuals may disperse through the site, and if the man-made basin or nearby sag pond provides breeding habitat for CRLF, a primary prey item, the SFGS is likely to be present. Buffers are recommended around the man-made basin and Central Coast Riparian scrub (Figure 4), and additional Mitigation Measures to address potential impacts to SFGS are included in Section 5.0.

Allen's Hummingbird (*Selasphorus sasin*), Federal Status: Bird of Conservation Concern, State Status: None.

Allen's hummingbird breeds in a narrow band along the coast of California and southern Oregon and winters from Central California south through Baja and Central Mexico. Nesting habitat in the San Francisco Bay region includes mixed evergreen forest, redwood forests, riparian woodland, nonnative eucalyptus and cypress groves, and occasionally live oak woodlands and coastal scrub with scattered trees (Mitchell 2000). In addition to nectar, insects are taken, especially spiders. Allen's hummingbird is an extremely early migrant, and arrives on nesting grounds in January and February (Mitchell

⁶ SFGS records are suppressed in the CNDDDB, and are therefore not included in Figure 3.

2000). Males engage in a distinct J-shaped flight pattern when courting females. Nests are often clustered and semi-colonial. Females typically produce two broods. The species was recently added to the federal Birds of Conservation Concern primarily due to its restricted breeding range.

Allen's hummingbird is considered to be a regular and common breeder in coastal San Mateo County (Sequoia Audubon Society 2001; Metropulos 2006). Potential nesting habitat is available for the species in Central Coast Riparian Scrub. Due to nesting habitat buffers, no significant adverse impacts to nesting birds are anticipated from event parking, and the Mitigation Measures in Section 5.0 are expected to improve the existing habitat.

Nuttall's Woodpecker (*Picoides nuttallii*), Federal Status: Bird of Conservation Concern, State Status: None.

Nuttall's woodpecker ranges from extreme northern Baja to northern California west of the deserts and the Sierra Nevada divide. It is typically associated with oak woodlands, but will also occur in riparian woodlands and chaparral areas (Lowther 2000). It feeds primarily on insects it gleans from the underside of leaves in trees and on the ground, and also eats some vegetation. It often nests in snags along riparian areas. Males perform most of the incubation. Pairs remain on territories all year round. The species was recently added to the federal Birds of Conservation Concern primarily due to its restricted breeding range.

Potential nesting habitat is available for Nuttall's woodpecker in Central Coast Riparian Scrub. Due to nesting habitat buffers, no significant adverse impacts to nesting birds are anticipated from event parking, and the Mitigation Measures in Section 5.0 are expected to improve the existing habitat.

Olive-sided Flycatcher (*Contopus cooperi*), Federal Status: None, State Status: Species of Special Concern.

The olive-sided flycatcher nests throughout much of Canada and the western United States and winters in South America (Altman et al. 2000). It inhabits woodland and forest habitats generally near edges and openings. It prefers coniferous trees but the species also uses eucalyptus forest near the coast (Shuford 1993; Widdowson 2008). The species is quite vociferous and is often seen calling from the tops of prominent trees. It feeds on insects, especially bees and wasps, and builds a cup nest well away from the trunk of trees (Widdowson 2008). The species may depend on forest fires and other natural or man-made disturbances to create a habitat mosaic with edges and openings (Widdowson 2008). The olive-sided flycatcher is designated as a Species of Special Concern by CDFW and a Bird of Conservation Concern by USFWS.

Olive-sided flycatcher has been observed at Pie Ranch (eBird 2016). Potential nesting habitat for the olive-sided flycatcher is present in or near the study area. Due to nesting habitat buffers, no significant adverse impacts to nesting birds are anticipated from event parking, and the Mitigation Measures in Section 5.0 are expected to improve the existing habitat.

Oak Titmouse (*Baeolophus inornatus*), Federal Status: Bird of Conservation Concern, State Status: None.

The oak titmouse ranges from extreme northern Baja California through California (Coast, Transverse, and Peninsular Ranges and western foothills of Sierra Nevada) into southwest Oregon (Cicero 2000). It inhabits open woodland habitats, including oak woodland, oak-pine woodlands, and pinyon-juniper woodlands (Cicero 2000). It feeds primarily on seeds and terrestrial invertebrates, while plant material makes up most of its diet in the fall and winter. Oak titmouse is not migratory

and remains territorial all year round. It nests in woodpecker or natural cavities and will use artificial nest boxes. Mates typically remain together from year to year. The species was recently added to the federal Birds of Conservation Concern primarily due to its restricted breeding range.

Potential nesting habitat for oak titmouse is available in Central Coast Riparian Scrub on the study area. The species is a common breeder in San Mateo County (Sequoia Audubon Society 2001). Due to nesting habitat buffers, no significant adverse impacts to nesting birds are anticipated from event parking, and the Mitigation Measures in Section 5.0 are expected to improve the existing habitat.

Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*), Federal Status: Bird of Conservation Concern, State Status: Species of Special Concern.

The saltmarsh common yellowthroat (= San Francisco common yellowthroat) occurs in fresh and saltwater marshes in the San Francisco Bay Area, and along the coast from Marin through San Mateo Counties (Gardali and Evens 2008). It inhabits salt, brackish and fresh water marshes, as well as riparian corridors and canals with appropriate vegetation. It requires thick, continuous cover down to the water surface for foraging. It nests in emergent vegetation on or near the ground or just above the water (Dunn and Garrett 1997; Gardali and Evens 2008). In the winter, it spreads out into the coastal marshes from San Francisco south to San Diego. The subspecies has declined as wetlands throughout its range have been drained and rivers channelized (Dunn and Garrett 1997). The entire population was estimated at fewer than 200 pairs in the 1970s but in the 1980s 500 pairs were reported and more recently the estimate ranges from 1000-2000 individuals (Remson 1978; Gardali and Evens 2008).

Saltmarsh common yellowthroats regularly reported from the vicinity of the study area and is considered to be relatively common in appropriate habitat along the San Mateo Coast (Sequoia Audubon Society 2001; eBird 2016). Potential habitat is present at the manmade pond and offsite sag pond. Due to nesting habitat buffers, no significant adverse impacts to nesting birds are anticipated from event parking, and the Mitigation Measures in Section 5.0 are expected to improve the existing habitat.

Other Nesting Native Bird Species

Suitable nesting habitat for other, non-listed bird species protected under the MBTA and Fish and Game Code occurs in trees, shrubs, and herbaceous vegetation on the project site and surrounding study area. The MBTA regulates or prohibits taking, killing, and possession of migratory bird species and their nests as listed in Title 50 Code of Federal Regulation (CFR) Section 10.13. Bird species and their nests are also protected under Sections 3515 and 3503 of the state Fish and Game Code.

