

# BIOLOGICAL RESOURCES SURVEY REPORT

1320 Machado Lane  
SUB2015-00059 (COAL 16-126)  
Moore Parcel Map Four-Lot Subdivision  
San Luis Obispo, San Luis Obispo County, CA

**Application Type: Four-Lot Subdivision**

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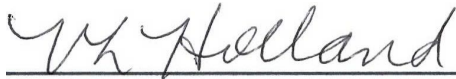
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**November 23, 2016**  
**Updated**  
**July 6, 2020 and revised July 29, 2020**

As a County-approved biologist, I hereby certify that this Biological Resources Assessment was prepared according to the Guidelines established by the County of San Luis Obispo Department of Planning and Building and that the statements furnished in the report and associated maps are true and correct to the best of my knowledge and belief; and I further certify that I was present throughout the site visit(s) associated with this report.

A handwritten signature in cursive script, reading "V. L. Holland", is positioned above a horizontal line.

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## EXECUTIVE SUMMARY

The project site is an approximate 7.9-acre rectangular parcel (Portion of Lot N of the Hollister Tract, COAL 16-0126) located at 1320 Machado Lane, San Luis Obispo County, CA. The subject parcel is located in the southeastern corner of the Rolling Hills suburban residential development approximately 350 feet southwest of the Highway 227/Los Ranchos Road intersection. It is approximately 0.6 miles south of the southern limits of the City of San Luis Obispo, Buckley Road, and the San Luis Obispo County Regional Airport. Davenport Creek and a drainage channel traverse the center of subject parcel in an east to west direction. Both are lined by riparian woodland. There are three upland areas of the site one in the northern portion, one in the southern portion, and one in the center of the parcel between the two riparian areas. They are all covered by ruderal coastal valley grassland.

The owner, Greg Moore, is proposing a four-lot subdivision for the 7.9-acre parcel that includes one 1.9-acre parcel (Parcels 2) and three 2-acre parcels (Parcel 1, 3, and 4). Proposed Parcels 1 and 2 are situated in the southern half of the rectangularly shaped 7.9-acre subject site and south of the riparian woodland along the small drainage channel. Both parcels are covered mostly by ruderal coastal valley grassland; however there is a small population of *Stipa pulchra* (purple needlegrass) surrounded by ruderal grassland on Parcel 1. Parcel 3 and 4 are located in the northern half of the 7.9-acre site and north of the riparian woodland along the drainage channel. Davenport Creek Road traverses Parcels 3 and 4 dividing them into two upland areas as shown on Figure 3. The barn that is on Parcel 4 will be retained. The upland areas of these two parcels is also covered by ruderal coastal valley grassland. All of the proposed home sites will be situated on the grassland covered upland areas well outside the 50-foot buffer zone along the riparian woodlands.

Drs. V. L. Holland, David Keil, and/or Mike McGovern conducted biological surveys of the site on May 4, 10, 13, and 23, October 15, and November 1, 2016. The County of San Luis Obispo requested that we update the report in 2020 to reflect recent changes in the proposed development and the proposed new alignment of the Windmill Way extension. V. L. Holland revisited the site on July 3 and 6, 2020 to conduct biological surveys, to update the report, and to provide the information requested by the County of San Luis Obispo. The results of all the 2016 and 2020 studies of this site are discussed in this report. I found no significant changes in the flora, vegetation, wildlife, or environmental features.

The flora found on the site is composed of 100 plant species consisting of 7 trees (5 native), 13 shrubs (12 native) and 80 grasses and forbs (16 native). Of the 100 species on the site, 33 are native and 67 are naturalized or introduced. The vegetation consists of two plant associations: (1) **ruderal coastal valley grassland**, which covers approximately 85% of the parcel; and (2) **riparian woodland** along Davenport Creek and the small drainage creek, which covers approximately 15% of the site.

The purpose of this study is to examine the existing vegetation, flora, and wildlife and to provide a better understanding of the potential biological issues associated with the site. Special attention is given to the presence or potential presence of rare and endangered species and sensitive habitats. The riparian woodland habitat is considered a sensitive habitat, but no disturbance is planned for this area of the subject site or within a 50-foot buffer setback that will be implemented from the edge of riparian woodland.

There is a small population of *Stipa pulchra* (purple needlegrass) mixed with the weedy grasses and forbs in the southwestern portion of Parcel 1. Based on measurements in the field and on aerial photographs, the *Stipa pulchra* (purple needlegrass) stand is estimated to cover 0.10 acres (4,400 sq. ft.), which equates to 1.3% of the 7.8-acre site and 7.1% of the 1.4-acre Parcel 1. Therefore, it does not meet the threshold of significance used by the County of San Luis Obispo, and no mitigation is required. (The guidelines state that if a stand of *Stipa pulchra* (purple needlegrass) covers less than 10% the site and covers an area less than 0.25 acres, no mitigation is necessary.) Another California native grass, *Melica imperfecta* (little melic grass) was also found on the site. This plant occurs along the riparian corridor and within the 50-foot buffer zone and will not be impacted. Therefore, no mitigation measures are necessary.

No special status plant species (CNPS Lists 1, 2, or 3) or wildlife species on the CNDDDB lists of Special Status Species found in the Pismo Beach and eight surrounding quadrangles were found on the subject property (Tables 5 and 8), and none are expected to occur on the site. The property was examined when the Pismo clarkia was in full bloom at the reference population on Ormonde Road in 2016, and there was no evidence of Pismo Clarkia in any phenological stage on the subject parcel. The July 2020 surveys likewise found no evidence of Pismo Clarkia. Overall the property has been highly disturbed, and tall, dense stands of weedy grasses and forbs have become the dominant plant cover in the upland areas. In addition, the clayey soils do not provide suitable habitat for Pismo clarkia, which grows on sandy soils.

It should be noted that Tables 5, 6, and 7 provides special status plant species listed on CNPS Lists 1, 2, and 3 but not List 4. There was one List 4 plant species discovered on the site. A few scattered *Calystegia subacaulis* ssp. *episcopalis* (San Luis Obispo County or Cambria morning glory), which is on the CNPS List 4.2, occur along the edge of the riparian woodland areas. CNPS List 4 plants are considered *Plants of Limited Distribution – A Watch List*. Plants with a California Rare Plant Rank of 4 are of limited distribution or infrequent throughout a broader area in California. Some List 4 plants may be significant locally, and CNPS recommends that they be evaluated for impact significance during preparation of environmental documents. A few San Luis Obispo County morning glory plants were found widely scattered immediately along the margin of the riparian areas. It covers considerably less than 1% of the subject property. All of these plants occur within the 50-foot buffer zone along the riparian woodlands and will not be disturbed; therefore, no mitigation is necessary.

The site offers no or limited habitat for wildlife species including the special status wildlife species. In addition, it is surrounded by residential development and a golf course. These offer significant obstacles for use of the site by most wildlife species. The site is also fenced around its perimeter partly with chain-linked fence, which significantly impedes any wildlife other than small mammals, reptiles, and birds from entering the property. The Rolling Hills development and roads to the west, north, and south also limit wildlife access.

The riparian corridor along Davenport Creek and the drainage channel and the open space area between the creeks (where the barn is located) offers an open space corridor through the property for wildlife. However, wildlife using this corridor may be limited by the Rolling Hills development to the north and west of the study site, which Davenport Creek traverses. The upstream creek corridor also offers minimal access for wildlife because it traverses the area along California Highway 227, a residential development, a golf course, and Los Ranchos Elementary School. As a result of the above, the subject parcel is somewhat of an island surrounded by urban and rural development and roads. However, the riparian zone does offer some opportunity for utilization by invertebrates and some reptiles, small mammals, and birds. These wildlife species could potentially forage and nest in the riparian woodland. In this report, we address the special status wildlife and specifically address potential impacts and mitigation measures for California Red-legged frog, Steelhead, special status bat species, and migratory birds

The proposed four-lot subdivision will not have any significant impacts on the native vegetation, flora, and wildlife that are currently found on the parcel. No specific development plans or home sites were available at the time of our survey; however, since the homes will be located in upland areas outside the 50-foot buffer zone, we do not anticipate any impacts to the biological resources on the site. The owner plans to build homes in the disturbed grassland covered open areas of the parcels well outside the required 50-foot buffer from the edge of the riparian woodland canopy. Potential impacts and mitigation measures for California Red-legged frog, Steelhead, special status bat species, and nesting and migratory birds are addressed in this report.

My 2020 studies of the project site indicate that the data, information, and recommendations presented in our 2016 report are still valid and still accurately describes the vegetation, flora, wildlife, wildlife habitats, and lack of special status species of plants and wildlife on the site. This report updates this information and provides the data requested by the County of San Luis Obispo.

## INTRODUCTION AND PURPOSE

The project site is an approximate 7.9-acre rectangular parcel (Portion of Lot N of the Hollister Tract, COAL 16-0126) located at 1320 Machado Lane, San Luis Obispo County, CA. The subject parcel is located in the southeastern corner of the Rolling Hills suburban residential development and approximately 350 feet southwest of the Highway 227/Los Ranchos Road intersection. It is just outside the southern city limits of San Luis Obispo and approximately 0.6 miles south of Buckley Road and the San Luis Obispo County Regional Airport (Figure 1).

Access to the parcel is provided by a narrow drive off Los Ranchos Road that is designated as Hacienda Ave. on some maps including Google maps; however, it is also locally known as the Jack Ranch Road as it provides access to the Jack Ranch south of the subject parcel. Hacienda Ave. (Jack Ranch Road) forms the eastern boundary of the subject parcel and separates the parcel from the San Luis Obispo Country Club Golf Course and development, which adjoins it to the east (Figure 2). Machado Lane provides access to the southern portion of the parcel from the Rolling Hills residential development (Figure 2). A biological study of the site was required because the owner, Greg Moore, is considering a potential lot split forming a four-lot subdivision as shown on Figure 3. Drs. V. L. Holland, David Keil, and/or Mike McGovern conducted biological surveys of the site on May 4, 10, 13, and 23, 2016. V. L. Holland and/or Mike McGovern made additional site visits on October 15 and November 1, 2016 and revised the report to provide additional information requested by the County and submitted the revised report dated November 23, 2016.

The County of San Luis Obispo has requested that the 2016 report be undated in 2020. The owner, Greg Moore, will now dedicate a portion of his property along its northern boundary line for the future extension of Windmill Way (Figures 2 and 3). In addition, the development plans changed from a three lot split to a four lot split. On June 23, 2020, Cindy Chambers, Planner for the County of San Luis Obispo, requested that a new biological resources survey be conducted and that the 2016 report be updated to reflect changes in the development plans and the new alignment of Windmill Way through Parcel 3 of the subject site. She also requested that the 2020 updated report verify that the results of our 2016 report are still accurate and that the native species identified on site have not changed dramatically since 2016. The Executive Summary has also been updated and all dates of our site visits are included along with a summary of the results of the new 2020 surveys. The list of special status species was also updated using the 2020 edition of the California Department of Fish and Game Natural Diversity Data Base: Special Vascular Plants, Bryophytes, and Lichen List (CNDDDB) and the 2020 edition of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* database. V. L. Holland revisited the site on July 3 and 6, 2020 to update the report and provide the information requested by the County of San Luis Obispo. The results of all the 2016 and 2020 studies of this site are discussed in this report.

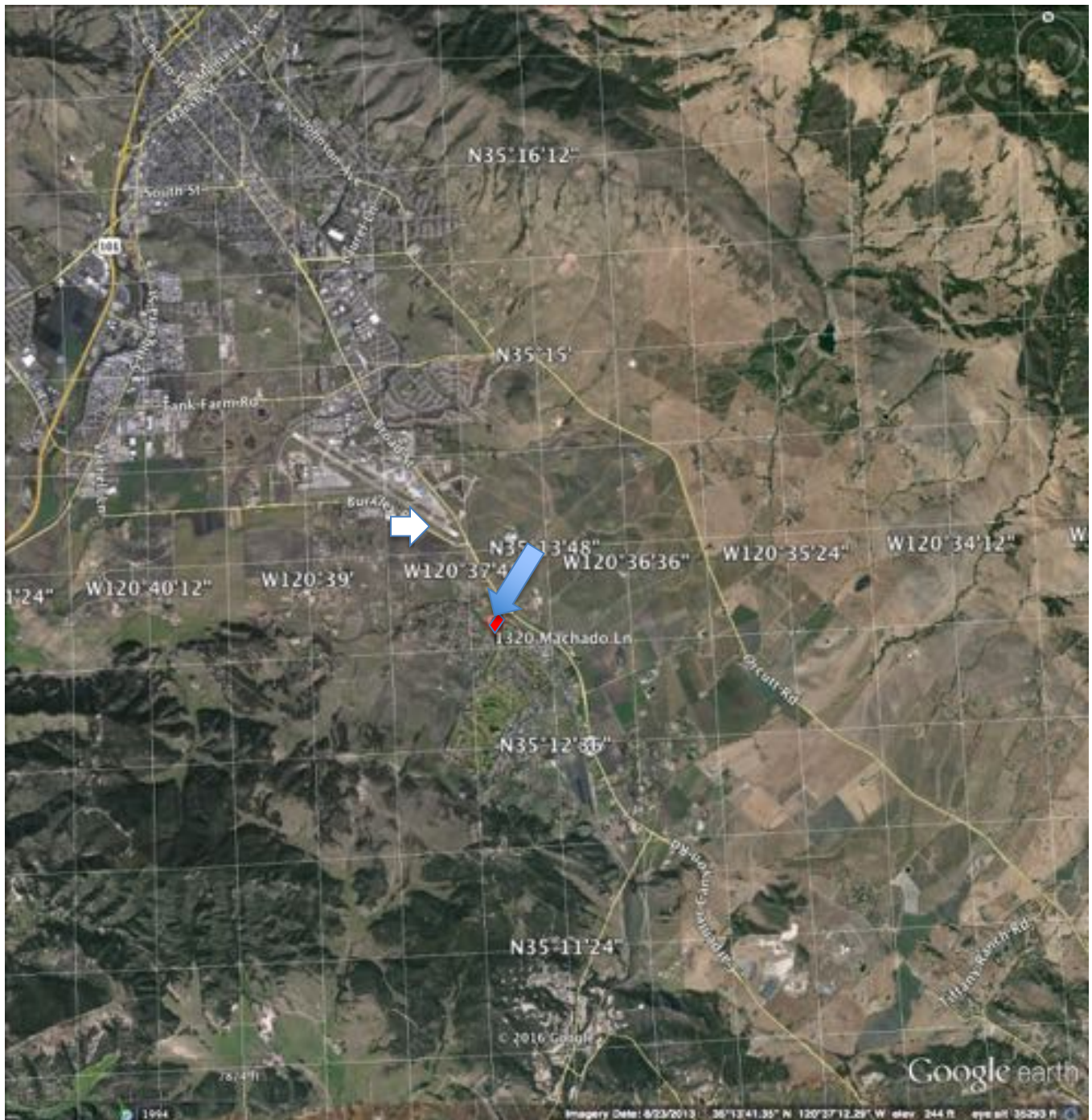


Figure 1. Vicinity map showing general location of the 7.8-acre subject site at 1320 Machado Lane, San Luis Obispo, CA (blue arrow). The parcel is located just south of the San Luis Obispo city limits and of the San Luis Obispo Regional Airport (white arrow).



As mentioned previously, Hacienda Ave. (Jack Ranch Road) forms the study site's eastern boundary while the southern, western and northern boundaries adjoin other developed parcels in the Rolling Hills residential area. The San Luis Country Club Golf Course and development are located immediately east of Hacienda Ave. and east of the proposed project site.

Davenport Creek and a small drainage channel that forks off of Davenport Creek traverse the subject property in an east to west direction and divides the subject site into three upland areas where the home sites are proposed. Both Davenport Creek and the drainage channel are lined by riparian woodland (Figures 2 and 5; Photos 5 and 8-12). Upstream and east of the subject site, Davenport Creek and the small drainage traverse the San Luis Obispo Country Club Golf Course, pass under bridges on Hacienda Ave. (Jack Ranch Road), and then continue through the subject site. The small drainage channel rejoins Davenport Creek near the western boundary of proposed Parcel 4 on the subject site (Figure 5; Photo 7) after which Davenport Creek continues flowing in a northwestern direction through the Rolling Hills residential area and eventually to San Luis Creek near Highway 101.

There are three upland areas on the subject site; one in the northern portion, one in the southern portion, and one in the center of the parcel between the two riparian areas (Figures 2 and 3). All of these areas are covered by disturbed ruderal coastal valley grassland (Photos 1-6); however, a small population of the native grass *Stipa pulchra* (purple needlegrass) occurs in the southwestern corner of the subject site where proposed Parcel 1 is located (Figure 5; Photo 6).

The owner, Greg Moore, is proposing a four-lot subdivision for the 7.9-acre parcel that includes one 1.9-acre parcel (Parcel 2) and three 2-acre parcels (Parcel 1, 3, and 4). Proposed Parcels 1 and 2 are situated in the southern half of the rectangularly shaped 7.9-acre subject site and south of the riparian woodland along the small drainage channel (Figures 3; Photos 3-6). Both are covered mostly by ruderal coastal valley grassland; however there is a small population of *Stipa pulchra* (purple needlegrass) surrounded by ruderal grassland on Parcel 1 (Figure 5; Photo 6). Parcel 3 and 4 are located in the northern half of the 7.9-acre site and north of the riparian woodland along the drainage channel; however, Davenport Creek traverses Parcels 3 and 4 dividing it into two upland areas as shown on Figures 2-3. The barn that is on Parcel 4 will be retained (Photo 7). The upland areas of these two parcels is also covered by ruderal coastal valley grassland (Figures 3 and 5; Photos 1, 2, and 7). All of the proposed home sites are situated on the grassland covered upland areas well outside the 50-foot buffer zone along the riparian woodlands.

Previously, the future extension of Windmill Way was proposed to follow northern edge of the riparian woodland along Davenport Creek on Parcel 3. However, the newly proposed extension has been moved to follow the flat area along the northern boundary Parcel 3 on the subject site (Figures 2 and 3).



This is a great improvement over the previously proposed location along the edge of the riparian woodland as the new location is in the flat, upland area covered by ruderal coastal valley grassland. Consequently, the new alignment will not result in any impacts to the riparian zone or the buffer zone along the riparian woodland.

The purpose of this study is to characterize the biological resources of the four parcels that comprise the 7.9-acre subject site and to provide a better understanding of the potential biological issues associated with the site. This report provides technical information and evaluates the study site in sufficient detail to evaluate the potential effects of the proposed project on special status species and habitats. It also updates the 2016 report and provides the information requested by the County, including the new alignment of Windmill Road as discussed above.

Special attention is given to the presence or potential presence of rare and endangered species and sensitive habitats. During our analysis of the site, we carefully searched the entire parcel for sensitive habitats and species of concern known to occur in the Pismo Beach and eight surrounding quadrangles (Tables 5 - 8). *Clarkia speciosa* subsp. *immaculata* (Pismo Clarkia) is of special concern because it is a California Rare, Federally Endangered, and Globally Threatened subspecies, and it is known to occur in the general vicinity of the subject parcel. However, no signs of Pismo clarkia were found on the subject parcel during the surveys of the site on May 13 and 23, 2016 when Pismo clarkia was in full bloom at our reference site located on Ormonde Road. As in the previous surveys of the site in 2016, no signs of Pismo Clarkia was found on the site during my July 2020 site visits. The soils on the site are not the type of soil one would expect Pismo Clarkia to grow as it is clayey and Pismo Clarkia typically is found in coarser textured, sandy soils.

## EXISTING CONDITIONS, LOCATION, AND PHYSICAL FEATURES

The subject site is located in the southeastern corner of the Rolling Hills suburban residential development, which is an area of large parcels with single-family homes and/or some type of agricultural development. The site is approximately 350 feet southwest of the Highway 227/Los Ranchos Road intersection, approximately 40 feet south of Los Ranchos Road, and approximately 0.6 miles south of the Buckley Road and the San Luis Obispo County Regional Airport. The San Luis Obispo Country Club Golf Course and development occurs along its eastern boundary (Figures 2, 3, and 5).

The topography of the site is flat to slightly sloping with an elevation range of approximately 215 to 245 feet. As discussed previously, Davenport Creek and a small drainage channel that forks off Davenport Creek traverse the center of the 7.9-acre study site. Both are lined by riparian woodland vegetation (Figures 2 and 5; Photos 5 and 7-12).



Figure 2. Aerial photograph of the study site showing the location and boundaries of the 7.9-acre subject site at 1320 Machado Lane, San Luis Obispo, CA. The blue arrow shows the location of Davenport Creek, and the white arrow shows the location of the drainage channel that forks off Davenport Creek. The **dashed blue line** shows the approximately location of the previously proposed alignment for the Windmill Way extension along the riparian woodland. The **red dashed lines** and arrow show the new proposed alignment along the northern boundary of the subject site away from the riparian woodland. There are two structures on the subject parcel: a single family home (red arrow) and a barn (orange arrow). Parcels of the Rolling Hills residential development lie to the west, south, and north of the subject parcel and San Luis Obispo Country Club Golf Course and development adjoins the eastern boundary of the subject parcel.

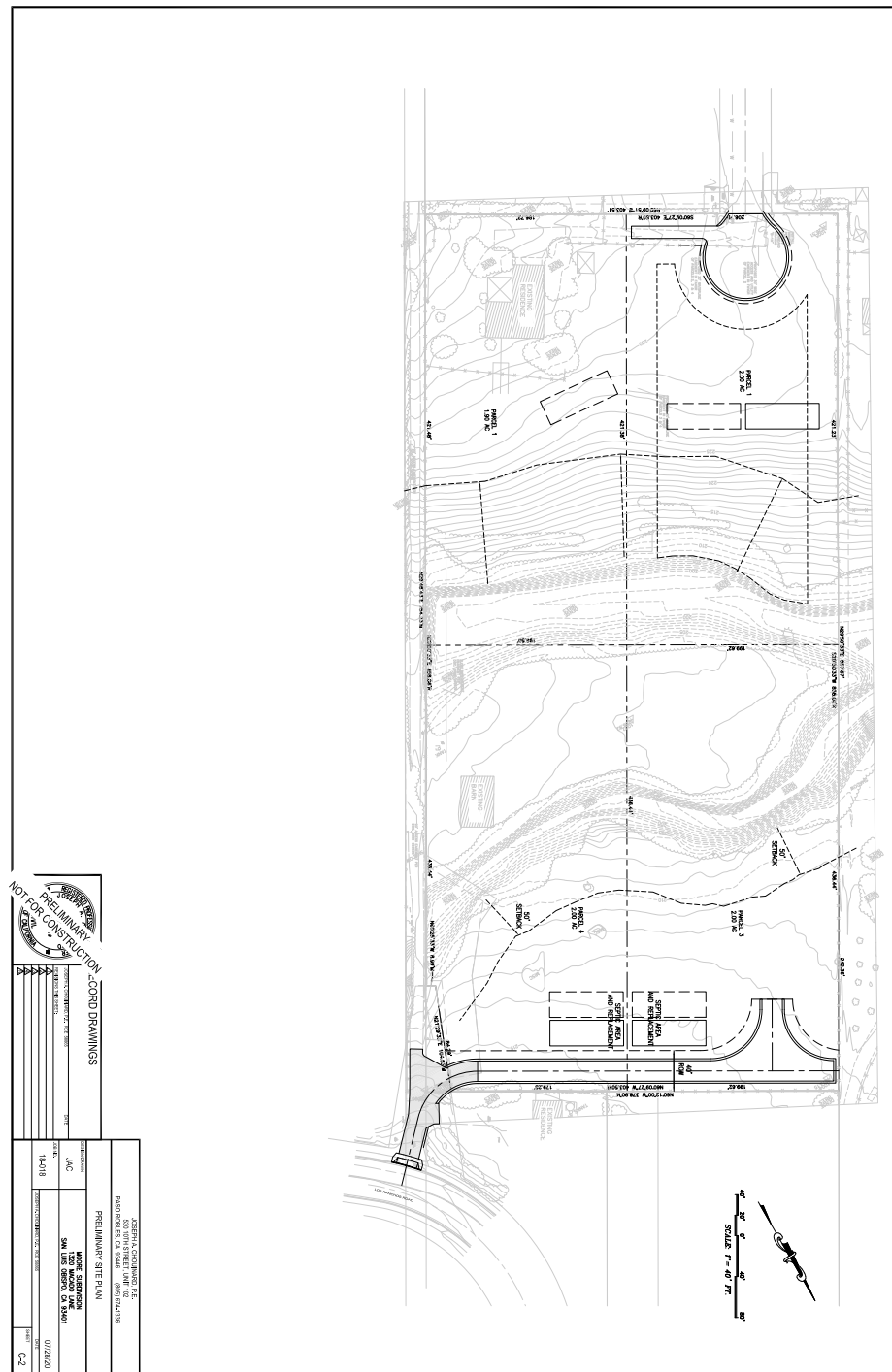


Figure 3. Preliminary Site Plan and Tentative Parcel Map CO 16-0126 showing the location of the four lots on the 7.9-acre parcel, possible homesites, septic system, 50' riparian buffer zone, Windmill Way along the northern property line, and other features of the proposed subdivision located at 1320 Machado Lane, San Luis Obispo, CA. The owner will provide a larger, more readable version of this illustration.

