

#### 4.4 Biological Resources

The following section describes the biological resources found within the Biological Study Area (BSA), which includes the Rail Spur Project area, and a minimum 100 foot buffer area around the applicant's proposed disturbance area. This section also evaluates the potential of these biological resources to be impacted by the modification to the existing rail spur, unloading facility, on-site transfer conveyance (pipelines), restroom facilities, and road improvements to the Emergency Vehicle Access (EVA) route between the eastern end of the rail spur and Highway 1. The analysis evaluates potential biological impacts resulting from construction and projected use, and recommends mitigation measures where appropriate. The section also provides a discussion of cumulative biological impacts, and potential impacts that may arise from the proposed use of the existing UPRR mainline routes.

The information provided below is a compilation of botanical and wildlife data gathered by the applicant's consultant Arcadis U.S., Inc. (Arcadis), and field verification of this data conducted by the EIR consultant team SWCA Environmental, Inc. (SWCA) and Leidos, Inc. (Leidos). The information within this section also includes a review of information from federal, state, and local resource agencies.

Previous project-related studies reviewed during the EIR analysis include:

- *Phillips 66 Botanical Assessment, Santa Maria Refinery Rail Project, San Luis Obispo County, California* (Arcadis, June 13, 2013). (A copy of this document is included as Appendix C.1.)
- *Phillips 66 Wildlife and Habitat Assessment, Santa Maria Refinery Rail Project, San Luis Obispo County, California* (Arcadis, June 17, 2013). (A copy of this document is included as Appendix C.2.)
- *Phillips 66 Nesting Burrowing Owl Survey Report, Santa Maria Refinery Rail Project, San Luis Obispo County, California* (Arcadis, August 25, 2013). (A copy of this document is included as Appendix C.3.)
- *Phillips 66 Sensitive Resources Report – Vegetation, Santa Maria Refinery Rail Project, San Luis Obispo County, California* (Arcadis, February 2015; revised March 2015). (A copy of this document is included as Appendix C.6)
- *Phillips 66 Sensitive Resources Report – Botanical Addendum, Santa Maria Refinery Rail Project, San Luis Obispo County, California* (Arcadis, July 2015). (A copy of this document is included as Appendix C.6)
- *Phillips 66 Project, Verification of Arcadis 2015 Sensitive Resources Report – Vegetation.* (Leidos, April 17, 2015 and November 6, 2015 ). (Copies of these documents are included as Appendix C.7)
- *2015 Nipomo Lupine (Lupinus nipomensis) Survey Results Associated with the Proposed Rail Spur Project* (Arcadis, April 2015). (A copy of this document is included as Appendix C.8)

SWCA biologists conducted a peer review of the Applicant-submitted reports listed above as well as conducted onsite field work to verify the information in the reports. Additional field verification was conducted by Leidos in March 2015. Results of the Leidos field verification are provided in Appendix C.7.

### 4.4.1 Environmental Setting

The Nipomo Mesa and the Central Coast region in general occur in an important biological transition zone between the moister communities of central and northern California and the more arid communities of southern California. The Project Site is defined as the entire parcel owned by Phillips 66 (P66). The topography of the Project Site and surrounding area consists of relatively flat to gradually undulating terrain. Oceano sands underlay the Project Site, which are well drained and predominate in old stabilized sand dunes in several locations along the Central Coast. The average elevation is 60 feet.

Yearly precipitation is estimated at 16.96 inches (Western Regional Climate Center 2013), as measured from nearby Pismo Beach, and primarily falls between October and April. The local weather pattern of mild, wet winters and warm, dry summers is characteristic of Mediterranean climate regions, and the effect of the dry summers on plant life is ameliorated somewhat by the presence of summer fog. Temperatures at the Project Site are generally mild, with a mean annual temperature of 58.0 degrees Fahrenheit (°F), with an average maximum temperature of 68.2 °F and an average minimum temperature of 47.7 °F (Western Regional Climate Center 2013).

The Oceano Dunes State Vehicular Recreation Area (SVRA) is located along the beach immediately west of the Project Site. The 3,600-acre (1,456 ha) park has 5.5 miles (8.8 km) of beach access with 1,500 acres (607 ha) of sand dunes open for vehicle and recreational vehicle use. The park is the only California State Park facility that allows vehicles to be driven on the beach. The Oso Flaco Lake Natural Area is also part of the Oceano Dunes SVRA. The Lake area is off-limits to vehicles and is primarily used by the public for viewing plants, wildlife, and scenic landscapes. The Oso Flaco Lake Natural Area offers a 1.5-mile (2.4 km) boardwalk path, including a span that crosses over the lake itself, which connects the parking lot at the west end of Oso Flaco Lake Road to the beach.

The County of Santa Barbara Parks Department manages the Rancho Guadalupe Dunes Preserve located approximately 5 miles south of the Project Site. The Rancho Guadalupe Dunes Preserve supports pristine sand dunes and offers fishing, hiking, wildlife viewing, picnicking, and other activities for the public. The preserve is used as a breeding location by two federal and state listed wildlife species; the snowy plover (*Charadrius alexandrinus*) and California least tern (*Sterna antillarum*). Certain human activities within the park are seasonally restricted during the breeding season (March 1 through October 1) of these two listed wildlife species.