Direct impacts to avian nesting habitat for species discussed above, as well as non-listed bird species protected under the MBTA and Fish and Game Code, are not anticipated from event parking because: (1) event parking occurs in Developed/Ruderal habitat and no vegetation removal is proposed; (2) event parking for the September annual farm dinner occurs outside the February 1 to August 31 avian nesting season, and therefore no nesting activity will be occurring at this time; (3) for the open farm day potluck and barn dance, which occurs throughout the year, any potential adverse impacts to nesting bird species are unlikely because parking will occur along Green Oaks Way, which occurs away from nesting habitat and is frequently travelled by vehicles; and (4) fencing and habitat enhancement along Green Oaks Creek, the most significant nesting habitat on the study area, will result in increases in native vegetation adjacent to the riparian corridor and habitat buffers from human disturbance. Therefore with the incorporation of Mitigation Measures in Section 5.0, no significant adverse impacts to nesting birds are anticipated from event parking, and no additional mitigation measures specific to nesting birds are included in this report.

San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*), Federal Status: None; State Status: Species of Special Concern.

The San Francisco dusky-footed woodrat (SFDW) occurs from San Francisco Bay south through the Santa Cruz Mountains to Elkhorn Slough and inland to the Diablo Range (Hall 1981). The species is most common in riparian, oak woodland and scrub habitats (Carraway and Verts 1991). It typically constructs houses, which are often referred to as nests or middens, out of sticks and other debris. They are constructed on the ground, in rocky outcrops or in trees and are often found in concentrations along riparian corridors. The species can also live in hollows in logs or trees and colonize man-made structures that provide appropriate protection from predators. Houses are often reused by successive generations and some can grow to be six feet or more in height, while others are well-hidden and easily overlooked. Houses are used for rearing young, protection from predators, resting, food storage, thermal protection and social interaction (Carraway and Verts 1991).

Nine SFDW houses were observed on the study area, outside of the project site (Figure 2; Appendix B-5), and more are expected in suitable habitat where dense vegetation is present. SFDW houses were observed in Central Coast Riparian Scrub and Coyote Brush Scrub supporting a dense understory of shrubs, including California blackberry, poison oak, and stinging nettle. No SFDW houses were observed in areas lacking suitable ground cover. No direct impacts to SFDW houses are anticipated from event parking because the project site consists of Developed/Ruderal habitat and lacks suitable cover for SFDW. In addition, the Mitigation Measures in Section 5.0 for fencing and habitat enhancement will provide buffering of existing habitat, as well as an increase in ground cover suitable for colonization of SFDW, resulting in habitat enhancement for SFDW on the study area compared to what currently exists.

4.3 Wetland and Riparian Areas

The creek and associated Central Coast Riparian Scrub on the study area meet the LCP definition of “Riparian Corridor” (Figure 2)).

According to Section 7.11(a) of the LCP: “On both sides of riparian corridors, from the ‘limit of riparian vegetation’, extend buffer zones 50 feet outward for perennial streams and 30 feet outward for intermittent streams.” The creek was dry at the time of the October 2016 field visits, and has dried up the past several years (Jered Lawson pers. comm. 2016), though had water in September 2011. Therefore, the creek likely dries up most years, including in 2016, and is considered in this report to be intermittent, and a 30-foot riparian buffer from the ‘limit of riparian vegetation’ would apply (Figure 4).

Section 7.12 of the LCP Identifies the Permitted Uses in Riparian Buffer Zones: “Within buffer zones, permit only the following uses: (1) uses permitted in riparian corridors; (2) residential uses on existing legal building sites, set back 20 feet from the limit of riparian vegetation, only if no feasible alternative exists, and only if no other building site on the parcel exists; (3) on parcels designated on the LCP Land Use Plan Map: Agriculture, Open Space, or Timber Production, residential structures or impervious surfaces only if no feasible alternative exists; (4) crop growing and grazing consistent with Policy 7.9; (5) timbering in “streamside corridors” as defined and controlled by State and County regulations for timber harvesting; and (6) no new residential parcels shall be created whose only building site is in the buffer area.”

Section 7.13 of the LCP identifies Performance Standards in Riparian Buffer Zones: “Require uses permitted in buffer zones to: (1) minimize removal of vegetation; (2) conform to natural topography to minimize erosion potential; (3) make provisions (i.e., catch basins) to keep runoff and

sedimentation from exceeding pre-development levels; (4) replant where appropriate with native and noninvasive exotics; (5) prevent discharge of toxic substances, such as fertilizers and pesticides; into the riparian corridor; (6) remove vegetation in or adjacent to man-made agricultural ponds if the life of the pond is endangered; (7) allow dredging in or adjacent to man-made ponds if the San Mateo County Resource Conservation District certified that siltation imperils continued use of the pond for agricultural water storage and supply; and (8) limit the sound emitted from motorized machinery to be kept to less than 45-dBA at any riparian buffer zone boundary except for farm machinery and motorboats.”

A 30-foot riparian buffer was applied around Central Coast Riparian Scrub (included in the Sensitive Habitat Buffer in Figure 4, which includes a 30-foot riparian buffer, a 50-foot buffer around Monterey pine and the man-made basin, and a 100-foot buffer around Freshwater Wetland habitat). If feasible, event parking should take place outside of the Sensitive Habitat Buffer, but parking within a portion of this buffer could be acceptable if no feasible alternative exists and meets the performance standards outlined in Section 7.13 of the LCP above. Mitigation Measures for fencing and habitat enhancement discussed in Section 5.0 will provide buffering around sensitive habitats, and a reduced buffer in some areas could occur without impacts to sensitive habitats (Figure 4), but the County would need to make a determination about the conformance of the project with the LCP in relation to riparian buffer zones.

Sag Pond

A sag pond is present in the northeastern portion of the study area, and was mapped as Freshwater Pond in the NWI (USFWS 2016a). The sag pond was delineated based on aerial photograph interpretation and the NWI, but was not visited on foot because it is located off the Pie Ranch property.

According to Section 7.18 of the LCP: *“Buffer zones shall extend a minimum of 100 feet landward from the outermost line of wetland vegetation. This setback may be reduced to no less than 50 feet only where: (1) no alternative development site or design is possible; and (2) adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County and the State Department of Fish and Game. A larger setback shall be required as necessary to maintain the functional capacity of the wetland ecosystem.”*

According to Section 7.19 of the LCP: *“Within buffer zones, permit the following uses only: (1) uses allowed within wetlands (Policy 7.16) and (2) public trails, scenic overlooks, and agricultural uses that produce no impact on the adjacent wetlands.”*

A 100-foot buffer was included around the sag pond (incorporated into the Sensitive Habitat Buffer in Figure 4). The buffer zone extends onto a small portion of the project site along Green Oaks Way, and this area is already disturbed by an existing, well-used dirt road and fence between the road and sag pond. Due to the existing disturbed nature of this area (Green Oaks Way) and the wetland buffer, no adverse wetland impacts are anticipated from event parking on the project site.