The natural vegetation of the undisturbed areas of the Edna Valley surrounding the subject site consists mostly of coastal valley grasslands, coast live oak woodland, and riparian. The grasslands are mostly in the valley areas and lower foothills. Coast live oak woodland occurs on the surrounding hillsides, and riparian communities occur along the creeks and drainages that traverse the valley. However, the area immediately around the subject site and around the Rolling Hills residential area has been modified by humans and is currently in some form of agricultural development including vineyards, row crops, and orchards.

### Climate

The general climate is classified as Subtropical Humid Mesothermal Cool-Summer Mediterranean with frequent fog (**Csbn**) using the Köppen-Trewartha system (Trewartha and Horn 1983). Winter high temperatures average approximately 65°F (16.7°C) and average low temperatures are near 43°F (5°C). Winter lows below 32°F (0°C) are not uncommon from mid-November through mid-February. Summer high temperatures average approximately 77°F (25°C), and average low temperatures are near 52°F (11°C). Summer highs above 90°F (32°C) are not uncommon. Precipitation falls as rain primarily from October through April and averages about 20 inches per year. Less than one inch of precipitation is typically recorded from 1 May to 30 September, but overnight and morning fog with near 100% humidity can occur unless drier, down-sloping winds descend from the Salinas Valley over the Santa Lucia Range to overwhelm the onshore flow of marine air (Felton 1965).

### Soils

According to soil mapping delineations in the San Luis Obispo County Soil Survey (Ernstrom 1977) and the 2016 USDA Web Soil Survey ([websoilsurvey.nrcs.usda.gov](http://websoilsurvey.nrcs.usda.gov)), the soils on the 7.9-acre subject site are clayey soils that fall within two classifications: (1) Cropley clay on 2 to 9% slopes, which covers approximately 80% (6.8 acres) of the site and (2) Diablo clay on 5 to 9% slopes, which cover approximately 20% (1.7 acres) of the site (Table 1; Figure 4). Cropley and Diablo clay soils are typically deep alluvial soils that form in valley and flat areas below hillsides. They normally have an effective rooting depth of 60 inches or more, low permeability, and high water and nutrient holding capacity. Surface runoff is low, and erosion hazard is low to moderate. These clayey soils, like most clay-rich soils, tend to crack in the summer when they dry, but these cracks close in the wet season due to the shrink/swell characteristics of clayey soils.

The natural vegetation on these soils is usually grassland. Areas with these soil types are well suited for use as rangeland or agricultural crops such as cereal grains, beans, or cole crops. If utilized for urban development the expansion and shrinkage ability of the soil needs to be considered in planning.

**Table 1. Soils found on the 1320 Machado Lane 7.8-acre parcel San Luis Obispo, CA\***

Map Symbol	Soil Type	Percent of Site
128	Cropley clay, 2 to 9% slopes	80.3%
129	Diablo clay, 5 to 9% slopes	19.7%

\*See Figure 4 on next page



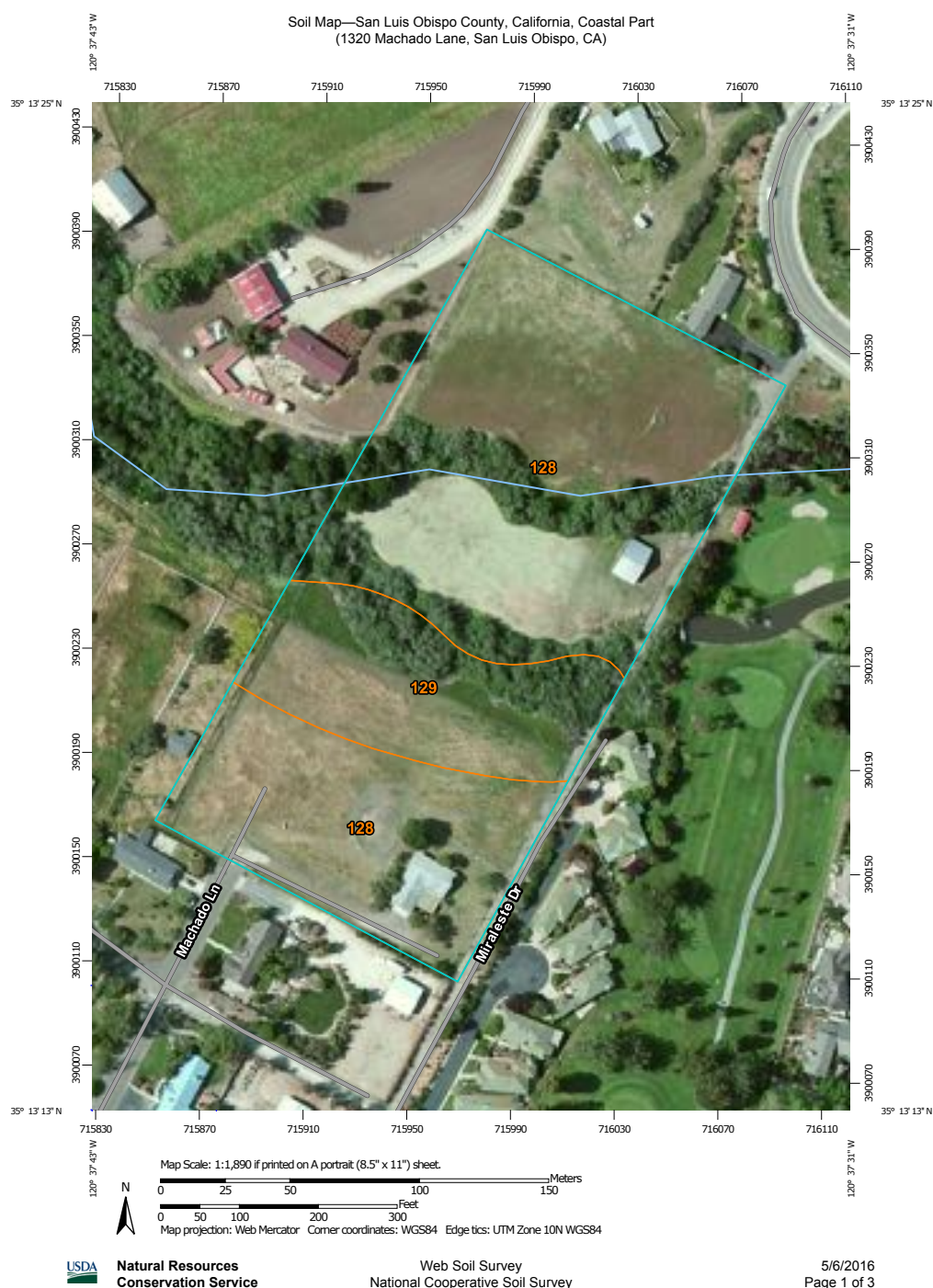


Figure 4. Soils map of the 7.8-acre parcel at 1320 Machado Lane, San Luis Obispo, CA (2016 USDA Web Soil Survey). Also see Table 1 on page 10.

## FLORISTIC, VEGETATION, AND WILDLIFE INVENTORY

### ***Methods***

Drs. V. L. Holland, David Keil, and/or Mike McGovern conducted biological surveys of the site on May 4, 10, 13, and 23, 2016 and on October 15 and November 1, 2016. For this report, V. L. Holland made site visits on July 3 and 6, 2020 to update the 2016 report. The purpose of these surveys was to carefully examine the existing flora, vegetation, wildlife, and biological habitats on the site with special attention to the presence or potential presence of special-status species and sensitive habitats. The site was examined again on July 3 and 6, 2020 to verify that the results of the 2016 report still applied and were still accurate. During the analysis of the site, the entire project site was carefully searched for the target special-status species and habitats known to occur in the Pismo Beach and the eight surrounding 7.5 minute/24,000 feet scale quadrangles (Tables 5 - 8).

All biological surveys were conducted during the day light hours between 8:00 a.m. and 5:00 p.m. During these surveys, the weather varied from sunny to somewhat overcast with calm conditions, and the temperatures were mild (mid 50's to 60's degrees Fahrenheit) with little wind. During this series of surveys, almost all the plants found on the site were in identifiable condition using reproductive and/or vegetative features. This included all potential rare plants that were revealed during the nine-quadrangle rare plant search (Table 5 - 7). The site was carefully searched for any evidence of sensitive wildlife species (scat, tracks, burrows, and visual or auditory observations) or habitats that are listed by the U. S. Fish and Wildlife Service, California Department of Fish and Game, or are known to occur in the general vicinity of the site (Table 8). Trees were examined for nests, roosting sites, etc. No protocol wildlife surveys were conducted because the area was considered outside the range of wildlife species with specific protocol survey requirements or was determined not to support suitable habitat for these species.

Consistent with recommended biological survey methodology, we carefully examined the entire site and areas immediately around the site using overlapping transects that zigzagged through the site. We also traversed up and down the creek channels of both Davenport Creek and the small drainage as much as possible. The drainage channel had such dense vegetation, limbs, and debris in some places that it was difficult to walk its entire length uninterrupted; therefore, this drainage was entered and walked until it was impassable. It was then exited and re-entered so that the entire length could be observed. This allowed us to examine as much of the creek channel and riparian woodland as possible.

Wildlife species were observed and listed as we traversed through the grassland areas and up and down the riparian areas and creek channels. We also walked along the sides of the creek and into the riparian corridor stopping at several randomly selected locations for a period of quiet observation. Additionally, we made frequent stops to listen for and observe wildlife along the entire course of the streambeds and through the riparian corridor. These methods allowed a thorough and careful search for evidence of sensitive and non sensitive wildlife species (scat, tracks, burrows, and visual or auditory observations) and sensitive habitats that are listed by the U. S. Fish and Wildlife Service, California Department of Fish and Game, or are known to occur in the general vicinity of the site (Table 8). The riparian trees were examined for nests and roosting sites.

On May 6, 2016 Dr. Mike McGovern conducted a survey specific to observing wildlife on the subject parcel. The survey began at the southwestern end of the property where Machado Lane ends into the site. At this point the land is relatively flat grassland and then it slopes at approximately ten percent into the drainage channel that forks off Davenport Creek. Dr. McGovern walked transects across the grassland in a more or less northwest to southeast direction at approximately five meters apart. The purpose was to observe the area for signs of animals such as small mammal runways through the grass, nests, diggings, and scat. He followed the same methods for the upland, flat grassland areas area between Davenport Creek and the drainage channel, and for the upland area in the northeastern portion of the site.

Each creek channel also was observed by walking the entire length of the one closest to the northeast boundary of the property to look for signs of wildlife. The arm of the creek closest to the southwest property boundary had such dense vegetation in some places that it was difficult to walk its entire length uninterrupted and, thus, the drainage was entered and walked along its course until it was impassable. It was then exited and re-entered to continue in the same manner until the entire length was observed.

During the hours spent on this location notes were taken of any wildlife or signs of wildlife observed or heard. Time was also spent in quiet observation periodically throughout the site to observe for the potential of nesting birds. Photographs were also taken. During my July 3 and 6, 2020, I noted that there were no significant changes to the wildlife, wildlife habitats, or environmental conditions since our 2016 report as described above.

The sampling methods used in this study allowed us to examine and describe variations in the vegetation, flora, wildlife, and biological habitats shaped by slope differences, landform, soil, hydrology, and past disturbances. We recorded species presence and relative abundance with the goal of recording all species present on the site, including any rare species. To accomplish this, we surveyed the site until no new plant species were found. While only repeated surveys



conducted during all seasons, and even over a few years, provide an inventory nearing one hundred percent completeness, we are confident that the results of our studies provide an accurate inventory of the species present on site, including any potential rare species known to occur in the general vicinity of the site (Tables 5 - 8). During my July 3 and 6, 2020, I noted that there were no significant changes to the vegetation, flora, wildlife, biological habitats, or environmental conditions since our 2016 report described above.

References used to verify plant identifications include relevant floras: The Jepson Manual: Vascular Plants of California (Baldwin, et al. 2012); Vascular Plants of San Luis Obispo County, California (Hoover 1970); Vascular Plants of San Luis Obispo County, California, 2<sup>nd</sup> ed. (Keil & Hoover, unpublished); and herbarium specimens housed at the Hoover Herbarium, Cal Poly State University. Nomenclature follows that of the Jepson Manual (Baldwin, et al, 2012), and on-line revisions that can be accessed on the following website (<http://ucjeps.berkeley.edu/IJM.html>).

## FLORA, VEGETATION, AND WILDLIFE ON SITE

### *Flora*

A list of the plant species (native and introduced) is provided in Appendix 1. Table 2 below summarizes the makeup of the flora on the site. We found a total of 100 plant species on the site consisting of 7 trees (5 native but Monterey pine is not native on the subject property), 13 shrubs (12 native) and 80 grasses and forbs (16 native). Of the 100 species on the site, 33 are native (mostly in the riparian areas) and 67 are naturalized or introduced (mostly in ruderal grassland areas). No new species were found during my July 3 and 6, 2020 surveys.

**Table 2. Summary of plant species found on the 1320 Machado Lane parcel, San Luis Obispo, CA.**

Life form	Total	Native	Naturalized (Introduced)
Trees	7	5 (1 escaped)	2
Shrubs	13	12	1
Herbs (Grasses and Forbs)	80	16	64
<b>TOTAL</b>	<b>100</b>	<b>33</b>	<b>67</b>

Native species are indigenous to California and presumably also to the study site or have spread to the study site via natural means. Naturalized species are exotics introduced to California in historic times from other parts of the world and now reproducing spontaneously in California and on the study site. Escaped are spontaneous progeny of plants cultivated on or near the study site.

### *Vegetation*

Vegetation is shaped by the interactions among long-term climate, short-term weather events, local landforms, soils, hydrology, physical tolerances of individual plant species, disturbances, and land use history by animals, including humans. Plant associations are spatially and temporally dynamic. Definitions and boundaries are relative and respond to the sharpness of the controlling environmental factors. Plant

communities are not usually discrete but often transition into one another, forming ecotones or transition zones; however, the two plant associations on the subject parcel (ruderal coastal valley grassland and riparian woodland) are relatively well defined because of sharp ecotones (Figure 5).

The vegetation on the 7.9-acre subject site can be divided into two plant associations: (1) **ruderal coastal valley grassland**; and (2) **riparian woodland**. Ruderal coastal valley grassland covers approximately 85% of the site and riparian woodlands, which line Davenport Creek and the drainage channel, cover approximately 15% (Figure 5). There are a few widely scattered native shrubs in the grassland areas such as *Baccharis pilularis* (coyote bush), mostly along the fence lines, and also a small population *Stipa pulchra* (purple needlegrass), a native California perennial grass, in the southwestern portion of the parcel where proposed Parcel 1 is located (Figure 5; Photo 6). The vegetation was mapped using an aerial photograph of the property and ground-truthed in the field.

**1. Ruderal coastal valley grasslands (non-native annual grassland/California annual grassland series) with a small population of *Stipa pulchra* (purple needlegrass)**

The open, upland areas on the subject parcel are covered by disturbed coastal valley grassland (also classified as California annual grassland series by Sawyer and Keeler-Wolf, 1995, and non-native grassland by Holland, 1986). These areas are regularly cleared or disked for weed and fire control and are mostly covered by invasive, weedy species of grasses and forbs; however, a small population of purple needlegrass persists in the southwestern portion of the parcel (Figure 5; Photos 1 – 7).

We refer to the grasslands on the subject parcel as ruderal coastal valley grasslands because they are composed of mostly invasive, weedy plant species typical of ruderal communities mixed with species that also characterize coastal valley grassland (Table 3; Photos 1 – 7). Plants introduced by humans and established or maintained by human disturbances dominate ruderal (anthropogenic) communities. Some anthropogenic communities are entirely artificial such as cultivated row-crops, lawns, vineyards, etc. Others, such as ruderal communities, are assemblages of weedy species that have invaded disturbed areas, sometimes in spite of human efforts to control them. Ruderal communities, such those on the upland portions of the subject parcel, occur in highly and often regularly disturbed areas such as roadsides, vacant lots, heavily grazed fields, agricultural fields, and areas cleared, disked, or mowed for weed abatement and fire control. Only plants capable of withstanding repeated disturbances are able to persist in ruderal communities. In the case of the subject parcel, weed-dominated communities cover the upland areas and roadsides on and around the site (Figure 5; Photos 1 – 7).



Figure 5. Vegetation map of the 7.9-acre parcel located at 1320 Machado Lane, San Luis Obispo, CA. The vegetation on the subject site consists of two plant associations. (1) **Ruderal coastal valley grassland** (with a small population of purple needlegrass outlined in orange) covers approximately 85% of the parcel. (2) **Riparian woodland** outlined in blue, covers approximately 15% of the parcel along Davenport Creek (blue arrow) and the drainage channel (white arrow). The riparian woodland is outlined in blue. The ruderal grasslands cover the rest of the parcel. The home (red arrow) and barn (yellow arrow) are in the ruderal grassland areas, and there are small landscaped areas around the home. The small population of *Stipa pulchra* (purple needlegrass) mixed with and surrounded by ruderal grassland is outlined in orange.

Although many of California's native plant species are able to grow on disturbed sites, especially sites that do not have regular disturbances, they often fail to become established because of competition from aggressive introduced species. Most successful weeds produce large quantities of seeds and readily invade disturbed sites. Many have features that allow their seeds to be widely dispersed. Some native species have weedy tendencies and invade disturbed sites (e.g. *Heterotheca grandiflora*-telegraph weed); however, many often fail to do so because they lack efficient seed dispersal mechanisms. They also cannot compete successfully in disturbed areas dominated by tall, dense stands of invasive weedy plants.

Coastal valley grasslands, unlike California native grasslands, are dominated by various species of introduced, weedy grasses and forbs (wildflowers) although a few native herbs are also present. The dominant grasses and forbs are mostly annual species, but a few perennials are also sometimes present.

Most of the grasses and forbs found in ruderal communities are also common in coastal valley grasslands, especially those that have been disturbed (also classified as California annual grassland series by Sawyer and Keeler-Wolf, 1995, and non-native grassland by Holland, 1986). As a result, these grasslands and ruderal communities are very similar in species composition and other features. That is the reason we include them together in this discussion. Ruderal or disturbed coastal valley grasslands occur in the areas historically disturbed often by mowing, grading, and/or clearing of vegetation. Coastal valley grasslands, unlike California native grasslands, are mostly dominated by various species of naturalized (introduced) annual grasses and forbs (wildflowers) although some scattered native annual and perennial herbs may be present (Table 3; Photos 1 – 7).

The introduced, annual grasses and forbs of the ruderal and disturbed coastal valley grassland have seeds that germinate in the fall and mostly reach reproductive maturity in late winter to late spring. After setting seed, the annual plants dry, and the seeds are stored in the soil until they germinate the following fall. The species composition of coastal valley grasslands varies from site to site and from year to year depending on local ecological conditions and weather conditions.

Weed-dominated ruderal coastal valley grassland communities cover the upland areas of the subject site (Figure 5; Photos 1 – 8). Portions of this grassland vegetation have a dense, almost impenetrable thicket of tall weedy species that are over six feet tall (Photos 2 and 3). However, in 2020 the herbaceous cover was cut back for fire control (Photos 2 and 4). While there is a diversity of weedy plants on all of the upland areas (Table 3), some of the dominants vary from place to place within each of the upland areas and also from one upland area to another. For example, the dominant plants in much of the northern upland area

are *Avena barbata* (slender wild oats), *Plantago lanceolata* (English plantain), *Convolvulus arvensis* (bindweed), and *Erodium botrys* (storkbill filaree). The dominant plants in the central upland area are mostly *Avena barbata* (slender wild oats) and *Silybum marianum* (milk thistle), and the dominants in the southern upland area are mostly *Festuca perennis* (ryegrass), *Avena barbata* (slender wild oats), *Hirschfeldia incana* (perennial mustard), and *Silybum marianum* (milk thistle). There are also areas where other plant species form significant patches in and along the grassland areas such as *Carduus pycnocephalus* (Italian thistle), *Phalaris aquatica* (Harding grass), *Malvella leprosa* (alkali malva), and *Bromus diandrus* (ripgut brome). *Conium maculatum* (poison hemlock) forms dense patches in places where the grassland adjoins the riparian woodland as do Italian thistle and milk thistle.

Along with the dominant plants there are many other plants that are relatively common in all the ruderal coastal valley grassland vegetation areas. Many of common plants in the ruderal grassland are listed in Table 3, and a complete list can be found in Appendix 1. My July 2020 surveys indicated that they have been no significant changes in the vegetation or flora in these areas since my 2016 surveys. No new species were found in the July 2020 surveys.