Black Lake Canyon is located approximately 1 mile north of the Project Site. Black Lake Canyon represents a significant natural resource, containing habitat for a number of rare plant and wildlife species including federally listed threatened California red-legged frog (*Rana draytonii*). The Project Site does not support suitable habitat for this species.

#### 4.4.1.1 Upland Vegetation Types

The distribution of vegetation types is determined by topography, soils and geology, hydrology, slope exposure, climate, and land use history. Vegetative types have been classified utilizing the classification system described within *A Manual of California Vegetation, Second Edition* (Sawyer et al 2009). The emphasis of the vegetation classification is at the alliance level, which is the best for considering vegetation at a regional and statewide level because it is based on a tangible number of floristic categories, defined by well-known plant species, some of which are widespread throughout the state. Below the alliance level is the association level, which recognizes combinations of plant species that typically have more local specificity. Ranking of alliances according to their degree of imperilment (as measures by rarity, trends, threats) follow NatureServe's Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank (Sawyer et al 2009).

It is important to note that the most current vegetation classifications at the alliance and association levels (Sawyer et al 2009) may also describe similar vegetation types (e.g., Central Dune Scrub) that have been previously defined using legacy classification systems such as the *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986). The Holland (1986) classification system is used as the basis for the California Department of Fish and Wildlife (CDFW) List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base (CDFW 2013). CDFW recognizes that the Holland legacy classification system does not match the current standards of today. However, in most cases, no recent surveys have been made of the old CDFW Natural Community elements. Therefore, CDFW will not remove these elements from the CNDDDB until they have been assessed and reclassified in terms of the currently accepted state and national standards (CDFW 2014). Where applicable, references to the Holland classification system have been mentioned below. Plant species that were identifiable were classified based on *The Jepson Manual: Higher Plants of California* (Baldwin et al 2012) and *Vascular Plants of San Luis Obispo County* (Hoover 1970).

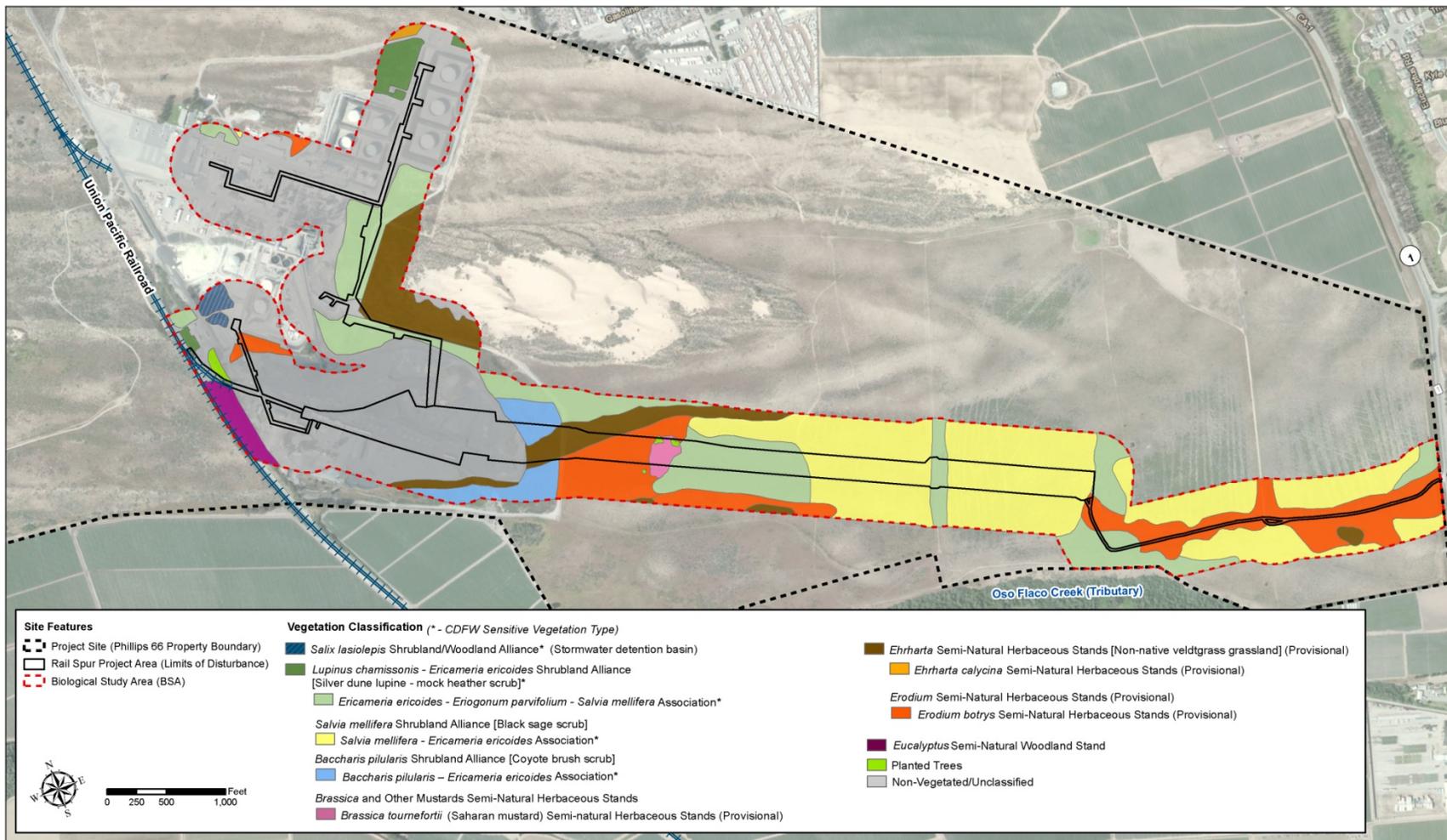
The following alliances and their associations are based on habitat mapping efforts conducted by Arcadis in January and February 2015, and field verified by Lauren Brown, Senior Botanist, of Leidos Inc. on March 9, 2015 (refer to Appendix C.6 and C.7, respectively). The purpose of the vegetative mapping efforts in 2015 was to address any inconsistencies in nomenclature that were identified during the public review process of the RDEIR, which was based on mapping efforts from Arcadis in 2013. The following vegetative types below are described using the classification system from *A Manual of California Vegetation, Second Edition* (Sawyer et al 2009). Classifications from Holland (1986) have been referenced where appropriate.