Man-Made Basin

A man-made basin, apparently excavated decades ago as a detention basin for dairy wastewater, is present on the project site (Figure 2). The basin contains riparian and wetland vegetation, including arroyo willow and California tule, and likely holds water or remains surface saturated during the rainy season, though no surface water was observed during the survey. Vegetation in the basin meets the

LCP wetland and riparian definition.

According to Section 7.11 (c) of the LCP: “Along lakes, ponds, and other wet areas, extend buffer zone 100 feet from the high water point except for man-made ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.” Since the basin is a man-made feature used in the past for agricultural purposes, a 100-foot buffer would not be required, but a 50-foot buffer (incorporated into the Sensitive Habitat Buffer in Figure 4) was applied because the pond could potentially support CRLF, SFGS, and other special-status wildlife species, and the buffer allows for a movement corridor between the sag pond, the man-made basin, and Green Oaks Creek.

Roadside Swale

The roadside swale is a man-made, excavated for roadside drainage, and lacks a defined bed, bank, and Ordinary High Water Mark, but likely conveys water for brief periods during the rainy season, draining eventually into Green Oaks Creek, off of the study area. Most of the swale is dominated by upland vegetation or bare ground, and does not likely meet the LCP wetland definition, and could also potentially be exempt from regulatory jurisdiction because it is a man-made swale dug in uplands. However, if impacts are proposed to the ditch, the regulatory agencies would need to make a final determination regarding its jurisdictional status. Since no impacts to the swale will occur from event parking, no further recommendations for this feature are included in this report.

5.0 POTENTIAL BIOLOGICAL IMPACTS AND PROPOSED MITIGATION MEASURES

The project site covers ~1.7-acres and includes event parking for the annual farm dinner in September and the open farm day potluck and barn dance, which occurs one per month throughout the year. Potential areas for parking, which would either fall outside Sensitive Habitat Buffers, or which encroach into these buffers but, due to habitat conditions and Mitigation Measures for fencing and habitat enhancement, would not result in any significant adverse impacts to these habitats, are included in Figure 4⁷. Potential significant adverse biological impacts that may result from event parking, and corresponding mitigation measures to reduce potential impacts to less-than significant-levels, are discussed below.

Potential Significant Impact 1: Sensitive habitats, including Central Coast Riparian Scrub, Freshwater Wetland, and Monterey pine are present on the study area. These habitats could also support special-status species, including monarch butterfly, CRLF, WPT, SFGS, SFDW, Santa Cruz black salamander, and nesting birds. Event parking could result in direct or indirect impacts if vehicles encroach into these habitats, potentially resulting in vegetation destruction, noise and other disturbance, compacted soils, and/or soil erosion.

Mitigation Measure 1a: Parking shall be limited to areas that will not directly or indirectly impact sensitive habitats. No-disturbance buffers shall be included around these habitats (Figure 4). Parking for the open farm day potluck and barn dance, occurring throughout the year, shall be limited to Green Oaks Way, or areas along Highway 1, outside of the Sensitive Habitat Buffer. During parking events, vehicles shall be restricted to existing roads and designated parking areas, and cones, temporary fencing, or other barriers shall be erected on the project site to direct parking into designated areas and prevent encroachment of vehicles into sensitive habitats or buffers.

⁷ Potential parking areas shown in Figure 4 are based solely on their biological feasibility as discussed in this report. The feasibility of these areas for parking based on traffic, County regulations, and other non-biological factors would need to be determined by a traffic engineer or other specialist.

Mitigation Measure 1b: To enhance habitat on the project site for special-status plants and wildlife, debris, litter, and piles of sediment shall be removed from disturbed areas adjacent to Central Coast Riparian Scrub in areas proposed for fencing (all work shall take place outside of the riparian dripline, unless a Streambed Alteration Agreement, or confirmation that one is not required, is obtained from CDFW). After material is removed, to provide temporary ground cover and prevent weed colonization, the disturbed area shall be seeded or planted with native species appropriate to the habitat. A split-rail fence (or other barrier that does not inhibit the movement of wildlife) shall be installed adjacent to Central Coast Riparian Scrub, at least ten feet outside of the riparian drip-line, in several areas (Figure 4) in order to prohibit parking and other disturbance in this area, allow the area to revegetate naturally, and provide habitat and/or buffer for Monterey pine, monarch butterfly, CRLF, SFGS, SFDW, and nesting bird species. Educational signage shall be included on fencing indicating the presence of sensitive habitats, and importance of avoiding disturbance.

Mitigation Measure 1c: Erosion control measures and other Best Management Practices (BMP's) shall be installed on the project site, as appropriate, to ensure that sediment, debris, and material from event parking does not enter Green Oaks Creek, as per Performance Standards in Riparian Buffer Zones described in Section 7.13 of the LCP.

Potential Significant Impact 2: Two species listed as threatened or endangered under the federal and/or state Endangered Species Acts, CRLF and SFGS, could potentially occur on the study area. If CRLF are breeding on the study area, it greatly increases the likelihood that CRLF will be dispersing across the area and SFGS are present, increasing the likelihood of mortality by vehicle movement during event parking. Any unauthorized take of CRLF and/or SFGS from event parking would violate the federal and/or state Endangered Species Acts.

Mitigation Measure 2: Protocol-level surveys for CRLF shall be conducted in the man-made basin and, if access is granted, in the sag pond to determine if CRLF are breeding on the study area. Current protocol requires up to eight surveys timed during the CRLF breeding and summer seasons (USFWS 2005). Mitigation Measures 1a-1c are intended to reduce the likelihood of impacts to CRLF and/or SFGS and other species from event parking. However, based on the results of the protocol-level surveys for CRLF, additional measures may be required to avoid take of these species, including consultation with regulatory agencies, additional parking restrictions, or other measures.

The conclusions of this biotic assessment reflect conditions observed at the time of the field visit and the biologist's interpretation of those conditions. Government regulatory agencies make the final determination regarding biological resource issues on the project site, and this report should be sent to the appropriate agencies for review. This report does not constitute an authorization to conduct the project.

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Appendix A. Special-status species documented to occur in the study area region

List compiled from searches of the CNDDDB (CDFW 2016a), CNPS (2016), and USFWS (2016b) records for the Franklin Point, San Gregorio, La Honda, Mindego Hill, Pigeon Point, Big Basin, Ano Nuevo, and Davenport 7.5' USGS quadrangles, CDFW Special Animals List (2015), and other publications (e.g., Zeiner et al. 1988, 1990a).