**Table 3. Plant species (grasses and forbs) in ruderal and ruderal coastal valley grassland in upland areas on 1320 Machado Lane, San Luis Obispo County, California. Others are listed in Appendix 1.**

Scientific Name	Common Name	Plant Family	Origin <sup>1</sup>
<b>HERBS</b>			
<i>Amaranthus albus</i>	tumble amaranth	AMARANTHACEAE	i
<i>Avena barbata</i>	slender wild oats	POACEAE	i
<i>Avena fatua</i>	common wild oats	POACEAE	i
<i>Brachypodium distachyon</i>	false brome	POACEAE	i
<i>Brassica nigra</i>	black mustard	BRASSICACEAE	i
<i>Bromus catharticus</i> var. <i>catharticus</i>	rescue grass	POACEAE	i
<i>Bromus diandrus</i>	ripgut brome	POACEAE	i
<i>Bromus hordeaceus</i>	soft chess brome	POACEAE	i
<i>Bromus madritensis</i>	foxtail chess	POACEAE	i
<i>Carduus pycnocephalus</i>	Italian thistle	ASTERACEAE	i
Continued on next page			

<sup>1</sup> n — native to California; i — naturalized in California, introduced from elsewhere in the world  
100 species total; 32 native to California; 68 naturalized

Scientific Name	Common Name	Plant Family	Origin <sup>1</sup>
<i>Centaurea melitensis</i>	totalote, Maltese star thistle	ASTERACEAE	i
<i>Convolvulus arvensis</i>	bindweed, field morning glory	CONVOLVULACEAE	i
<i>Cynodon dactylon</i>	Bermuda grass	POACEAE	i
<i>Erigeron bonariensis</i>	South American horseweed	ASTERACEAE	i
<i>Erigeron canadensis</i>	common horseweed	ASTERACEAE	i
<i>Erodium botrys</i>	storkbill filaree	GERANIACEAE	i
<i>Erodium cicutarium</i>	redstem filaree	GERANIACEAE	i
<i>Erodium moschatum</i>	greenstem filaree	GERANIACEAE	i
<i>Festuca bromoides</i>	brome fescue	POACEAE	i
<i>Festuca myuros</i>	rattail fescue	POACEAE	i
<i>Festuca perennis</i>	ryegrass	POACEAE	i
<i>Foeniculum vulgare</i>	fennel	APIACEAE	i
<i>Gastridium phleoides</i>	nitgrass	POACEAE	i
<i>Helminthotheca echioides</i>	bristly oxtongue	ASTERACEAE	i
<i>Hirschfeldia incana</i>	short-pod mustard, perennial mustard	BRASSICACEAE	i
<i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley	POACEAE	i
<i>Hordeum murinum subsp. leporinum</i>	annual foxtail barley	POACEAE	i
<i>Hypochaeris glabra</i>	smooth cat's-ear	ASTERACEAE	i
<i>Lactuca saligna</i>	slender lettuce	ASTERACEAE	i
<i>Lactuca serriola</i>	prickly lettuce	ASTERACEAE	i
<i>Lupinus bicolor</i>	miniature lupine	FABACEAE	n
<i>Lysimachia arvensis</i> [Anagallis arvensis]	scarlet pimpernel	MYRSINACEAE	i
<i>Malva nicaeensis</i>	bull mallow	MALVACEAE	i
<i>Malva parviflora</i>	small-flowered mallow, cheeseweed	MALVACEAE	i
<i>Malvella leprosa</i>	alkali mallow	MALVACEAE	n
<i>Medicago polymorpha</i>	California bur-clover	FABACEAE	i
<i>Microseris douglasii subsp. tenella</i>	short scaled microseris	ASTERACEAE	n
<i>Phalaris aquatica</i>	Harding grass	POACEAE	i
<i>Plantago lanceolata</i>	English plantain	PLANTAGINACEAE	i
<i>Poa annua</i>	annual bluegrass	POACEAE	i
Continued on next page			



Scientific Name	Common Name	Plant Family	Origin <sup>1</sup>
<i>Polygonum aviculare</i>	common knotweed	POLYGONACEAE	i
<i>Pseudognaphalium californicum</i>	California everlasting	ASTERACEAE	n
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	ASTERACEAE	i
<i>Silybum marianum</i>	milk thistle	ASTERACEAE	i
<i>Sonchus asper</i> subsp. <i>asper</i>	prickly sow-thistle	ASTERACEAE	i
<i>Sonchus oleraceus</i>	common sow-thistle	ASTERACEAE	i
<i>Stipa pulchra</i>	purple needlegrass	POACEAE	n
<i>Trifolium hirtum</i>	rose clover	FABACEAE	i
<i>Vicia sativa</i> subsp. <i>sativa</i>	common vetch	FABACEAE	i
<i>Vicia villosa</i> subsp. <i>varia</i>	narrow-leaved vetch	FABACEAE	i

### ***Wildlife in Ruderal Coastal Valley Grassland***

Undisturbed coastal valley grasslands provide habitat for a variety of wildlife species; however, disturbed ruderal grasslands, like those on the subject parcel, do not. Disturbed areas, like the subject site, have a highly modified plant cover often dominated by tall, dense patches of weedy, introduced grasses and forbs (Photos 1, 3, and 6). In addition, a fence, housing developments, a golf course, roads, agricultural fields and other highly disturbed areas surround the subject parcel. As a result, very few wildlife species are able to use the site. The wildlife species that use or might use the subject parcel are species adapted to urban or disturbed areas. These include species such as sparrows, house finches, mocking birds, scrub jays, crows, doves, mice, fence lizards, gophers, and ground squirrels. These wildlife species are sometimes considered the equivalent to “weedy” plant species that grow on disturbed or developed areas. In the case of the subject site, very few wildlife species were observed in the ruderal grassland area indicating that the area has very low wildlife habitat value. This is also discussed later in this report. No significant changes in the wildlife as described above were noted in my July 2020 surveys of the subject site.

### **2. Riparian Woodland**

Riparian woodlands along the central coast of California consist of a corridor of woodland vegetation along drainages, creeks, rivers, and other waterways. While the structure and composition of the riparian vegetation varies from place to place along creek banks in the central coast, well-developed riparian woodlands often have several species of hydrophytic trees including *Salix* spp. (willows), *Populus* spp (cottonwoods), *Platanus racemosa* (sycamore) and *Alnus* spp. (alders). In addition, others, such as *Quercus agrifolia* (coast live oak), may join the riparian trees along the creek but are considered more typical of upland woodland communities such the oak woodlands found on the surrounding hillsides. The understory vegetation typically consists of shade tolerant shrubs, grasses, and forbs that may be sparse to dense depending on the environmental conditions.



Riparian communities often form narrow to locally broad corridors of dense woodland vegetation. The lateral extent of the woodland depends on the size and nature of the banks, the amount of water carried, and on the depth and lateral extent of the subterranean aquifers. The trees and shrubs of the riparian corridors are mostly deciduous plants that require a permanent water supply. Because of California's summer drought, these species are restricted to streamside, lakeside and marsh side areas where water is always available (at least in the soil or stream sediments though not always at the surface).

Riparian woodland communities occur along the length of Davenport Creek and the small drainage channel on the property. The dominant overstory tree is *Salix lasiolepis* (arroyo willow), which forms dense populations and a closed canopy above the creek channels. A few scattered *Quercus agrifolia* (coast live oaks) mix with the arroyo willows along the creek mostly on the upper banks away from the creek channel (Photos 8 – 12). *Salix laevigata* (red willow) is also present but very uncommon, and a few other trees are widely scattered along the creeks including *Prunus cerasifera* (cherry plum), *Juglans hindsii* (northern black walnut), *Olea europaea* (olive), and *Pinus radiata* (Monterey pine). There are also several understory shrubs found along the creeks. *Toxicodendron diversilobum* (poison oak) is by far the most common shrub and often forms dense populations along the creek banks (Photo 10). The other shrubs are not common but are widely scattered including the native shrubs *Rubus ursinus* (California blackberry), *Baccharis pilularis* (coyote bush), *Frangula californica* subsp. *californica* (California coffeeberry), *Heteromeles arbutifolia* (toyon), and *Sambucus nigra* subsp. *caerulea* (blue elderberry). One large *Cotoneaster lacteus* (big-leaved cotoneaster), an ornamental shrub, was also found. No signs of freshwater marshes or pools of water were found along the creek channel, and there were no indication that they exist in this area.

The herbaceous understory in the riparian woodland is variable, varying from a dense cover of grasses and forbs and *Toxicodendron diversilobum* (poison oak) to somewhat barren areas with litter or bare ground with little or no vegetation cover (Photos 7 – 12). Dense herbaceous understory occurs in some areas mostly along portions of the upper banks and along the margin of the riparian tree canopy where the grassland integrates with the riparian woodland (Photo 6). In this area, there is sometimes a dense cover of grasses and forbs. In some areas, species like *Conium maculatum* (poison hemlock), *Silybum marianum* (milk thistle), and/or *Carduus pycnocephalus* (Italian thistle) form dense, pure populations. In other areas, the grasses and forbs of the adjacent grassland form a dense cover of mostly tall grasses. Two herbaceous ornamentals, *Vinca Major* (greater periwinkle) and *Tropaeolum majus* (garden nasturtium) form large patches in some areas along the banks. Common understory species in the riparian woodland include those listed on Table 4. Others are listed in Appendix 1.

Overall the creek channel is sandy and gravelly with very little or no vegetation (Photo 9). Some areas had woody debris and dead branches cover the channel making it hard to traverse (Photo 10). Creek channels are generally flushed of vegetation during the winter/spring storms. Afterward the channels are devoid of vegetation; however, sometimes a sparse to locally dense temporary vegetation develops in some areas on the sand and gravel bars along the creek. Species such as *Cyperus eragrostis* (common umbrella sedge) are sometimes found widely scattered along the creek channel. The plants characteristic of riparian environments are joined by some species common to the surrounding grassland plant communities and, in some places, by a sparse waif flora of plants whose seeds were washed into the creek gravels by winter storms and germinate in the riparian area. These include a mixture of introduced weeds and native species more characteristic of non-riparian vegetation. The fate of most of the plants of the stream channel is to be washed out by the winter floods that scour the channel nearly free of vegetation.

Common species in the overstory (trees) and understory (shrubs and herbs) in the riparian woodlands along Davenport Creek and the small drainage channel are listed in Table 4. My July 2020 surveys indicated that there have been no significant changes in the vegetation or flora of the riparian woodlands on site since the 2016 surveys and report.

**Table 4. Common plant species in the riparian communities on the 1320 Machado Lane project site, San Luis Obispo County, CA.**

Scientific Name	Common Name	Plant Family	Origin <sup>2</sup>
<b>TREES</b>			
<i>Juglans hindsii</i>	northern black walnut	JUGLANDACEAE	i
<i>Olea europaea</i>	olive	OLEACEAE	i
<i>Pinus radiata</i>	Monterey pine	PINACEAE	n
<i>Prunus cerasifera</i>	cherry plum	ROSACEAE	i
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	coast live oak	FAGACEAE	n
<i>Salix laevigata</i>	red willow	SALICACEAE	n
<i>Salix lasiolepis</i>	arroyo willow, California pussywillow	SALICACEAE	n
<b>SHRUBS AND SUBSHRUBS</b>			
<i>Artemisia californica</i>	California sagebrush	ASTERACEAE	n
<i>Baccharis pilularis</i>	coyote bush	ASTERACEAE	n
Continued on next page			

<sup>2</sup> n — native to California; i — naturalized in California, introduced from elsewhere in the world

Scientific Name	Common Name	Plant Family	Origin <sup>2</sup>
<i>Cotoneaster lacteus</i>	big-leaved cotoneaster	ROSACEAE	i
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	RHAMNACEAE	n
<i>Galium porrigens</i> var. <i>porrigens</i>	climbing bedstraw	RUBIACEAE	n
<i>Heteromeles arbutifolia</i>	toyon, Christmas berry, California-holly	ROSACEAE	n
<i>Keckiella cordifolia</i>	red climbing-penstemon	PLANTAGINACEAE	n
<i>Rosa californica</i>	California wild rose	ROSACEAE	n
<i>Rubus ursinus</i>	California blackberry	ROSACEAE	n
<i>Sambucus nigra</i> subsp. <i>caerulea</i>	blue elderberry	ADOXACEAE	n
<i>Symphoricarpos mollis</i>	creeping snowberry	CAPRIFOLIACEAE	n
<i>Toxicodendron diversilobum</i>	poison-oak	ANACARDIACEAE	n
<b>HERBS</b>			
<i>Agrostis pallens</i>	San Diego bentgrass	POACEAE	n
<i>Antirrhinum kelloggii</i>	climbing snapdragon	PLANTAGINACEAE	n
<i>Artemisia douglasiana</i>	mugwort	ASTERACEAE	n
<i>Brassica nigra</i>	black mustard	BRASSICACEAE	i
<i>Bromus catharticus</i> var. <i>catharticus</i>	rescue grass	POACEAE	i
<i>Bromus diandrus</i>	ripgut brome	POACEAE	i
<i>Carduus pycnocephalus</i>	Italian thistle	ASTERACEAE	i
<i>Centranthus ruber</i>	Jupiter's beard, red valerian	VALERIANACEAE	i
<i>Cirsium vulgare</i>	bull thistle	ASTERACEAE	i
<i>Conium maculatum</i>	poison hemlock	APIACEAE	i
<i>Cyperus eragrostis</i>	common umbrella sedge	CYPERACEAE	n
<i>Epilobium brachycarpum</i>	tall willow-herb	ONAGRACEAE	n
<i>Festuca perennis</i>	ryegrass	POACEAE	i
<i>Foeniculum vulgare</i>	fennel	APIACEAE	i
<i>Geranium dissectum</i>	cut-leaved geranium	GERANIACEAE	i
<i>Helminthotheca echioides</i>	bristly oxtongue	ASTERACEAE	i
<i>Hordeum marinum</i> subsp <i>gussoneanum</i>	Mediterranean barley	POACEAE	i
<i>Hordeum murinum</i> subsp. <i>leporinum</i>	annual foxtail barley	POACEAE	i
<i>Lysimachia arvensis</i> [ <i>Anagallis arvensis</i> ]	scarlet pimpernel	MYRSINACEAE	i
Continued on next page			

Scientific Name	Common Name	Plant Family	Origin <sup>2</sup>
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	LYTHRACEAE	i
<i>Malvella leprosa</i>	alkali mallow	MALVACEAE	n
<i>Oxalis pes-caprae</i>	Bermuda-buttercup	OXALIDACEAE	i
<i>Phalaris aquatica</i>	Harding grass	POACEAE	i
<i>Poa annua</i>	annual bluegrass	POACEAE	i
<i>Pseudognaphalium californicum</i>	California everlasting	ASTERACEAE	n
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	ASTERACEAE	i
<i>Rumex conglomeratus</i>	knotted dock	POLYGONACEAE	i
<i>Rumex crispus</i>	curly dock	POLYGONACEAE	i
<i>Silybum marianum</i>	milk thistle	ASTERACEAE	i
<i>Solanum douglasii</i>	Douglas' nightshade	SOLANACEAE	n
<i>Sonchus asper</i> subsp. <i>asper</i>	prickly sow-thistle	ASTERACEAE	i
<i>Stipa miliacea</i> var. <i>miliacea</i>	smilo	POACEAE	i
<i>Torilis arvensis</i>	common hedge-parsley	APIACEAE	i
<i>Tropaeolum majus</i>	garden nasturtium	TROPAEOLACEAE	i
<i>Vinca major</i>	greater periwinkle	APOCYNACEAE	i

### **Wildlife in Riparian Communities**

Riparian woodlands, depending on their location, can be of significant importance to wildlife. These woodlands can provide vertical and horizontal structure and potential cover, foraging opportunities, and shelter for wildlife species. Riparian vegetation supports numerous insects that are important food resources for omnivorous and insectivorous wildlife species. These, in turn, can provide prey for carnivorous species. A variety of vertebrates may visit riparian areas for water and shelter including opossums, raccoons, mule deer, rodents, and various bird species. Snags within the riparian woodland provide potential roosting sites for raptors and nesting cavities for owls, kestrels, woodpeckers, nuthatches, wrens, chickadees, and bluebirds. Fallen logs become homes for invertebrates that are important food sources for numerous vertebrate species including amphibians, snakes, and birds. Riparian woodland reduces wind and moderates temperature extremes, and fog drip and reduced insolation reduces some of the environmental extremes that occur in open areas.

It might seem that riparian woodlands along the Davenport Creek and the drainage creek on the subject parcel could potentially provide habitat complexity and potential foraging, roosting sites, nesting habitats for various bird species and/or bats. However, very few wildlife species were observed using the subject parcel, and no bird nests or signs of bats were found during our surveys of the site. Possible reasons for the lack of wildlife activity are discussed below.

While riparian woodlands that traverse undisturbed coastal valley grasslands provide habitat for wildlife, riparian areas that traverse agricultural areas, roads, urban developments, and vacant lots that are regularly disturbed have a low wildlife value. This is the case for the subject site, as well as the surrounding areas in the Rolling Hills and San Luis Country Club. Weedy, introduced grasses and forbs, various agricultural crops, or ornamental landscaping now cover most of the areas on and around the subject parcel. As a result, the wildlife species that use or would be expected to use the riparian areas on the subject parcel are urban species such as sparrows, mocking birds, scrub jays, crows, doves, fence lizards, gophers, and ground squirrels. The one potential exception is the wood rat nests found within the confines of the riparian vegetation, which appeared to be potentially active.

The riparian corridor along Davenport Creek and the drainage channel offers a conduit onto and off the property, although access may be limited because Davenport Creek traverses Rolling Hills development to the north and west of the study site. The upstream creek corridor also offers minimal access for wildlife because it traverses the area along California Highway 227, a residential development, a golf course, and Los Ranchos Elementary School. As a result of the above, the subject parcel is somewhat of an island surrounded by urban and rural development and roads. The riparian zone, however, does offer some opportunity for utilization by invertebrates, as well as some reptiles, small mammals, and birds. These wildlife species could potentially forage and nest in the riparian woodland. Impacts to the wildlife species that currently use the riparian habitat on the site, including the wood rats, should not be significantly affected because the riparian woodland habitat will not be disturbed and will have a 50-foot setback buffer to protect it. In addition, the entire area between the creek channels, where the barn is located, will be left open and not developed. My July 2020 surveys indicated that there have been no significant changes in the wildlife, wildlife habitats, or environmental conditions in the riparian areas since our 2016 report.

### **SPECIAL STATUS PLANT SPECIES**

To determine the rare plant species that could potentially be present on the project site, we conducted a search for target special status plants known to occur within the Pismo Beach (221B), San Luis Obispo (246C), Lopez Mountain (246D), Port San Luis (222A), Morro Bay South (247D), Arroyo Grande NE (221A), Oceano (221D) 7.5 minute/24,000 scale quadrangles (Tables 5, 6, and 7). Table 5 provides information on the current rarity status of these target special status species, and Table 6 provides information on life form, flowering period, and elevation range. We also investigated the habitat requirements for all the special status species found in our nine-quadrangle search and evaluated whether or not potential habitats for these species exist on the project site. Results of these investigations and determinations are shown on Table 7. These lists of special status species were updated for this report using the 2020 edition of the California Department of Fish and Game Natural Diversity Data Base: Special Vascular

Plants, Bryophytes, and Lichen List (CNDDDB) and the most recent edition of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* database, both of which are accessible through the internet (<http://www.dfg.ca.gov/whdab/html/cnddb.html> and [www.cnps.org](http://www.cnps.org)). There was only one change, the addition of perennial goldfields to the list.

This search revealed 76 special status plant species that occur within the Pismo Beach quadrangle and the surrounding quadrangles, 24 of which have been reported to occur within the Pismo Beach quadrangle (Table 5). Those found in the Pismo Beach quadrangle are in bold in Table 5. Note that the updated list added one species that was not listed in 2016. Most of the rare plants on the list are not expected to occur on the study site because they are highly restricted in distribution range, in habitat requirements, and have never been reported growing in the Pismo Beach quadrangle or near the site. We carefully searched for any signs of these species on the project site, but none was found.

As mentioned previously, we conducted botanical surveys of the site during the day light hours on May 4, 10, 13, 23, October 15, and November 1, 2016 and July 3 and 6, 2020 to examine the flora and vegetation of the subject parcel and surrounding areas and to determine if any special status species or sensitive habitats are present. The timing of these surveys falls within the flowering period of most herbaceous rare plants found in the nine-quadrangle special status plant search (Table 5 - 7) including the Pismo clarkia. In addition, trees, shrubs, and many herbaceous plants, including the potential rare plant species, were identified using both reproductive and vegetative features. My July 2020 surveys indicated that there have been no significant changes in the evaluation of special status plant species on the subject site since our 2016 report.

**Table 5. List of Special Status Plants Found in the Pismo Beach (221B), San Luis Obispo (246C), Lopez Mountain (246D), Port San Luis (222A), Morro Bay South (247D), Arroyo Grande NE (221A), Oceano (221D). Current Rarity Status is also included. Species found in Pismo Beach quadrangle are in bold.**

<b>Scientific Name</b>	<b>Common Name</b>	<b>CNPS Rare Plant Rank</b>	<b>State Rank</b>	<b>Global Rank</b>	<b>State Status</b>	<b>Federal Status</b>
<b><i>Agrostis hooveri</i></b>	<b>Hoover's bent grass</b>	<b>1B.2</b>	<b>S2</b>	<b>G2</b>		
<i>Arctostaphylos cruzensis</i>	Arroyo de la Cruz manzanita	1B.2	S3	G3		
<i>Arctostaphylos luciana</i>	Santa Lucia manzanita	1B.2	S3	G3		
<i>Arctostaphylos morroensis</i>	Morro manzanita	1B.1	S1	G1		FT
<i>Arctostaphylos osoensis</i>	Oso manzanita	1B.2	S1	G1		
<b><i>Arctostaphylos pechoensis</i></b>	<b>Pecho manzanita</b>	<b>1B.2</b>	<b>S2</b>	<b>G2</b>		
<b><i>Arctostaphylos pilosula</i></b>	<b>Santa Margarita manzanita</b>	<b>1B.2</b>	<b>S3</b>	<b>G3</b>		
<i>Arctostaphylos rudis</i>	sand mesa manzanita	1B.2	S2	G2		
<i>Arctostaphylos tomentosa</i> ssp. <i>daciticola</i>	dacite manzanita	1B.1	S1	G4T1		
<i>Continued</i>						

Scientific Name	Common Name	CNPS Rare Plant Rank	State Rank	Global Rank	State Status	Federal Status
<i>Arenaria paludicola</i>	marsh sandwort	1B.1	S1	G1	SE	FE
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Miles' milk-vetch	1B.2	S2	G5T2		
<i>Atriplex coulteri</i>	Coulter's saltbush	1B.2	S1S2	G3		
Continued on next page						
<i>Bryoria pseudocapillaris</i>	false gray horsehair lichen	3.2	S2	G3		
<i>Bryoria spiralifera</i>	twisted horsehair lichen	1B.1	S1S2	G3		
<i>Calochortus obispoensis</i>	San Luis mariposa lily	1B.2	S2	G2		
<i>Calochortus simulans</i>	La Panza mariposa lily	1B.3	S2	G2		
<i>Calycadenia villosa</i>	dwarf calycadenia	1B.1	S3	G3		
<i>Camissoniopsis hardhamiae</i>	Hardham's evening-primrose	1B.2	S2	G2		
<i>Carex obispoensis</i>	San Luis Obispo sedge	1B.2	S2S3	G2G3		
<i>Castilleja densiflora</i> var. <i>obispoensis</i>	San Luis Obispo owl's- clover	1B.2	S2	G5T2		
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	1B.1	S2	G3T2		
<i>Chenopodium littoreum</i>	coastal goosefoot	1B.2	S2	G2		
<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	dwarf soaproot	1B.2	S2S3	G5T2T3		
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	salt marsh bird's-beak	1B.2	S1	G4?T1	SE	FE
<i>Chorizanthe breweri</i>	Brewer's spineflower	1B.3	S3	G3		
<i>Chorizanthe rectispina</i>	straight-awned spineflower	1B.3	S1	G1		
<i>Cirsium fontinale</i> var. <i>obispoense</i>	San Luis Obispo fountain thistle	1B.2	S2	G2T2	SE	FE
<i>Cirsium occidentale</i> var. <i>lucianum</i>	Cuesta Ridge thistle	1B.2	S2	G3G4T2		
<i>Cirsium rothophilum</i>	Surf thistle	1B.2	S1	G1	ST	
<i>Cirsium scariosum</i> var. <i>loncholepis</i>	La Graciosa thistle	1B.1	S1	G5T1	ST	FE
<i>Cladium californicum</i>	Califonia sawgrass	@B.2	S2	G4		
<i>Cladonia firma</i>	popcorn lichen	2B.1	S1	G4		
<i>Clarkia speciosa</i> ssp. <i>immaculata</i>	Pismo clarkia	1B.1	S1	G4T1	SR	FE
<i>Corethrogyne leucophylla</i>	branching beach aster	3.2	S3	G3Q		
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	dune larkspur	1B.2	S2	G4T2		
<i>Delphinium parryi</i> ssp. <i>eastwoodiae</i>	Eastwood's larkspur	1B.2	S2	G4T2		
<i>Delphinium umbraculorum</i>	umbrella larkspur	1B.3	S3	G3		
<i>Dithyrea maritima</i>	beach spectaclepod	1B.1	S1	G1	ST	
<i>Dudleya abramsii</i> ssp. <i>bettinae</i>	Betty's dudleya	1B.2	S1	G4T1		
<i>Dudleya abramsii</i> ssp. <i>murina</i>	mouse-gray dudleya	1B.3	S2	G4T2		
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	1B.1	S2	G3T2		
Continued						



