

## **Appendix C-3**

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Biological Resources Technical Report,  
Addendum No. 2

**Biological Resources Technical Report  
Addendum No. 2**

*for the*

**Strauss Wind Energy Project**

*Prepared for:*

**Strauss Wind, LLC**

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### 1 INTRODUCTION

Dudek has prepared this Biological Resources Technical Report, Addendum No. 2: Summer Surveys (report) for Strauss Wind, LLC (Strauss) in support of the Strauss Wind Energy Project (Project). The purpose of this report is to describe the methods and results of the biological surveys that were completed for the Project through August 2018 in response to the County of Santa Barbara's (County) *Determination of Application Completeness for Strauss Wind Energy Project Conditional Use Permit (Case No. 16CUP-00000-00031, and associated Case Nos. 18CDP-00000-00001 and 18VAR-0000-00002)* dated April 6, 2018 (letter) and a subsequent letter from the County's contract biologist, Storrer Environmental Services, dated July 27, 2018 titled *Review of Biological Resources Technical Report – Addendum No. 1 for the Strauss Wind Energy Project* following the July 16, 2018 submittal of Biological Survey Report, Addendum No. 1.

This report serves as a supplement to the Biological Resources Technical Report for the Strauss Wind Energy Project (BRTR; Sapphos 2017 revised 2018) and BRTR Addendum No. 1 (Dudek 2018a). The purpose of BRTR Addendum No. 2 is to finalize all biological survey information required to support the preparation of the County of Santa Barbara's Supplemental Environmental Impact Report (SEIR) for the project.

The following is a list of the biological surveys completed in the summer of 2018. The comment number(s) in the County's letter are provided for reference.

- Native Grassland Mapping (Comment 4.a.iii.)
- Summer rare plants surveys (Comments 3. and 4.a.v.)
- Gaviota tarplant surveys (Comment 4.ii.)
- Sensitive vegetation community surveys (Comment 4.iv.)

Dudek's updated tree inventory (Comments 3, 4.vi.1.-4., and 4.b.-c.) was prepared in a separate report and submitted to the County on September 10, 2018. In addition, on-going avian and bat surveys will continue as directed by the United States Fish and Wildlife Service (USFWS) per the Land Based Wind Energy Guidelines (USFWS 2012) and prior concurrence from USFWS Migratory Bird Division staff.

The following sections provide a brief project description and details of our methodologies and results of the summer surveys.

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#### 1.1 Project Area Description and Location

The Project is a commercial wind farm developed by Strauss Wind, LLC and will be first such project in Santa Barbara County. The Project is located on approximately 2,988 acres of rural, agriculturally zoned land on coastal ridges southwest of the City of Lompoc. The Project would have an aggregate electrical generating capacity of approximately 102 megawatts (MW), which on an annual basis would generate enough power to supply approximately 44,700 homes with electricity per year.<sup>1,2,3</sup> The Project could potentially generate up to approximately 300 gigawatt-hours (GWh) of electricity annually.<sup>4</sup> Following are the major project components:

- Up to 30 wind turbine generators (WTGs)
- New access roads and road improvements
- A communication system
- Meteorological towers/devices
- On-site electrical collection lines
- An on-site substation, including an approximately 15-foot by 30-foot control building
- An on-site Operations and Maintenance (O&M) facility
- A new up to 7.3-mile, 115-kilovolt (kV) transmission line to interconnect with the PG&E electric grid via a new switching station
- Upgrades to existing PG&E facilities.

The Project requires a Conditional Use Permit (CUP), pursuant to the Santa Barbara County Land Use & Development Code (LUDC) Section 35.82.060, two variances for reduced setbacks from exterior property lines, and the removal of setback requirements for all internal property lines. The Project will be constructed in one phase in order to achieve its full 102 MW generating capacity, and construction is anticipated to take approximately 9 to 15 months.

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<sup>1</sup> The project proposes to use 24 each of General Electric (GE) 3.8 MW WTGs, and 6 each of GE 1.79 MW WTGs, for a total of about 102 MW.

<sup>2</sup> The number of homes supplied with electricity per year is based on U.S. Energy Information Administration data from 2015 showing that the average annual electricity consumption the California was 6,684 kilowatt hours (kWh) per year per home. The project would build 30 WTGs equal to 102 MW, and would generate approximately 300 GWh per year based on a 34 percent capacity factor. The proposed project generation per year was then divided by the average California electricity consumption value of 6,684 kWh per year per home resulting in the equivalent of 44,700 homes' consumption being generated with electricity per year.

<sup>3</sup> U.S. Energy Information Administration. 2015. Average monthly residential electricity consumption, prices, and bills by state. Available at: <https://www.eia.gov/tools/faqs/faq.php?id=97&t=3>

<sup>4</sup> To derive GWh per year anticipated, kWh was calculated as discussed above and then converted to GWh.



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The Project Area is located near the City of Lompoc in the unincorporated territory of Santa Barbara County, California (Appendix A - Figure 1). The Project Area is located on approximately 2,988 acres of rural, agriculturally zoned land within the ridges of the Santa Ynez Mountains, along San Miguelito Canyon, and the White Hills within the Tranquillon Mountain, Lompoc Hills, and Lompoc U.S. Geological Survey (USGS) 7.5-minute quadrangles. The Project Area is located within the southeastern section of the Lompoc, and north central section of the Punta De La Concepcion, Land Grant boundaries. The Project Area is bounded by Vandenberg Air Force Base (AFB) on the south and west sides and private property on the north and east sides. The Project Area is accessed via San Miguelito Road, a public road that winds through the area and terminates at the Vandenberg AFB property line at the northwest edge of the Project Area.

It should be noted that Strauss Wind Energy optimized the Project design following submittal of the CUP application for the project in an effort to minimize environmental impacts and improve the civil and electrical design. The biological surveys reported in the BRTR, BRTR Addendum No. 1, and in this report, BRTR Addendum No. 2, provide a comprehensive and detailed data set sufficient to analyze impacts under CEQA and to support all permits currently being pursued by the Applicant. If final construction plans indicate additional minor optimizations and the need for supplemental focused habitat assessments based on final design, these assessments would be conducted by the applicant in coordination with the County to ensure no additional impacts occur other than those analyzed as part of the SEIR.

### **1.2 Biological Setting**

The Project Area is located along the California coast approximately 8.5 miles northwest of Point Conception within the Lompoc Hills. The Project Area contains a distinctive climate and geological formations which contributes to the diversity of habitats, topography, and species occurring in the region. The elevation on site ranges from 650 feet above mean sea level (AMSL) in the northeastern portion of the Project Area near San Miguelito Road to 1,970 feet near the southeastern portion of the site near an existing facility. The elevation range on site also contributes to a variety of wind patterns and localized climatic conditions that occur on site. The Project Area contains a variety of habitat types including agricultural lands, grasslands, woodlands, and riparian corridors. In addition, the Project Area and biological resources within are highly influenced by a coastal marine layer (fog) that provides the region with a consistent source of precipitation that supports a variety of plants, wildlife, and habitats. The marine layer is most prevalent during summer months and exhibits variability when it recedes.

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## 2 METHODS

Dudek conducted a literature review and subsequent focused surveys to determine the presence or absence of sensitive biological resources on the Project Area. Described in the following section are the literature review, methods of field surveys, and survey schedule associated with these focused surveys.

### 2.1 Literature Review

Prior to conducting surveys, the location of documented sensitive vegetation communities, special-status plant species, and special-status wildlife species near the Project Area and that have potential to occur on-site were identified through a query of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB; CDFW 2018b). Additional data sources were also referenced, including the California Native Plant Society's online Inventory of Rare and Endangered Plants (CNPS 2018a), and the on-line database Calflora: Information about California Plants for Education, Research and Conservation (Calflora 2018). Additional literature reviewed includes previous on-site biological reports, in particular:

- *Special-Status Plant Surveys on the Pacific Gas and Electric Lompoc Wind Energy Transmission Line Project* (Garcia and Associates 2011),
- *Lompoc Wind Energy Project Biological Resources* (Olson and Rindlaub 2006), and
- *Strauss Wind Energy Project Biological Resources Technical Report* (Sapphos 2017 revised 2018).

### 2.2 Focused Surveys

Dudek conducted focused biological surveys on the Project Area in 2018 for potentially occurring sensitive biological resources. Survey areas varied with the biological resource of interest which depended on the required or sufficient survey buffer from the potential impact(s) and the location of suitable habitat for the biological resource(s) the survey(s) were focused. For instance, rare plant and vegetation surveys covered only suitable habitat within the Project Area as they are stationary species, while some wildlife surveys covered adjacent areas within the property as they are mobile species. In addition, when federally- or state-listed species were observed, the defined population or occupied habitat was delineated, when possible. Lastly, biologists recorded information for other resources encountered incidentally while walking the Project Area and adjacent areas. Survey methodologies are detailed below.