Species	Status	Typical Habitat	Habitat Assessment of Project Site and Study Area
PLANTS			
<i>Agrostis blasdalei</i> Blasdale's bent grass	1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, 5-150 m. Blooms May-July.	No suitable habitat on project site or study area. Not expected to occur.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland, 3-500 m. Blooms March-June.	No suitable habitat on project site or study area. Not expected to occur.
<i>Arctostaphylos andersonii</i> Santa Cruz manzanita	1B.2	Broadleafed upland forest, chaparral, North Coast coniferous forest (openings, edges), 60-730 m. Blooms November-May.	No <i>Arctostaphylos</i> observed on the study area. Not expected to occur.
<i>Arctostaphylos glutinosa</i> Schreiber's manzanita	1B.2	Closed-cone coniferous forest, chaparral (diatomaceous shale), 170-685 m. Blooms November-April.	No <i>Arctostaphylos</i> observed on the study area. Not expected to occur.
<i>Arctostaphylos ohloneana</i> Ohlone manzanita	1B.1	Closed-cone coniferous forest, coastal scrub (siliceous shale), 450-530 m. Blooms February-March.	No <i>Arctostaphylos</i> observed on the study area. Not expected to occur.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	1B.2	Broadleafed upland forest, chaparral, North Coast coniferous forest, 305-730 m. Blooms January-April.	No <i>Arctostaphylos</i> observed on the study area. Not expected to occur.
<i>Arctostaphylos silvicola</i> Bonny Doon manzanita	1B.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest (inland marine sands), 120-600 m. Blooms January-March.	No <i>Arctostaphylos</i> observed on the study area. Not expected to occur.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	1B.2	Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt, streamsides), 0-30 m. Blooms April-October.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>California macrophylla</i> round-leaved filaree	1B.1	Cismontane woodland, valley and foothill grassland (heavy clay), 15-1,200 m. Blooms March-May.	No suitable habitat on project site or study area. Not expected to occur.
<i>Calyptridium parryi</i> var. <i>hesseae</i> Santa Cruz Mountains pussypaws	1B.1	Chaparral, cismontane woodland (sandy or gravelly, openings), 305-1,530 m. Blooms May-August.	No suitable habitat on project site or study area. Out of elevational range. Not expected to occur.
<i>Chorizanthe pungens</i> var. <i>hartwegiana</i> Ben Lomond spineflower	FE, 1B.1	Lower montane coniferous forest (maritime ponderosa pine sandhills), 90-610. Blooms April-July	No suitable habitat on project site or study area. Not expected to occur.
<i>Cirsium andrewsii</i> Franciscan thistle	1B.2	Broadleafed upland forest, coastal bluff scrub, coastal prairie (sometimes serpentinite seeps), 0-150	No suitable habitat on project site. Potential suitable habitat in Coyote Brush Scrub on

Species	Status	Typical Habitat	Habitat Assessment of Project Site and Study Area
		m. Blooms March-July.	surrounding study area, but no project impacts anticipated. Unverified historic occurrence at Ano Nuevo (CDFW 2016).
<i>Collinsia multicolor</i> San Francisco collinsia	1B.2	Closed-cone coniferous forest, coastal scrub (sometimes serpentinite), 30-250 m. Blooms March-May.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Dirca occidentalis</i> western leatherwood	1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest and woodland. Usually on brushy slopes, mesic sites in mixed evergreen and foothill woodland communities, 25-425 m. Deciduous shrub, blooms January-April.	Suitable habitat present in Central Coast Riparian Scrub, but species not observed and no project impacts to this habitat anticipated.
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	FE, SE, 1B.1	Cismontane woodland (often serpentinite, on roadcuts), 45-150 m. Blooms May-June.	No suitable habitat on project site or study area. Not expected to occur.
<i>Erysimum amophilum</i> sand-loving wallflower	1B.2	Chaparral (maritime), coastal dunes, coastal scrub (sandy, openings), 0-60 m. Blooms February-June.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Erysimum teretifolium</i> Santa Cruz wallflower	FE, SE, 1B.1	Chaparral, lower montane coniferous forest (inland marine sands), 120-610 m. Blooms March-July.	No suitable habitat on project site or study area. Not expected to occur.
<i>Fissidens pauperculus</i> minute pocket moss	1B.2	North Coast coniferous forest (damp coastal soil), 10-1,024 m.	No suitable habitat on project site or study area. Not expected to occur.
<i>Fritillaria agrestis</i> stinkbells	4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland (clay, sometimes serpentinite), 10-1,555 m. Blooms March-June.	No suitable habitat on project site or study area. Not expected to occur.
<i>Fritillaria liliacea</i> fragrant fritillary	1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland (often serpentinite), 3-410 m. Blooms February-April.	No suitable habitat on project site or study area. Not expected to occur.
<i>Hesperexax sparsiflora</i> var. <i>brevifolia</i> short-leaved exax	1B.2	Coastal bluff scrub (sandy), coastal dunes, coastal prairie, 0-215 m. Blooms March-June.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Hesperocyparis abramsiana</i> var. <i>abramsiana</i> Santa Cruz cypress	FE, SE, 1B.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest (sandstone or granitic), 280-800 m.	No suitable habitat on project site or study area. Not observed. Out of elevational range. Not expected to occur.
<i>Hesperocyparis abramsiana</i> var. <i>butanoensis</i> Butano Ridge cypress	FT, SE, 1B.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest (sandstone), 400-490 m.	No suitable habitat on project site or study area. Not observed. Out of elevational range. Not expected to occur.
<i>Horkelia cuneata</i> subsp. <i>sericea</i>	1B.1	Closed-cone coniferous forest, chaparral, coastal	No suitable habitat on project site. Potential