Scientific Name	Common Name	CNPS Rare Plant Rank	State Rank	Global Rank	State Status	Federal Status
<i>Erigeron blochmaniae</i>	Blochman's leafy daisy	1B.2	S2	G2		
<i>Eriodictyon altissimum</i>	Indian Knob mountainbalm	1B.1	S1	G1	SE	FE
<i>Eryngium aristulatum</i> var. <i>hooveri</i>	Hoover's button-celery	1B.1	S1	G5T1		
<i>Extriplex joaquinana</i>	San Joaquin spearscale	1B.2	S2	G2		
<i>Fritillaria ojaiensis</i>	Ojai fritillary	1B.2	S2?	G2?		
<i>Fritillaria viridea</i>	San Benito fritillary	1B.2	S2	G2		
<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant	3.2	S1	G5T1Q		
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	1B.1	S1	G4T1		
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	1B.1	S2?	G4T2		
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	1B.2	S1	G1		
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	1B.1	S2	G4T2		
<i>Layia jonesii</i>	Jones' layia	1B.2	S2	G2		
<i>Lupinus ludovicianus</i>	San Luis Obispo County lupine	1B.2	S1	G1		
<i>Lupinus nipomensis</i>	Nipomo Mesa lupine	1B.1	S1	G1	SE	FE
<i>Malacothamnus gracilis</i>	slender bush-mallow	1B.1	S1	G1Q		
<i>Monardella palmeri</i>	Palmer's monardella	1B.2	S2	G2		
<i>Monardella sinuata</i> ssp. <i>sinuata</i>	southern curly-leaved monardella	1B.2	S2	G3T2		
<i>Monardella undulata</i> ssp. <i>crispa</i>	crisp monardella	1B.2	S2	G2		
<i>Monardella undulata</i> ssp. <i>undulata</i>	San Luis Obispo monardella	1B.2	S2	G3T2		
<i>Monolopia gracilens</i>	woodland woollythreads	1B.2	S3	G3		
<i>Nasturtium gambelii</i>	Gambel's water cress	1B.1	S1	G1	ST	FE
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	1B.2	S2	G3G4T2		
<i>Phacelia ramosissima</i> var. <i>austrolitoralis</i>	south coast branching phacelia	3.2	S3	G5?T3		
<i>Plagiobothrys uncinatus</i>	hooked popcorn-flower	1B.2	S2	G2		
<i>Poa diaboli</i>	Diablo Canyon blue grass	1B.2	S2	G2		
<i>Sanicula maritima</i>	adobe sanicle	1B.1	S2	G2	SR	
<i>Scrophularia atrata</i>	black-flowered figwort	1B.2	S2S3	G2G3		
<i>Senecio aphanactis</i>	chaparral ragwort	2B.2	S2	G3		
<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	Cuesta Pass checkerbloom	1B.2	S1	G3T1	SR	
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewel-flower	1B.2	S2	G2T2		
<i>Suaeda californica</i>	California seablite	1B.1	S1	G1		FE
<i>Sulcaria isidiifera</i>	splitting yarn lichen	1B.1	S1	G1		
<i>Symphotrichm defoliatum</i>	San Bernardino aster	1B.2	S2	G2		
<i>Trifolium hydrophilum</i>	saline clover	1B.2	S2	G2		
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	1B.1	S1	G1		

Key to numbers and symbols used in Table 1 are listed on the next page.

From: California Native Plant Society (CNPS). 2020. Inventory of Rare and Endangered Plants (online edition, v8-01a). California Native Plant Society. Sacramento, CA.

**California Rare Plant Rank 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere**

Plants with a California Rare Plant Rank of 1A are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.

All of the plants constituting California Rare Plant Rank 1A meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, and impacts proposed to individuals or their habitat, they must be analyzed during preparation of environmental documents relating to the California Environmental Quality Act (CEQA), or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

**California Rare Plant Rank 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere**

Plants with a California Rare Plant Rank of 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. California Rare Plant Rank 1B plants constitute the majority of taxa in the CNPS Inventory, with more than 1,000 plants assigned to this category of rarity. All of the plants constituting California Rare Plant Rank 1B meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

**California Rare Plant Rank 2A: Plants Presumed Extirpated in California, But Common Elsewhere**

Plants with a California Rare Plant Rank of 2A are presumed extirpated because they have not been observed or documented in California for many years. This list only includes plants that are presumed extirpated in California, but more common elsewhere in their range.

All of the plants constituting California Rare Plant Rank 2A meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and are eligible for state listing. Should these species be rediscovered, any impacts proposed to individuals or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

**California Rare Plant Rank 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere**

Except for being common beyond the boundaries of California, plants with a California Rare Plant Rank of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act. With California Rare Plant Rank 2B, we recognize the importance of protecting the geographic range of widespread species. In this way we protect the diversity of our own state's flora and help maintain evolutionary processes and genetic diversity within species.

**Continued on next page**

All of the plants constituting California Rare Plant Rank 2B meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

**California Rare Plant Rank 3: Plants About Which More Information is Needed - A Review List**

Plants with a California Rare Plant Rank of 3 are united by one common theme - we lack the necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic. For each California Rare Plant Rank 3 plant we have provided the known information and indicated in the "Notes" section of the CNPS Inventory record where assistance is needed. Data regarding distribution, endangerment, ecology, and taxonomic validity are welcomed and can be submitted by emailing the Rare Plant Botanist at [asims@cnps.org](mailto:asims@cnps.org).

All of the plants constituting California Rare Plant Rank 3 meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

**California Rare Plant Rank 4: Plants of Limited Distribution - A Watch List**

Plants with a California Rare Plant Rank of 4 are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly. Should the degree of endangerment or rarity of a California Rare Plant Rank 4 plant change, we will transfer it to a more appropriate rank.

Some of the plants constituting California Rare Plant Rank 4 meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and we strongly recommend that California Rare Plant Rank 4 plants be evaluated for impact significance during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, based on CEQA Guidelines §15125 (c) and/or §15380. This may be particularly appropriate for:

- The type locality of a California Rare Plant Rank 4 plant,
- Populations at the periphery of a species' range,
- Areas where the taxon is especially uncommon,
- Areas where the taxon has sustained heavy losses, or
- Populations exhibiting unusual morphology or occurring on unusual substrates.

#### **Threat Ranks**

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- 0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

### **California Dept. of Fish & Game**

#### **Endangered Species (CE)**

Plant taxa whose prospects for survival are in immediate jeopardy from one or more causes

#### **Threatened Species (CT)**

Plant taxa not presently threatened with extinction, but likely to become endangered within the foreseeable future in the absence of special protection and management efforts

#### **Rare Species (CR)**

Plant taxa not presently threatened with extinction, but occurring in such small numbers throughout its range that they may become endangered if habitat conditions worsen

### **State Ranking**

**S1** = Less than 6 EOs or less than 1,000 individuals or less than 2,000 acres

**S2** = 6-20 EOs or 1,000–3,000 individuals or 2,000–10,000 acres

**S3** = 21-100 EOs or 3,000-10,000 individuals or 10,000-50,000 acres

**S4** = Apparently secure in California – No threat rank

**S5** = Demonstrably secure in California – No threat rank

### **Number following S ranks:**

- 1 – Very threatened
- 2 – Threatened
- 3 – No current threats

### **U. S. Dept. of Fish and Wildlife**

#### **Endangered Species (FE)**

Taxa in danger of extinction throughout all or a significant portion of their range

#### **Threatened Species (FT)**

Taxa likely to become endangered within the foreseeable future throughout all or a significant portion of their range

#### **Candidate Species (C)**

Taxa for which the Service has on file enough substantial information on biological vulnerability and threat (s) to support proposals to list them as endangered or threatened species, but such action has been delayed by other listing activity

### **Global Ranking**

#### **GX Presumed Extinct**

Believed to be extinct throughout its range. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

#### **GH Possibly Extinct**

Known from only historical occurrences, but may nevertheless still be extant; further searching needed.

#### **G1 Critically Imperiled**

Critically imperiled globally because of extreme rarity or because of some factor (s) making it especially vulnerable to extinction. Typically 5 or fewer occurrences or very few remaining individuals (<1,000) or acres (<2,000) or linear miles (<10).

#### **G2 Imperiled**

Imperiled globally because of rarity or because of some factor (s) making it very vulnerable to extinction or elimination. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000) or linear miles (10 to 50).

**G3 Vulnerable**

Vulnerable globally either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extinction or elimination. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.

**G4 Apparently Secure**

Uncommon but not rare (although it may be rare in parts of its range, particularly on the periphery), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern. Typically more than 100 occurrences and more than 10,000 individuals.

**G5 Secure**

Common, widespread, and abundant (although it may be rare in parts of its range, particularly on the periphery). Not vulnerable in most of its range. Typically with considerably more than 100 occurrences and more than 10,000 individuals.

**T# Intraspecific Taxon (trinomial)**

The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1.

**Table 6. List of Special Status Plants<sup>3</sup> Found in the Pismo Beach (221B), San Luis Obispo (246C), Lopez Mountain (246D), Port San Luis (222A), Morro Bay South (247D), Arroyo Grande NE (221A), Oceano (221D) along with life form, flowering period, and elevation range**

Scientific Name	Common Name	Life Form	Flower Period	Elevation Range (m)	
				Low	High
<i>Agrostis hooveri</i>	Hoover's bent grass	perennial herb	Apr-Jul	6	610
<i>Arctostaphylos cruzensis</i>	Arroyo de la Cruz manzanita	perennial evergreen shrub	Dec-Mar	60	310
<i>Arctostaphylos luciana</i>	Santa Lucia manzanita	perennial evergreen shrub	Dec-Mar	350	850
<i>Arctostaphylos morroensis</i>	Morro manzanita	perennial evergreen shrub	Dec-Mar	5	205
<i>Arctostaphylos osoensis</i>	Oso manzanita	perennial evergreen shrub	Feb-Mar	95	500
<i>Arctostaphylos pechoensis</i>	Pecho manzanita	perennial evergreen shrub	Nov-Mar	125	850
<i>Arctostaphylos pilosula</i>	Santa Margarita manzanita	perennial evergreen shrub	Dec-May	155	1100
<i>Arctostaphylos rudis</i>	sand mesa manzanita	perennial evergreen shrub	Nov-Feb	25	322
<i>Arctostaphylos tomentosa</i> ssp. <i>daciticola</i>	dacite manzanita	perennial evergreen shrub	Mar-May	100	300
<i>Arenaria paludicola</i>	marsh sandwort	perennial stoloniferous herb	May-Aug	3	170
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Miles' milk-vetch	annual herb	Mar-Jun	20	90
<i>Extriplex coulteri</i>	Coulter's saltbush	perennial herb	Mar-Oct	3	460
<i>Bryoria pseudocapillaris</i>	false gray horsehair lichen	fruticose lichen epiphytic		0	90
<i>Bryoria spiralifera</i>	twisted horsehair lichen	fruticose lichen epiphytic		0	30
<i>Calochortus obispoensis</i>	San Luis mariposa lily	perennial bulbiferous herb	May-Jul	50	730
<i>Calochortus simulans</i>	La Panza mariposa lily	perennial bulbiferous herb	Apr-Jun	380	1100
<i>Calycadenia villosa</i>	dwarf calycadenia	annual herb	May-Oct	240	1350
<i>Camissoniopsis hardhamiae</i>	Hardham's evening-primrose	annual herb	Mar-May	140	945
<i>Carex obispoensis</i>	San Luis Obispo sedge	perennial rhizomatous herb	Apr-Jun	10	820
<i>Castilleja densiflora</i> var. <i>obispoensis</i>	San Luis Obispo owl's-clover	annual herb hemiparasitic	Mar-May	10	400
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<sup>3</sup> California Rare Plant Rank 1A, 1B, 2, or 3.

Scientific Name	Common Name	Life Form	Flower Period	Elevation Range (m)	
				Low	High
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	annual herb	May-Nov	0	230
<i>Chenopodium littoreum</i>	coastal goosefoot	annual herb	Apr-Aug	10	30
<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	dwarf soaproot	perennial bulbiferous herb	May-Aug	305	1000
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	salt marsh bird's-beak	annual herb hemiparasitic	May-Oct	0	30
<i>Chorizanthe breweri</i>	Brewer's spineflower	annual herb	Apr-Aug	45	800
<i>Chorizanthe rectispina</i>	straight-awned spineflower	annual herb	Apr-Jul	85	1035
<i>Cirsium fontinale</i> var. <i>obispoense</i>	San Luis Obispo fountain thistle	perennial herb	Feb-Sep	35	385
<i>Cirsium occidentale</i> var. <i>lucianum</i>	Cuesta Ridge thistle	perennial herb	Apr-Jun	500	750
<i>Cirsium rhotophilum</i>	Surf thistle	perennial herb	Apr-Jun	3	60
<i>Cirsium scariosum</i> var. <i>loncholepis</i>	La Graciosa thistle	perennial herb	May-Aug	4	220
<i>Cladium californicum</i>	California sawgrass	perennial rhizomatous herb	Jun-Sept	60	1600
<i>Cladonia firma</i>	popcorn lichen	squamulose lichen terrestrial	na	30	75
<i>Clarkia speciosa</i> ssp. <i>immaculata</i>	Pismo clarkia	annual herb		25	185
<i>Corethrogyne leucophylla</i>	branching beach aster	perennial herb	May-Dec	3	60
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	dune larkspur	perennial herb	30	0	200
<i>Delphinium parryi</i> ssp. <i>eastwoodiae</i>	Eastwood's larkspur	perennial herb	May-Jul	75	500
<i>Delphinium umbraculorum</i>	umbrella larkspur	perennial herb	Apr-Jun	400	1600
<i>Dithyrea maritima</i>	beach spectaclepod	perennial rhizomatous herb	Feb-Mar	3	50
<i>Dudleya abramsii</i> ssp. <i>bettinae</i>	Betty's dudleya	perennial herb	Apr-Jun	20	180
<i>Dudleya abramsii</i> ssp. <i>murina</i>	mouse-gray dudleya	perennial leaf succulent	Mar-May	90	440
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	perennial herb	May-Jul	5	450
<i>Erigeron blochmaniae</i>	Blochman's leafy daisy	perennial rhizomatous herb	May-Jun	3	45
<i>Eriodictyon altissimum</i>	Indian Knob mountainbalm	perennial evergreen shrub	Apr-Jun	80	270
<i>Eryngium aristulatum</i> var. <i>hooveri</i>	Hoover's button-celery	annual/perennial herb	Jun-Aug	3	45
<i>Atriplex joaquinana</i>	San Joaquin spearscale	annual herb	Mar-Jun	1	835
<i>Fritillaria ojaiensis</i>	Ojai fritillary	perennial bulbiferous herb	Jun-Aug	225	998
<i>Fritillaria viridea</i>	San Benito fritillary	perennial bulbiferous herb	Apr-Oct	200	1525
<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant	perennial herb	Feb-May	15	400
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	perennial herb	Mar-May	70	810
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	perennial herb	Jun-Sep	10	200
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	perennial herb	Jan-Nov	5	520
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	annual herb	Feb-Sep	1	1220
<i>Layia jonesii</i>	Jones' layia	annual herb	Apr-Sep	5	400
<i>Lupinus ludovicianus</i>	San Luis Obispo County lupine	perennial herb	Feb-Jun	50	525
continued on next page					

Scientific Name	Common Name	Life Form	Flower Period	Elevation Range (m)	
				Low	High
<i>Lupinus nipomensis</i>	Nipomo Mesa lupine	annual herb	Dec-May	10	50
<i>Malacothamnus gracilis</i>	slender bush-mallow	perennial deciduous shrub	Mar-May	190	575
<i>Monardella palmeri</i>	Palmer's monardella	perennial rhizomatous herb	Apr-Jul	200	800
<i>Monardella sinuata</i> ssp. <i>sinuata</i>	southern curly-leaved monardella	annual herb	May-Oct	0	300
<i>Monardella undulata</i> ssp. <i>undulata</i>	San Luis Obispo monardella	perennial rhizomatous herb	Jun-Aug	10	200
<i>Monolopia gracilens</i>	woodland woollythreads	annual herb	Apr-Sep	100	1200
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	annual herb	May-Sep	0	100
<i>Phacelia ramosissima</i> var. <i>austrolitoralis</i>	south coast branching phacelia	perennial herb	Mar-Aug	5	300
<i>Plagiobothrys uncinatus</i>	hooked popcorn-flower	annual herb	Feb-Jul	300	760
<i>Poa diaboli</i>	Diablo Canyon blue grass	perennial rhizomatous herb	Apr-Sep	120	400
<i>Sanicula maritima</i>	adobe sanicle	perennial herb	Apr-May	30	240
Continued on next page					
<i>Scrophularia atrata</i>	black-flowered figwort	perennial herb	Feb-May	10	500
<i>Senecio aphanactis</i>	chaparral ragwort	annual herb		15	800
<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	Cuesta Pass checkerbloom	perennial herb	Mar-Jul	600	800
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewel-flower	annual herb	Jan-Apr	95	1000
<i>Suaeda californica</i>	California seablite	perennial evergreen shrub	May-Jun	0	15
<i>Sulcaria isidiifera</i>	splitting yarn lichen	fruticose lichen epiphytic	na	20	30
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	perennial rhizomatous herb	Jul-Nov	2	2040
<i>Trifolium hydrophilum</i>	saline clover	annual herb	Jul-Oct	0	300
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	annual herb	Mar-Apr	1	455

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**Table 7. Habitat Requirements of Special Status Plants Found in Pismo Beach (221B), San Luis Obispo (246C), Lopez Mountain (246D), Port San Luis (222A), Morro Bay South (247D), Arroyo Grande NE (221A), Oceano (221D) along with Preferred Habitats and whether Potential Habitats Occur on site.**

Scientific Name	Habitat	Found or Expected on Site
<i>Agrostis hooveri</i>	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Valley and foothill grassland/usually sandy	Hoover's bent grass was not observed on the subject parcel and is not expected on the disturbed sites or riparian areas.
<i>Arctostaphylos cruzensis</i>	Broadleafed upland forest, Coastal bluff scrub, Closed-cone coniferous forest, Chaparral, Coastal scrub, Valley and foothill grassland/sandy	Endemic to northwestern corner of San Luis Obispo County. Not expected on the site. Potential habitat not present. This evergreen shrub would have been readily recognizable during field surveys.
<i>Arctostaphylos luciana</i>	Chaparral, Cismontane woodland on shale	Endemic to southern Santa Lucia Range. Not expected on the site. Potential habitat not present. This evergreen shrub would have been readily recognizable during field surveys.
<i>Arctostaphylos morroensis</i>	Chaparral (maritime), Cismontane woodland, Coastal dunes (pre-Flandrian), Coastal scrub/Baywood fine sand	Endemic to sandy soils around southern end of Morro Bay. Not expected on the site. Potential habitat not present. This evergreen shrub would have been readily recognizable during field surveys.
<i>Arctostaphylos osoensis</i>	Chaparral, Cismontane woodland on dacite porphyry buttes	Endemic to western portion of the Morros east of Morro Bay. Not expected on the site. Potential habitat not present. This evergreen shrub would have been readily recognizable during field surveys.
<i>Arctostaphylos pechoensis</i>	Closed-cone coniferous forest, Chaparral, Coastal scrub on siliceous shale	<b>Endemic to western end of San Luis Range. Not expected on the site. Potential habitat not present. This evergreen shrub would have been readily recognizable during field surveys.</b>
<i>Arctostaphylos pilosula</i>	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland/Sometimes sandstone.	<b>Occurs from eastern end of San Luis Range to west-central San Luis Obispo County. Not expected on the site. Potential habitat not present. This evergreen shrub would have been readily recognizable during field surveys.</b>
<i>Arctostaphylos rudis</i>	Chaparral(maritime), Coastal scrub/sandy	Occurs on old stabilized dunes. Not expected on the site. Potential habitat not present. This evergreen shrub would have been readily recognizable during field surveys.
<i>Arctostaphylos tomentosa</i> ssp. <i>daciticola</i>	Chaparral, Cismontane woodland on dacite porphyry buttes	Endemic to western portion of the Morros east of Morro Bay. Not expected on the site. Potential habitat not present. This evergreen shrub would have been readily recognizable during field surveys.
<i>Arenaria paludicola</i>	Marshes and swamps (freshwater or brackish)/sandy, openings	<b>Highly restricted to freshwater wetlands in western San Luis Obispo County; nearly extinct. Not expected on the site. Potential habitat not present.</b>
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Coastal scrub (clay)	Not expected on the site. Potential habitat not present.
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Scientific Name	Habitat	Found or Expected on Site
<i>Atriplex coulteri</i>	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland/alkaline or clay	Occurs in coastal sites with salty soil. Not expected on the site. Potential habitat not present.
<i>Bryoria pseudocapillaris</i>	Coastal dunes (SLO Co.), North Coast coniferous forest (immediate coast). Usually on conifers	Fruticose lichen epiphytic. No appropriate host or habitats on site and not expected on subject parcel.
<i>Bryoria spiralifera</i>	North Coast coniferous forest (immediate coast)/Usually on conifers	Fruticose lichen epiphytic. No appropriate host or habitats on site and not expected on subject parcel.
<b><i>Calochortus obispoensis</i></b>	<b>Chaparral, Coastal scrub, Valley and foothill grassland/often serpentinite</b>	<b>Occurs in San Luis Range in serpentine grasslands. Not expected on the site. Potential habitat not present.</b>
<b><i>Calochortus simulans</i></b>	<b>Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland/sandy, often granitic, sometimes serpentinite</b>	<b>Occurs in interior of San Luis Obispo County, especially in La Panza Range. Not expected on the site. Potential habitat not present.</b>
<i>Calycadenia villosa</i>	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland/rocky, fine soils	Occurs in interior of San Luis Obispo County in La Panza Range. Not expected on the site. Potential habitat not present.
<i>Camissoniopsis hardhamiae</i>	Chaparral, Cismontane woodland/sandy, decomposed carbonate, disturbed or burned areas	Occurs in interior of San Luis Obispo County in hills east of Santa Margarita. Not expected on the site. Potential habitat not present and out of range.
<i>Carex obispoensis</i>	Closed-cone coniferous forest, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland/often serpentinite seeps, sometimes gabbro; often on clay soils	Not expected on site potential habitat not present on the site because there are no serpentinite seeps or gabbro or clay soils.
<b><i>Castilleja densiflora</i> var. <i>obispoensis</i></b>	<b>Meadows and seeps, Valley and foothill grassland/sometimes serpentinite</b>	<b>It was not observed during appropriate season and not expected to occur on the site. Potential habitat not present. No meadows or seeps on the site and no serpentinite.</b>
<b><i>Centromadia parryi</i> ssp. <i>congdonii</i></b>	<b>Valley and foothill grassland (alkaline soils)</b>	<b>It was not observed during appropriate season and not expected to occur on the site. Potential habitat (vernal or temporary pools, meadows, or seeps) not present. No <i>Centromadia</i> species were found on the site.</b>
<i>Chenopodium littoreum</i>	Coastal dunes	Known only from coastal dunes of western San Luis Obispo and Santa Barbara counties. No appropriate habitats on site and not expected on subject parcel.
<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	Chaparral (serpentinite)	Not found during appropriate season. Potential habitat not present on the site because there are no serpentinite or chaparral. Not expected to occur on site.
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	Coastal dunes, Marshes and swamps (coastal salt)	Known only from coastal dunes and salt marshes of western San Luis Obispo and Santa Barbara counties. Not expected on the site. Potential habitat not present and out of range
<b><i>Chorizanthe breweri</i></b>	<b>Closed-cone coniferous forest, Chaparral, Cismontane woodland, Coastal scrub/serpentinite, rocky or gravelly</b>	<b>It was not found during appropriate season and not expected to occur on the site. This species is restricted to serpentine-derived soils.</b>
<i>Chorizanthe rectispina</i>	Chaparral, Cismontane woodland, Coastal scrub	Occurs in interior of San Luis Obispo County in hills east of Santa Margarita. Not expected on the site. Potential habitat not present and out of range
<i>continued on next page</i>		