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#### 2.2.1 Vegetation Communities and Habitat Mapping

In 2003, the Vegetation Classification and Mapping Program of the California Department of Fish and Game (CDFG; now known as the CDFW), Wildlife and Habitat Data Analysis Branch, published the *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CNDDDB) (CDFG 2003 [updated 2011]). In September 2010, the CDFG published the *Natural Communities List* (NCL; CDFG 2010). In January 2018, the CDFW published the *California Natural Communities List* (CNCL; CDFW 2018a). The CNCL provides the current list of vegetation Alliances, Associations, and Special Stands. State and Global rarity ranks are indicated for Alliances and some Associations; those with ranks 1-3 are considered Sensitive. The CNCL uses the scientific name of the dominant species in that alliance as the alliance name, which is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009) and the National Vegetation Classification System. This classification system focuses on a quantified, hierarchical approach that considers two primary criteria: (1) floristic (i.e., what is the dominant plant species?) and (2) physiognomic (i.e., what is the dominant type of habitat: grass/forb, shrub, or tree?) as currently observed (as opposed to predicting climax or successional stages). The floristic approach quantifies the distribution of plant species and their similarities of distribution and abundance (i.e., how many and how often are they found). The physiognomic or community structure and form is based on the actual vegetation community structure; woodland, shrubland, or herbaceous (i.e., height and form). For more information, please refer to MCV2 online at <http://vegetation.cnps.org/> and the U.S. National Vegetation Classification System found at <http://usnvc.org/>.

The following minimum vegetation mapping units applied during vegetation communities mapping:

- 0.5–1.0 acre for inaccessible areas of the site due to steep terrain and poison oak (*Toxicodendron diversilobum*).
- 0.1 acre for wetland (i.e., hydrophytic) vegetation in traditional wetland environments (i.e., not all FAC (facultative – plant species equally likely to occur in wetlands and non-wetlands) species comprising a vegetation alliance will be mapped unless associated with a hydrologic unit – stream, depression, swale, etc.).
- 0.1 acre sensitive vegetation communities

Nomenclature for on-site vegetation communities reflects the most current system, MCV2 and CNCL. Vegetation communities were mapped based on these sources, and the rarity rankings of the vegetation communities were referenced from *A Manual of California Vegetation, Online Edition* (CNPS 2018b). If vegetation observed did not meet the membership rules of the vegetation communities in these sources, a new name was recorded based on the dominant species observed, consistent with the MCV2.

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Vegetation communities and habitat mapping occurred in two separate areas: transmission line and wind site. No previous vegetation community or habitat mapping for the transmission line survey area was available; therefore, Dudek performed vegetation communities and habitat mapping of this entire survey area. Results of the transmission line vegetation communities and habitat mapping were provided in BRTR Addendum No. 1 (Dudek 2018a). A previous consultant had performed vegetation communities and habitat mapping of the wind site. Dudek performed focused vegetation communities and habitat mapping of sensitive vegetation communities to update the previous vegetation communities and habitat mapping.

#### **2.2.1.1 Wind Site Focused Sensitive Vegetation Communities and Habitat Mapping**

Wind site focused sensitive vegetation communities and habitat mapping was performed during August 2018, as detailed in Table 1. Vegetation communities and habitat mapping conducted by previous consultants (Sapphos 2017 revised 2018) was updated to include this sensitive vegetation communities and habitat mapping data.

**Table 1**  
**Dates and Conditions for Wind Site Focused Sensitive Vegetation Communities and Habitat Mapping**

Survey Date	Time	Personnel <sup>1</sup>	Survey Conditions
8/14/2018	0940-1800	AD	63-69°F; 80-100% cloud cover; 2-10 mph winds
8/15/2018	0935-1700	AD	63-72°F; 20-100% cloud cover; 0-10 mph winds

**Notes:**

<sup>1</sup> Biologists' Initials: AD = Andrea Dransfield

#### **2.2.1.3 Native Grassland Assessment**

A native grassland assessment was performed during June 2018, as detailed in Table 2. Vegetation communities and habitat mapping conducted by previous consultants (Sapphos 2017 revised 2018) was updated to include this native grassland assessment data.

**Table 2**  
**Dates and Conditions for the Native Grassland Assessment**

Survey Date	Time	Personnel <sup>1</sup>	Survey Conditions
6/4/2018	0810-1310	JD, HM	63-83°F; 0% cloud cover; 2-4 mph winds
6/11/2018	0950-1335	HM	64-66°F; 0% cloud cover; 7-11 mph winds
6/11/2018	0950-1750	MB, SC	60-66°F; 0% cloud cover; 5-11 mph winds

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**Table 2**  
**Dates and Conditions for the Native Grassland Assessment**

Survey Date	Time	Personnel <sup>1</sup>	Survey Conditions
6/12/2018	0830-1730	MB, SC, TP	62-68°F; 0% cloud cover; 0-5 mph winds
6/13/2018	0900-1800	SC, TP	60-68°F; 0% cloud cover; 0-10 mph winds
6/14/2018	0810-1640	HM, MB	65-66°F; 0% cloud cover; 1-5 mph winds
6/18/2018	0815-1036	HM	50-70°F; 0-50% cloud cover; 1-5 mph winds
6/18/2018	0815-1800	MF, MO	50-57°F; 50-90% cloud cover; 1-15 mph winds
6/18/2018	0815-1800	AC, CS, SC	50-57°F; 50-90% cloud cover; 1-15 mph winds
6/19/2018	0815-1815	MF, MO	55-60°F; 80-100% cloud cover; 0-5 mph winds
6/19/2018	0815-1745	AC, CS, SC	55-60°F; 0-100% cloud cover; 0-5 mph winds
6/20/2018	1014-1602	AC, MO, SC	50-65°F; 0-100% cloud cover; 0-5 mph winds
6/20/2018	0815-1810	MF, TP	51-58°F; 30-100% cloud cover; 1-30 mph winds
6/20/2018	0830-1755	RM	54-62°F; 40-100% cloud cover; 10.5-15 mph winds
6/21/2018	0745-1810	MF, TP	59-60°F; 0% cloud cover; 0-15 mph winds
6/21/2018	0749-1756	AD, RM	59-64°F; 10-20% cloud cover; 0-5 mph winds
6/22/2018	0730-1530	AD, TP	64-71°F; 0% cloud cover; 5-15 mph winds
6/22/2018	0800-1140	RM	68-72°F; 0-10% cloud cover; 3-9 mph winds
6/26/2018	0905-1630	HM	68-72°F; 0-10% cloud cover; 3-9 mph winds

**Notes:**

<sup>1</sup> Biologists' Initials: AC = Anna Cassidy; AD = Andrea Dransfield; CS = Cristina Slaughter; HM = Heather Moine; JD = John H. Davis IV; MB = Melissa Blundell; MF = Mackenzie Forgey; MO = Monique O'Conner; RM = Randall McInvale; SC = Shana Carey; TP = Tracy Park

The County considers native grasslands a significant sensitive community (County of Santa Barbara 2008) and are assessed per the County Native Grassland Habitat Impact Assessment Guidelines:

- *For the purposes of resource evaluation in Santa Barbara County, a native grassland is defined as an area where native grass species comprise 10 percent or more of the total relative cover.*
- *Removal or severe disturbance to a patch or patches of native grass less than one-quarter acre, which is clearly isolated and is not part of a significant native grassland or an integral component of a larger ecosystem, is usually considered insignificant.*

Native grasslands were mapped in areas that met both the County of Santa Barbara's (County) and the California Coastal Commission's (CCC's) definition or conception of a native grassland. As the CCC does not provide a specific definition, a conservative approach to interpreting their description and policies was taken so that the native grassland areas, specifically purple needle grass grasslands, foothill needle grass grassland, meadow barley patches, and creeping rye grass

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turfs, were mapped regardless of the size of the population or the percent cover of native grassland species.

During the spring floristic surveys for special-status plant species, Dudek noted locations of native grass species. In June 2018, these noted locations were analyzed during the native grassland assessment. The assessment included mapping the outer boundary of native grassland populations with pin flags and a Trimble Geo-XT GPS with sub-meter accuracy. A distance of greater than 10 feet between native grassland patches resulted in separate native grassland populations.

Native grasses within the CCC zone were mapped regardless of the size of the population and transects were established. Native grasses outside of the CCC zone were determined to be greater than or less than 0.25 acre. For those native grassland populations greater than 0.25 acre, population transects were established to collect native grassland assessment data. For those populations less than 0.25 acre, the boundary was documented with a Trimble Geo-XT GPS with sub-meter accuracy but no transect data was collected. Observed native grassland populations were mapped to the full extent. Native grassland population mapping did not stop at the survey area if the population extended beyond the survey area boundary.

Transects were located in a non-random design so that they were evenly distributed throughout the populations of native grasslands. The percent cover of native grasses was recorded at intervals of 1.0 meter (3.28 feet) along alternating sides, left and right, of each transect within a meter square plot (i.e., quadrat). This native grassland percent cover data was used to determine the mean percent coverage of native grass within each native grassland polygon.

#### **2.2.2 Floristic Surveys for Special-Status Plant Species**

Based on the literature review, Dudek identified special-status plant species that occurred, or that could occur, within or in the vicinity of the survey area. For the purposes of this report, special-status plant species are those plants listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the Federal Endangered Species Act (ESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); or plants that have a California Rare Plant Rank (CRPR) of 1, 2, 3, or 4 in the California Native Plant Society's (CNPS's) online Inventory of Rare and Endangered Plants (CNPS 2018a).