Species	Status	Typical Habitat	Habitat Assessment of Project Site and Study Area
Kellogg's horkelia		dunes, old sand hills, coastal scrub (sandy or gravelly openings), 10-200 m. Blooms April-September.	marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Horkelia marinensis</i> Point Reyes horkelia	1B.2	Coastal dunes, coastal prairie, coastal scrub (sandy), 5-350 m. Blooms May-September.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Lasthenia californica</i> ssp. <i>macrantha</i> perennial goldfields	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, 5-520 m. Blooms January-November.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Legenere limosa</i> legenere	1B.1	Vernal pools, 1-880 m. Blooms April-June.	No suitable habitat on project site or study area. Not expected to occur.
<i>Leptosiphon rosaceus</i> rose linanthus	1B.1	Coastal bluff scrub, 0-100 m. Blooms April-July.	No suitable habitat on project site or study area. Not expected to occur.
<i>Limnanthes douglasii</i> subsp. <i>sulphurea</i> Point Reyes meadowfoam	SE, 1B.2	Coastal prairie, meadows and seeps, marshes and swamps (freshwater), vernal pools, 1-140 m. Blooms March-May.	No suitable habitat on project site. Potential marginal habitat in Freshwater Wetland on study area, but no project impacts anticipated.
<i>Malacothamnus arcuatus</i> arcuate bush mallow	1B.2	Chaparral, cismontane woodland, 15-355 m. Blooms April-September.	No suitable habitat on project site or study area. Not expected to occur.
<i>Microseris paludosa</i> marsh microseris	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland (mesic), 5-300 m. Blooms April-June.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Monolopia gracilens</i> woodland woollythreads	1B.2	Broadleafed upland forest and chaparral openings, cismontane woodland, North Coast coniferous forest openings, valley and foothill grassland (serpentine), 100-1,200 m. Blooms March-July.	No suitable habitat on project site or study area. Not expected to occur.
<i>Pedicularis dudleyi</i> Dudley's lousewort	SR, 1B.2	Maritime chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland, 60-900 m. Blooms April-June.	No suitable habitat on project site or study area. Not expected to occur.
<i>Penstemon rattanii</i> var. <i>kleei</i> Santa Cruz Mountains beardtongue	1B.2	Chaparral, lower montane coniferous forest, North Coast coniferous forest, 400-1,100 m. Blooms May-June.	No suitable habitat on project site or study area. Not expected to occur. Out of elevational range.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE, SE, 1B.1	Cismontane woodland, coastal scrub, valley and foothill grassland (often serpentinite), 35-620 m. Blooms March-May.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Pinus radiata</i> Monterey pine	1B.1	Closed-cone coniferous forest, cismontane woodland, 25-185 m.	Present (study area). Observed as individuals or small stands in seven areas on study area.
<i>Piperia candida</i> white-flowered rein orchid	1B.2	Broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest (sometimes serpentinite), 30-1,310 m. Blooms March-September.	No suitable habitat on project site or study area. Not expected to occur.

Species	Status	Typical Habitat	Habitat Assessment of Project Site and Study Area
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcorn-flower	1B.2	Chaparral, coastal prairie, coastal scrub (mesic), 15-100 m. Blooms March-June.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Plagiobothrys diffusus</i> San Francisco popcorn-flower	SE, 1B.1	Coastal prairie, valley and foothill grassland, 60-360 m. Blooms March-June.	No suitable habitat on project site or study area. Not expected to occur.
<i>Senecio aphanactis</i> chaparral ragwort	2B.2	Chaparral, cismontane woodland, coastal scrub (sometimes alkaline), 15-800 m. Blooms January-May.	No suitable habitat on project site or study area. Not expected to occur.
<i>Silene verecunda</i> subsp. <i>verecunda</i> San Francisco campion	1B.2	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland (sandy), 30-645 m. Blooms March-June (sometimes into August).	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland (open areas, sometimes serpentinite), 10-500 m. Blooms April-May.	No suitable habitat on project site. Potential marginal habitat in Coyote Brush Scrub on study area, but no project impacts anticipated.
<i>Stuckenia filiformis</i> subsp. <i>alpina</i> slender-leaved pondweed	2.2	Marshes and swamps (assorted shallow freshwater), 300-2150 m. Blooms May-July.	Potential marginal habitat in Freshwater Wetland on study area, but no project impacts anticipated. Documented occurrence at Ano Nuevo (CDFW 2016).
<i>Trifolium buckwestiorum</i> Santa Cruz clover	1B.1	Broadleafed upland forest, cismontane woodland, coastal prairie (gravelly, margins), 105-610 m. Blooms April-October.	No suitable habitat on project site or study area. Not expected to occur.
WILDLIFE			
Invertebrates			
<i>Danaus plexippus</i> monarch butterfly	Winter roosts sensitive (CDFW)	Winter roost sites extend along the coast from northern Mendocino to Baja. Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Present (study area). Documented winter roost site along Green Oaks Creek in Monterey pine and Douglas-fir, and along Green Oaks Way in blue gum eucalyptus (CDFW 2016).
<i>Trimerotropis infantilis</i> Zayante band-winged grasshopper	FE	Isolated sandstone deposits in the Santa Cruz Mountains (Zayante Sand Hills ecosystem). Mostly on sand parkland habitat but also in areas with well-developed ground cover and sparse chaparral with grass.	No suitable habitat on the project site or study area. Not expected to occur.
Fishes			
<i>Eucyclogobius newberryi</i> tidewater goby	FE, SSC	Inhabits brackish water habitats along the California coast from San Diego to the Smith River. Found in shallow lagoons and lower stream reaches with fairly still, but not stagnant, water and high oxygen levels.	No suitable aquatic habitat present on the project site or study area. Not documented in Green Oaks Creek in CNDDDB (CDFW 2016). Not expected to occur.

Species	Status	Typical Habitat	Habitat Assessment of Project Site and Study Area
<i>Oncorhynchus kisutch</i> coho salmon - central California coast ESU	FE, SE	Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool, water, and sufficient dissolved oxygen. Federal listing covers populations between Punta Gorda and San Lorenzo River. State listing covers populations south of Punta Gorda.	No suitable aquatic habitat present on the project site or study area. Not documented in Green Oaks Creek in CNDDB (CDFW 2016). Not expected to occur.
<i>Oncorhynchus mykiss irideus</i> steelhead – central California coast DPS	FT	From Russian River south to Soquel Creek and to, but not including, the Pajaro River. Also includes San Francisco and San Pablo Bay Basins.	No suitable aquatic habitat present on the project site or study area. Not documented in Green Oaks Creek in CNDDB (CDFW 2016). Not expected to occur.
<i>Spirinchus thaleichthys</i> longfin smelt	ST	Euryhaline, nektonic, and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefers salinities of 15-30 PPT, but can be found in completely freshwater to almost pure seawater.	No suitable estuarine habitat present on the project site or study area. Not documented in Green Oaks Creek in CNDDB (CDFW 2016). Not expected to occur.
Amphibians			
<i>Dicamptodon ensatus</i> California giant salamander	SSC	Known from wet coastal forests near seeps and streams from Mendocino County south to Monterey County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	No suitable habitat present on the project site or study area. Not expected to occur.
<i>Aneides niger</i> Santa Cruz black salamander	SSC	Found in coastal grassland, open oak and conifer woodlands, redwood forest, mixed evergreen forest and along riparian corridors.	Suitable habitat present on study area in Central Coast Riparian Scrub and adjacent areas.
<i>Rana boylei</i> foothill yellow-legged frog	SSC	Breeds in perennial streams with cobble-sized substrate; highly aquatic species.	No suitable habitat present on the project site or study area. Not expected to occur.
<i>Rana draytonii</i> California red-legged frog	FT, SSC	Breeds in semi-permanent and perennial water sources often with dense, shrubby or emergent riparian vegetation including stock ponds and marshes; uses a variety of wetland habitats including streams during the summer months.	Present (study area). Documented in sag pond in northeastern portion of the study area (CDFW 2016). Potential habitat at man-made basin in project site.
Reptiles			
<i>Emys marmorata</i> western pond turtle	SSC	Inhabits permanent or nearly permanent bodies of water in many habitat types below 6000 ft. elevation. Typically nests in grassy, open habitat.	Marginal aquatic habitat since man-made pond in project site and sag pond on study area appear to be semi-permanent; disturbed grassland onsite provides marginal nesting habitat for known populations in region.