##### ***Lupinus chamissonis* – *Ericameria ericoides* Shrubland Alliance [Silver dune lupine – mock heather scrub]**

The *Lupinus chamissonis* – *Ericameria ericoides* Shrubland Alliance and its associations discussed below (i.e., *Ericameria ericoides* – *Eriogonum parvifolium* – *Salvia mellifera* Association) are present in two areas within the central portion of the Rail Spur Project area, within the portion of the Rail Spur Project area that comprises the EVA route, and within the area where the pipelines would be constructed from the Rail Spur unloading facility to the existing storage tanks as shown in Figure 4.4-1.

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Figure 4.4-1 Habitat Map



Source: Adapted from Arcadis 2013 and 2015.

This alliance has a global rank of G3 and a state rank of S3 (10,000-50,000 acres [4,050-20,235 ha] global and statewide). Global G3 rank indicates that the alliance is “moderate risk of extinction or elimination due to a restricted range, relatively few populations or occurrences, recent and widespread declines, or other factors” globally.

State Rank S3 indicates that it is “vulnerable in the jurisdiction due to a restricted range, relatively few populations or occurrences, recent and widespread declines, or other factors making it vulnerable to extirpation.”

The *Lupinus chamissonis* – *Ericameria ericoides* Shrubland Alliance is similar to Central Dune Scrub definition under the Holland legacy classification, and would therefore be considered sensitive by the CDFW.

Within the *Lupinus chamissonis* – *Ericameria ericoides* Shrubland Alliance there is one association identified within the BSA: *Ericameria ericoides* – *Eriogonum parvifolium* – *Salvia mellifera* Association - This association covers approximately 47.84 acres within the BSA and 8.65 acres within the Rail Spur Project area. This vegetative type is generally located within the middle portion of the proposed Rail Spur Project area, and along the length of the pipeline extending from the unloading facility to the existing storage tanks (see Figure 4.4-1).

The areas mapped as *Lupinus chamissonis* – *Ericameria ericoides* Shrubland Alliance have a low cover of shrub species and *Lupinus chamissonis* was notably absent, except for occasional seedlings (Leidos 2015). However, the areas mapped as this alliance did support the minimal cover of 10 percent shrubs primarily *Ericameria ericoides*, and therefore meet the membership rule in *A Manual for California Vegetation, Second Edition* (Sawyer et al 2009), for this shrubland alliance.

It is recognized that vegetative types change with time and that the current vegetation types may change in terms of composition and levels of dominance. Therefore, it should be recognized that associations such as Dune-Heather - Black Sage - Coffeeberry Association could occur within the *Lupinus chamissonis* – *Ericameria ericoides* Shrubland Alliance (refer to Figure 4.4-2) and is considered to be locally rare within the greater Guadalupe-Nipomo Dunes (Chipping 2014). According to the CNPS, this association is considered to be under-explored, unique and poorly recorded (Chipping 2014). Although, this association was not identified individually within the Rail Spur Project area by Arcadis, SWCA, or Leidos; the presence of all of the necessary species to form this association warrants consideration.

#### ***Salvia mellifera* Shrubland Alliance [Black sage scrub]**

The *Salvia mellifera* Shrubland Alliance is present within the central portion of the BSA. This alliance has a global rank of G4 and a state rank of S4. Both rankings suggest that the alliance is “apparently secure.” It also suggests that the alliance is “uncommon, but not rare; some cause for long-term concern due to declines or other factors.”

Within the *Salvia mellifera* Shrubland Alliance there was one association identified within the BSA: *Salvia mellifera* – *Ericameria ericoides* Association [Black sage scrub – mock heather scrub] (Provisional) - This association covers approximately 70.20 acres within the BSA and

11.34 acres within the Rail Spur Project area. Based on the recommendations of Ms. Lauren Brown of Leidos, this provisional association is proposed as it more accurately defines the vegetation classification given the presence of *Ericameria ericoides* that was observed. *Salvia mellifera* dominated areas may be considered transitional to more inland scrub or chaparral types, and similar to the Central Dune Scrub definition under the Holland legacy classification and would therefore be considered sensitive by the CDFW.