Dudek biologists, all of whom were familiar with the target special-status plant species and general flora of coastal Santa Barbara County, conducted the spring floristic surveys in accordance with the USFWS, CDFW, and CNPS guidelines (USFWS 2000; CDFG 2009; CNPS 2001). Teams of one to three botanists surveyed the survey area for special-status plant species by walking through vegetation together, spaced apart approximately 10 to 30 meters (33 to 98

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feet), depending on topography and vegetative cover. The botanists meandered along “transects” to ensure the entire Project Area was completely surveyed. During the surveys, when a special-status species was observed, the occurrence was mapped using a Trimble Geo-XT GPS unit with sub-meter accuracy. Observed special-status plant species populations were mapped to the full extent, even if the population extended beyond the survey area boundary.

Native and naturalized plant species encountered during the surveys were identified and recorded. Scientific and common names for plant species with a CRPR (formerly CNPS List) follow the *California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California* (CNPS 2018a). For plant species without a CRPR, Latin names follow the *Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2018) and common names follow the *List of Vegetation Alliances and Associations* (CDFG 2010) or the U.S. Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2018).

#### 2.2.2.2 Summer Floristic Surveys for Special-Status Plants

Dudek biologists conducted summer floristic surveys for special-status plant species from July 30 through August 16, 2018 (Table 3).

**Table 3**  
**Dates and Conditions for Summer Floristic Surveys and Gaviota Tarplant Assessment**

Survey Date	Time	Personnel <sup>1</sup>	Survey Conditions
7/18/2018	0915-1050	JD, HM	77-79°F; 20% cloud cover; 3-5 mph winds
7/24/2018	0800-1530	AD, RM, SC	59-74°F; 0-100% cloud cover; 0-2 mph winds
7/25/2018	0730-1236	AD, CS, RM, SC	55-78°F; 0-100% cloud cover; 0-1 mph winds
7/30/2018	0745-1630	AD, HM	73-80°F; 10-30% cloud cover; 6-8 mph winds
7/31/2018	0800-1515	HM, TP	73-91°F; 0% cloud cover; 2-4 mph winds
7/31/2018	0842-1513	AD, CS	62-93°F; 0% cloud cover; 1-4 mph winds
8/1/2018	0845-1530	AC, RM	70-80°F; 0% cloud cover; 0-4 mph winds
8/1/2018	0758-1615	KD, MF	65-75°F; 0% cloud cover; 1-4 mph winds
8/1/2018	0832-1543	AD, CS	74-89°F; 0-10% cloud cover; 3-4 mph winds
8/1/2018	0830-1535	HM, TP	73-84°F; 0% cloud cover; 1-3 mph winds
8/2/2018	0812-1529	AD, KD, MF	68-77°F; 0% cloud cover; 0-3 mph winds
8/2/2018	0815-1530	AC, RM	69-78°F; 0% cloud cover; 0-1 mph winds
8/2/2018	0745-1545	HM, TP	60-73°F; 0-100% cloud cover; 2-7 mph winds
8/3/2018	0845-1535	KD, MF	70-86°F; 0% cloud cover; 1-5 mph winds
8/3/2018	0745-1620	AC, RM	59-72°F; 0-100% cloud cover; 0-2 mph winds
8/9/2018	0911-1539	CS, DT	77-94°F; 0-10% cloud cover; 0-5 mph winds
8/14/2018	0940-1800	AD	63-69°F; 80-100% cloud cover; 2-10 mph winds

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**Table 3**  
**Dates and Conditions for Summer Floristic Surveys and Gaviota Tarplant Assessment**

Survey Date	Time	Personnel <sup>1</sup>	Survey Conditions
8/15/2018	0935-1700	AD	63-72°F; 20-100% cloud cover; 0-10 mph winds

**Notes:**

<sup>1</sup> Biologists' Initials: AC = Anna Cassady; AD = Andrea Dransfield; CS = Cristina Slaughter; DT = David Torfeh; HM = Heather Moine; JD = John H. Davis IV; KD = Katie Dayton; MF = Mackenzie Forgey; RM = Randall McInvale; SC = Shana Carey; TP = Tracy Park

#### 2.2.2.3 Gaviota Tarplant Assessment

Dudek biologists conducted the Gaviota tarplant assessment concurrently with the summer floristic surveys for special-status plant species from July 30 through August 16, 2018 (Table 3).

The Gaviota tarplant assessment included visiting populations of Gaviota tarplant previously mapped in CNDDDB. These population boundaries were assessed and if the Gaviota tarplant population had increased in size beyond the previously identified limits, the new boundary was mapped. Additionally, new Gaviota tarplant populations, with a distance of greater than 10 feet from other Gaviota tarplant populations were mapped as new populations. Each population was assessed with randomized 1-meter quad sample points. Sample points of previously identified Gaviota tarplant populations were randomly generated in the office by GIS. Sample points of new Gaviota tarplant populations were randomized in the field to the greatest extent feasible. At each sample point, the number of Gaviota tarplant individuals was counted within a 1-meter quad. Gaviota tarplant individual count data within each quad was used to determine an estimated total count for each population.

#### 2.2.2.4 Horkelia Cuneata Assessment

Dudek biologists conducted an assessment of *Horkelia cuneata* on August 16 and 17, 2018 (Table 4).

**Table 4**  
**Dates and Conditions for Horkelia Cuneata Assessment**

Survey Date	Time	Personnel <sup>1</sup>	Survey Conditions
6/4/2018	08101310	HM, JD	63-83°F; 0% cloud cover; 2-4 mph winds
8/16/2018	0820-1555	HM, KD	60-85°F; 0-10% cloud cover; 2-3 mph winds
8/17/2018	0800-1530	HM, KD	70-83°F; 0% cloud cover; 1-3 mph winds

**Notes:**

<sup>1</sup> Biologists' Initials: HM = Heather Moine; JD = John H. Davis IV; KD = Katie Dayton

Wedgeleaf horkelia (*Horkelia cuneata*) is known to have three varieties: wedgeleaf horkelia (*Horkelia cuneata* var. *cuneata*), mesa horkelia (*Horkelia cuneata* var. *puberula*), and Kellogg's



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horkelia (*Horkelia cuneata* var. *sericea*). Two of the varieties, mesa horkelia (*Horkelia cuneata* var. *puberula*) and Kellogg's horkelia (*Horkelia cuneata* var. *sericea*), are CNPS CRPR 1B.1 and one variety wedgeleaf horkelia (*Horkelia cuneata* var. *cuneata*) is common. The populations observed within the survey area had overlapping identification characteristics among the three varieties.

Due to the mixed populations of *Horkelia cuneata*, Dudek reached out to the Jepson Manual *Horkelia cuneata* treatment author Barbara Ertter, discussed this species with botanists familiar with the Santa Barbara County flora, and studied specimens at the Santa Barbara Botanic Garden herbarium. Ms. Ertter responded by forwarding an article (Ertter 1997) in which she uses “*Horkelia cuneata* as a prime example of why you shouldn't expect every plant (or population) you encounter to fit cleanly into one named unit or another”. The article explains:

*Furthermore, oversimplification and obfuscation of actual diversity can undermine conservation efforts. When everything from borderline intermediates to extremes are dumped into a single undifferentiated identity, the threats to actual diversity are harder to recognize. One of my current projects, for example, involves the Horkelia cuneata cline in California. The northern extreme, subspecies sericea in the San Francisco Bay Area, is markedly different from the southern extreme, subspecies puberula in the Los Angeles Basin, easily representing sufficient diversity to qualify as a separate species. However, a complete clinal integration occurs in between, with ssp. sericea grading into ssp. cuneata grading into ssp. puberula, with characteristics of all three occurring in various combinations in Santa Barbara County. When all representative material, however intermediate, is forced into one of the recognized subspecies, all three appear to be about equally common and not particularly threatened, at least globally. When one examines the cline as a cline, however, one is quickly struck by the fact that the extremes around San Francisco and Los Angeles are in danger of disappearing, taking with them a major component of the diversity contained within the species. In fact, without these extremes, there would be no reason to recognize subspecies at all; the variation represented by the intermediates alone would not justify taxonomic recognition.*

The article goes on to state:

*Once we acknowledge that “gray” should be an acceptable answer, then we can put our efforts into coming up with appropriate management strategies. For Horkelia cuneata I am suggesting a sliding scale, such that the more representative a population is of one of the endangered extremes, the more protection it merits. The principles of fuzzy logic are of potential relevance in this regard (e.g, McNeill and Freiberger, 1993).*

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Dudek botanists also discussed *Horkelia cuneata* with Dieter Wilkin and Katherine Rindlaub, both of whom have experience with this species in Santa Barbara County. They both shared experiences about the difficulties with *Horkelia cuneata* specifically identifying each of the different varieties because of overlapping and mixed identification characteristics.

Dudek botanist Heather Moine visited the Santa Barbara Botanic Garden herbarium to study specimens. During her visit, she noted particular characteristics of each variety. She also came across many specimens with such text included as subsp. *puberula* varying toward subsp. *cuneata*, subsp. *sericea* varying toward subsp. *cuneata*, intermediate ssp. *cuneata* and ssp. *puberula*, intermediate ssp. *cuneata* and ssp. *sericea*, and *Horkelia cuneata* x *puberula* intermediate.