Species	Status	Typical Habitat	Habitat Assessment of Project Site and Study Area
<i>Phrynosoma blainvillii</i> coast (Blainville's) horned lizard	SSC	Sandy soils in chaparral, grasslands and open woodlands. Feeds primarily on native ants.	No suitable habitat at project site due to regular human disturbance.
<i>Thamnophis sirtalis tetrataenia</i> San Francisco garter snake	FE, SE, FP	Vicinity of freshwater marshes, ponds, and slow-moving streams in San Mateo and extreme northern Santa Cruz Counties. Prefers lentic habitat during the spring through fall that supports breeding a frog prey with nearby uplands that consist of a mosaic of grassland, scrub and woodland.	Potential habitat present; expected to disperse through study area periodically. If the onsite pond or offsite sag pond provides breeding habitat for California red-legged frogs, San Francisco garter snakes are expected.
Birds			
<i>Brachyramphus marmoratus</i> marbled murrelet	FT, SE	Nests in coastal forests from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old growth redwood-dominated forests, often in Douglas-fir, up to six miles inland.	No suitable nesting habitat present on the project site or study area. Species expected to fly-by during breeding season since it is known to nest in nearby redwood groves.
<i>Buteo regalis</i> (wintering) Ferruginous hawk	BCC	Winters in expansive open grasslands; forages primarily on ground squirrels.	No foraging habitat present due to regular human use; may use nearby land during winter months.
<i>Circus cyaneus</i> (nesting) northern harrier	SSC	Nests on ground in grassy vegetation, usually in proximity to a marsh or other water body.	No nesting habitat present; expected during migration and in winter.
<i>Elanus leucurus</i> (nesting) white-tailed kite	FP	Open grassland, meadows, or marshes, for foraging, close to isolated, dense-topped trees for nesting and perching.	Not expected to nest onsite due to regular human use; known from Pie Ranch (eBird 2016).
<i>Falco peregrinus anatum</i> American peregrine falcon	FP, BCC	Near wetlands, lakes, rivers, or other water. On cliff banks, dunes, mounds, and human-made structures. Nest consists of a scrape, depression, or ledge in an open site.	No nesting habitat present on project site or study area. May use nearby land for foraging.
<i>Asio flammeus</i> (nesting) short-eared owl	SSC	Nests in emergent wetland vegetation, tall grass, alfalfa fields.	No nesting habitat present on project site or study area.
<i>Asio otus</i> Long-eared owl	SSC	Nests in open woodland and coniferous forests, often near riparian areas.	Not expected; no nesting records in region, may be observed during migration.
<i>Athene cunicularia</i> (nesting and wintering) burrowing owl	SSC BCC	Nests and winters in grasslands and open scrub with suitable burrows.	No suitable habitat present on the project site or study area. Not expected to occur.
<i>Selasphorus sasin</i> Allen's hummingbird	BCC	Nests in narrow coastal belt in woodland and scrub habitats.	Suitable habitat present on study area; known from Pie Ranch (eBird 2016).
<i>Picoides nuttallii</i> Nuttall's woodpecker	BCC	Nests in oak woodland and along riparian corridors.	Suitable habitat present on study area. Known from nearby offsite lands.
<i>Contopus cooperi</i>	SSC	Nests primarily in coniferous forests with open	Suitable habitat present on study area; known from

Species	Status	Typical Habitat	Habitat Assessment of Project Site and Study Area
olive-sided flycatcher	BCC	canopy; nests in Eucalyptus forest along coast.	Pie Ranch (eBird 2016).
<i>Baeolophus inornatus</i> oak titmouse	BCC	Nests in oak, oak-pine and pinyon-juniper woodland.	Suitable habitat present on study area.
<i>Charadrius alexandrinus nivosus</i> western snowy plover	FT	Sandy beaches backed with dunes, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	No suitable habitat present on the project site or study area. Not expected to occur.
<i>Cypseloides niger</i> black swift	SSC BCC	Nests on cliffs, coastal bluffs, and sea caves.	No suitable habitat present on the project site or study area. Not expected to occur.
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	BCC, SSC	Fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; nests in tall grasses, tule patches, and willows.	Suitable habitat present at ponds and Central Coast Riparian Scrub.
<i>Setophaga petechia</i> (nesting) yellow warbler	BCC/SS C	Deciduous riparian woodlands along streams and lakes.	Marginal nesting habitat present on study area but no project impacts anticipated.
<i>Icteria virens</i> (nesting) Yellow-breasted chat	-/ SSC	Nests in riparian woodlands or riparian scrub thickets	Marginal nesting habitat present on study area but no project impacts anticipated.
<i>Ammodramus savannarum</i> grasshopper sparrow	SSC	Nests in short- to mid-height open grasslands.	Not expected due to regular human use; known from nearby areas.
<i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow	SSC	Nests in tidally influenced habitats and moist grasslands.	Not expected due to regular human use; known from nearby areas.
<i>Agelaius tricolor</i> tricolored blackbird	BCC, SSC	Nests in freshwater marsh; forages in grasslands and croplands.	Not expected on project site; may use sag pond on study area.
<i>Riparia riparia</i> bank swallow	ST	Colonial nester. Nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine textured/sandy soils near streams, rivers, lakes, or ocean to dig nesting hole.	No suitable habitat present on the project site or study area. Not expected to occur.
Mammals			
<i>Antrozous pallidus</i> pallid bat	SSC/ WBWG	Roosts in caves, trees and buildings; forages in variety of habitats.	No habitat in project site; potential suitable habitat in along riparian corridor in study area but no project impacts anticipated.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	SCT, WBWG	Roosts in caves, buildings, hollow redwoods; forage in many habitats. Roosts in the open, hanging from walls and ceilings. Extremely sensitive to human disturbance.	Marginal habitat in barns and outbuildings, but extensive ongoing human disturbance on study area reduces likelihood of occurrence.
<i>Lasiurus blossevilli</i> western red bat	SSC/ WBWG	Roosts in foliage of trees and shrubs in riparian habitats.	No habitat is project site; potential suitable habitat in along riparian corridor on study area but no