Scientific Name	Habitat	Found or Expected on Site
<i>Cirsium fontinale</i> var. <i>obispoense</i>	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/serpentine seeps, drainages	Not found during appropriate season on the site. This species is known only from west central San Luis Obispo County where it is restricted to permanently wet seeps and springs on soils derived from serpentine. Not expected on the site. Potential habitat not present.
<i>Cirsium occidentale</i> var. <i>lucianum</i>	Chaparral (openings)/Serpentine. Often steep rocky slopes and disturbed roadsides.	Endemic to southern Santa Lucia Range. Not found during appropriate season on the site. No appropriate habitats such as serpentine chaparral or rocky slopes on the project site. Not expected on the site.
<i>Cirsium rhotophilum</i>	Coastal bluff scrub, Coastal dunes	Known only from coastal dunes of western San Luis Obispo and Santa Barbara counties. Not expected on the site. Potential habitat not present and out of range.
<i>Cirsium scariosum</i> var. <i>loncholepis</i>	Cismontane woodland, Coastal dunes, Coastal scrub, Marshes and swamps(brackish), Valley and foothill grassland/mesic, sandy	Known only from coastal dunes and wetlands of western San Luis Obispo and Santa Barbara counties. Not expected on the site. Potential habitat not present and out of range
<i>Cladium californicum</i>	Meadows and seeps, Marshes and swamps Alkaline or Freshwater	No meadows, seeps, or marshes on the site. Not expected on the site. Potential habitat not present
<i>Cladonia firma</i>	Coastal dunes (stabilized), Coastal scrub/On soil, detritus, and/or moss	Squamulose lichen terrestrial found on sand dunes. Not expected on the site. Potential habitat not present and out of range.
<i>Clarkia speciosa</i> ssp. <i>immaculata</i>	Chaparral (margins, openings), Cismontane woodland, Valley and foothill grassland/sandy	Occurs in eastern San Luis Range and adjacent areas near the site; however, it is primarily in sandy soil around oak trees; potential habitat not present, not found during the appropriate season, and not expected on subject parcel.
<i>Corethrogyne leucophylla</i>	Closed-cone coniferous forest, Coastal dunes.	No closed-cone coniferous forest or Coastal dune habitats on the parcel. Not expected on the site. Potential habitat not present and out of range.
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	Chaparral (maritime), Coastal dunes	Not found on the site. Not known from hills north of Arroyo Grande. No appropriate habitats such as coastal dunes on the project site. No <i>Delphinium</i> species were encountered on the site.
<i>Delphinium parryi</i> ssp. <i>eastwoodiae</i>	Chaparral (openings), Valley and foothill grassland/Serpentine, coastal	No appropriate soils (serpentine) or habitats (openings in chaparral) on site. Not found on the site and not expected to occur on the site. No <i>Delphinium</i> species were encountered on the site.
<i>Delphinium umbraculorum</i>	Chaparral, Cismontane woodland	Known only from coastal dunes of western San Luis Obispo and Santa Barbara counties. Not expected on the site. Potential habitat not present and out of range.
<i>Dithyrea maritima</i>	Coastal dunes, Coastal scrub (sandy)	No appropriate habitats of active dunes with blowing sand. Not expected on the site. Potential habitat not present and out of range.
<i>Dudleya abramsii</i> ssp. <i>bettinae</i>	Chaparral, Coastal scrub, Valley and foothill grassland/serpentine, rocky	Not found on the site during appropriate season. No appropriate habitats such as serpentine on the project site.
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Scientific Name	Habitat	Found or Expected on Site
<i>Dudleya abramsii</i> ssp. <i>murina</i>	Chaparral, Cismontane woodland, Valley and foothill grassland/serpentine	Not found on the site during appropriate season. No appropriate habitats such as serpentine on the project site.
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland/rocky, often clay or serpentine	Known from central San Luis Obispo County in Santa Lucia and La Panza ranges. Not found on the site during appropriate season. Not expected on the site. Potential habitat not present.
<i>Erigeron blochmaniae</i>	Coastal dunes, Coastal scrub	Known from coastal areas of San Luis Obispo County. Not expected on the site. Potential habitat not present and out of range.
<i>Eriodictyon altissimum</i>	Chaparral (maritime), Cismontane woodland, Coastal scrub/sandstone	Known from sandy soils of eastern and western San Luis Range; soils unsuitable for this species on subject parcel. Nearest site is Indian Knob. Not expected on the site. Potential habitat not present and out of range.
<i>Eryngium aristulatum</i> var. <i>hooveri</i>	Vernal pools	Occurs in low-lying sites around San Luis Obispo. No appropriate vernal pool habitats on the site. This species was not found during appropriate season and not expected to occur on the site.
<i>Extriplex joaquinana</i>	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland/alkaline	Occurs in interior sites with alkaline soils. Not expected on the site. Potential habitat not present and out of range.
<i>Fritillaria ojaiensis</i>	Broadleafed upland forest (mesic), Chaparral, Cismontane woodland, Lower montane coniferous forest/rocky	Known in San Luis Obispo County from western slopes of Santa Lucia Range; Not reported from the area and not found during appropriate season on the site. No appropriate habitats and not expected on the site.
<i>Fritillaria viridea</i>	Chaparral (serpentine)/Sometimes stream banks, sometimes rocky	Known in San Luis Obispo County from western slopes of Santa Lucia Range; SLO County reports may be misidentification of <i>F. ojaiensis</i> ; related <i>F. affinis</i> known from Prefumo Canyon; Not found during appropriate season on the site. No chaparral or serpentine soils on site. Not expected on subject parcel.
<i>Grindelia hirsutula</i> var. <i>maritima</i>	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland/sandy or serpentine	Although this species has been reported from the San Luis Obispo County coast near San Simeon, this report is probably in error, based on a misidentification. This species was not found during appropriate season and not expected to occur on the site. No species of <i>Grindelia</i> were observed on the site, and not documented in San Luis Obispo area (reports erroneous)
<i>Horkelia cuneata</i> var. <i>puberula</i>	Chaparral(maritime), Cismontane woodland, Coastal scrub/sandy or gravelly	Known from sandy soil at eastern and southern end of San Luis Range and southward; not expected on clayey soils found on subject parcel. Not expected on the site. Potential habitat not present and out of range.
<i>Horkelia cuneata</i> var. <i>sericea</i>	Closed-cone coniferous forest, Chaparral (maritime), Coastal dunes, Coastal scrub/sandy or gravelly, openings	Known from sandy soil near coast in southern part of SLO County. Not expected on the site. Potential habitat not present and out of range.
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	Coastal bluff scrub, Coastal dunes, Coastal scrub	This is a coastal species found in sandy soils and associated with coastal plant communities. Not expected on the site. Potential habitat not present and out of range.
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Scientific Name	Habitat	Found or Expected on Site
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Marshes and swamps(coastal salt), Playas, Vernal pools	In San Luis Obispo County known from small area at southern end of Morro Bay Salt Marsh. Not expected on the site. Potential habitat not present and out of range.
<i>Layia jonesii</i>	Chaparral, Valley and foothill grassland/clay or serpentinite	<b>Not found on the site during appropriate season. No appropriate serpentinite soils or habitats on site. No species of <i>Layia</i> were found on the site. Not expected on the site.</b>
<i>Lupinus ludovicianus</i>	Chaparral, Cismontane woodland/sandstone or sandy	<b>Endemic to west-central San Luis Obispo County; known from eastern end of San Luis Range (Indian Knob). Not found on the site during appropriate season. Potential habitat not present. Nearest site is Indian Knob.</b>
<i>Lupinus nipomensis</i>	Coastal dunes	No coastal dunes on the parcel. Not expected on the site. Potential habitat not present and out of range.
<i>Malacothamnus gracilis</i>	Chaparral/Usually rocky	Potential habitat not present on the site. No rocky areas and out of species range Not found on the site during appropriate season. Potential habitat not present.
<i>Monardella palmeri</i>	Chaparral, Cismontane woodland/serpentinite	Potential habitat not present; no serpentinite. Not found on the site during appropriate season.
<i>Monardella sinuata</i> ssp. <i>sinuata</i>	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub (openings)/Sandy.	<b>Known only from coastal dunes of western San Luis Obispo and Santa Barbara counties; synonym of <i>M. undulata</i> subsp. <i>crispa</i>. Not expected on the site. Potential habitat not present and out of range.</b>
<i>Monardella undulata</i> ssp. <i>crispa</i>	Coastal dunes, Coastal scrub (sandy)	Known only from coastal sand hills and dunes of western San Luis Obispo and Santa Barbara counties; synonym of <i>M. undulata</i> subsp. <i>undulata</i> . Not expected on the site. Potential habitat not present and out of range.
<i>Monardella undulata</i> ssp. <i>undulata</i>	Coastal dunes, Coastal scrub (sandy)	Known only from coastal sand hills and dunes of western San Luis Obispo and Santa Barbara counties. Not expected on the site. Potential habitat not present and out of range.
<i>Monolopia gracilens</i>	Broadleafed upland forest(openings), Chaparral(openings), Cismontane woodland, North Coast coniferous forest(openings), Valley and foothill grassland/Serpentine	Known from western end of San Luis Range (Pecho Creek) northwest along coast and into Santa Lucia Range; no appropriate habitats and not expected on subject parcel.
<i>Nasturtium gambelii</i>	Marshes and swamps (freshwater or brackish)	No marshes and swamps (freshwater or brackish) on the parcel. Not expected on the site. Potential habitat not present and out of range
<i>Nemacaulis denudata</i> var. <i>denudata</i>	Coastal dunes	This coastal dune species was not found on the site during appropriate season. Not expected on the site. Potential habitat not present and out of range.
<i>Plagiobothrys uncinatus</i>	Chaparral (sandy), Cismontane woodland, Valley and foothill grassland	Known from central north San Luis Obispo County. Not expected on the site. Potential habitat not present and out of range.
<i>Phacelia ramosissima</i> var. <i>austrolitoralis</i>	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt)/sandy, sometimes rocky	No chaparral, Coastal dunes, Coastal scrub, Marshes, or swamps (coastal salt)/sandy, sometimes rocky on the parcel. Not expected on the site. Potential habitat not present and out of range
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Scientific Name	Habitat	Found or Expected on Site
<i>Poa diabolii</i>	Closed-cone coniferous forest, Chaparral(mesic), Cismontane woodland, Coastal scrub/shale; sometimes burned areas	Known from westernmost portion of San Luis Range. Not expected on the site. Potential habitat not present and out of range.
<i>Sanicula maritima</i>	Chaparral, Coastal prairie, Meadows and seeps, Valley and foothill grassland/clay, serpentinite	Known from seasonally wet areas of clay soils often derived from serpentinite in San Luis Obispo area and along San Simeon coast; no suitable habitat observed on subject parcel.
<i>Scrophularia atrata</i>	<b>Closed-cone coniferous forest, Chaparral, Coastal dunes, Coastal scrub, Riparian scrub</b>	<b>Known from eastern end of San Luis Range (Indian Knob) southward into northwestern Santa Barbara County; not expected on Subject parcel. Nearest population is in Price Canyon about 2 miles to southwest.</b>
<i>Senecio aphanactis</i>	Chaparral, Cismontane woodland, Coastal scrub/sometimes alkaline	Known from widely scattered sites in western half of San Luis Obispo County. No appropriate habitats found on the parcel and not observed on site.
<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	Closed-cone coniferous forest, Chaparral/rocky, serpentinite	Endemic to southern Santa Lucia Mountains of San Luis Obispo County. Not expected on the site. Potential habitat not present and out of range.
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	Chaparral, Cismontane woodland, Valley and foothill grassland/serpentinite	Synonym of <i>Streptanthus glandulosus</i> subsp. <i>glandulosus</i> ; known from serpentinite outcrops in Prefumo Canyon; Not expected on the site. Potential habitat not present and out of range.
<i>Suaeda californica</i>	Marshes and swamps(coastal salt)	Endemic to salt marsh areas from Cayucos to Morro Bay. Not expected on the site. Potential habitat not present and out of range..
<i>Sulcaria isidiifera</i>	Coastal scrub (old growth). On branches of oaks and shrubs	Fruticose lichen epiphytic. Not found or expected on the site. Potential habitat not present and out of range.
<i>Symphyotrichum defoliatum</i>	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic)/near ditches, streams, springs	Not found on site during appropriate season. Not found or expected on the site. Potential habitat not present and out of range.
<i>Trifolium hydrophilum</i>	Marshes and swamps, Valley and foothill grassland(mesic, alkaline), Vernal pools	Known in San Luis Obispo County from serpentinite-derived wet clay soils. These habitats not found on the subject site. Not expected on subject parcel.
<i>Tropidocarpum capparideum</i>	Valley and foothill grassland(alkaline hills)	Known in San Luis Obispo County from Santa Margarita Ranch. Not expected on the site. Potential habitat not present and out of range..

### **Summary and Findings Regarding Special-Status Plant Species**

After an intensive search of the property, we did not find any special status plant species listed on CNPS Lists 1, 2 or 3 or any sensitive habitats. The property was examined when the Pismo clarkia was in full bloom at the reference population on Ormonde Road in 2016, and there was no evidence of Pismo Clarkia in any phenological stage on the subject parcel. In 2020, again there were no signs of Pismo clarkia or any species of Clarkia on the subject site, which I would have been able to identify based on dried remains and fruits. Overall the property has been highly disturbed, and tall, dense stands of weedy grasses and forbs have become the dominant plant cover in the upland areas.

However, the herbaceous cover was cut back in 2020 for fire control. Please also note that the clayey soils on the site do not provide appropriate habitat for Pismo clarkia, which grows on sandy soils.

It should be noted that Tables 5, 6, and 7 provides special status plant species listed on CNPS Lists 1, 2, and 3 but not List 4. There was one List 4 plant species discovered on the site. A few scattered *Calystegia subacaulis* ssp. *episcopalis* (San Luis Obispo County or Cambria morning glory), which is on the CNPS List 4.2, occur along the edge of the riparian woodland areas. CNPS List 4 plants are considered *Plants of Limited Distribution – A Watch List*. Plants with a California Rare Plant Rank of 4 are of limited distribution or infrequent throughout a broader area in California. Some List 4 plants are significant locally, and CNPS recommends that List 4 plants be evaluated for impact significance during preparation of environmental documents.

*Calystegia subacaulis* ssp. *episcopalis* (San Luis Obispo County or Cambria morning glory) is a perennial herb with trailing or sometimes weakly twining stems. It has alternate, broadly triangular leaves that are minutely hairy. The cream-colored, funnel-shaped flowers are produced from April to June. *Calystegia subacaulis* ssp. *episcopalis* is known from San Luis Obispo and northern Santa Barbara Counties. In San Luis Obispo County it ranges from the Hearst Ranch in the northwestern corner of the county south to the vicinity of San Luis Obispo where it usually occurs in grassy sites with clay-rich soils often in association with serpentinite parent material. In recent times, San Luis Obispo County morning glory has been found to be much more widespread than it was thought to be a few years ago. A few San Luis Obispo County morning glory plants were found widely scattered immediately along the margin of the riparian areas. It covers considerably less than 1% of the subject property. All of these plants occur in areas that fall within the 50-foot buffer zone along the riparian woodland and will not be disturbed; therefore, no mitigation is necessary. There were no significant changes in special status plant species as described above noted in the 2020 examinations of the subject site.

## **SPECIAL STATUS WILDLIFE SPECIES**

To determine the special status wildlife species that could potentially be present on the project site, we conducted a search for target special status species known to occur within the Pismo Beach (221B), San Luis Obispo (246C), Lopez Mountain (246D), Port San Luis (222A), Morro Bay South (247D), Arroyo Grande NE (221A), Oceano (221D) 7.5 minute/24,000 scale quadrangles (Tables 8). To

generate this list, we referred to the most recent edition of the California Department of Fish and Game Natural Diversity Data Base. A survey for special status wildlife species was conducted on the subject parcel to determine actual and potential utilization of this site by wildlife species that have special listing.

The subject site is a relatively small parcel (7.9-acres) that is covered mostly by ruderal grassland vegetation and is surrounded by residential development, a golf course, and agricultural fields. The combination of these features limits the use of the site by most wildlife species. However, a few species adapted to disturbed, urban type conditions such as gophers, ground squirrels, fence lizards, mocking birds, and scrub jays, have been observed on and around the study site. There is also some evidence of wood rat activity in the riparian woodland areas as three potentially active wood rat nests were observed along the creek channel. Two were on the subject parcel and one was on the adjacent property down stream. No other wildlife species were found on the site, and no signs (scat, tracks, fur, sounds, or live observations) of special status wildlife species were observed on the study site.

As discussed previously, the subject site has two habitat types, riparian woodland and ruderal grassland. For the most part, special status animal species that occur within the Pismo Beach and surrounding quadrangles (Table 8) are highly restricted both in distribution range and in habitat requirements and do not occupy the habitats found on the study site. For example, some rare animal species occur in salt or brackish water, e.g., the Tidewater goby; some require permanent standing water, e.g., Steelhead; some occur in vernal pools, e.g., the fairy shrimp; some occur only in specific soils and or other substrate conditions, e.g., the globose dune beetle (fore dune sands) and Morro Bay shoulderband snail; some require specific roosting sites, e.g., the bat species; some require large, deep bodies of water, e.g., the western pond turtle and red-legged frogs; some require permanent standing water to lay their eggs; e.g. coast range newt. In addition, the site is simply out of the geographic range in which many special status species have been found, e.g., Atascadero June beetle. In addition, some species are not found or expected on the site because they are secretive and avoid areas with human activity. None of the specialized habitats listed above occur on or near the subject site. However, some of the species listed in Table 8 have potential ranges that could potentially include the subject parcel, and while we would not expect any of them to use the subject site, some may be found in the general area.



**Table 8. CNDDDB list of Special Status Plants Found in the Pismo Beach (221B), San Luis Obispo (246C), Lopez Mountain (246D), Port San Luis (222A), Morro Bay South (247D), Arroyo Grande NE (221A), Oceano (221D). Current Rarity Status is also included. \*Key: SSC = species of special concern; FP = fully protected; WL = watch list;**

Scientific Name	Common Name	Federal Status	State Status	CDFW Status*
<b>MOLLUSKS</b>				
<i>Helminthoglypta walkeriana</i>	Morro shoulderband (=banded dune) snail	Endangered	None	-
<i>Pyrgulopsis taylori</i>	San Luis Obispo pyrg	None	None	-
<i>Tryonia imitator</i>	mimic tryonia (=California brackish water snail)	None	None	-
<b>CRUSTACEANS</b>				
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threatened	None	-
<i>Linderiella occidentalis</i>	California linderiella	None	None	-
<b>INSECTS</b>				
<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-
<i>Bombus occidentalis</i>	western bumble bee	None	None	-
<i>Ablautus schlingeri</i>	Oso Flaco robber fly	None	None	-
<i>Cicindela hirticollis gravida</i>	sandy beach tiger beetle	None	None	-
<i>Lichnanthe albipilosa</i>	white sand bear scarab beetle	None	None	-
<i>Plebejus icarioides moroensis</i>	Morro Bay blue butterfly	None	None	-
<i>Chlosyne leanira elegans</i>	Oso Flaco patch butterfly	None	None	-
<i>Danaus plexippus pop. 1</i>	monarch - California overwintering population	None	None	-
<i>Polyphylla nubila</i>	Atascadero June beetle	None	None	-
<i>Areniscythris brachypteris</i>	Oso Flaco flightless moth	None	None	-
Continued on next page				

Scientific Name	Common Name	Federal Status	State Status	CDFW Status*
<i>Ammopelmatus muwu</i>	Point Conception jerusalem cricket	None	None	-
<i>Coelus globosus</i>	globose dune beetle	None	None	-
<b>FISH</b>				
<i>Gasterosteus aculeatus williamsoni</i>	unarmored threespine stickleback	Endangered	Endangered	FP
<i>Eucyclogobius newberryi</i>	tidewater goby	Endangered	None	SSC
<i>Oncorhynchus mykiss irideus</i>	steelhead - south- central California coast DPS	Threatened	None	-
<b>AMPHIBIANS</b>				
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	Threatened	SSC
<i>Rana draytonii</i>	California red- legged frog	Threatened	None	SSC
<i>Taricha torosa</i>	Coast Range newt	None	None	SSC
<b>REPTILES</b>				
<i>Anniella pulchra nigra</i>	black legless lizard	None	None	SSC
<i>Anniella pulchra pulchra</i>	silvery legless lizard	None	None	SSC
<i>Emys marmorata</i>	western pond turtle	None	None	SSC
<i>Thamnophis hammondi</i>	two-striped garter snake	None	None	SSC
<i>Phrynosoma blainvillii</i>	coast horned lizard	None	None	SSC
<b>BIRDS</b>				
<i>Accipiter cooperii</i>	Cooper's hawk	None	None	WL
<i>Accipiter gentilis</i>	northern goshawk	None	None	SSC
<i>Accipiter striatus</i>	sharp-shinned hawk	None	None	WL
<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL
<i>Buteo regalis</i>	ferruginous hawk	None	None	WL
<i>Circus cyaneus</i>	northern harrier	None	None	SSC
<i>Elanus leucurus</i>	white-tailed kite	None	None	FP
<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	Endangered	FP
<i>Pandion haliaetus</i>	osprey	None	None	WL
<i>Eremophila alpestris actia</i>	California horned lark	None	None	WL
<i>Branta bernicla</i>	brant	None	None	SSC
<i>Ardea alba</i>	great egret	None	None	-
<i>Ardea herodias</i>	great blue heron	None	None	-
<i>Egretta thula</i>	snowy egret	None	None	-
<i>Continued on next page</i>				

Scientific Name	Common Name	Federal Status	State Status	CDFW Status*
<i>Ixobrychus exilis</i>	least bittern	None	None	SSC
<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	-
<i>Gymnogyps californianus</i>	California condor	Endangered	Endangered	FP
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	Threatened	None	SSC
<i>Charadrius montanus</i>	mountain plover	None	None	SSC
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	Threatened	Endangered	-
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	None	None	WL
<i>Ammodramus savannarum</i>	grasshopper sparrow	None	None	SSC
<i>Chondestes grammacus</i>	lark sparrow	None	None	-
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	None	Endangered	-
<i>Falco columbarius</i>	merlin	None	None	WL
<i>Falco mexicanus</i>	prairie falcon	None	None	WL
<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP
<i>Spinus lawrencei</i>	Lawrence's goldfinch	None	None	-
<i>Gavia immer</i>	common loon	None	None	SSC
<i>Haematopus bachmani</i>	black oystercatcher	None	None	-
<i>Progne subis</i>	purple martin	None	None	SSC
<i>Agelaius tricolor</i>	tricolored blackbird	None	None	SSC
<i>Lanius ludovicianus</i>	loggerhead shrike	None	None	SSC
<i>Larus californicus</i>	California gull	None	None	WL
<i>Sternula antillarum browni</i>	California least tern	Endangered	Endangered	FP
<i>Thalasseus elegans</i>	elegant tern	None	None	WL
<i>Pelecanus occidentalis californicus</i>	California brown pelican	Delisted	Delisted	FP
<i>Phalacrocorax auritus</i>	double-crested cormorant	None	None	WL
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threatened	FP
<i>Rallus longirostris obsoletus</i>	California clapper rail	Endangered	Endangered	FP
<i>Numenius americanus</i>	long-billed curlew	None	None	WL
<i>Athene cunicularia</i>	burrowing owl	None	None	SSC
<i>Strix occidentalis occidentalis</i>	California spotted owl	None	None	SSC
<i>Selasphorus sasin</i>	Allen's hummingbird	None	None	-
Continued on next page				

Scientific Name	Common Name	Federal Status	State Status	CDFW Status*
<b>MAMMALS</b>				
<i>Dipodomys heermanni morroensis</i>	Morro Bay kangaroo rat	Endangered	Endangered	FP
<i>Eumops perotis californicus</i>	western mastiff bat	None	None	SSC
<i>Nyctinomops macrotis</i>	big free-tailed bat	None	None	SSC
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None	None	SSC
<i>Neotoma macrotis luciana</i>	Monterey dusky-footed woodrat	None	None	SSC
<i>Taxidea taxus</i>	American badger	None	None	SSC
<i>Callorhinus ursinus</i>	northern fur-seal	None	None	-
<i>Eumetopias jubatus</i>	Steller (=northern) sea-lion	Delisted	None	-
<i>Antrozous pallidus</i>	pallid bat	None	None	SSC
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	Candidate Threatened	SSC
<i>Myotis yumanensis</i>	Yuma myotis	None	None	-

The special status species of mollusks, insects, crustaceans, fish, and amphibians listed from the Pismo Beach and surrounding quadrangles (Table 8) either do not have appropriate habitat on the study site, or the site is located out of their known ranges. For example, the subject parcel is out of range and does not have suitable habitats for the three listed mollusks. The Morro Bay shoulderband snail is only known to occur in limited numbers on stabilized, vegetated, Flandrian and pre-Flandrian dunes in the general vicinity of Morro Bay and Los Osos, California. The San Luis Obispo pyra occurs in largely in brackish water, and the California brackish water snail only occurs in brackish water. No wetlands or brackish water habitats occur on the subject parcel.