Since multiple sources were confirming the confusion with *Horkelia cuneata* variety identifications, Dudek performed a *Horkelia cuneata* assessment of the observed populations to document the composition of the different varieties of this species. The outer boundary of each *Horkelia cuneata* population was delineated with a Trimble Geo-XT GPS with sub-meter accuracy and the number of individuals recorded. Within each population, a subset of individuals was assessed for the Jepson identification key characteristics including: glandular hairs, inflorescence openness, hairiness of the hypanthium inner rim, filament base width, orientation of hairs, and visibility of glands. Due to the variation of each of these characteristics, each was given a score of 1, 2, or 3 depending on observations. After the field assessment, the scores of each characteristic was assessed and a variety was assigned to each individual. The results of the subset were calculated for the total population count and the number of each resulting variety was recorded for each population.

#### 2.2.3 Wetland Delineation and Jurisdictional Determination

Dudek performed a formal wetland delineation within the Project Area and overall survey area in April through June 2018 and mid-August 2018 following the addition of several targeted supplemental survey locations. Initially, Dudek completed a literature review focused on the wetland delineation previously completed by Sapphos (2008a; 2008b) for the past iteration of the Project. The Sapphos wetland delineation focused on the proposed laydown, staging, and substation areas in the southern central portion of the Project Area and concluded that three features were under the jurisdiction of the USACE, RWQCB, CDFW, as well as the County of Santa Barbara. The Dudek field assessment included a review and updated delineation of the previously mapped wetland features, along with a delineation of all potential wetlands and non-wetland waters of the U.S. and state, extents of streambed and banks and associated riparian vegetation, and features meeting the definition of Coastal Waters and wetlands and riparian habitat under the County guidelines. The wetland delineation field surveys were performed in accordance with the methods prescribed in the USACE's 1987 *Wetland Delineation Manual* (TR Y-87-1) (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008b),

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*A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a), the and the USACE/EPA *Rapanos* guidance (USACE and EPA 2007), and DFG Code to determine the extent of waters of the U.S. and state as well as associated jurisdictional habitats.

### 3 RESULTS

#### 3.1 Vegetation Communities and Habitat Mapping

##### 3.1.1 Wind Site Focused Sensitive Vegetation Communities and Habitat Mapping

In this section the Wind site focused sensitive vegetation communities and habitats documented in the Wind site survey area are described, as shown in Appendix A – Figure 2A through 2C. Two sensitive vegetation communities were documented: Menzies’s golden bush scrub and sawtooth golden bush scrub, which are described below and shown in Table 5. Vegetation communities and habitat mapping performed by the previous consultant (Sapphos 2017 revised 2018) was updated to include the sensitive vegetation communities Menzies’s golden bush scrub and sawtooth golden bush scrub.

**Table 5**  
**Summary of Focused Sensitive Vegetation Communities and Habitat Mapping within the Wind Site Survey Area of the Project Area**

Physiognomic Category	General Habitat	Vegetation Communities / Alliance	Global/ State Rarity	Total (acres)
Shrubland Alliances and Stands (Upland)	Coastal Scrub	Menzies’s Golden Bush Scrub Shrubland Alliance	G3/S3	1.9
		Sawtooth Golden Bush Scrub Shrubland Alliance	G3/S3	69.8

##### 3.1.2.1 Menzies’s Golden Bush Scrub Shrubland Alliance

Menzies’s golden bush scrub shrubland alliance is listed in MCV2 and NCL as state rank 3 (sensitive). Menzies’s golden bush scrub shrubland alliances contain Menzies’s golden bush (*Isocoma menziesii*) as dominant or co-dominant in the shrub canopy. Menzies’s golden bush scrub has an open to intermittent shrub canopy of less than 3 feet (1 meter) in height with an open to continuous, diverse, and grassy herbaceous layer. The membership rule for Menzies’s golden bush scrub shrubland alliance is as follows: Menzies’s golden bush greater than 50% relative cover in the shrub canopy (Sawyer et al. 2009).

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This alliance often occurs on alluvial fans, arroyos, and stream terraces at elevations from sea level to 3,937 feet (1,200 meters) amsl (Sawyer et al. 2009).

Menzies's golden bush scrub shrubland alliances were recorded as greater than 50% relative cover of Menzies's golden bush and therefore meets the membership rule.

#### 3.1.2.2 Sawtooth Golden Bush Scrub Shrubland Alliance

Sawtooth golden bush scrub shrubland alliance is listed in MCV2 and NCL as state rank 3 (sensitive). Sawtooth golden bush scrub shrubland alliances contain sawtooth golden bush (*Hazardia squarrosa*) as dominant or co-dominant in the shrub canopy. Sawtooth golden bush scrub has an open to intermittent shrub canopy of less than 7 feet (2 meter) in height with an open to intermittent herbaceous layer. The membership rule for the sawtooth golden bush scrub shrubland alliance is as follows: sawtooth golden bush greater than 50% relative cover in the shrub canopy (Sawyer et al. 2009).

This alliance often occurs on gentle to somewhat steep northeast facing slopes in fine clays at elevations from 16 feet (5 meters) to 5,052 feet (1,540 meters) amsl (Sawyer et al. 2009).

Sawtooth golden bush scrub shrubland alliances were recorded as greater than 50% relative cover of sawtooth golden bush and therefore meets the membership rule.

#### 3.1.2 Native Grassland Assessment

In this section the native grassland documented in the survey area are described, as shown in Appendix A – Figure 3A through 3C. A total of 122 native grassland populations were observed and assessed, as shown in Table 6. Native grasslands occur in many large contiguous areas with some adjacent patches and some isolated patches. A total of four native grassland types identified in MCV2 (Sawyer et al. 2009) were identified: creeping rye grass turfs, foothill needle grass grasslands, meadow barley patches, and purple needle grass grasslands, as described below. Transect lengths were variable and ranged from 10.0 to 100.0 meters (32.8 to 328.1 feet). The data sheets from the native grassland assessment are provided in Appendix C.

**Table 6**  
**Native Grassland Assessment Results**

GrasslandID	Number of Quads	Acres	Minimum	Maximum	Average	Grassland Type	Code
NG 001	21		5	90	43	Native Grassland	PNGG
NG 002	8	0.11	5	45	22	Native Grassland*	PNGG
NG 003	8	0.07	10	30	17	Native Grassland*	PNGG

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**Table 6**  
**Native Grassland Assessment Results**

GrasslandID	Number of Quads	Acres	Minimum	Maximum	Average	Grassland Type	Code
NG 004	12	0.29	0	55	15	Native Grassland	PNGG
NG 005	11	0.05	0	40	17	Native Grassland*	PNGG
NG 006	8	0.21	3	35	20	Native Grassland*	PNGG
NG 007	23	0.47	0	25	3	Non-Native Grassland	-
NG 008	16	0.43	1	35	17	Native Grassland	PNGG
NG 009	8	0.10	2	20	9	Non-Native Grassland	-
NG 010	27	0.65	0	35	11	Native Grassland	PNGG
NG 011	15	0.50	1	30	10	Native Grassland	PNGG
NG 012	14	0.33	0	55	13	Native Grassland	PNGG
NG 013	7	0.00	0	35	10	Native Grassland*	PNGG
NG 014	28	0.19	0	35	9	Native Grassland*	PNGG
NG 015	39	1.37	0	60	20	Native Grassland	PNGG
NG 016	3	0.02	10	70	32	Native Grassland*	PNGG
NG 017	9	0.13	3	70	24	Native Grassland*	PNGG
NG 018	-	0.04	-	-	-	Native Grassland*	PNGG
NG 019	-	0.04	-	-	-	Non-Native Grassland	-
NG 020	21	1.53	0	80	23	Native Grassland	PNGG
NG 021	42	2.70	0	60	20	Native Grassland	PNGG
NG 022	18	0.66	0	35	13	Native Grassland	PNGG
NG 023	5	0.02	0	75	28	Native Grassland*	PNGG
NG 024	21	1.09	0	50	20	Native Grassland	PNGG
NG 025	10	0.24	0	45	16	Native Grassland*	PNGG
NG 026	7	0.09	0	25	11	Native Grassland*	PNGG
NG 027	15	0.61	0	40	12	Native Grassland	PNGG
NG 100	12	0.63	4	66	22	Native Grassland	PNGG
NG 101	16	0.60	5	70	31	Native Grassland	CRGT
NG 102	14	0.50	0	35	13	Native Grassland	PNGG
NG 103	21	0.60	1	70	28	Native Grassland	PNGG
NG 104	21	0.96	0	30	12	Native Grassland	PNGG
NG 105	20	0.36	0	65	19	Native Grassland	PNGG
NG 106	21	0.46	0	20	2	Non-Native Grassland	-
NG 107	16	1.27	0	20	5	Non-Native Grassland	-
NG 108	-	0.04	-	-	-	Non-Native Grassland	-
NG 109	-	0.21	-	-	-	Native Grassland*	PNGG
NG 110	9	0.30	2	35	12	Native Grassland	PNGG
NG 111	-	0.06	-	-	-	Non-Native Grassland	-
NG 112	22	0.39	0	15	4	Non-Native Grassland	-
NG 113	14	0.24	0	65	24	Native Grassland*	PNGG

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**Table 6**  
**Native Grassland Assessment Results**