#### ***Baccharis pilularis* Shrubland Alliance [Coyote brush scrub]**

The *Baccharis pilularis* Shrubland Alliance dominates the central portion of the BSA. This alliance has a global rank of G5 and a state rank of S5. Both rankings suggest that the alliance is “secure” and “common, widespread and abundant.”

Within the *Baccharis pilularis* Shrubland Alliance there is one association identified within the BSA: *Baccharis pilularis* – *Ericameria ericoides* Association (Provisional) – This provisional association covers approximately 7.51 acres within the BSA and 0.89 acres within the Rail Spur Project area. This association is considered provisional, as it is not included within *A Manual of California Vegetation, Second Edition* (Sawyer et al 2009) or the CDFW Natural Communities List. Based on the visual observation, *Baccharis pilularis* and *Ericameria ericoides* were co-dominant within the shrub layer and shrubs contributed more than 10 percent of the vegetative cover, within an understory dominated by veldt grass. Because the alliance did support the minimal cover of 10 percent shrubs, which included *Ericameria ericoides*, it was determined to be similar to the membership rule for *Lupinus chamissonis* – *Ericameria ericoides* Shrubland Alliance and is considered a sensitive community.

#### ***Brassica* and Other Mustards Semi-Natural Herbaceous Stands (Upland Mustards) (Provisional)**

The *Brassica (nigra)* and Other Mustards Semi-Natural Herbaceous Stands (Provisional) are present within the small portion of the BSA. This alliance has no global or state rarity ranking. Due to the dominance of *Brassica tournefortii* found within the BSA, the habitat type has been mapped within the BSA as the provisional classification of *Brassica tournefortii* (Saharan mustard) Semi-natural Herbaceous Stands. There is approximately 1.50 acres of this habitat within the BSA and 1.11 within the Rail Spur Project area. This community is not considered a sensitive community.

#### ***Enharta* Semi-Natural Herbaceous Stands [Non-native veltgrass grassland] (Provisional)**

The *Enharta* Semi-Natural Herbaceous Stands (Provisional) are present within the westernmost portion of the BSA. This alliance has no global or state rarity ranking, as it is not an officially recognized habitat type under Sawyer et al (2009) or Holland (1986).

Due to the dominance of *Enharta calycina* found within the BSA, the habitat type has been mapped within the BSA using the suggested provisional classification of *Enharta calycina* Semi-Natural Herbaceous Stands. There are approximately 21.62 acres of this habitat within the BSA and 2.92 acres within the Rail Spur Project area.

In general, the Project Site east of the UPRR mainline has been historically grazed for over 30 years and invasive veldt grass (*Ehrharta calycina*) is abundant in many areas, especially in disturbed areas near slope bottoms. The presence of non-native grassland also usually suggests

prior clearing of native perennial vegetation, which then is largely replaced by invasive non-native grasses and forbs. Although veldt grass is common in all vegetation types at the Project Site, only areas with 50% or greater cover by veldt grass were mapped as this grassland type.

***Erodium* Semi-Natural Herbaceous Stands [Non-native stork's-bill disturbed scrublands and wastelaces] (Provisional)**

The *Erodium* Semi-Natural Herbaceous Stands is present within the westernmost portion of the BSA. This alliance has no global or state rarity ranking, as it is not an officially recognized habitat type under Sawyer et al (2009) or Holland (1986). Due to the dominance of *Erodium botrys* found within the BSA, the habitat type has been mapped within the BSA using the suggested provisional classification of *Erodium botrys* Semi-Natural Herbaceous Stands. There is approximately 33.81 acres of this habitat within the BSA and 4.39 within the Rail Spur Project area. This is not considered a sensitive community.

***Eucalyptus* Semi-Natural Woodland Stands**

Semi-Natural Woodland Stands describe areas that are more than 80 percent dominated by a particular tree layer and generally refer to planted groves, windbreaks and naturalized trees. With respects to the BSA, *Eucalyptus* Semi-Natural Woodland Stands are present as a eucalyptus windrow located parallel to the existing UPRR mainline at the western boundary of the Rail Spur Project area. There is approximately 3.24 acres of this habitat within the BSA and none within the Rail Spur Project area.

This eucalyptus windrow consists of blue gum eucalyptus (*Eucalyptus globulus*) and provides suitable habitat for nesting and foraging raptors and migratory bird species. It is unlikely that the windrow also has the potential to provide habitat for overwintering monarch butterfly due to the exposure to frequent strong onshore winds. Furthermore, no overwintering monarch butterfly activity has been documented at this location to date.

**Coast Live Oak and Monterey Pine Individuals**

Three individual specimens of coast live oak (*Quercus agrifolia*) are present within the immediate vicinity of the Rail Spur Project area. These specimens have a diameter at breast height greater than five inches. Due to their distribution within the BSA, these individuals do not comprise oak woodland habitat, rather they are individuals that exist within the dune scrub and serve as sun and wind protection for cattle that have been grazing the property for at least 30 years. It is unclear if these oaks were planted or remnant oak habitat prior to the historical land use practices.

In addition to the coast live oak individuals, there are also isolated grouping of Monterey pine (*Pinus radiata*) within the BSA. It is reasonable to assume that these groupings of Monterey pine were planted to provide shading to livestock.