Steelhead (*Oncorhynchus mykiss irideus*) is a species that is listed as threatened by the federal government. Davenport Creek passes through the property and is a contributor to San Luis Creek that has documented steelhead within it. Davenport Creek is an ephemeral creek, particularly in its upper reaches. On the subject site, the creek, which bifurcates on the property, has no opportunity to maintain pools of water. We also observed that the reaches of the creek downstream that pass through the Rolling Hills development lack capacity to maintain pools of water. The land upstream from the property is devoted to agriculture, primarily grapes, and there is little to no opportunity for water to remain after a rain. As a result of the above findings, we believe that the opportunity for steelhead to occupy the creek on the subject property or the adjacent properties upstream and downstream does not exist. However, just in case there is a remote possibility that steelhead could reach the subject property during years of extremely high water flow, they would not be expected to survive on the site due to the lack of pools or perennial water flow. In addition, the owner will not be disturbing any potential steelhead habitat along the creek channel. The following mitigation measures, which will avoid impacts to

steelhead, will be implemented. (1) There will be not disturbances to the creek channels or the riparian woodland. (2) There will be a 50-foot setback from the edge of the riparian woodland that will avoid and/or mitigate any potential impacts to the stream corridor and water quality.

California red-legged frog (*Rana aurora draytonii*) is listed as Threatened by the U.S. Fish and Wildlife Service (USFWS) and a California Special Concern species by the California Department of Fish and Game (CDFG). California red-legged frogs (CRF hereafter) have historically been found in riparian habitats throughout the coastal areas of California and in some inland areas. They were likely widespread throughout San Luis Obispo County and were probably found in most streams with permanent pools, as well as permanent ponds, lakes, and marshes. Unfortunately, today CRF have disappeared from almost all of its former range.

Biological surveys of the creek channels and adjacent riparian and upland areas on the subject property indicate that no appropriate habitat exists for CRF. We reached this determination based on the lack of required habitat conditions as discussed below.

Jennings and Hayes (1985) and Tatarian (2008) report that CRF typically occur in habitats with deep sheltered pools of water and stands of overhanging protective vegetation. *Typha* (cat-tails), *Scripus* (tules), and *Salix* (willows) are typically associated with the presence of CRF. Canopy cover keeps the water temperature low, which is a particularly important habitat requirement for CRF according to Hayes (1990). Accessibility to such habitat is important for the long-term survival of this species and can be a factor limiting population density and distribution. Even in intermittent stream habitats, CRF require pools of permanent standing water, usually 20 inches deep with dense shoreline or emergent vegetation. U.S. Fish and Wildlife Service (1996) found that incised stream channels with portions narrower and deeper than 18 inches also provide habitat for CRF. Other studies have found that individual CRF have been found using channels and pools of various depths; however minimum depths of at least 12 to 18 inches, generally from late spring to the fall, are required (M. Allaback, 2000). Biological surveys of the creek channels and adjacent riparian areas on the subject property indicate that these habitat requirements for breeding CRF do not exist on the site.

CRF usually occur in habitats that typically lack introduced bullfrogs, non-native fish, and other introduced predators and competitors (Hayes and Jennings 1989). According to Stebbins (1985) and Tatarian (2008) sufficient pond depth and emergent vegetation cover are both critical, because they offer means of escape from predators and provide vegetation areas to deposit eggs during the breeding season. Biological surveys of the creek channels and adjacent riparian areas on the subject property indicate that these habitat requirements for CRF do not exist on the site.

CRF typically breed from November (usually after first rain in this county) through April. They breed in aquatic habitats including slow moving creeks, pools, ponds, marshes, springs, and artificial impoundments such as stock ponds if they are managed to provide suitable hydroperiod, pond structure, vegetative cover, and control of nonnative predators, especially bullfrogs. In order to successfully breed and reproduce, CRF typically require a permanent source of water with pools that typically have a minimum depth of 24 inches according to Hayes and Jennings (1988), although this depth may vary. These pools must also be able to maintain water for a minimum of 20 weeks during the entire tadpole-rearing season, and as mentioned previously, shrubby riparian and/or emergent vegetation is necessary for the deposition of eggs. Biological surveys of the creek channels and adjacent riparian areas on the subject property indicate that habitat requirements for breeding CRF do not exist on the site.

CRF are seldom found far from water during the dry season; however, starting with the first fall rains and through the wet season, some CRF may disperse and move through upland habitats. Most of these overland excursions occur at night. During wet weather these dispersal movements may cover distances up to one or two miles and generally follow straight-line, point-to-point migrations rather than specific habitat corridors. CRF movements generally occur from breeding aquatic habitat to non-breeding aquatic habitat and may occur after egg laying or as a result of the breeding aquatic habitat receding or drying up. USFWS (2010) reported that CRF typically disperses less than 2,000 feet from their breeding habitat. Fellers and Kleeman (2007), working in Marin County, found that most CRF upland movements occurred for distances of 300 to 600 feet across open grasslands; however, individual dispersal distances of 1,000 feet to 1.7 miles were also recorded. Tatarian (2008) reported that in the dry, inland areas of California CRF movements mostly occurred in the wet season after a rain of more than 0.2 inches; however, Tatarian also believes that CRF may potentially disperse to upland areas in the dry summer in coastal California if they are protected from desiccation by dense, summer fog. N. Scott and G. Rathbun (1998), working in San Luis Obispo County, also found that most upland excursions occur at night during the wet season (after the first fall rains). During this time, CRF can move in a straight line as much as one mile. While the use of upland areas by CRF is not well known, dispersal distances are dependent on habitat availability and environmental conditions. Jennings and Hayes (1994) report that CRF may disperse from breeding habitats to forage and seek summer habitats if water is not available. These summer habitats might include wet spaces under boulders or rocks and organic debris, such as downed trees or logs and other similar features. CRF also use small mammal burrows and moist leaf litter (Jennings and Hayes 1994).

CRF occasionally use upland habitats where they may potentially breed in wet ground squirrel or small mammal burrows or under boulders and logs as long as the larvae are protected from desiccation and predators (Jennings and Hayes 1994). As mentioned above, dispersal distances are believed to depend on the availability

of suitable habitat and prevailing environmental conditions though very little is known about how CRF actually use upland habitats during dispersal.

CRF aestivation habitat may include areas up to 300 feet from a creek corridor if boulders, rocks, trees, shrubs, or logs are present. Incised stream channels with portions narrower than 18 inches and depths greater than 18 inches may also provide aestivation habitat. Densely vegetated terrestrial areas within the riparian corridor also provides important sheltering habitat (Tatarian 2008).

In summary, the Designation of Critical Habitat for the CRF, as described by the USFWS (2006), consists of the following four main habitat elements. (1) For successful breeding and reproduction, the aquatic habitat must have a permanent water source that supports pools of water with a minimum depth of 20 inches (although this may vary now). These pools must be able to maintain water for the entire tadpole-rearing season, a minimum of 20 weeks. (2) The area must have a non-breeding aquatic habitat that provides food, space, and vegetative cover that is spatially distinct from breeding habitat. (3) The property must have upland areas (up to 300 feet from the water's edge) that is associated with the aquatic habitat described above and provide shelter (i.e., boulders, rocks, trees, shrubs, or logs), forage, maintenance of the water quality, and dispersal areas. (4) The adjacent upland areas must also provide barrier-free dispersal habitat that is at least 300 feet wide. The upland area must also connect at least two (or more) suitable breeding habitats (as defined previously) that are within 1.25 miles of each other.

Biological surveys of the creek channels, adjacent riparian woodland, and upland areas indicate that required breeding and non-breeding CRF habitat elements (as discussed above) do not exist on the subject property. This lack of required habitat conditions appears to eliminate the potential of this species using or surviving on the subject site.

As described previously, we did not find any locations within the creeks or riparian areas on or near the site that could maintain adequate pools or small areas of standing water that could support breeding or non-breeding CRF. There is a pool of water on the adjacent golf course; however, this human-made pool offers no shade or areas for CRF to hide and escape from predators, and golfers on foot and in golf carts heavily use it. The pond is lined by manicured grass with no stands of overhanging vegetation, shrubby riparian, or emergent vegetation for protection or breeding. There is no canopy cover to keep the water temperature low, which is a particularly important habitat requirement for CRF according to Hayes (1990). Also, there are no breeding habitats around the pond or in the adjacent creek channel. In addition, this pond is maintained by the golf course and may also have a variety of herbicides and pesticides that are often utilized on golf courses. As a result, this area does not appear to have appropriate habitat conditions (as previously described) to support breeding or non-breeding CRF in any of its stages of life. CRF could not survive in this pool area or in the adjacent creek area.



The upland areas on the subject property are dry with no visible areas or features that can maintain standing water or adequately wet conditions. We did not find any wet or moist areas under boulders or rocks or organic debris, and no downed trees or logs or other similar features. The small mammal burrows consist of primarily California ground squirrels and do not appear capable of maintaining adequate moisture for CRF. In addition, we did not find any lands surrounding the subject property that are appropriate for the dispersal or survival of the CRF. There are rural home developments that range extensively from the subject property to the north and west. To the south is the golf course and to the east are more single-family rural residences and California Highway 227.

In summary, our biological surveys did not reveal any breeding or non-breeding habitats for CRF on or near the subject site. This conclusion is based on the lack of adequate hydrologic conditions, lack of sheltered pools and off-stream ponded water, and lack of stands of protective overhanging or emergent vegetation. As a result, we determined that the subject property and adjacent properties do not provide suitable habitat for CRF. Based on these findings, other than the 50-foot buffer out from the edge of the riparian woodland, no mitigation for CRF would be needed. However, Brooke Langle, the County biologist, reported that CRF have been found in a variety of habitats including agricultural ditches denuded of any vegetation with herbicide and/or pesticide run off. She believes that the only way to definitely determine that CRF are not present on the site is to conduct the full USFWS (2005) protocol level surveys to rule them out. Therefore, if the property is developed and if the County is concerned that CRF could potentially be present, we suggest the following mitigation measures.

To avoid potential direct impacts to dispersing individuals of CRF, initial ground disturbances should be completed during the dry period, which is typically between May 1 through August 30 or later. If ground disturbances occur from September 1 through April 30, during the potential wet season when CRF are potentially dispersing or using upland areas, we suggest the following two options for mitigation measures prior to development. (Note that the dates provided above can be modified by the consulting biologist based on his/her review of current habitat conditions on the site. USFWS recommends that these can be determined on a case-by-case basis.)

Either one of the two mitigation options discussed below will protect any potential CRF on the subject property. We suggest the owner chose the one that best meets his needs with approval of the County of San Luis Obispo.

#### Option 1

The only way to say definitely that CRF are not present is to conduct the full USFWS (2005) protocol level surveys to rule them out. If they are not found, no mitigation measures will be necessary. If they are found, option 2 below should be followed.

## Option 2

If a protocol study is not conducted to definitely rule out the presence of CRF or if the protocol study finds CRF on the site, the mitigation measures below should be followed.

1. A temporary exclusion fence approved by the County of San Luis Obispo (such as an ERTEC E-Fence with a lip to prevent frogs from crawling over) will be erected along the boundaries of the development envelopes between the riparian corridor and the development envelopes on the lots. During construction conducted when CRF could potentially be dispersing, this exclusion fence will prevent CRF from entering the development areas.

2. Immediately before construction activities begin, a pre-construction CRF survey will be conducted in the construction areas by a qualified biologist. If no CRF are found, the work can proceed. If any CRF are found, the County of San Luis Obispo will be notified and the CRF shall be relocated to the adjacent creek areas or other suitable site with approval from the County working with USFWS or CFWS. Any dead CRF must be reported immediately to the County. After all CRF have been relocated, work can proceed.

Coast Range newts are a California species that occurs in wet forests, oak forests, chaparral, and rolling grasslands. It utilizes ponds, reservoirs, and pools in streams to breed, typically beginning in December or January or with the first heavy rains. Eggs are attached to submerged vegetation or stones. Larvae transform and begin to live on land at the end of the summer or in early fall. In summer they can be found in moist habitats under woody debris, or in rock crevices and animal burrows, but can also sometimes be seen wandering overland in moist habitats any time of the year. As explained above, no appropriate habitats occur for this species on the subject parcel. In addition, the riparian woodland habitat will not be disturbed by the proposed project.

The California tiger salamander is a California species that is restricted to grasslands and low foothill regions (typically below 2000 feet but up to 3,500 in coastal areas). They occur and breed in natural ephemeral or vernal pools but also occur in seasonal ponds (e.g. stock ponds) that are allowed to go dry. In the Coastal region, California tiger salamanders occur in scattered populations from Sonoma County to Santa Barbara County. There are no vernal pools or ephemeral ponds in the grassland habitats on the subject parcel; so this species does not occur on the study site.

The listed special status reptiles (Table 8) have very limited potential habitat on or around the subject parcel; so they are not likely to use the site. Black and silvery legless lizards typically occur in sand dunes along the coast where they are fairly common in sandy soils of Montana de Oro State Park, Los Osos, and Morro Bay. These species of legless lizards are adapted for burrowing in sandy or loamy soils but can also occur in leaf litter or under logs in moist environments. The creeks on the subject property are ephemeral and relatively dry much of the year; however,

there are fallen logs and duff in places along the creek channel that might provide marginal habitat. Scuffing of likely places that legless lizards would occur failed to find this species. No impact to the potential presence of these species is expected because the riparian woodland habitat will not be disturbed by the proposed project.

Coast Range newts are found in somewhat similar habitats as the black and silver legless lizards, and while marginal habitat may occur on the subject parcel, efforts to find these species failed. The same is true for the two-striped garter snake, which prefers moist habitats. Although the creeks on the property were dry during our survey, the ample shade and the two-striped garter snake's ability to range may allow them to find areas off the property with appropriate habitat for foraging and shelter. However, it is highly unlikely that the two-striped garter snake would significantly utilize the project site as habitat.

The coast horned lizard is a California reptile species of concern whose populations are in decline. Historically, the horned lizard was found along the Pacific coast from Baja California north to the Bay Area, and inland as far north as Shasta Reservoir. This species also extends inland to the Kern Plateau east of the crest of the Sierra Nevada. However its current range is more scattered and fragmented. Horned lizards are found in open areas of loose or sandy soil and low vegetation and have been found in various places in San Luis Obispo County. The clayey soils on the subject site and the presence of tall, dense weedy grasses and forbs (Photos 2 and 5) make this area poorly suited for the coast horned lizard. No horned lizards were observed during field surveys, and no habitat for this species occurs on the project site. In addition, the riparian woodland habitat will not be disturbed by proposed future development.

Western pond turtles require ponds, lakes, or deeper waters to avoid predators and to feed. They can live on land and will often travel overland in search of a source of water or a place to over summer in underground burrows in dry years. No appropriate aquatic or wetland habitats for western pond turtles occur on the project site, and no signs of them were found. In addition, the riparian woodland habitat where they could potential be found will not be disturbed by the proposed project.

There are several special status bird species reported from the Pismo Beach and surrounding quadrangles (Table 8) but most of them do not have appropriate habitats on the subject parcel. For example, all of the shore birds and those associated with inland water sources, such as the gulls, rails, terns, plovers, pelicans, brants, herons, egrets, oystercatchers, and loons, would not be expected to use the subject site. In addition, condors could potentially do a rare fly over but would not use the site as habitat.

There are nine special status species of raptors reported from the Pismo Beach and surrounding quadrangles (Table 8), but most would not find appropriate habitats on the subject parcel. Most raptors, such as the golden eagles, northern harriers, and bald eagles, hunt and forage in large open areas that are away from development.

They are not expected to use the subject parcel because the site is surrounded by development, provides only a small area of open grassland broken by two drainages, and is covered mostly by dense, tall weedy grasses and forbs. Therefore, other than an occasional fly by, these species would not be expected to be found near the site.

The subject parcel is also not appropriate habitat for ospreys, which prefers habitats with open water or large streams. Coopers hawks and sharp shinned hawks, however, may visit this area at times to take advantage of hunting near and within the riparian woodland canopy. Their evolutionary path has adapted them for such habitat. The white tailed kite may also forage in small areas of open grassland, and it is possible, although unlikely, that they could visit this area seasonally. The noted paucity of any signs of small mammals suggests that hunting may be unrewarding and, thus, it is unlikely that the listed special status raptors will utilize this property for foraging.

The two special status species of owls listed on Table 8 are not expected to utilize the subject site. Burrowing owls range from the Mississippi to the Pacific and from the Canadian Prairie Provinces into South America where they are found in dry, open areas such as grasslands, prairies, savannas, deserts, and farmlands. Burrowing owls get their name because they live in underground burrows, which provide shelter and a permanent nesting site. Unlike other owls, burrowing owls are diurnal species that live in the ground utilizing the burrows of other burrowing animals. This species is most generally associated with interior habitats of eastern San Luis Obispo County (Carrizo plain, Elkhorn Plains, and Cuyama Valley) but occasionally are seen near the coast. Occurrence of this species along the coast is most generally expected along the northern county coast (Cambria area) and even then occurrence is rare. A search throughout the property yielded no signs of burrowing owl activity. Burrowing owls prefer open areas with low ground cover. The dense growth of tall weedy vegetation would discourage this species from occupying the subject parcel. No burrows were found on or near the study site, and no suitable habitat for burrowing owls exist on the site.

In contrast to burrowing owls, California spotted owls occur in densely forested habitats. They are considered a resident species and bellwether species of old-growth forests. California spotted owls nest in old abandoned nests of birds of prey, in tree holes, and sometimes in rock crevices. They are nocturnal owls that feed on small mammals and birds. The forested habitat used by this species does not exist on the study site. The riparian woodland habitat does not provide appropriate habitat conditions.

A large number of special status passerine birds have been reported from the Pismo Beach and surrounding quadrangles (Table 8), but most would not find appropriate habitats on the subject parcel. For example, tricolored blackbirds are found in western coastal North America where they are native to California and parts of Oregon, Washington, and Nevada. The largest populations are found in

the San Joaquin Valley of California, as well as coastal areas. Tricolored blackbirds are typically found in freshwater marsh areas that have dense growths of cattails, bulrushes, and tules. This vegetation provides nesting and foraging sites. The tricolored blackbird populations have declined by over 80% in the last 80 years and may continue to decline as a result of continued habitat loss and disturbance in colonies established in agricultural fields of California (especially the San Joaquin Valley). Currently, over 40% of the world's population nests in agricultural fields of the San Joaquin Valley, which are continuing to disappear or be disturbed. No appropriate aquatic or wet habitats for this species occur on and near the project site. The riparian woodland habitat, even though it will not be disturbed, does not provide appropriate habitat conditions.

Western yellow-billed cuckoo was once common along the streams and rivers of the American West including California but is now a candidate for protection under the Endangered Species Act. Most of the remaining breeding pairs are found in Arizona, California, and New Mexico. Yellow-billed cuckoos prefer open woodlands with clearings and dense, low vegetation. No western yellow-billed cuckoos were observed on or near the study site, and no appropriate habitat for this species occurs on the subject parcel. The riparian woodland habitat, which will not be disturbed by the proposed project, does not provide appropriate habitat conditions.

California horned lark is a species of concern that occupies coastal plains, open fields, and grasslands from Sonoma County to San Diego County. It is also occupies most of the San Joaquin Valley. In San Luis Obispo County, horned larks occur primarily in open fields, short-grass grasslands, rangelands, saltbush scrub, and salt flats (e.g. Carrizo Plain). Grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities provide cover. No signs of California horned larks were found on the project site, and no appropriate habitat conditions are present.

The grasshopper sparrow prefers large open expanses of grassland often near water sources. This property lacks both. No signs of the grasshopper sparrow were found on the project site, and it is highly unlikely that this species will use the study site.

Purple martin is a species of concern in California and is often in association with human settlement. Their breeding habitat is throughout temperate North America in open areas across eastern North America, and also some locations on the west coast from British Columbia to Mexico. Purple martins are insectivores and are attracted to the large populations of insects that occur near wetlands; therefore, they prefer open spaces that are situated close to bodies of water. Due to urban development and human interactions in their natural habitats, purple martins are now accustomed to human interaction and live in close proximity with humans today. They tend to find shelter in urban areas where humans put in birdhouse specifically for purple martin's nests. They are usually absent from areas where no such nest sites are provided. Historically, this species inhabited forest edges, montane forests, and deserts and nested in abandoned woodpecker cavities. Some

populations that breed in the western United States continue to live in these natural settings, however most utilize human-made birdhouses.

Purple martins suffered a severe population crash in the 20th Century widely linked to the release and spread of European Starlings in North America. Starlings and house sparrows compete with martins for nest cavities and will fight with martins over nest sites. Starlings have even been known to kill purple martins, especially nestling young. Where purple martins once gathered by the thousands, by the 1980s they had all but disappeared. Purple martins were not observed on the site and the lack of large open areas likely precludes this property as habitat. As a result, they are not expected to use the project site.

The lark sparrow is a common bird in the United States and southern Canada. These birds forage on the ground or in low bushes. They mainly eat seeds but also prey on insects, including grasshoppers, in the breeding season. They will breed in a variety of open habitats including grasslands and cultivated areas. They nest on the ground close to clumps of grass or other vegetation. The grassland habitat on the site may be marginally suitable for this species, but none were observed on or around the subject parcel.