GrasslandID	Number of Quads	Acres	Minimum	Maximum	Average	Grassland Type	Code
NG 114	7	0.10	0	20	7	Non-Native Grassland	-
NG 115	-	0.18	-	-	-	Non-Native Grassland	-
NG 116	16	0.51	0	65	14	Native Grassland	PNGG
NG 117	39	2.31	0	75	19	Native Grassland	PNGG
NG 118	21	1.32	0	55	27	Native Grassland	PNGG
NG 119	-	0.17	-	-	-	Native Grassland*	PNGG
NG 120	-	0.19	-	-	-	Native Grassland*	PNGG
NG 200	14	0.21	10	80	34	Native Grassland*	PNGG
NG 201	41	4.72	0	75	17	Native Grassland	PNGG
NG 202	10	0.27	0	50	20	Native Grassland	CRGT
NG 203	15	0.36	0	85	38	Native Grassland	PNGG
NG 204	19	2.00	3	90	59	Native Grassland	PNGG
NG 205	9	0.35	3	80	36	Native Grassland	PNGG
NG 206	-	0.03	-	-	-	Native Grassland*	PNGG
NG 207	-	0.17	-	-	-	Native Grassland*	PNGG
NG 208	-	0.23	-	-	-	Native Grassland*	PNGG
NG 209	-	0.03	-	-	-	Non-Native Grassland	-
NG 210	-	0.16	-	-	-	Non-Native Grassland	-
NG 300	19	0.51	0	90	17	Native Grassland	PNGG
NG 301	21	1.90	2	60	21	Native Grassland	FNGG
NG 302	42	3.61	0	72	23	Native Grassland	FNGG
NG 303	13	0.02	0	30	12	Native Grassland*	FNGG
NG 304	10	0.02	1	15	7	Non-Native Grassland	-
NG 305	42	1.77	0	60	16	Native Grassland	FNGG
NG 306	14	0.47	0	20	10	Native Grassland	PNGG
NG 307	15	0.69	2	43	13	Native Grassland	PNGG
NG 308	-	0.15	-	-	-	Native Grassland*	PNGG
NG 309	-	0.22	-	-	-	Native Grassland*	PNGG
NG 310	58	3.94	0	43	13	Native Grassland	FNGG
NG 311	-	0.14	-	-	-	Native Grassland*	FNGG
NG 312	-	0.03	-	-	-	Native Grassland*	FNGG
NG 313	-	0.10	-	-	-	Native Grassland*	FNGG
NG 314	-	0.11	-	-	-	Native Grassland*	FNGG
NG 315A	24	0.25	0	60	29	Native Grassland	FNGG
NG 315B		0.18			8	Non-Native Grassland	-
NG 315C		0.16			10	Native Grassland*	FNGG
NG 316	-	0.04	-	-	NA	Non-Native Grassland	-
NG 317	8	0.34	4	23	15	Native Grassland	FNGG

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**Table 6**  
**Native Grassland Assessment Results**

GrasslandID	Number of Quads	Acres	Minimum	Maximum	Average	Grassland Type	Code
NG 318	21	1.65	6	23	14	Native Grassland	FNGG
NG 319	-	0.13			NA	Native Grassland*	FNGG
NG 320	11	0.47	7	30	16	Native Grassland	FNGG
NG 321	-	0.10	-	-	-	Non-Native Grassland	-
NG 322	-	0.03	-	-	-	Non-Native Grassland	-
NG 323	-	0.21	-	-	-	Non-Native Grassland	-
NG 324	-	0.08	-	-	-	Non-Native Grassland	-
NG 325	-	0.03	-	-	-	Non-Native Grassland	-
NG 326	-	0.03	-	-	-	Non-Native Grassland	-
NG 327	-	0.13	-	-	-	Non-Native Grassland	-
NG 328	11	0.41	3	28	12	Native Grassland	FNGG
NG 400	-	0.03	-	-	-	Non-Native Grassland	-
NG 401	15	0.65	0	35	8	Non-Native Grassland	-
NG 402	13	0.41	0	40	12	Native Grassland	PNGG
NG 403	16	0.90	0	60	19	Native Grassland	PNGG
NG 404	15	0.48	0	45	24	Native Grassland	PNGG
NG 405	20	1.53	0	56	25	Native Grassland	PNGG
NG 406	1	0.10	-	-	-	Native Grassland*	PNGG
NG 407	24	1.66	0	45	16	Native Grassland	PNGG
NG 408	27	2.22	8	50	24	Native Grassland	MBP
NG 409	12	0.31	5	30	14	Native Grassland	PNGG
NG 410	-	0.03	-	-	-	Native Grassland*	PNGG
NG 411	-	0.04	-	-	-	Non-Native Grassland	-
NG 412	-	0.09	-	-	-	Native Grassland*	PNGG
NG 413	-	0.10	-	-	-	Native Grassland*	PNGG
NG 414	-	0.02	-	-	-	Native Grassland*	PNGG
NG 415	-	0.03	-	-	-	Native Grassland*	PNGG
NG 416	-	0.02	-	-	-	Native Grassland*	PNGG
NG 417	34	1.43	0	85	32	Native Grassland	PNGG
NG 418	-	0.06	-	-	-	Non-Native Grassland	-
NG 419	16	1.35	8	50	22	Native Grassland	PNGG
NG 420	-	0.03	-	-	-	Native Grassland*	PNGG
NG 421	-	0.02	-	-	-	Native Grassland*	PNGG
NG 422A	25	0.34	1	47	20	Native Grassland	PNGG
NG 422B		0.48			9	Non-Native Grassland	-
NG 423	-	0.12	-	-	-	Non-Native Grassland	-
NG 500	14	0.25	0	55	23	Native Grassland	PNGG
NG 501	-	0.03	-	-	-	Non-Native Grassland	-

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**Table 6  
Native Grassland Assessment Results**

GrasslandID	Number of Quads	Acres	Minimum	Maximum	Average	Grassland Type	Code
NG 502	-	0.10	-	-	-	Non-Native Grassland	-
NG 503	-	0.04	-	-	-	Native Grassland*	PNGG
NG 504	-	0.01	-	-	-	Native Grassland*	PNGG
NG 505	21	0.34	0	65	24	Native Grassland	PNGG
NG 506	-	0.01	-	-	-	Non-Native Grassland	-
NG 507	-	0.06	-	-	-	Non-Native Grassland	-
NG 508	18	0.44	0	35	12	Native Grassland	PNGG
NG 509	-	0.02	-	-	-	Non-Native Grassland	-

**Notes:**

\* - Less than 0.25; however, considered a native grassland due to adjacent native grasslands assessed

CRGT - Creeping rye grass turfs

FNGG - Foothill needle grass grassland

MBP - Meadow barley patches

PNGG - Purple needle grass grassland

In summary, Table 7 includes the total amounts of each native grassland observed during the native grassland assessment. Descriptions of each native grassland vegetation community is included below.

**Table 7  
Summary of Native Grasslands Documented within the Survey Area**

Physiognomic Category	General Habitat	Vegetation Communities / Alliance	Global/ State Rarity	Total (acres)
Herbaceous Alliances and Stands	Grassland	Creeping Rye Grass Turfs Herbaceous Alliance	G5/S3	0.9
		Foothill Needle Grass Grassland Herbaceous Alliance	G3?/S3?	15.0
		Meadow Barley Patches Herbaceous Alliance	G4/S3?	2.2
		Purple Needle Grass Grassland Herbaceous Alliance	G4/S3?	44.1
Grand Total				62.2

### **3.1.3.1 Creeping Rye Grass Turfs**

Creeping rye grass turfs herbaceous alliance is listed in MCV2 and NCL as state rank 3 (sensitive). County of Santa Barbara defines a native grassland as an area where native grassland species comprise 10 percent or more of the relative cover. Creeping rye grass turfs herbaceous alliance contains creeping rye grass (*Elymus triticoides* = *Leymus triticoides*) is dominant or co-dominant



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in the herbaceous layer. Creeping rye grass turfs has an open to continuous cover of less than 3 feet (1 meter) in height. The one membership rule for the creeping rye grass turfs herbaceous alliance is as follows: creeping rye grass greater than 50% relative cover in the herbaceous layer (Sawyer et al. 2009).

This alliance often occurs on poorly drained floodplains, drainage and valley bottoms, mesic flat to sloping topography, and marsh margins with clay and loam soils from sea level to 7,546 feet (2,300 meters) amsl (Sawyer et al. 2009).

Creeping rye grass turfs herbaceous alliances were recorded as greater than 50% relative cover in the herbaceous layer and therefore meets the membership rule.

#### **3.1.3.2 Foothill Needle Grass Grassland**

Foothill needle grass grassland provisional herbaceous alliance is listed in MCV2 and NCL as state rank 3? (sensitive). County of Santa Barbara defines a native grassland as an area where native grassland species comprise 10 percent or more of the relative cover. Foothill needle grass grassland provisional herbaceous alliance contains foothill needle grass (*Stipa lepida* = *Nassella lepida*) is dominant or co-dominant in the herbaceous layer. Foothill needle grass grassland has an open canopy of less than 3 feet (1 meter) in height (Sawyer et al. 2009).

This alliance often occurs on all topographic locations with deep soils with high clay content, often derived from mudstone, sandstone, or serpentine substrates from sea level to 5,577 feet (1,700 meters) amsl (Sawyer et al. 2009).