Together, the micro-habitat created by the individual coast live oak specimens and the Monterey pine stand provide foraging and nesting opportunities for a variety of wildlife species that occur in the area. The trees primarily serve as a perch for foraging raptors and other bird species. Evidence of great horned owl use was observed by SWCA biologists during the reconnaissance survey. No nesting activity was observed. The isolated stands of trees contribute woody debris

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to the duff in the understory, which provides foraging areas for small mammals and microclimates suitable for reptiles and fungi. The trees also provide a food source for animal species, including acorn woodpecker (*Melanerpes formicivorus*), scrub jay (*Aphelocoma corulescens*), western gray squirrel (*Sciurus griseus*), and black-tailed deer (*Odocoileus emionus*).

### 4.4.1.2 Wetland Communities

Areas with standing or flowing water or with seasonally or permanently saturated soils commonly support wetland communities. Freshwater wetlands are extremely complex and variable, and their species composition and overall structure are dependent on a number of factors.

#### ***Salix lasiolepis* Shrubland/Woodland Alliance**

Within the BSA, a small patch of *Salix lasiolepis* Shrubland/Woodland Alliance, or Arroyo Willow Thicket, occurs between the existing coke plant facility and the UPRR mainline. The area is saturated as a result of stormwater drainage runoff from the existing facilities. Presence of *Salix lasiolepis* within the Coastal Zone would constitute a jurisdictional feature under the California Coastal Commission one-parameter definition of wetlands, and is considered a sensitive community. There are approximately 1.51 acres of this habitat within the BSA and none within the Rail Spur Project area. Verification of potentially jurisdictional features was not necessary as part of this analysis, as the habitat would not be impacted by the Rail Spur Project.

Although located outside of the BSA, it is important to note that a tributary to Oso Flaco Creek is located to the south of the Project Site and contains *Salix lasiolepis* Shrubland/Woodland Alliance, or Arroyo Willow Thicket. Oso Flaco Creek would also be considered a jurisdictional feature (per the definitions of California Coastal Commission, CDFW, and/or United States Fish and Wildlife Service [USFWS]).

### 4.4.1.3 Sensitive Biological Resources

A variety of sensitive habitats, plants, and wildlife species have recently or historically been known to occur within the vicinity of the Rail Spur Project area. The following subsections provide an analysis of sensitive biotic resources that have been documented within an approximate 10-mile radius of the Rail Spur Project area, as determined by review of previous studies, review of County mapping data, query of the CNDDDB (2013), CNPS Online Inventory (2013), applicant prepared reports, discussion with local species experts and current regulatory information.

#### **Sensitive Communities**

Wetlands and other sensitive habitats recognized by the CDFW, the County, or other resource agencies as meriting protection or further study due to their rarity or value, are considered sensitive communities. According to the CNDDDB a total of six sensitive Natural Communities occur within a 10-mile radius of the BSA. These Natural Communities include: Central Dune Scrub, Central Foredunes, Central Maritime Chaparral, Coastal and Valley Freshwater Marsh, Southern Vernal Pool, and Valley Needlegrass Grassland.

In addition to the CNDDDB query, a review of the County vegetation mapping data (2009) was conducted. Based on a review of this mapping data, the entire BSA is currently mapped as Central (Lucian) Coastal Scrub. Central (Lucian) Coastal Scrub is considered state sensitive Natural Community by CDFW under the Holland legacy classification system.

As a result of the vegetation mapping efforts of Arcadis and Leidos, it was determined that the vegetation types within the BSA more closely resemble Central Dune Scrub rather than Central (Lucian) Dune Scrub, as currently mapped by the County. Central Dune Scrub is also considered a sensitive Natural Community under the Holland legacy classification system. This vegetation type considered to have a global ranking of G2 (imperiled) and state ranking of S2.2 (imperiled).

As described in Section 4.4.1.1, vegetative types were mapped according to the National Vegetation Classification system described in *A Manual of California Vegetation, Second Edition* (Sawyer et al 2009). Some sensitive vegetation types within this classification system can also be described sensitive Natural Communities under the Holland legacy system. For the purposes of this analysis, both are collectively referred to as sensitive communities herein.

Following the National Vegetation Classification system described in *A Manual of California Vegetation, Second Edition*, the results of field surveys determine the presence of the following vegetation types (including provisional vegetation types). These sensitive communities are shown in Figure 4.4-1:

- *Lupinus chamissonis* – *Ericameria ericoides* Shrubland Alliance
- *Ericameria ericoides* – *Eriogonum parvifolium* – *Salvia mellifera* Association
- *Baccharis pilularis* – *Ericameria ericoides* Association (Provisional)
- *Salvia mellifera* Shrubland Alliance [Black sage scrub]
- *Salvia mellifera* – *Ericameria ericoides* Association

### **Sensitive Plant Species**

For the purposes of this section, sensitive plant species are defined as the following:

- Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (FESA) (50 Code of Federal Regulations [CFR] 17.12 for listed plants and various notices in the Federal Register for proposed species).
- Review of Native Species that are Candidates for Listing as Endangered or Threatened; Annual Notice of Finding on Resubmitted Petitions; Annual Description of Progress Listing Actions (Federal Register Vol. 77, No. 225, pp. 69994-70060, November 21, 2012).
- Plants that meet the definitions of rare or endangered species under the California Environmental Quality Act (CEQA) (State CEQA Guidelines, §15380).
- Plants considered by the CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in California Native Plant Society, 2006).
- Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Lists 3 and 4 in California Native Plant Society, 2006).