Species	Status	Typical Habitat	Habitat Assessment of Project Site and Study Area
			project impacts anticipated.
<i>Myotis thysanodes</i> fringed myotis	WBWG	Maternity roosts in bridge crevices, tree cavities and under exfoliating bark.	No habitat in project site; potential suitable habitat in along riparian corridor on study area but no project impacts anticipated.
<i>Myotis volans</i> long-legged myotis	WBWG	Roosts in trees, rock crevices, mines and buildings; primarily in montane forests.	No habitat in project site; potential suitable habitat in along riparian corridor on study area but no project impacts anticipated.
<i>Eumops perotis californicus</i> western mastiff bat	SSC/ WBWG	Roosts in significant rock features; found in a variety of habitats including desert scrub, chaparral and oak woodland.	No potential roosting habitat present.
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	SSC	Riparian, coastal scrub and forest habitats of moderate canopy and moderate to dense understory. Constructs houses of sticks and other material.	Present. At least nine SFDW houses observed in Central Coast Riparian Scrub on the study area. More are expected in similar habitat with dense scrub understory.
<i>Taxidea taxus</i> American badger	SSC	Variety of open habitats especially grassland and oak savannah.	Not expected due to regular human disturbance.
Key to Status:			
BCC	Federal Bird of Conservation Concern		
FE	Federal Endangered		
FT	Federal Threatened		
SE	State Endangered		
ST	State Threatened		
SCT	State Candidate Threatened		
WBWG	Western Bat Working Group: High Priority Species		
SSC	California Department of Fish and Wildlife Species of Special Concern		
FP	California Department of Fish and Wildlife Fully Protected Species		
1B	CNPS Rare Plant Rank of plants rare, threatened, or endangered in California and elsewhere		
2	CNPS Rare Plant Rank of plants rare, threatened, or endangered in California but more common elsewhere		
4	CNPS Rare Plant Rank of plants of limited distribution; a watch list		
.1/.2/.3	Seriously endangered in California/Fairly endangered in California/ Not very endangered in California		



Appendix B-1. Central Coast Riparian Scrub along Green Oaks Creek (note dry creek channel).



Appendix B-2. Monterey pine along Green Oaks Creek



Appendix B-3. Freshwater Wetland in man-made basin.



Appendix B-4. Developed/Ruderal habitat along Green Oaks Way on project site, with Coyote Brush Scrub in left of photo, and Agricultural habitat in the right side of photo.



Appendix B-5. San Francisco dusky-footed woodrat house in Central Coast Riparian Scrub.



Appendix B-6. Developed/Ruderal habitat adjacent to Central Coast Riparian Scrub in area of proposed fence and habitat enhancement.

Appendix C. Plant species observed on the study area, October 4 and 11, 2016.

Scientific Name	Common Name
<i>Acacia melanoxydon</i> *	blackwood acacia
<i>Alnus rubra</i>	red alder
<i>Aloe maculata</i> *	soap aloe
<i>Anagallis arvensis</i> *	scarlet pimpernel
<i>Avena</i> sp.*	wild oats
<i>Baccharis glutinosa</i>	Douglas' baccharis
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush
<i>Brassica rapa</i> *	field mustard
<i>Bromus carinatus</i>	California brome
<i>Bromus catharticus</i> *	rescue grass
<i>Bromus diandrus</i> *	ripgut brome
<i>Bromus hordeaceus</i> *	soft chess
<i>Calystegia purpurata</i> subsp. <i>purpurata</i>	climbing morning-glory
<i>Cedrus deodara</i> *	deodar cedar
<i>Cirsium vulgare</i> *	bull thistle
<i>Conium maculatum</i> *	poison hemlock
<i>Convolvulus arvensis</i> *	field bindweed
<i>Cortaderia jubata</i> *	pampas grass
<i>Cyperus eragrostis</i>	tall flatsedge
<i>Equisetum</i> sp.	horsetail
<i>Erigeron canadensis</i>	horseweed
<i>Eschscholzia californica</i>	California poppy
<i>Eucalyptus globulus</i> *	blue gum eucalyptus
<i>Festuca perennis</i> *	Italian ryegrass
<i>Frangula californica</i>	California coffeeberry
<i>Genista monspessulana</i> *	French broom
<i>Helminthotheca echioides</i> *	bristly ox-tongue
<i>Hesperocyparis macrocarpa</i> *	Monterey cypress
<i>Heteromeles arbutifolia</i>	toyon
<i>Hirschfeldia incana</i> *	summer mustard
<i>Hordeum murinum</i> subsp. <i>leporinum</i> *	barley
<i>Hypochaeris radicata</i> *	rough cat's ear
<i>Juglans</i> sp.*	walnut
<i>Juncus patens</i>	spreading rush
<i>Lactuca serriola</i> *	prickly lettuce
<i>Liquidambar styraciflua</i> *	sweet gum
<i>Lotus corniculatus</i> *	bird's-foot trefoil
<i>Malva</i> sp.*	mallow
<i>Mentha pulegium</i> *	pennyroyal
<i>Oxalis</i> sp.*	buttercup
<i>Persicaria</i> sp.	smartweed
<i>Phalaris aquatica</i> *	Harding grass
<i>Pinus radiata</i>	Monterey pine
<i>Plantago coronopus</i> *	cutleaf plantain
<i>Plantago lanceolata</i> *	English plantain

Scientific Name	Common Name
<i>Polygonum aviculare</i> *	common knotweed
<i>Polypogon monspeliensis</i> *	rabbitsfoot grass
<i>Pseudognaphalium luteoalbum</i> *	annual cudweed
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Quercus agrifolia</i>	coast live oak
<i>Raphanus sativus</i> *	wild radish
<i>Rosa</i> sp.*	cultivated rose
<i>Rubus armeniacus</i> *	Himalayan blackberry
<i>Rubus ursinus</i>	California blackberry
<i>Rumex crispus</i> *	curly dock
<i>Rumex salicifolius</i>	willow dock
<i>Salix laevigata</i>	red willow
<i>Salix lasiandra</i> var. <i>lasiandra</i>	Pacific willow
<i>Salix lasiolepis</i>	arroyo willow
<i>Sambucus racemosa</i>	red elderberry
<i>Schoenoplectus californicus</i>	California tule
<i>Scrophularia californica</i>	California figwort
<i>Solanum</i> sp.	nightshade
<i>Sonchus asper</i> subsp. <i>asper</i> *	prickly sow thistle
<i>Sonchus oleraceus</i> *	sow thistle
<i>Spergularia</i> sp.*	sand spurrey
<i>Stachys</i> sp.	hedge-nettle
<i>Symphyotrichum chilense</i>	California aster
<i>Toxicodendron diversilobum</i>	poison oak
<i>Tropaeolum majus</i> *	garden nasturtium
<i>Urtica dioica</i>	stinging nettle
<i>Washingtonia</i> sp.*	palm
<i>Zantedeschia aethiopica</i> *	calla lily
* = non-native species	

Appendix D. Wildlife species observed on the study area, October 11, 2016.