#### **3.1.3.3 Meadow Barley Patches**

Meadow barley patches herbaceous alliance is listed in MCV2 and NCL as state rank 3? (sensitive). County of Santa Barbara defines a native grassland as an area where native grassland species comprise 10 percent or more of the relative cover. Meadow barley patches herbaceous alliance contains meadow barley (*Hordeum brachyantherum*) as dominant or co-dominant in the herbaceous layer. Meadow barley patches have a continuous cover of less than 3 feet (1 meter) in height. The two membership rules for the meadow barley patches herbaceous alliance are as follows: (1) meadow barley greater than 30% relative cover in the herbaceous layer; (2) meadow barley characteristically present, usually with other wetland plants that may be at high cover (Sawyer et al. 2009).

This alliance often occurs in moist to wet meadows, stream terraces, and sites adjacent to springs and seeps with soils often derived from serpentine and other substrates from feet on poorly drained floodplains, drainage and valley bottoms, mesic flat to sloping topography, and

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marsh margins with clay and loam soils from elevations of 5,577 feet (1,700 meters) amsl to 7,382 feet (2,250 meters) amsl (Sawyer et al. 2009).

Meadow barley patches herbaceous alliances were recorded as greater than 30% relative cover in the herbaceous layer and therefore meets the membership rule.

#### **3.1.3.4 Purple Needle Grass Grassland**

Purple needle grass grassland herbaceous alliance is listed in MCV2 and NCL as state rank 3? (sensitive). County of Santa Barbara defines a native grassland as an area where native grassland species comprise 10 percent or more of the relative cover. Purple needle grass grassland herbaceous alliance contains purple needle grass (*Stipa pulchra* = *Nassella pulchra*) as dominant or characteristically present in the herbaceous layer with other perennial grasses and herbs. Purple needle grass grassland has an open to continuous cover of less than 3 feet (1 meter) in height. The two membership rules for the purple needle grass grassland herbaceous alliance are as follows: (1) purple needle grass greater than 5% absolute cover as a characteristic to dominant species in the herbaceous layer; (2) purple needle grass greater than 10% relative cover of the herbaceous layer (Sawyer et al. 2009).

This alliance often occurs in valley and foothill areas on all topographic locations and inland soils are deep with clay content, or shallow and rocky near the coast from elevations of sea level to 4,265 feet (1,300 meters) amsl (Sawyer et al. 2009).

Purple needle grass grassland herbaceous alliances were recorded as greater than 10% relative cover of the herbaceous layer and therefore meets the membership rule.

## **3.2 Floristic Surveys for Special-Status Plant Species**

During the spring and summer floristic surveys, a total of 290 plant species were observed, of which 62% were native plant species and 38% non-native species. A cumulative list of the plant species observed is included in Appendix B. Of the plant species observed, nine are special-status plant species; black-flowered figwort (*Scrophularia atrata*), Gaviota tarplant (*Deinandra increscens* ssp. *villosa*), Monterey cypress (*Hesperocyparis macrocarpa*), Monterey pine (*Pinus radiata*), ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*), south coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*), Southern California black walnut (*Juglans californica*), and wedgeleaf horkelia (*Horkelia cuneata*), which is a combination of Kellogg's horkelia (*Horkelia cuneata* var. *sericea*) and mesa horkelia (*Horkelia cuneata* var. *puberula*).

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#### 3.2.1 Black-flowered figwort (*Scrophularia atrata*)

Black-flowered figwort (*Scrophularia atrata*) is a CNPS CRPR 1B.2 plant species that is rare, threatened, or endangered in California and elsewhere and fairly endangered in California. Black-flowered figwort occurs in coastal California in Santa Barbara County and San Luis Obispo County. It is a perennial herb that is native to California and is endemic (limited) to California. Black-flowered figwort occurs in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub habitats at elevations of 33 feet (10 meters) to 1,640 feet (500 meters) amsl. The blooming period of black-flowered figwort is March through July.

A total of 172 populations of black-flowered figwort were documented totaling 1,147 individual plants covering 8,669 square feet. The locations of black-flowered figwort are in Appendix A – Figure 6F through 6J.

#### 3.2.2 Gaviota tarplant (*Deinandra increscens* ssp. *villosa*)

Gaviota tarplant (*Deinandra increscens* ssp. *villosa*) is a federally endangered, state endangered, and CNPS CRPR 1B.1 plant species that is rare, threatened, or endangered in California and seriously threatened in California. Gaviota tarplant occurs in coastal California in Santa Barbara County. It is an annual herb that is native to California and is endemic (limited) to California. Gaviota tarplant occurs in coastal bluff scrub, coastal scrub, and valley and foothill grasslands habitats at elevations of 66 feet (20 meters) to 1,411 feet (430 meters) amsl. The blooming period of Gaviota tarplant is May through October.

A total of 103 populations of Gaviota tarplant were documented totaling 4,542,342 individual plants covering 8,366,608 square feet (192 acres). Results of the Gaviota tarplant assessment are in Appendix A – Figure 4 and Figure 6A through 6D and 6K. In summary, Table 8 includes the total amounts of each native grassland observed during the native grassland assessment.

**Table 8**  
**Gaviota Tarplant Assessment Results within the Survey Area**

Population ID	Area (Square Feet)	Total Count of Gaviota Tarplant
001	80	26
002	158	28
003	1,571	4,720
004	813	302
005	4	1
006	49	48
007	4,065	28,073
008	6	1

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**Table 8**  
**Gaviota Tarplant Assessment Results within the Survey Area**

Population ID	Area (Square Feet)	Total Count of Gaviota Tarplant
009	2	1
010	2,119	14,303
011	2	1
012	2	1
013	3,154	8,302
014	2,000	1,765
015	79	12
016	104	426
017	157	37
018	76	3
019	3	1
020	4	2
100	95	80
102	2	1
103	9	4
104	9	4
105	2	1
106	3	2
107	6	1
108	9	1
109	9	1
110	6	1
111	11	3
112	10	1
113	855	159
114	7	1
115	4,901	4,211
116	70	4
117	429	279
118	267	50
119	48	571
120	74	89
121	34	2
122	71	14
123	20	7
124	1,300	725
125	6	1
126	516	838
127	6	2
128	297	883

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**Table 8**  
**Gaviota Tarplant Assessment Results within the Survey Area**

Population ID	Area (Square Feet)	Total Count of Gaviota Tarplant
181	4,425,781	2,893,411
182	1,426,518	784,973
183	352,949	62,301
184	231,238	0 <sup>1</sup>
186	89,624	0 <sup>1</sup>
200	629	1,403
201	567	264
202	3	0 <sup>2</sup>
203	1,515	2,534
204	1	0 <sup>2</sup>
205	3	4
206	1,879	0 <sup>2</sup>
207	9	2
208	2	0 <sup>2</sup>
209	2	1
210	534	496
211	1	0 <sup>2</sup>
212	0	0 <sup>2</sup>
213	1,606	2,761
214	0	0 <sup>2</sup>
215	1,889	3,275
216	398	37
217	94	12
219	6	2
220	2	0 <sup>2</sup>
221	1	0 <sup>2</sup>
222	3	0 <sup>2</sup>
223	1	0 <sup>2</sup>
224	19	31
225	21	24
226	36	17
227	21	117
228	2	0 <sup>2</sup>
229	1	0 <sup>2</sup>
230	3	4
231	2	0 <sup>2</sup>
232	4	1
233	208	377
234	1	0 <sup>2</sup>
235	2	0 <sup>2</sup>

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**Table 8**  
**Gaviota Tarplant Assessment Results within the Survey Area**

Population ID	Area (Square Feet)	Total Count of Gaviota Tarplant
236	73	123
237	20	27
238	44	176
240	3	0 <sup>2</sup>
241	2	0 <sup>2</sup>
261	908,982	0 <sup>1</sup>
263	75,833	0 <sup>1</sup>
264	44,535	1,034
265	33,461	0 <sup>1</sup>
271	186,160	105,498
272	143,805	125,098
281	280,471	182,397
282	108,198	309,936
284	25,800	0 <sup>1</sup>
302	11	1
501	54	2
502	43	10
507	12	1
508	6	1
<b>Totals</b>	<b>8,366,608</b>	<b>4,542,342</b>

**Notes:**

<sup>1</sup> – No Gaviota tarplant observed in this population

<sup>2</sup> – Gaviota tarplant observed within the population; however, when the assessment results were extrapolated to the entire population the count was less than one hence the recorded number of zero.

### 3.2.3 Monterey cypress (*Hesperocyparis macrocarpa*)

Monterey cypress (*Hesperocyparis macrocarpa*) is a CNPS CRPR 1B.2 plant species that is rare, threatened, or endangered in California and elsewhere and fairly endangered in California. Monterey cypress is known from only two native occurrences in the Monterey area; and it is widely planted and naturalized elsewhere. It is a perennial evergreen tree that occurs in closed-cone coniferous forest habitats at elevations of 33 feet (10 meters) to 98 feet (30 meters) amsl. The survey area is outside the natural range of Monterey cypress; therefore, it should not be considered a special-status species for this Project.