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- Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] 670.5).
- Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).
- Plants considered sensitive by other Federal agencies (i.e., United States Forest Service, Bureau of Land Management), state and local agencies, or jurisdictions.

Based on the CNDDDB query, CNPS Online Inventory, and review of other background literature sources, a total of 46 sensitive plant species have been documented in the Oceano USGS quadrangle and surrounding 7 quadrangles (CNDDDB 2013) (refer to Appendix C.4). The list of sensitive plant species considered in Appendix C.4 is regional; therefore, a preliminary analysis of the listed species was conducted to identify which species have the potential to occur in or near the BSA. The preliminary analysis evaluated the known range and habitat preferences of the species in comparison to the existing habitat type present/absent, elevation, and soils within the BSA. As a result of this preliminary analysis conducted by SWCA, it was determined that potentially suitable conditions occur within the BSA for the following 20 special-status plant species. Further discussion of each of these species and their potential to occur, or known presence, onsite is included in Appendix C.4:

- aphanisma (*Aphanisma blitoides*)
- Davidson's saltscale (*Atriplex serenana* var.  *davidsonii*)
- coastal goosefoot (*Chenopodium littoreum*)
- straight-awned spineflower (*Chorizanthe rectispina*)
- surf thistle (*Cirsium rothophilum*)
- Gaviota tarplant (*Deinandra increscens* subsp.  *villosa*)
- dune larkspur (*Delphinium parryi* subsp.  *blochmaniae*)
- Blochman's leafy daisy (*Erigeron blochmaniae*)
- suffrutescent wallflower (*Erysimum suffrutescens*)
- mesa horkelia (*Horkelia cuneata* subsp.  *puberula*)
- Kellogg's horkelia (*Horkelia cuneata* subsp.  *sericea*)
- Nipomo Mesa lupine (*Lupinus nipomensis*)
- San Luis Obispo monardella (*Monardella frutescens*)
- crisp monardella (*Monardella* subsp.  *crispa*)
- California spineflower (*Mucronea californica*)
- sand almond (*Prunus fasciculata* var.  *punctate*)
- black-flowered figwort (*Scropularia atrata*)
- rayless ragwort (*Senecio aphanactis*)
- Blochman's groundsel (*Senecio blochmaniae*)
- San Bernadino aster (*Symphyotrichum defoliatum*)

Focused botanical surveys were conducted within the BSA by Arcadis on October 9 and November 13, 2012, outside of the normal blooming period for many annuals. Additional focused botanical surveys were conducted by Arcadis on April 29 and June 11, 2013, in order to

identify native annuals during peak blooming season. An additional focused survey for Nipomo Mesa lupine was also conducted in March 2015, during the EIR review process.

Based on the efforts of Arcadis, a total of 73 vascular plant species were observed during the 2012 and 2013 surveys, including 49 native plant species and 24 non-native species. Of the native plant species identified, Arcadis biologists identified the presence of four sensitive plant species, including: California spineflower (*Mucronea californica*); sand almond (*Prunus fasciculata* var. *punctata*); Blochman's groundsel (*Senecio blochmaniae*); and, Blochman's leafy daisy (*Erigeron blochmaniae*). In addition to these species, Ms. Lauren Brown of Leidos Inc. identified dune larkspur (*Delphinium parryi* ssp. *blochmaniae*) within the BSA during a field verification of vegetation type mapping conducted in March 2015, during the EIR review process. No other special-status plant species were observed within the BSA.

### **Sensitive Animal Species**

For the purposes of this section, special-status animal species are defined as the following:

- Animals listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
- Review of Native Species that are Candidates for Listing as Endangered or Threatened; Annual Notice of Finding on Resubmitted Petitions; Annual Description of Progress Listing Actions (Federal Register Vol. 77, No. 225, pp. 69994-70060, November 21, 2012).
- Animals that meet the definitions of rare or endangered species under the CEQA (State CEQA Guidelines, §15380).
- Animals listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5).
- Animal species of special concern to the CDFW (Remsen, 1978 birds; Williams, 1986 mammals).
- Animal species that are fully protected in California (California Fish and Game Code, §3511 [birds], §4700 [mammals], and §5050 [reptiles and amphibians]).