Belding's savanna sparrows are one of seventeen subspecies of savanna sparrows. These birds forage on the ground or in low bushes, particularly in winter when they are also found in grazed, low-growth grassland. They mainly eat seeds, but also eat insects in the breeding season. They are typically encountered as pairs or family groups in the breeding season, and assemble in flocks for winter migration. Belding's savanna sparrows were not found on or near the study site, and the dense, tall weedy grasses and forbs that cover the grassland do not provide appropriate habitat for this species.

The southern California rufus-crowned sparrow habitat includes moderate to steep, dry, rocky slopes vegetated with low growing scattered shrubs interspersed with patches of grasses and forbs or rock outcrops. This sparrow often occurs in coastal scrub dominated by *Artemisia californica* (California sagebrush) but also may occur in coastal bluff scrub, low chaparral on serpentine outcrops, sparse chaparral recovering from a burn, and edges of tall chaparral. It is generally absent from dense, unbroken stands of coastal scrub and chaparral. Nests are on the ground at the base of rocks, grass tufts, or saplings, or may be 0.3-1 meters above ground in the branches of shrubs or trees. The grassland and riparian habitats on the site are not suitable for this species, and none were observed on or around the subject parcel.

Lawrence gold finches nest along the central and southern California coastal ranges, the Sierra Nevada foothills, and into Baja California. They over winter in the deserts of southern Arizona. The typical nesting habitat is dry and open woodlands that are near both brushy areas and grassy fields, and usually within 0.5 mi (0.80 km) of a small body of water. This species may nest in other habitats, including rural residential areas, but not in deserts or dense forests. Outside the

nesting season it occurs in many open habitats including deserts, suburbs, and city parks. The grassland habitat on the site may be marginally suitable for this species, but none were observed on or around the subject parcel. This species is uncommon in the local areas around the subject site and not expected to be present.

Loggerhead shrikes are often found in open pastures or grasslands and appear to prefer trees like red cedar and hawthorn trees for nesting. The hawthorn's thorns and the cedar's pin-like needles protect and conceal the shrike from predators. Loggerhead shrikes may also nest in fencerows or hedgerows near open pastures. They require elevated perches as lookout points for hunting, and they forage in adjacent open pastures and grasslands with shorter vegetation. The shorter vegetation increases their hunting efficiency while taller vegetation often requires more time and energy to search for prey. As a result, these birds gravitate towards areas of shorter vegetation. They are also more common in large areas of grassland and oak savannas. The small areas of grassland habitats on the site with tall, dense weedy vegetation are not suitable habitat for this species, and none were observed on or around the subject parcel.

Impacts to nesting birds during future project development need to be considered. The project should avoid impacts to special status and other bird species that are protected by the Migratory Bird Treaty Act (MBTA) and/or California Fish and Game Code. In addressing this, it is important to note that there will be a 50-foot setback from the riparian corridor and that the large area between the creek channels (where the barn is located) will not be developed. We believe this action serves as a mitigation measure that will provide undisturbed nesting sites for birds that may use the site. As a result, we believe impacts to nesting birds will be mitigated and should be less than significant. We are very doubtful that raptors will nest on the site because of its proximity to so much human development and activity.

While we did not find any nests on the site, construction activities and other potential disturbances should be mitigated as follows. Disturbances and/or construction activities on the site should occur outside the typical nesting season (September 1 to February 1) if possible to avoid impacts to potential active bird nests. If construction activities occur during the potential nesting season (February 1 to September 15) and within 300 feet of potential nesting sites, a qualified biologist shall conduct a pre-construction survey for active nests at least two weeks prior to construction. If no active nests are found, construction activities can proceed. However, if active nests are found, construction activities shall not take place within 250 feet of active nests and 500 feet of active raptor nests, until a qualified biologist has determined that there are no eggs or young birds present. Note that these suggested buffers might be reduced based on site-specific conditions as recommended by the qualified biologist in consultation with the County of San Luis Obispo. If special-status species are found to be nesting on the site, the County shall be contacted prior to work or disturbances proceeding.



There is very limited use of the site by mammals largely because the study site is highly disturbed and is surrounded on all sides by development. We conducted a thorough survey of the ruderal grassland areas and found nothing in the way of trails, scat, or diggings to suggest that small mammals use the property in any significant way, except a few gophers. This also suggests that carnivores do not frequent the area, as there are no prey species available. The opportunity for large mammals including deer and their predators to frequent the subject parcel is severely limited by the site's size, location, and fencing. We found no signs that deer use the property, and this would also suggest that large carnivores are not present.

Most of the special status mammals reported from the Pismo Beach and surrounding quadrangles (Table 8), have specialized habitat requirements that are not present on the subject parcel. For example, there are obviously no appropriate habitats for marine mammals such as northern fur seals and Steller sea lions. Other mammals such as the Morro Bay kangaroo rat have specialized habitat needs as well as highly restricted ranges. Morro Bay kangaroo rats, which are believed to be extirpated, only occur in the Baywood fine sands with coastal dune scrub vegetation found around Morro Bay, Los Osos, and Montana de Oro State Park. No Morro Bay kangaroo rats have been found since the 1980s. Clearly no habitat for this species occurs on the subject parcel.

Two potentially active wood rat nests were found in the riparian area on the subject parcel, and one was found along the creek on an adjacent downstream property. We expected to find more. Although wood rat nests were observed on the property, which species of wood rat utilizing them is unknown. Development on the site should not deter the opportunity for this species to remain on the property and to create new nests or to occupy dwellings. Wood rats are known to cohabitate with humans. In addition the riparian woodland habitat where they occur will not be affected by the proposed project and will be protected by a 50-foot buffer zone.

The American badger (*Taxidea taxus*) is a species of special concern in California that inhabits the western United States. Badgers are largely solitary and almost entirely nocturnal, foraging at night and then remaining underground during the daylight hours. It would be a vagrant that moved across the landscape, digging a new burrow every day or two. Badgers can be found in grasslands where they often dig burrows and forage for small mammals and reptiles; however, badgers can also visit a variety of habitats. Although the ruderal, highly disturbed grasslands on the site may provide marginally appropriate habitat for badgers, it is very unlikely that badgers would use this site due to its high level of disturbance, dense, tall weedy vegetation, lack of prey species, and its proximity to surrounding development, which provides limited or no access to this property. No signs of badgers were observed, and no diggings or burrows were found on the subject parcel.

A few species of special status bats potentially may be in the general area of the subject property, but there are no large trees for big free-tailed bats (*Nyctinomops macrotis*), no rock outcroppings for western mastiff bat (*Eumops perotis californicus*) and big free-tailed bats (*Nyctinomops macrotis*), and no caves for Yuma bat (*Myotis yumanensis*) on the subject property. There is a barn in the area between the creeks. This barn is the only place we found on the subject site that may potentially offer refuge for some bat species such as Pallid bat (*Antrozous pallidus*) or the Townsend's big-eared bat (*Corynorhinus townsendii*). However, we found no bats or signs of bats around the barn or anywhere else on the subject parcel. In the unlikely event that bats could use this site, the following mitigation measure will be applied. The barn is located between the two creek channels. This entire area falls within the protected 50-foot setback from the riparian woodlands of both creeks where no disturbances will occur. As a result, the entire area around the barn, extending to the edge of the riparian woodlands and then to the edge of the 50-foot setback on the opposite sides of the two creeks will serve as avoidance or exclusion zones to ensure no potential impacts to bats will occur.

There were no significant changes in our 2016 description and discussion of special status wildlife species found during the July 2020 examination of the subject site.

### **SUMMARY, POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES, AND RECOMMENDED MITIGATION MEASURES**

The owner, Greg Moore, is proposing a four-lot subdivision for the 7.9-acre parcel that includes one 1.9-acre parcel (Parcel 2) and three 2-acre parcels (Parcel 1, 3, and 4). Proposed Parcels 1 and 2 are situated in the southern half of the rectangularly shaped 7.9-acre subject site and south of the riparian woodland along the small drainage channel (Figures 3; Photos 3-6). Both are covered mostly by ruderal coastal valley grassland; however there is a small population of *Stipa pulchra* (purple needlegrass) surrounded by ruderal grassland on Parcel 1 (Figure 5; Photo 6). Parcel 3 and 4 are located in the northern half of the 7.9-acre site and north of the riparian woodland along the drainage channel; however, Davenport Creek Road traverses Parcels 3 and 4 dividing it into two upland areas as shown on Figures 2-3. The barn that is on Parcel 4 will be retained (Photo 7). The upland areas of these two parcels is also covered by ruderal coastal valley grassland (Figures 3 and 5; Photos 1,2, and 7). All of the proposed home sites will be situated on the grassland covered upland areas well outside the 50-foot buffer zone along the riparian woodlands.

The riparian woodland habitat is considered a sensitive habitat that should be protected. No disturbance is planned for the riparian areas, and a 50-foot buffer setback will be implemented from the edge of riparian woodland canopies to protect this habitat (Figure 3) as prescribed by the County of San Luis Obispo Department of Planning and Building.

*Stipa pulchra* (purple needlegrass)

As mentioned above, there is a small population of *Stipa pulchra* (purple needlegrass) in the southwestern portion of Parcel 1. Purple needlegrass is one of the common California native grass species, and most of the original populations of these native grasses have been lost through the years as a result of grazing, clearing, agriculture, development, and other human activities. The location of this population is shown on Figure 5 (Photo 6).

Brooke Langle, principal biologist of Terra-Verde Environmental Consulting and contract biologist for San Luis Obispo County, provided us with the environmental threshold used as the guideline for *Stipa pulchra* (purple needlegrass) populations by the County of San Luis Obispo and by the California Department of Fish and Wildlife (CDFW). These guidelines state that if the stand of *Stipa pulchra* (purple needlegrass) covers less than 10% the site and covers an area less than 0.25 acres, it does not meet the threshold of significance. Based on measurements in the field and on aerial photographs, the *Stipa pulchra* (purple needlegrass) stand on the project site is estimated to cover 0.1 acres (4,400 sq. ft.), which equates to 1.3% of the entire 7.8-acre site and 7.1% of 1.4-acre Parcel 1. Therefore, it does not meet the threshold of significance, and no mitigation is required.

It should also be noted that according to the owner, Greg Moore, the building envelope will occupy the southernmost 50% of the 2-acre Parcel 1. The building area will be located just beyond where Machado Lane ends at the parcel's southern property line. As a result, the building envelope will only infringe on the southernmost portion of the *Stipa pulchra* (purple needlegrass) population.

*Melica imperfecta* (little melic grass)

Another California native grass, *Melica imperfecta* (little melic grass) was also found on the site. A very small number of little melic grasses were found in widely scattered locations in the riparian area and immediately along the margin of the riparian areas. The scattered individual plants combined covers considerably less than 1% of the subject property. Also, all of these plants occur in areas that fall within the 50-foot buffer zone along the riparian woodland and will not be disturbed; therefore, no mitigation is necessary. This description of little melic grass did not change in the July 2020 surveys of the study site.

Special Status Plant Species

No special status plant or wildlife species on the CNDDB lists of Special Status Species found in the Pismo Beach and eight surrounding quadrangles were found on the subject property (Tables 5 and 8), and none are expected to occur on the site. The property was examined when the Pismo clarkia was in full bloom at the reference population on Ormonde Road 2016, and there was no evidence of Pismo Clarkia in any phenological stage on the subject parcel. The same is true for the July 2020 survey. No signs of Pismo clarkia, or any other species of Clarkia, were found on the subject site in 2020. Overall the property has been highly disturbed, and tall, dense stands of weedy grasses and forbs have become

the dominant plant cover in the upland areas. In addition, the clayey soils do not provide habitat for Pismo clarkia, which grows on sandy soils. This description of special status species did not change in the July 2020 surveys of the study site.

*Calystegia subacaulis* ssp. *episcopalis* (San Luis Obispo County morning glory)

It should be noted that Tables 5, 6, and 7 provides special status plant species listed on CNPS Lists 1, 2, and 3 but not List 4. There was one List 4 plant species discovered on the site. A few scattered *Calystegia subacaulis* ssp. *episcopalis* (San Luis Obispo County or Cambria morning glory), which is on the CNPS List 4.2, occur along the edge of the riparian woodland areas. CNPS List 4 plants are considered *Plants of Limited Distribution – A Watch List*. Plants with a California Rare Plant Rank of 4 are of limited distribution or infrequent throughout a broader area in California. Some List 4 plants may be significant locally, and CNPS recommends that they be evaluated for impact significance during preparation of environmental documents.

*Calystegia subacaulis* ssp. *episcopalis* (San Luis Obispo County or Cambria morning glory) is a perennial herb with trailing or sometimes weakly twining stems. It has alternate, broadly triangular leaves that are minutely hairy. The cream-colored, funnel-shaped flowers are produced from April to June.

*Calystegia subacaulis* ssp. *episcopalis* is known from San Luis Obispo and northern Santa Barbara Counties. In San Luis Obispo County it ranges from the Hearst Ranch in the northwestern corner of the county south to the vicinity of San Luis Obispo where it usually occurs in grassy sites with clay-rich soils often in association with serpentinite parent material. In recent times, San Luis Obispo County morning glory has been found to be much more widespread than it was thought to be a few years ago. A few San Luis Obispo County morning glory plants were found widely scattered immediately along the margin of the riparian areas. It covers considerably less than 1% of the subject property. All of these plants occur along the riparian woodland and within the 50-foot buffer zone and will not be disturbed; therefore, no mitigation is necessary. This description of San Luis Obispo County morning glory species did not change in the July 2020 surveys of the study site.

Special Status Wildlife Species

The subject parcel offers no or limited habitat for most wildlife species including the special status wildlife species reported from the Pismo Beach and surrounding quadrangles (Table 8) and discussed in this report. Residential development, a golf course, roads, and agricultural fields surround this site. These offer significant obstacles for most wildlife to utilize the site. It is, in addition, the site is fenced around its entire perimeter. The boundary that is adjacent to the golf course is fenced with a chain-link fence that would significantly impede any wildlife other than small mammals, reptiles, and birds from entering the property. The same is true for the fencing along the majority of the opposite side of the site. The Rolling Hills development and roads to the west, north, and south significantly limits wildlife access.

The riparian corridor along Davenport Creek and the drainage creek along with the open space area between the creeks (where the barn is located) offers a significant conduit through the property for wildlife movement; however, access may be limited because Davenport Creek traverses Rolling Hills development to the north and west of the study site. In addition, the upstream creek corridor offers minimal access for wildlife because it traverses the area along California Highway 227, a residential development, a golf course, and Los Ranchos Elementary School. As a result of the above, the subject parcel is somewhat of an island surrounded by urban and rural development and roads. The riparian zone, however, does offer some opportunity for utilization by invertebrates (especially insects), and some reptiles, small mammals, and birds. These wildlife species could potentially forage and nest in the riparian woodland; however, we did not find any nests or much wildlife use during our surveys. Because the riparian woodland habitats along both creeks will not be disturbed and each will have a 50-foot setback buffer from the edge of the riparian woodlands, we believe that proposed development in open areas away from the riparian woodland will have no additional impacts on the wildlife, including the wood rats, as presently exists. However, at the request of the County, we have expanded our discussion on some wildlife species (Steelhead, California red-legged frog, bats, and migratory birds) in the section below. This description of special status species did not change in the July 2020 surveys of the study site.

Steelhead (*Oncorhynchus mykiss irideus*)

Steelhead (*Oncorhynchus mykiss irideus*) is a species that is listed as threatened by the federal government. Davenport Creek passes through the property and is a contributor to San Luis Creek that has documented steelhead within it. Davenport Creek is an ephemeral creek, particularly in its upper reaches. On the subject site, the creek, which bifurcates on the property, has no opportunity to maintain pools of water. We also observed that the reaches of the creek downstream that pass through the Rolling Hills development lack capacity to maintain pools of water. The land upstream from the property is devoted to agriculture, primarily grapes, and there is little to no opportunity for water to remain after a rain. As a result of the above findings, we believe that the opportunity for steelhead to occupy the creek on the subject property or the adjacent properties upstream and downstream does not exist. However, just in case there is a remote possibility that steelhead could reach the subject property during years of high water flow, they would not be expected to survive on the site due to the lack of pools or perennial water flow. In addition, the owner will not be disturbing any potential steelhead habitat along the creek channel and has agreed to the following mitigation measures that will avoid impacts to steelhead. (1) There will be no disturbances to the creek channels or the riparian woodland. (2) There will be a 50-foot setback from riparian woodland that will avoid and/or mitigate any potential impacts to the stream corridor and water quality.

California red-legged frog (*Rana aurora draytonii*)

The California red-legged frog (*Rana aurora draytonii*) is listed as Threatened by the U. S. Fish and Wildlife Service (USFWS) and a California Special Concern species by the California Department of Fish and Game (CDFG). California red-legged frogs (CRF hereafter) have historically been found in riparian habitats throughout the coastal areas of California and in some inland areas. They were likely widespread throughout San Luis Obispo County and were probably found in most streams with permanent pools, as well as permanent ponds, lakes, and marshes. Unfortunately, today CRF have disappeared from almost all of its former range.

Biological surveys of the creek channels and adjacent riparian and upland areas on the subject property indicate that no appropriate habitat exists for CRF. We reached this determination based on the lack of required habitat conditions as discussed below.

Jennings and Hayes (1985 and 1994) and Tatarian (2008) report that CRF typically occur in habitats with deep sheltered pools of water and stands of overhanging protective vegetation. *Typha* (cat-tails), *Scripus* (tules), and *Salix* (willows) are typically associated with the presence of CRF. Canopy cover keeps the water temperature low, which is a particularly important habitat requirement for CRF according to Hayes (1990) and Jennings and Hayes (1994). Accessibility to such habitat is important for the long-term survival of this species and can be a factor limiting population density and distribution. Even in intermittent stream habitats, CRF require pools of permanent standing water, usually 20 inches deep with dense shoreline or emergent vegetation. U.S. Fish and Wildlife Service (1996) found that incised stream channels with portions narrower and deeper than 18 inches also provide habitat for CRF. Other studies have found that individual CRF have been found using channels and pools of various depths; however minimum depths of at least 12 to 18 inches, generally from late spring to the fall, are required (M. Allaback, 2000). Biological surveys of the creek channels and adjacent riparian areas on the subject property indicate that these habitat requirements for breeding CRF do not exist on the site.

CRF usually occur in habitats that typically lack introduced bullfrogs, non-native fish, and other introduced predators and competitors (Hayes and Jennings 1989). According to Stebbins (1985) and Tatarian (2008) sufficient pond depth and emergent vegetation cover are both critical, because they offer means of escape from predators and provide vegetation areas to deposit eggs during the breeding season. Biological surveys of the creek channels and adjacent riparian areas on the subject property indicate that these habitat requirements for CRF do not exist on the site.

CRF typically breed from November (usually after first rain in this county) through April. They breed in aquatic habitats including slow moving creeks, pools, ponds, marshes, springs, and artificial impoundments such as stock ponds if they are managed to provide suitable hydroperiod, pond structure, vegetative cover, and control of nonnative predators, especially bullfrogs. In order to successfully breed and reproduce, CRF typically require a permanent source of water with pools that typically have a minimum depth of 24 inches according to Hayes and Jennings (1988 and 1994), although this depth may vary. These pools must also be able to maintain water for a minimum of 20 weeks during the entire tadpole-rearing season, and as mentioned previously, shrubby riparian and/or emergent vegetation is necessary for the deposition of eggs. Biological surveys of the creek channels and adjacent riparian areas on the subject property indicate that habitat requirements for breeding CRF do not exist on the site.

CRF are seldom found far from water during the dry season; however, starting with the first fall rains and through the wet season, some CRF may disperse and move through upland habitats. Most of these overland excursions occur at night. During wet weather these dispersal movements may cover distances up to one or two miles and generally follow straight-line, point-to-point migrations rather than specific habitat corridors. CRF movements generally occur from breeding aquatic habitat to non-breeding aquatic habitat and may occur after egg laying or as a result of the breeding aquatic habitat receding or drying up. USFWS (2010) reported that CRF typically disperses less than 2,000 feet from their breeding habitat. Fellers and Kleeman (2007), working in Marin County, found that most CRF upland movements occurred for distances of 300 to 600 feet across open grasslands; however, individual dispersal distances of 1,000 feet to 1.7 miles were also recorded. Tatarian (2008) reported that in the dry, inland areas of California CRF movements mostly occurred in the wet season after a rain of more than 0.2 inches; however, Tatarian also believes that CRF may potentially disperse to upland areas in the dry summer in coastal California if they are protected from desiccation by dense, summer fog. Scott and Rathbun (1998), working in San Luis Obispo County, also found that most upland excursions occur at night during the wet season (after the first fall rains). During this time, CRF can move in a straight line as much as one mile. While the use of upland areas by CRF is not well known, dispersal distances are dependent on habitat availability and environmental conditions. Jennings and Hayes (1994) report that CRF may disperse from breeding habitats to forage and seek summer habitats if water is not available. These summer habitats might include wet spaces under boulders or rocks and organic debris, such as downed trees or logs and other similar features. CRF also use small mammal burrows and moist leaf litter (Jennings and Hayes 1994).



CRF occasionally use upland habitats where they may potentially breed in wet ground squirrel or small mammal burrows or under boulders and logs as long as the larvae are protected from desiccation and predators (Jennings and Hayes 1994). As mentioned above, dispersal distances are believed to depend on the availability of suitable habitat and prevailing environmental conditions though very little is known about how CRF actually use upland habitats during dispersal.

CRF aestivation habitat may include areas up to 300 feet from a creek corridor if boulders, rocks, trees, shrubs, or logs are present. Incised stream channels with portions narrower than 18 inches and depths greater than 18 inches may also provide aestivation habitat. Densely vegetated terrestrial areas within the riparian corridor also provides important sheltering habitat (Tatarian 2008).

In summary, the Designation of Critical Habitat for the CRF, as described by the USFWS (2006), consists of the following four main habitat elements. (1) For successful breeding and reproduction, the aquatic habitat must have a permanent water source that supports pools of water with a minimum depth of 20 inches (although this may vary now). These pools must be able to maintain water for the entire tadpole-rearing season, a minimum of 20 weeks. (2) The area must have a non-breeding aquatic habitat that provides food, space, and vegetative cover that is spatially distinct from breeding habitat. (3) The property must have upland areas (up to 300 feet from the water's edge) that is associated with the aquatic habitat described above and provide shelter (i.e., boulders, rocks, trees, shrubs, or logs), forage, maintenance of the water quality, and dispersal areas. (4) The adjacent upland areas must also provide barrier-free dispersal habitat that is at least 300 feet wide. The upland area must also connect at least two (or more) suitable breeding habitats (as defined previously) that are within 1.25 miles of each other.

Biological surveys of the creek channels, adjacent riparian woodland, and upland areas indicate that required breeding and non-breeding CRF habitat elements (as discussed above) do not exist on the subject property. This lack of required habitat conditions appears to eliminate the potential of this species using or surviving on the subject site.

As described previously, we did not find any locations within the creeks or riparian areas on or near the site that could maintain adequate pools or small areas of standing water that could support breeding or non-breeding CRF. There is a pool of water on the adjacent golf course; however, this human-made pool offers no shade or areas for CRF to hide and escape from predators, and golfers on foot and in golf carts heavily use it. The pond is lined by manicured grass with no stands of overhanging vegetation, shrubby riparian, or emergent vegetation for protection or breeding. There is no canopy cover to keep the water temperature low, which is a particularly important habitat requirement for CRF according to

Hayes (1990) and Jennings and Hayes (1994). Also, there are no breeding habitats around the pond or in the adjacent creek channel. In addition, this pond is maintained by the golf course and may also have a variety of herbicides and pesticides that are often utilized on golf courses. As a result, this area does not appear to have appropriate habitat conditions (as previously described) to support breeding or non-breeding CRF in any of its stages of life. CRF could not survive in this pool area or in the adjacent creek area.