### 3.2.4 Monterey pine (*Pinus radiata*)

Monterey pine (*Pinus radiata*) is a CNPS CRPR 1B.1 plant species that is rare or endangered in California and elsewhere and seriously endangered in California. Monterey pine is known from

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only three native stands in California: Ano Nuevo, Cambria, and the Monterey Peninsula. Other occurrences of Monterey pine have been planted or introduced. Monterey pine is a perennial evergreen tree that occurs in closed-cone coniferous forest and cismontane woodland habitats at elevations of 82 feet (25 meters) to 607 feet (185 meters) amsl. The survey area is outside the natural range of Monterey pine; therefore, it should not be considered a special-status species for this Project.

#### **3.2.5 Ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*)**

Ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*) is a CNPS CRPR 4.2 plant species that has a limited distribution in California and is fairly endangered in California. Ocellated Humboldt lily occurs in mostly coastal California counties from Santa Barbara County south through San Diego County. Ocellated Humboldt lily is a perennial herb (bulb) that is native to California and is endemic (limited) to California and occurs in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland habitats at elevations of 98 feet (30 meters) to 5,906 feet (1,800 meters) amsl. The blooming period of ocellated Humboldt lily is from March through July.

A total of one population of ocellated Humboldt lily was documented totaling 6 individual plants covering 37 square feet. The location of ocellated Humboldt lily is in Appendix A – Figure 6E.

#### **3.2.6 South coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*)**

South coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*) is a CNPS CRPR 3.2 plant species that needs more info and is fairly endangered in California. South coast branching phacelia occurs in coastal California from southern San Luis Obispo County south through middle San Diego County. South coast branching phacelia occurs in sandy, sometimes rocky, chaparral, coastal dunes, coastal scrub, and marsh and swamp (coastal salt) habitats at elevations of 16 feet (5 meters) to 984 feet (300 meters) amsl. The blooming period of south coast branching phacelia is March through August.

A total of two populations of south coast branching phacelia were documented totaling 64 individual plants covering 583 square feet. The locations of south coast branching phacelia are in Appendix A – Figure 6D.

#### **3.2.7 Southern California black walnut (*Juglans californica*)**

Southern California black walnut (*Juglans californica*) is a CNPS CRPR 4.2 plant species that has a limited distribution in California and is fairly endangered in California. Southern California

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black walnut occurs throughout California. Southern California black walnut is a tree that is native to California and is endemic (limited) to California and occurs in alluvial, chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats at elevations of 164 feet (50 meters) to 2,953 feet (900 meters) amsl. The blooming period of Southern California black walnut is March through August.

A total of four populations of Southern California black walnut were documented totaling five individual plants covering 2,714 square feet. The locations of Southern California black walnut are in Appendix A – Figure 6F.

#### 3.2.8 Wedgeleaf horkelia (*Horkelia cuneata*)

Wedgeleaf horkelia (*Horkelia cuneata*) is known to have three varieties: wedgeleaf horkelia (*Horkelia cuneata* var. *cuneata*), mesa horkelia (*Horkelia cuneata* var. *puberula*), and Kellogg's horkelia (*Horkelia cuneata* var. *sericea*). Two of the varieties, mesa horkelia (*Horkelia cuneata* var. *puberula*) and Kellogg's horkelia (*Horkelia cuneata* var. *sericea*), are CNPS CRPR 1B.1. The populations observed within the survey area appeared to be mixed populations which have overlapping identification characteristics. Due to the mixed populations, Dudek botanists performed a wedgeleaf horkelia assessment of the observed populations as described above to document the composition of the different varieties of this species on the project site. The three varieties are described below.

Wedgeleaf horkelia (*Horkelia cuneata* var. *cuneata*) is a common species not considered special-status federally, state, or by CNPS. Wedgeleaf horkelia is a perennial herb that is native to California and is endemic (limited) to California. It occurs in coastal California from San Francisco County south through San Diego County and blooms from February through July.

Mesa horkelia (*Horkelia cuneata* var. *puberula*) is a CNPS CRPR 1B.1 plant species that is rare, threatened, or endangered in California and elsewhere. Mesa horkelia occurs in coastal California counties from San Luis Obispo County south through northern San Diego County. Mesa horkelia occurs in sandy or gravelly, chaparral (maritime), cismontane woodland, and coastal scrub habitats at elevations of 230 feet (70 meters) to 2,657 feet (810 meters) amsl. The blooming period of mesa horkelia is February through July and sometimes through September.

Kellogg's horkelia (*Horkelia cuneata* var. *sericea*) is a CNPS CRPR 1B.1 plant species that is rare, threatened, or endangered in California and elsewhere. Kellogg's horkelia occurs in coastal California counties from Marin County south through Santa Barbara County. Kellogg's horkelia occurs in sandy or gravelly openings, closed-cone coniferous forest, chaparral (maritime), coastal



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dune, and coastal scrub habitats at elevations of 33 feet (10 meters) to 656 feet (200 meters) amsl. The blooming period of mesa horkelia is April through September.

A total of 37 populations of wedgeleaf horkelia were documented totaling 120,537 individual plants covering 829,462 square feet (19.0 acres). Results of the *Horkelia cuneata* assessment are in Appendix A – Figure 5 and Figure 6A through 6C. The results of the *Horkelia cuneata* assessment further defined the population into the varieties, as summarized in Table 9. The data sheets from the *Horkelia cuneata* assessment are provided in Appendix D.

**Table 9**  
**Horkelia Cuneata Assessment Results within the Survey Area**

Population ID	Population Count			Total Area (Square Feet)		
	HORCUNCUN	HORCUNPUB	HORCUNSER	HORCUNCUN	HORCUNPUB	HORCUNSER
HORCUN 01	93	107	0	1,441	1,647	0
HORCUN 02	10	7	0	30	20	0
HORCUN 03	48	32	0	384	256	0
HORCUN 04	11	5	0	27	13	0
HORCUN 05	9	0	3	13	0	4
HORCUN 06	4	0	0	14	0	0
HORCUN 07	107	36	107	400	133	400
HORCUN 08	400	200	200	4,954	2,477	2,477
HORCUN 09	667	667	167	12,657	12,657	3,164
HORCUN 10	18	0	37	124	0	249
HORCUN 11	1	0	0	9	0	0
HORCUN 12	800	0	200	17,150	0	4,287
HORCUN 13	23	23	0	98	98	0
HORCUN 14	190	0	0	512	0	0
HORCUN 15	0	0	1	0	0	10
HORCUN 16	41	0	41	135	0	135
HORCUN 17	1	0	0	19	0	0
HORCUN 18	6	0	0	123	0	0
HORCUN 19	330	0	220	1,896	0	1,264
HORCUN 20	1	0	0	19	0	0
HORCUN 21	23	8	0	254	85	0
HORCUN 22	18	9	9	268	134	134
HORCUN 23	36	0	0	413	0	0
HORCUN 24	15	0	0	70	0	0
HORCUN 25	8	8	8	134	134	134
HORCUN 26	13	7	0	95	48	0
HORCUN 27	30	0	0	59	0	0
HORCUN 28	12	0	0	275	0	0
HORCUN 29	15	0	15	156	0	156

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**Table 9**  
**Horkelia Cuneata Assessment Results within the Survey Area**

Population ID	Population Count			Total Area (Square Feet)		
	HORCUNCUN	HORCUNPUB	HORCUNSER	HORCUNCUN	HORCUNPUB	HORCUNSER
HORCUN 30	9	0	0	15	0	0
HORCUN 31	8	0	0	19	0	0
HORCUN 32	30	0	10	253	0	84
HORCUN 33	1	0	0	17	0	0
HORCUN 34	15	0	0	755	0	0
HORCUN 35	256	0	64	3,345	0	836
HORCUN 36	99,318	0	15,682	646,234	0	102,037
HORCUN 37	100	0	0	4,017	0	0
<b>Total</b>	<b>102,667</b>	<b>1,107</b>	<b>16,763</b>	<b>696,386</b>	<b>17,703</b>	<b>115,373</b>

**Notes:**

HORCUNCUN – *Horkelia cuneata* var. *cuneata*

HORCUNPUB – *Horkelia cuneata* var. *puberula*

HORCUNSER – *Horkelia cuneata* var. *sericea*

### 3.3 Wetland Delineation and Jurisdictional Determination

The Project Area was found to be located within two watersheds; the South Coast watershed in the western and far southeastern portions of the Project Area and Santa Ynez watershed in the eastern and far north-central portions of the Project Area, as well as along the entirety of the transmission line corridor. Within each watershed, the hydrologic features identified in the survey area were determined to have a direct surface or sub-surface connection to the hydrologic features of the watershed. In the South Coast watershed, each of the hydrologic features identified during the wetland delineation were found to connect to Canada Honda, which is located entirely outside of the Project Area, ultimately flows directly into the Pacific Ocean approximately 6.7 miles west of the Project Area on Vandenberg Air Force Base. In the Santa Ynez watershed, each of the delineated hydrologic features were determined to connect to San Miguelito Creek, the headwaters of which begin within the Project Area. Once off-site, San Miguelito Creek connects to the Santa Ynez River approximately 3.5 miles north of the Project Area and the Santa Ynez River ultimately flows directly into the Pacific Ocean at Surf Beach, approximately 8.7 miles west of the confluence with San Miguelito Creek. Both Canada Honda and San Miguelito Creek were determined to be Relatively Permanent Waters (RPWs) and jurisdictional to the USACE, RWQCB, CDFW, CCC, and the County due to their connection to the Pacific Ocean, a Traditional Navigable Water (TNW). Therefore, each of the features identified within the survey area were determined to be jurisdictional to the resource agencies based on their defining characteristics and the hydrologic connection described above. In addition to features with a direct surface or sub-surface connection to an RPW, two wetland areas that were found to be isolated and not under the jurisdiction of the

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USACE; however, these features would remain under the jurisdiction of the RWQCB, CDFW, and the County. Several small wetland features in the upper watershed were identified within the Coastal Zone. In total, the wetland delineation resulted in the identification of approximately 25 ephemeral channels, four intermittent streams, five adjacent wetlands, two isolated wetlands, as well as associated riparian habitats within the overall survey area. Detailed methods and results of the wetland delineation can be found in the *Wetland Delineation and Jurisdictional Determination for the Strauss Wind Energy Project* completed by Dudek (2018).