Based on a CNDDDB query and a review of existing literature, a total of 39 special-status wildlife species have been documented within an approximate 10-mile radius of the BSA (refer to Appendix C.4). The list of special-status animal species considered in Appendix C.4 is regional; therefore, an analysis of the range and habitat preferences of those species was conducted to identify which sensitive animal species have the potential to occur in or near the BSA. As a result of the analysis conducted by SWCA, it was determined that the following ten special-status animal taxa have the potential to occur within the BSA, including nesting migratory birds (Class Aves). Discussion of each of these species is included in Appendix C.4:

- Cooper's hawk (*Accipiter cooperii*)
- Bell's sage sparrow (*Amphispiza belli*)
- western burrowing owl (*Athene cunicularia*)
- ferruginous hawk (*Buteo regalis*)
- northern harrier (*Circus cyaneus*)

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- loggerhead shrike (*Lanius ludovicianus*)
- coast horned lizard (*Phrynosoma coronatum*)
- silvery legless lizard (*Anniella pulchra pulchra*)
- monarch butterfly (*Danaus plexippus*)
- migratory bird species - Class Aves

Based on the wildlife surveys conducted by Arcadis, seven sensitive wildlife species were observed on the BSA. These species include: western burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), ferruginous hawk (*Buteo regalis*), Bell's sage sparrow (*Amphispiza belli*), Cooper's hawk (*Accipiter cooperii*) and monarch butterfly (*Danaus plexippus*). Arcadis conducted additional focused surveys for burrowing owl in 2013 to confirm whether the species was a year-round resident or overwintering individual. The results of this effort determined that the species was an overwintering individual. No other special-status wildlife species were observed or are expected within the BSA; however, the following two sensitive reptilian species are assumed to occupy the BSA due to the presence of suitable habitat, nearby documented occurrences: coast horned lizard (*Phrynosoma coronatum*) and silvery legless lizard (*Anniella pulchra pulchra*).

### 4.4.1.4 Mainline Rail Routes

Trains could enter California at least five different locations (one at the north end of the state from Oregon, two at the northeast from Nevada, one at the southeast from Nevada, and one at the south from Arizona). Figure 4.4-2 shows the main UPRR train routes from the California Boarder to the SMR.

Depending upon the route taken by the train they could arrive at the SMR site from the north or the south. It is unknown what route UPRR would use to deliver the trains to the SMR. Coming from the north the routes merge at the UPRR Roseville Rail Yard. From the south the routes merge at the Colton Rail Yard. Also, crude oil delivered to California by UPRR would generally pass through either of these two rail yards in route to the SMR. Depending upon the source of the crude oil, crude oil trains could use any portion of the UPRR network between Roseville/Colton and the source location for the crude oil. The exact route that would be taken would depend upon a number of factors, that could include the source of the crude oil, weather conditions, train traffic conditions, etc. Since the routes past Roseville and Colton to the California border are somewhat speculative, the EIR has discussed in a more qualitative nature the potential biological resources impacts of train traffic beyond these two rail yards.

Given the overall length of the UPRR mainline routes and the range of speculation related to prediction of the exact location in which the train derailment or crude spill may occur, a focused biological survey or delineation of these resources was not conducted as part of this evaluation. Biological resources along the mainline routes were evaluated based on database queries.

Figure 4.4-2 Mainline Rail Routes to the Santa Maria Refinery



Source: Adapted by MRS from UPRR maps.

Specifically, a query was conducted that includes a CNDDDB review of all sensitive biological resources within 300 feet on each side of the rail line routes to develop a general list of potential plant and wildlife species that may be directly impacted by a derailment crude oil spill. In addition, the USGS National Hydrography Dataset (NHD) and the USFWS National Wetlands Inventory (NWI) were queried for waterbodies and wetlands. Local Coastal Plans (LCP) were reviewed to identify Environmentally Sensitive Habitat Areas (ESHA) that may be affected within those coastal counties located along the UPRR mainline routes. The California Essential Habitat Connectivity Project and was also queried for Essential Habitat Connectivity, which are

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the best available data describing important areas for maintaining connectivity between large blocks of land for wildlife corridor purposes.

Transportation of crude oil along the UPRR mainline routes transects a very wide range of natural habitats and urban areas between Roseville to the north and Colton to the south. For the purposes of this analysis, sensitive resources are limited to those resources that are recorded within these databases. Sensitive resources include Sensitive Communities, sensitive plants species, sensitive animal species, wetland communities, and areas mapped as ESHA within coastal counties along the UPRR mainline.

Because the analysis of impacts to these resources is limited to available data, the documented occurrences are only intended to serve as a minimum baseline for describing the potential impact that could occur under a scenario of train derailment, fire, and oil spill. In addition to these resources, it is reasonable to assume that the UPRR mainline also transects additional sensitive resources that are not currently mapped along the entire route as a sensitive resource for a various reasons such as private property constraints. It cannot be overlooked that the UPRR mainline also transects a variety of “non-sensitive” habitats that may not be unique or threatened but serve as suitable habitat to a wide range of wildlife species for the purposes of foraging and breeding.

Figure 4.4-3 is a graphic depicting the number of recorded sensitive resources along the UPRR mainline routes by County. A complete list of resources resulting from the database query is included in Appendix C-5. Figure 4.4-4 is a graphic depicting the identified Essential Habitat Connectivity wildlife corridors. A complete list of these identified corridors is included in Table 4.4.1.

##### **Sensitive Plant Species**

Based on the database query along the UPRR mainline, there are currently a minimum of 167 sensitive plant species occurrences documented within 300 feet on each side of the rail. Approximately 35% of these species occur within San Luis Obispo and Santa Barbara counties alone. Appendix C-5 provides a listing of the sensitive plant species.