The upland areas on the subject property are dry with no visible areas or features that can maintain standing water or adequately wet conditions. We did not find any wet or moist areas under boulders or rocks or organic debris, and no downed trees or logs or other similar features. The small mammal burrows consist of primarily California ground squirrels and do not appear capable of maintaining adequate moisture for CRF. In addition, we did not find any lands surrounding the subject property that are appropriate for the dispersal or survival of the CRF. There are rural home developments that range extensively from the subject property to the north and west. To the south is the golf course and to the east are more single-family rural residences and California Highway 227.

In summary, our biological surveys did not reveal any breeding or non-breeding habitats for CRF on or near the subject site. This conclusion is based on the lack of adequate hydrologic conditions, lack of adequate sheltered pools and off-stream ponded water, and lack of stands of protective overhanging or emergent vegetation. As a result, we determined that the subject property and adjacent properties do not provide suitable habitat for CRF. Based on these findings, other than the 50-foot buffer out from the edge of the riparian woodland, no mitigation for CRF would be needed. However, Brooke Langle, the County biologist, reported that CRF have been found in a variety of habitats including agricultural ditches denuded of any vegetation with herbicide and/or pesticide run off. She believes that the only way to definitely determine that CRF are not present on the site is to conduct the full USFWS (2005) protocol level surveys to rule them out. Therefore, if the property is developed and if the County is concerned that CRF could potentially be present, we suggest the following mitigation measures.

If CRF are present, the only ones that could potentially be impacted are ones that might disperse into the upland areas and onto the sites where home construction is planned. This appears unlikely to us based on our observations of the site. However, to avoid potential direct impacts to dispersing individuals of CRF, initial ground disturbances should be completed during the dry period, which is typically between May 1 through August 30 or later. If ground disturbances occur from September 1 through April 30, during the potential wet season when CRF are potentially dispersing or using upland areas, we suggest the following two options for mitigation measures prior to development. (Note that the dates provided above can be modified by the consulting biologist based on his/her review of

current habitat conditions on the site. USFWS recommends that these can be determined on a case-by-case basis.)

Either one of the two mitigation options discussed below will protect any potential CRF on the subject property. We suggest the owner chose the one that best meets his needs with approval of the County of San Luis Obispo.

#### Option 1

The only way to say definitely that CRF are not present is to conduct the full USFWS (2005) protocol level surveys to rule them out. If they are not found, no mitigation measures will be necessary. If they are found, option 2 below should be followed.

#### Option 2

If a protocol study is not conducted to definitely rule out the presence of CRF or if the protocol study finds CRF on the site, the mitigation measures below should be followed.

1. A temporary exclusion fence approved by the County of San Luis Obispo (such as an ERTEC E-Fence with a lip to prevent frogs from crawling over) will be erected along the boundaries of the development envelopes between the riparian corridor and the development envelopes on the lots. During construction conducted when CRF could potentially be dispersing, this exclusion fence will prevent CRF from entering the development areas.

2. Immediately before construction activities begin, a pre-construction CRF survey will be conducted in the construction areas by a qualified biologist. If no CRF are found, the work can proceed. If any CRF are found, the County of San Luis Obispo will be notified and the CRF shall be relocated to the adjacent creek areas or other suitable site with approval from the County working with USFWS or CFWS. Any dead CRF must be reported immediately to the County. After all CRF have been relocated, work can proceed.

#### Nesting Birds

Impacts to nesting birds during future project development need to be considered. The project should avoid impacts to special status and other bird species that are protected by the Migratory Bird Treaty Act (MBTA) and/or California Fish and Game Code. In addressing this, it is important to note that there will be a 50-foot setback from the riparian corridor and that the large area between the creek channels (where the barn is located) will not be developed. We believe this action serves as a mitigation measure that will provide undisturbed nesting sites for birds that may use the site. As a result, we believe impacts to nesting birds will be mitigated and should be less than significant. We are very doubtful that raptors will nest on the site because of its proximity to so much human development and activity.

While we did not find any nests on the site, construction activities and other potential disturbances should be mitigated as follows. Disturbances and/or construction activities on the site should occur outside the typical nesting season (September 1 to February 1) if possible to avoid impacts to potential active bird nests. If construction activities must occur during the potential nesting season (February 1 to September 15) and within 300 feet of potential nesting sites, a qualified biologist shall conduct a pre-construction survey for active nests at least two weeks prior to construction. If no active nests are found, construction activities can proceed. However, if active nests are found, construction activities shall not take place within 250 feet of active nests and 500 feet of active raptor nests, until a qualified biologist has determined that there are no eggs or young birds present. Note that these suggested buffers might be reduced based on site-specific conditions as recommended by the qualified biologist in consultation with the County of San Luis Obispo. If special-status species are found to be nesting on the site, the County shall be contacted prior to work or disturbances proceeding.

#### Special Status Bat Species

A few species of special status bats potentially may be in the general area of the subject property, but there are no large trees for big free-tailed bats (*Nyctinomops macrotis*), no rock outcroppings for western mastiff bat (*Eumops perotis californicus*) and big free-tailed bats (*Nyctinomops macrotis*), and no caves for Yuma bat (*Myotis yumanensis*) on the subject property. There is a barn in the area between the creeks. This barn is the only place we found on the subject site that may potentially offer refuge for some bat species such as Pallid bat (*Antrozous pallidus*) or the Townsend's big-eared bat (*Corynorhinus townsendii*). However, we found no bats or signs of bats around the barn or anywhere else on the subject parcel. In the unlikely event that bats could use this site, the following mitigation measure will be applied. The barn is located between the two creek channels. This entire area falls within the protected 50-foot setback from the riparian woodlands of both creeks where no disturbances will occur. As a result, the entire area around the barn, extending to the edge of the riparian woodlands and then to the edge of the 50-foot setback on the opposite side of the two creeks will serve as avoidance or exclusion zones to ensure no potential impacts to bats will occur.

#### Loss of Grasslands

Loss of some of the ruderal grassland habitat is an unavoidable impact of the potential development. However, this ruderal grassland is currently dominated mostly by a tall, dense growth of weedy plants that provides only limited habitat value. Its removal should have minimal impacts on the wildlife that currently use the site as most of the species are adapted to living in areas in and around rural developments.

### Conclusion

In conclusion, the proposed creation of four parcels on the 7.8-acre subject site in itself will not have any significant impacts on the vegetation, flora, and wildlife currently found on the parcel. At present, there are no specific development plans for the parcels, so we are unable to evaluate specific impacts. The owner has suggested building in open areas on the parcels leaving the required 50-foot buffer from the edge of the riparian woodland canopy to protect the riparian habitat. We do not believe there will be any impacts to special status wildlife species as a result of this project. Specific potential impacts of developing the parcels could be addressed more specifically when proposed development plans and home sites are available; however, because the homes will be located in upland areas outside the 50-foot buffer zone, we do not anticipate any impacts to the biological resources on the site as a result of this project. We did address potential impacts and mitigation measures for California Red-legged frog, Steelhead, special status bat species, and migratory and nesting birds in this report.

The July 2020 examination of the subject site indicated that there are no significant changes in terms of flora, vegetation, wildlife, wildlife habitats, special status species, or any other environmental or biological resources since our 2016 report. Therefore, the discussion of biological resources in this report accurately reflect the conditions found during our 2020 surveys of the project site.

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**APPENDIX 1. List of plant species observed during botanical survey of 7.8-acre parcel at 1320 Machado Lane, San Luis Obispo, San Luis Obispo County, California.**

Scientific Name	Common Name	Plant Family	Origin <sup>4</sup>
<b>TREES</b>			
<i>Juglans hindsii</i>	northern black walnut	JUGLANDACEAE	i
<i>Olea europaea</i>	olive	OLEACEAE	i
<i>Pinus radiata</i>	Monterey pine	PINACEAE	n
<i>Prunus cerasifera</i>	cherry plum	ROSACEAE	i
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	coast live oak	FAGACEAE	n
<i>Salix laevigata</i>	red willow	SALICACEAE	n
<i>Salix lasiolepis</i>	arroyo willow, California pussywillow	SALICACEAE	n
<b>SHRUBS AND SUBSHRUBS</b>			
<i>Acemispn glaber</i> var. <i>glaber</i>	common deerweed	FABACEAE	n
<i>Artemisia californica</i>	California sagebrush	ASTERACEAE	n
<i>Baccharis pilularis</i>	coyote bush	ASTERACEAE	n
<i>Cotoneaster lacteus</i>	big-leaved cotoneaster	ROSACEAE	i
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	RHAMNACEAE	n
<i>Galium porrigens</i> var. <i>porrigens</i>	climbing bedstraw	RUBIACEAE	n
<i>Heteromeles arbutifolia</i>	toyon, Christmas berry, California-holly	ROSACEAE	n
<i>Keckiella cordifolia</i>	red climbing-penstemon	PLANTAGINACEAE	n
<i>Rosa californica</i>	California wild rose	ROSACEAE	n
<i>Rubus ursinus</i>	California blackberry	ROSACEAE	n
<i>Sambucus nigra</i> subsp. <i>caerulea</i>	blue elderberry	ADOXACEAE	n
<i>Symphoricarpos mollis</i>	creeping snowberry	CAPRIFOLIACEAE	n
<i>Toxicodendron diversilobum</i>	poison-oak	ANACARDIACEAE	n
<i>Agrostis pallens</i>	San Diego bentgrass	POACEAE	n
<i>Aira caryophyllea</i>	silver hairgrass	POACEAE	i
<i>Amaranthus albus</i>	tumble amaranth	AMARANTHACEAE	i
<i>Continued on next page</i>			

<sup>4</sup> n — native to California; i — naturalized in California, introduced from elsewhere in the world

Scientific Name	Common Name	Plant Family	Origin <sup>4</sup>
<i>Antirrhinum kelloggii</i>	climbing snapdragon	PLANTAGINACEAE	n
<i>Artemisia douglasiana</i>	mugwort	ASTERACEAE	n
<i>Avena barbata</i>	slender wild oats	POACEAE	i
<i>Avena fatua</i>	common wild oats	POACEAE	i
<i>Brachypodium distachyon</i>	false brome	POACEAE	i
<i>Brassica nigra</i>	black mustard	BRASSICACEAE	i
<i>Bromus catharticus</i> var. <i>catharticus</i>	rescue grass	POACEAE	i
<i>Bromus diandrus</i>	ripgut brome	POACEAE	i
<i>Bromus hordeaceus</i>	soft chess brome	POACEAE	i
<i>Bromus madritensis</i>	foxtail chess	POACEAE	i
<i>Calystegia subacaulis</i> subsp. <i>episcopalis</i>	San Luis Obispo morning glory, Cambria morning glory	CONVOLVULACEAE	n
<i>Carduus pycnocephalus</i>	Italian thistle	ASTERACEAE	i
<i>Centaurea melitensis</i>	totalote, Maltese star thistle	ASTERACEAE	i
<i>Centranthus ruber</i>	Jupiter's beard, red valerian	VALERIANACEAE	i
<i>Cirsium vulgare</i>	bull thistle	ASTERACEAE	i
<i>Conium maculatum</i>	poison hemlock	APIACEAE	i
<i>Convolvulus arvensis</i>	bindweed, field morning glory	CONVOLVULACEAE	i
<i>Cynodon dactylon</i>	Bermuda grass	POACEAE	i
<i>Cyperus eragrostis</i>	common umbrella sedge	CYPERACEAE	n
<i>Epilobium brachycarpum</i>	tall willow-herb	ONAGRACEAE	n
<i>Erigeron bonariensis</i>	South American horseweed	ASTERACEAE	i
<i>Erigeron canadensis</i>	common horseweed	ASTERACEAE	i
<i>Erodium botrys</i>	storkbill filaree	GERANIACEAE	i
<i>Erodium cicutarium</i>	redstem filaree	GERANIACEAE	i
<i>Erodium moschatum</i>	greenstem filaree	GERANIACEAE	i
<i>Eschscholzia californica</i>	California poppy	PAPAVERACEAE	n
<i>Euphorbia peplus</i>	petty spurge	EUPHORBIACEAE	i
<i>Euphorbia serpens</i> [ <i>Chamaesyce serpens</i> ]	round-leaved spurge	EUPHORBIACEAE	i
<i>Festuca bromoides</i>	brome fescue	POACEAE	i
<i>Festuca myuros</i>	rattail fescue	POACEAE	i
<i>Festuca perennis</i>	ryegrass	POACEAE	i
<i>Foeniculum vulgare</i>	fennel	APIACEAE	i
Continued on next page			

Scientific Name	Common Name	Plant Family	Origin <sup>4</sup>
<i>Gastridium phleoides</i>	nitgrass	POACEAE	i
<i>Geranium dissectum</i>	cut-leaved geranium	GERANIACEAE	i
<i>Helminthotheca echioides</i>	bristly oxtongue	ASTERACEAE	i
<i>Hemizonia congesta</i> subsp. <i>luzulifolia</i>	hayfield tarweed	ASTERACEAE	n
<i>Hirschfeldia incana</i>	short-pod mustard, perennial mustard	BRASSICACEAE	i
<i>Hordeum marinum</i> subsp. <i>gussoneanum</i>	Mediterranean barley	POACEAE	i
<i>Hordeum murinum</i> subsp. <i>leporinum</i>	annual foxtail barley	POACEAE	i
<i>Hypochaeris glabra</i>	smooth cat's-ear	ASTERACEAE	i
<i>Lactuca saligna</i>	slender lettuce	ASTERACEAE	i
<i>Lactuca serriola</i>	prickly lettuce	ASTERACEAE	i
<i>Lupinus bicolor</i>	miniature lupine	FABACEAE	n
<i>Lysimachia arvensis</i> [ <i>Anagallis arvensis</i> ]	scarlet pimpernel	MYRSINACEAE	i
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	LYTHRACEAE	i
<i>Malva nicaeensis</i>	bull mallow	MALVACEAE	i
<i>Malva parviflora</i>	small-flowered mallow, cheeseweed	MALVACEAE	i
<i>Malvella leprosa</i>	alkali mallow	MALVACEAE	n
<i>Matricaria discoidea</i>	common pineapple-weed	ASTERACEAE	n
<i>Medicago polymorpha</i>	California bur-clover	FABACEAE	i
<i>Melica imperfecta</i>	little melic	POACEAE	n
<i>Microseris douglasii</i> subsp. <i>tenella</i>	short scaled microseris	ASTERACEAE	n
<i>Oenothera speciosa</i>	Mexican evening-primrose	ONAGRACEAE	i
<i>Oxalis pes-caprae</i>	Bermuda-buttercup	OXALIDACEAE	i
<i>Phalaris aquatica</i>	Harding grass	POACEAE	i
<i>Plantago lanceolata</i>	English plantain	PLANTAGINACEAE	i
<i>Poa annua</i>	annual bluegrass	POACEAE	i
<i>Polycarpon tetraphyllum</i>	four-leaved allseed	CARYOPHYLLACEAE	i
<i>Polygonum aviculare</i>	common knotweed	POLYGONACEAE	i
<i>Pseudognaphalium californicum</i>	California everlasting	ASTERACEAE	n
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	ASTERACEAE	i
<i>Rumex conglomeratus</i>	knotted dock	POLYGONACEAE	i
Continued on next page			

Scientific Name	Common Name	Plant Family	Origin <sup>4</sup>
<i>Rumex crispus</i>	curly dock	POLYGONACEAE	i
<i>Rumex pulcher</i>	fiddle dock	POLYGONACEAE	i
<i>Silybum marianum</i>	milk thistle	ASTERACEAE	i
<i>Sinapis arvensis</i>	charlock	BRASSICACEAE	i
<i>Solanum douglasii</i>	Douglas' nightshade	SOLANACEAE	n
<i>Sonchus asper</i> subsp. <i>asper</i>	prickly sow-thistle	ASTERACEAE	i
<i>Sonchus oleraceus</i>	common sow-thistle	ASTERACEAE	i
<i>Spergularia rubra</i>	common sand-spurrey, red sand-spurrey	CARYOPHYLLACEAE	i
<i>Stipa miliacea</i> var. <i>miliacea</i>	smilo	POACEAE	i
<i>Stipa pulchra</i>	purple needlegrass	POACEAE	n
<i>Torilis arvensis</i>	common hedge-parsley	APIACEAE	i
<i>Trifolium hirtum</i>	rose clover	FABACEAE	i
<i>Tropaeolum majus</i>	garden nasturtium	TROPAEOLACEAE	i
<i>Vicia sativa</i> subsp. <i>sativa</i>	common vetch	FABACEAE	i
<i>Vicia villosa</i> subsp. <i>varia</i>	narrow-leaved vetch	FABACEAE	i
<i>Vinca major</i>	greater periwinkle	APOCYNACEAE	i

**APPENDIX 2. PHOTOS OF THE 7.8-ACRE PARCEL ON MACHADO LANE, SLO**

Photo 1. The northern portion of the subject site where Parcels 3 and 4 are located is covered by ruderal coastal valley grassland dominated by wild oats, English plantain, bindweed, mustard, and other weedy grasses and forbs (May 2016).



Photo 2. The northern portion of the subject site where most of Parcels 3 and 4 are covered by ruderal coastal valley grassland (July 2020)



Photo 2. The wild oats and other weedy species grow tall and dense on portions of the ruderal grassland in the northern portion of the subject site.



Photo 3. The southern portion of the subject site is mostly covered by coastal ruderal grassland dominated by perennial mustard, ryegrass, wild oats, and other weedy grasses and forbs (May 2016).



Photo 4. The southern portion of the subject site is mostly covered by coastal ruderal grassland dominated weedy grasses and forbs (July 2016).



Photo 5. View of southern portion of subject site composed of Parcels 1 (upper portion of photo) and Parcel 2 (lower portion of photo) showing the ruderal coastal valley grassland and riparian woodland along drainage.



Photo 6. There is a small patch of *Stipa pulchra* (purple needlegrass) located in the southeast portion of the subject site on Parcel 1 (May 2016).





Photo 7. The parcels 3 and 4 extend onto the open, upland areas where the barn is located. The area is covered by ruderal grassland (July 2020).



Photo 8. In areas where the ruderal grassland and riparian woodland integrate, there are often dense populations of plants like poison hemlock, mild thistle, or Italian thistle.





Photo 9. The riparian woodlands on the site are dominated by an overstory of arroyo willows with scattered coast live oaks. Several other trees and shrubs are scattered. The sandy, gravelly, creek channel is barren and has no wetlands.



Photo 10. Portions of the creek channel have areas of debris and branches that make traversing the channel difficult.





Photo 11. Coast live oaks are scattered along the creeks. Where the drainage forks off of Davenport Creek, a small stand of coast live oaks are prominent along the upper creek banks.



Photo 12. Poison oak sometimes forms dense thickets in the riparian woodland understory.

## APPENDIX 3. CNDDDB FORM FOR SAN LUIS OBISPO COUNTY MORNING GLORY

Mail to: California Natural Diversity Database Department of Fish and Game 1807 12 <sup>th</sup> Street, Suite 303 Sacramento, CA 95811 Fax: (916) 224-0475 email: CNDDDB@dfg.ca.gov		<b>For Office Use Only</b> Source Code _____ Quad Code _____ Elm Code _____ Occ. No. _____ E.O. Index No. _____ Map Index No. _____	
Date of Field Work (mm/dd/yyyy): <u>05/23/2016</u>			
<a href="#">Reset</a> <b>California Native Species Field Survey Form</b> <a href="#">Send Form</a>			
Scientific Name: <u>Celastrus subcaulis ssp. episcopolis</u>			
Common Name: <u>San Luis Obispo County or Cambria morning glory</u>			
Species Found? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>If not, why?</small> Total No. Individuals <u>10-25</u> Subsequent Visit? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Is this an existing NDDDB occurrence? <input type="checkbox"/> yes, then # <input type="checkbox"/> no <input checked="" type="checkbox"/> unk. Collection? If yes: <small>Number</small> _____ <small>Measure/Description</small> _____		Reporter: <u>V. L. Holland</u> Address: <u>1697 El Centro Ct. San Luis Obispo CA</u> E-mail Address: <u>vholland@calpoly.edu</u> Phone: <u>(805) 544-5588</u>	
<b>Plant Information</b> Phenology: <u>100%</u> <small>signature</small> <input type="checkbox"/> <small>blooming</small> <input type="checkbox"/> <small>fruiting</small>		<b>Animal Information</b> If adults <input type="checkbox"/> <small>wintering</small> <input type="checkbox"/> <small>breeding</small> <input type="checkbox"/> <small>nesting</small> <input type="checkbox"/> <small>roosting</small> <input type="checkbox"/> <small>foraging</small> <input type="checkbox"/> <small>if egg masses</small> <input type="checkbox"/> <small>larvae/juvs</small> <input type="checkbox"/> <small>if unknown</small>	
<b>Location Description (please attach map AND/OR fill out your choice of coordinates, below)</b> <u>1320 Machado Lane, San Luis Obispo County, CA. The subject parcel is located in the southeastern corner of the Rolling Hills, between residential development approximately 500 feet southwest of the Highway 227/El Rancho Road intersection.</u>			
County: <u>San Luis Obispo</u>		Landowner / Mgr: <u>Gina Moore</u>	
Quad Name: <u>Prismo Beach</u>		Elevation: <u>75m (245 feet)</u>	
T. _____ R. _____ Sec. _____ of _____ of _____, Meridian: <input checked="" type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N		Source of Coordinates (GPS, topo. map & type): _____	
DATUM: NAD27 <input type="checkbox"/> NAD83 <input type="checkbox"/> WGS84 <input type="checkbox"/>		Horizontal Accuracy: _____ meters/feet	
Coordinate System: UTM Zone 10 <input type="checkbox"/> UTM Zone 11 <input type="checkbox"/> OR Geocentric (Latitude & Longitude) <input type="checkbox"/>			
Coordinates: _____			
<b>Habitat Description (plants &amp; animals)</b> <small>plant communities, standards, associates, subassociates, aspect/topography</small> <b>Animal Behavior</b> <small>(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna)</small> <u>Found widely scattered in recently disturbed areas along riparian woodland of Devonport Creek and its drainage. It is located in the 100-foot buffer zone out from the riparian woodland.</u>			
Please fill out separate form for other core taxa seen at this site.			
<b>Site Information</b> Overall site/occurrence quality/visibility (site = population): <input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair <input checked="" type="checkbox"/> Poor Immediate AND surrounding land use: <u>Rural area with large developed parcels. Subject parcel has a home and farm on it now.</u> Visible disturbances: <u>gravel and recently mowed for fire suppression along the riparian woodland</u> Threats: <u>It will be in the 100-foot buffer zone out from the riparian woodland. No disturbance anticipated.</u> Comments: _____			
<b>Determination:</b> <small>(check one or more, and fill in details)</small> <input type="checkbox"/> Keyed (aka reference) <input type="checkbox"/> Compared with specimen housed at: _____ <input type="checkbox"/> Compared with photo / drawing in _____ <input type="checkbox"/> By another person (name): _____ <input checked="" type="checkbox"/> Other: <u>James Buckley</u>		<b>Photographs:</b> <small>(check one or more)</small> Title <input type="checkbox"/> Photo <input type="checkbox"/> Digital <input type="checkbox"/> Plant / animal <input type="checkbox"/> Habitat <input type="checkbox"/> Diagnostic feature <input type="checkbox"/> May we obtain duplicates at our expense? yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	