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### 4 IMPACTS

This section provides the updated impact analysis for vegetation communities and habitats, special-status plant species, El Segundo blue butterfly host plant seacliff buckwheat, and jurisdictional resources based on recent surveys.

#### 4.1 Impacts to Vegetation Communities and Habitats

A summary of the impacts to vegetation communities and habitats is provided in Table 10. Impacts to the vegetation communities and habitats are based on the entire August 31, 2018 Project Area, and are currently considered to be permanent; however, temporary vs. permanent impacts will be separated as the engineering drawings are refined. The impacts to vegetation communities and habitats are anticipated to occur due to project grading for access roads, turbine pads, transmission pole pads, the laydown yard, and O&M building.

**Table 10**  
**Summary of Impacts to Vegetation Communities and Habitats Existing Based on the**  
**August 2018 Project Area**

Physiognomic Category	General Habitat	Vegetation Communities / Alliance	Global/ State Rarity	Total (acres)
Herbaceous Alliances and Stands	Grassland	Creeping Rye Grass Turfs Herbaceous Alliance	G5/S3	0.3
		Foothill Needle Grass Grassland Herbaceous Alliance	G3?/S3?	6.9
		Non-Native Grassland	NA	86.9
		Purple Needle Grass Grassland Herbaceous Alliance	G4/S3?	7.5
		Valley Needlegrass Grassland (defined by previous consultant as Purple Needle Grass Grassland Herbaceous Alliance [Sapphos 2017 revised 2018])	G4/S3?	1.1
Herbaceous Alliance and Stands Total				102.7
Sensitive Herbaceous Alliance and Stands Total				15.8
Shrubland Alliances and Stands (Upland)	Coastal Scrub	Central Coastal Scrub (defined by previous consultant as California Sage Brush Scrub Shrubland Alliance [Sapphos 2017 revised 2018])	G5/S5	21.4

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**Table 10**  
**Summary of Impacts to Vegetation Communities and Habitats Existing Based on the**  
**August 2018 Project Area**

Physiognomic Category	General Habitat	Vegetation Communities / Alliance	Global/ State Rarity	Total (acres)
		Central Coastal Scrub Mosaic/Non-Native Grassland (defined by previous consultant as California Sage Brush Scrub Shrubland Alliance with Non-Native Grassland [Sapphos 2017 revised 2018])	G5/S5 <sup>1</sup>	7.1
		Menzies's Golden Bush Scrub Shrubland Alliance	G3/S3	0.2
		Menzies's Golden Bush Scrub/Purple Needle Grass Grassland	G3/S3 <sup>1</sup>	0.3
		Sawtooth Golden Bush Scrub Shrubland Alliance	G3/S3	20.6
		Sawtooth Golden Bush Scrub/Foothill Needle Grass Grassland	G3/S3 <sup>1</sup>	0.0 <sup>2</sup>
		Sawtooth Golden Bush Scrub/Purple Needle Grass Grassland	G3/S3 <sup>1</sup>	1.2
Shrubland Alliances and Stands (Upland) Total				50.8
Sensitive Shrubland Alliances and Stands (Upland) Total				22.3
Shrubland Alliances and Stands (Riparian)	Riparian Scrub	Central Coastal Arroyo Willow Riparian Forest (defined by previous consultant as Arroyo Willow Thickets Shrubland Alliance [Sapphos 2017 revised 2018])	G4/S4	2.4
Shrubland Alliances and Stands (Riparian) Total				2.4
Tree Clusters	Tree Clusters (Planted or Naturally Occurring)	Coast Live Oak Woodland Alliance	G5/S4	12.6
		Eucalyptus Grove Woodland Semi-Natural Alliance	NA	0.0 <sup>2</sup>
		Tanoak Forest Forest Alliance	G4/S3	5.9
Tree Clusters Total				18.5
Sensitive Tree Clusters Total				5.9
Partially Vegetated and Non-Vegetated Habitats		General Agriculture	NA	5.9
Partially Vegetated and Non-Vegetated Habitats Total				5.9
Grand Total				180.3

**Notes:**

<sup>1</sup> Vegetation Community is a hybrid of two vegetation communities and is not identified in MCV2 as an alliance. The global/state rarity from the shrubland vegetation community maintained for the hybrid vegetation community.

<sup>2</sup> There are impacts; however the amount is less than 0.0 acre.

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#### 4.2 Impacts to Special-Status Plant Species

A summary of the impacts to special-status plant species is provided in Table 11, and as described above for vegetation communities are currently considered to be permanent; however, temporary vs. permanent impacts will be separated as the engineering drawings are refined. The impacts to special-status plant species are anticipated to occur due to project grading for access roads, turbine pads, transmission pole pads, the laydown yard, and O&M building.

**Table 11**  
**Summary of Impact Acreage to Special-Status Plant Species Based on the August 2018 Project Area**

Scientific Name	Common Name	Impact Area Acres (Square Feet)	Impacted Number of Individuals
<i>Deinandra increscens</i> ssp. <i>villosa</i>	Gaviota tarplant	26.80 (1,167,505)	760,558
<i>Horkelia cuneata</i> var. <i>puberula</i>	Mesa horkelia	0.02 (847)	84
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	0.74 (32,078)	4,648
<i>Juglans californica</i>	Southern California black walnut	0.003 (128)	2
<i>Scrophularia atrata</i>	black-flowered figwort	0.003 (127)	61

Note that impact to *Horkelia cuneata* varieties areas and individual number of plant species are estimated since the locations of the plant individuals within each population are not known. Therefore, impact quantities are based on the percent of the area/population impacted.

#### 4.3 El Segundo Blue Butterfly Host Plants

A summary of the impacts to El Segundo blue butterfly host plants is provided in Table 12, and are currently considered to be permanent; however, temporary vs. permanent impacts will be separated as the engineering drawings are refined. The impacts to El Segundo blue butterfly host plants are anticipated to occur due to project grading for access roads, turbine pads, transmission pole pads, the laydown yard, and O&M building.

**Table 12**  
**Summary of Impact Acreage to El Segundo Blue Butterfly Host Plants Based on the August 2018 Project Area**

Scientific Name	Common Name	Impact Area (Square Feet)	Impacted Number of Individuals
<i>Eriogonum parvifolium</i>	seacliff buckwheat	206,408	10,393

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### 4.4 Impacts to Jurisdictional Waters

A summary of the impacts resulting from implementation of the Project to waters of the U.S. and state under the jurisdiction of the USACE, RWQCB, CDFW, CCC, and County is provided in Table 13.

**Table 13**  
**Summary of Impact Acreage to Jurisdictional Resources Based on the August 2018**  
**Project Area**

Agency Jurisdiction	Feature Type	Feature Class	South Coast Watershed Impact (Acres/ Square Feet)	Santa Ynez Watershed Impact (Acres/ Square Feet)
USACE/ RWQCB/ CDFW/ County	Ephemeral Channel	Non-Wetland Waters of the U.S./ State	0.075	0.010
USACE/ RWQCB/ CDFW/ County	Intermittent Stream	Non-Wetland Waters of the U.S./ State	0.014	--
USACE/ RWQCB/ CDFW/ County	Perennial Stream	Non-Wetland Waters of the U.S./ State	--	0.078
USACE/ RWQCB/ CDFW/ County	Wetland	Waters of the U.S./ State	0.117	0.113
RWQCB/ CDFW/ County	Isolated Wetland	Waters of the State	--	--
CDFW/ County	Top of Bank or Edge of Riparian Vegetation (furthest extent)	Riparian Habitat	1.302	0.738
County	Two Parameter Wetland	County Wetland	--	0.189
California Coastal Commission	Wetland and Riparian	Coastal Waters	--	0.070
<b>Total Impact Acreage</b>				
Impacts to USACE/ RWQCB/ CDFW/ County Non-Wetland Waters of the U.S.			0.177	
Impacts to USACE/ RWQCB/ CDFW/ County Wetland Waters of the U.S.			0.230	
Impacts to RWQCB/ CDFW/ County Waters of the State			--	
Impacts to CDFW/ County Top of Bank or Edge of Riparian Vegetation			2.040	
Impacts to County Two-Parameter Wetlands			0.189	
Impacts to California Coastal Commission Wetland and Riparian			0.070	

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# **APPENDIX A**

## *Figures*

# **APPENDIX B**

## *Plant Compendium*

# **APPENDIX C**

## ***Native Grassland Assessment Data Sheets***

# **APPENDIX D**

## ***Horkelia Cuneata Assessment Data Sheets***