Scientific Name	Common Name
<i>Pseudacris sierra</i>	Sierran treefrog
<i>Calypte anna</i>	Anna's hummingbird
<i>Euphagus cyanocephalus</i>	Brewer's blackbird
<i>Callipepla californica</i>	California quail
<i>Dendroica townsendi</i>	Townsend's warbler
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Sayornis nigricans</i>	Black phoebe
<i>Poecile rufescens</i>	Chestnut-backed chickadee
<i>Psaltriparus minimus</i>	Bushtit
<i>Regulus calendula</i>	Ruby-crowned kinglet
<i>Sitta pygmaea</i>	Pygmy nuthatch
<i>Cyanocitta stelleri</i>	Steller's jay
<i>Zonotrichia leucophrys</i>	White-crowned sparrow
<i>Sylvilagus bachmani</i>	Brush rabbit
<i>Thomomys bottae</i>	Botta's pocket gopher
<i>Neotoma fuscipes annectens</i>	San Francisco dusky-footed woodrat
<i>Procyon lotor</i>	Raccoon
<i>Lynx rufus</i>	Bobcat
<i>Canis familiaris</i>	Domestic dog

RESUMES OF PRINCIPAL INVESTIGATORS

MARK L. ALLABACK

Wildlife Biologist

Biosearch Associates
PO Box 1220
Santa Cruz, CA 95061
email: markallaback@sbcglobal.net

EDUCATION

Bachelor of Arts in Biology, University of CA at Santa Cruz
Received Honors and the Chancellor's Undergraduate Award for senior thesis
Certified Wildlife Biologist®, The Wildlife Society, Washington, D.C., 2001

EMPLOYMENT

1990 - Present Environmental Consultant. Co-owner of Biosearch Associates, formerly Biosearch Wildlife Surveys, an environmental consulting firm that performs field studies of sensitive and endangered species, wildlife research, biotic inventories, biological assessments, and designs mitigation and monitoring plans for public and private clients.

1986 - 1990 Field Biologist.

Biosystems Analysis, Inc., Santa Cruz, CA
Environmental Science Associates, Inc., San Francisco, CA
LSA Associates, Inc., Pt. Richmond, CA
Tierra Madre Consultants, Inc., Riverside, CA

1984 Research Assistant. Marine Sciences Department, U.C. Santa Cruz

SUMMARY OF SKILLS AND QUALIFICATIONS

Mr. Allaback has over 25 years of experience as a professional wildlife biologist providing expertise primarily in the field of sensitive and endangered species ecology and management. He has acquired a variety of state and federal permits to study rare and endangered wildlife. He conducts habitat assessments and impact analysis, and designs, implements and monitors single and multi-species mitigation plans. He provides expertise in field identification of birds, larval and adult amphibians, reptiles, small mammals and fur-bearers. He follows current survey protocols to perform wildlife inventories and focused field studies. Standardized methodologies include live-trapping for small mammals, spot-lighting, track and photo station monitoring for large mammals; point counts, strip transects and spot-mapping for birds; night searches and aquatic sampling for amphibians; and pitfall trapping for amphibians and reptiles. He frequently conducts consultations with county, state and federal resource specialists, as well as other knowledgeable biologists and professionals. He has published peer-reviewed research and authored numerous technical reports including biological assessments, mitigation plans and biological resource evaluations for inclusion in Environmental Impact Reports and other documents. Mr. Allaback has performed or assisted with hundreds of field projects in a variety of habitats throughout California.

PROFESSIONAL AFFILIATIONS

The Wildlife Society, Western Field Ornithologists, CA Burrowing Owl Consortium, The Desert Tortoise Council and The Society for the Study of Amphibians and Reptiles.

TOM MAHONY

Principal/Plant Ecologist/Wetland Scientist

EDUCATION

M.S. Natural Resources (thesis focus in Plant Ecology), Humboldt State University, 1999
B.A. Geography (Biology Minor), San Diego State University, 1994
Wetland Delineation Training Course, San Francisco State University, 2000

POSITIONS

Principal/Plant Ecologist, Coast Range Biological, LLC	2006-Present
Senior Biologist/Plant Ecologist, Albion Environmental, Inc.	2002-2006
Plant Ecologist, Wetlands Research Associates, Inc.	2000-2002
GIS Technician, Redwood National Park	1996-1999
GIS/GPS Teaching Associate, Humboldt State University	1997-1999
GIS Technician, U.S. Geological Survey	1995-1996
Resource Ecology Intern, Torrey Pines State Reserve	1994

Tom Mahony received his M.S. degree in Natural Resources with a thesis focus in Plant Ecology from Humboldt State University in 1999. He has spent 21 years working with California vegetation and habitats, specializing in biotic assessments, wetland delineations, special-status plant surveys, vegetation classification/mapping, mitigation planning, and ecological restoration. He is a Certified Professional Wetland Scientist (PWS #2567) and holds a Plant Voucher Collecting Permit (No. 2081(a)-15-056-V) from the California Department of Fish and Wildlife.

Mr. Mahony is trained in wetland delineation procedures required under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and the California Coastal Act, and has conducted wetland delineations throughout California for both private and public-sector clients. He has written wetland delineation reports and associated permit applications, including those for Corps of Engineers Nationwide Permits, Regional Water Quality Control Board Water Quality Certifications, and California Department of Fish and Wildlife Streambed Alteration Agreements. In addition, Mr. Mahony has expertise in wetland, riparian, and other Environmentally Sensitive Habitat Area delineations, biotic assessments, and buffer zone analyses required by the California Coastal Act. He has advanced training and extensive field experience identifying and mapping hydric soils.

Mr. Mahony has conducted numerous special-status plant surveys and botanical assessments throughout California utilizing methodologies approved by the California Native Plant Society, California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service. He has managed mitigation monitoring projects in a wide variety of habitats. He has completed vegetation classifications in northwestern California, southwestern Oregon, and the Sierra Nevada foothills, and has published articles on vegetation classification. Mr. Mahony is trained in ecological analysis using GIS, GPS, and remote sensing techniques, and has developed vegetation prediction models for the National Park Service.