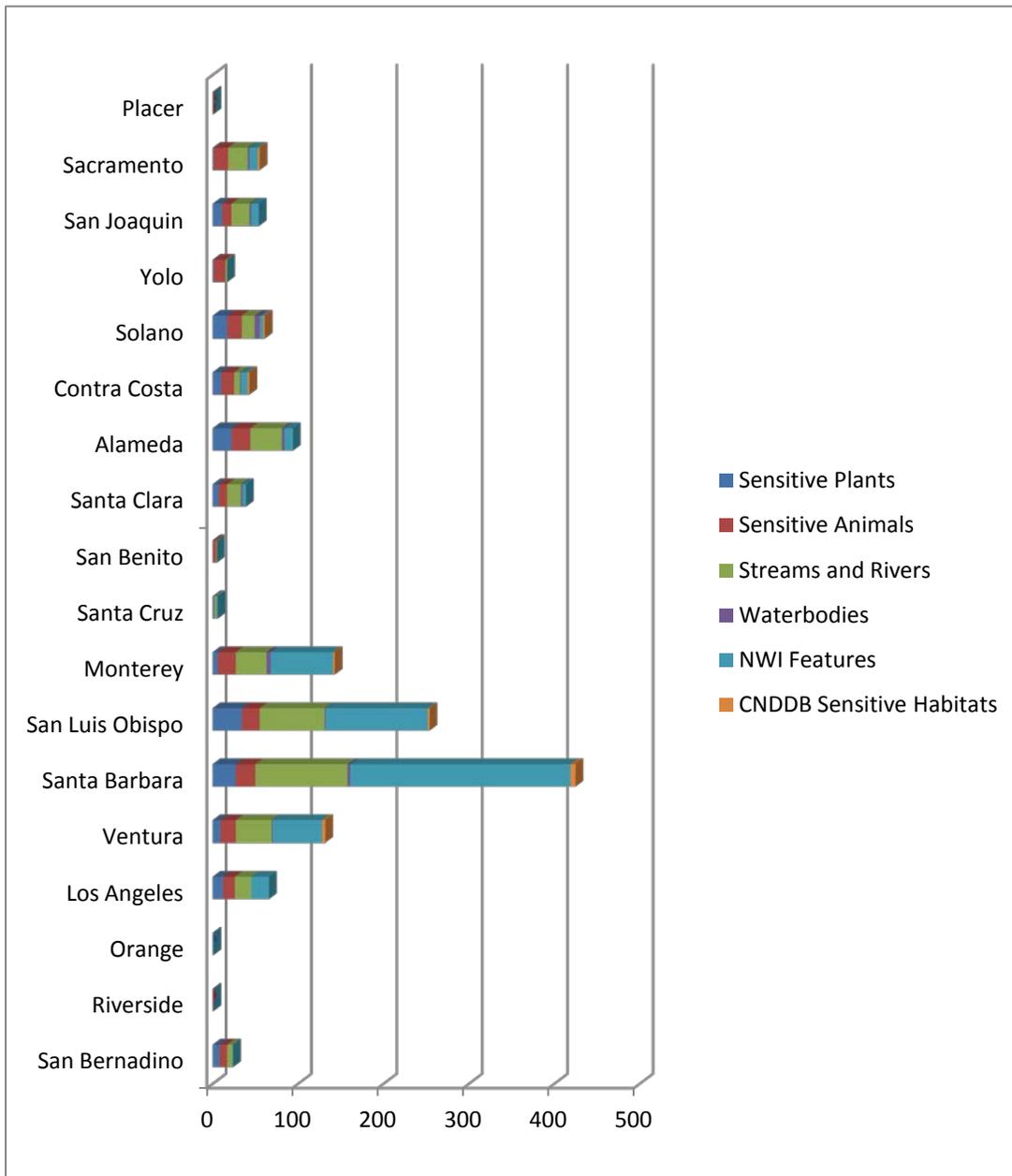
##### **Sensitive Animals Species**

Based on the database query among the UPRR mainline, there are currently a minimum of 219 sensitive animal species occurrences documented within 300 feet on each side of the rail. Based on the existing data, the distribution of these species is fairly uniform amongst counties along the UPRR mainline. Nearly half of the sensitive animal species documented along the route occur between Los Angeles to Monterey County. The other majority of the occurrences are from Contra Costa County to Sacramento County. Sensitive species include aquatic, semi-aquatic, and terrestrial animal species. Appendix C-5 provides a listing of the sensitive animal species.

##### **Streams, Rivers, Wetlands and Other Waterbodies**

Based on the database query along the UPRR mainline, a minimum of 411 streams and rivers are located within 300 feet of the mainline, and a minimum of 26 waterbodies and 578 wetlands documented by the National Wetland Inventory (NWI). Based on the existing data, Santa Barbara County has the most streams and rivers identified along the mainline, a minimum of 108 in total.

Figure 4.4-3 Documented Occurrences of Sensitive Biological Resources along UPRR Mainline



See Appendix C-5 for a complete list of resources resulting from the database query used to generate this figure.

Figure 4.4-4 Essential Habitat Connectivity Wildlife Corridors along UPRR Mainline



See Table 4.4.1 for list of identified wildlife corridors.

Figure 4.4-4 Essential Habitat Connectivity Wildlife Corridors along UPRR Mainline (con't)



See Table 4.4.1 for list of identified wildlife corridors.

#### 4.4 Biological Resources

**Table 4.4.1 Documented Essential Connectivity Areas along UPRR Mainline**

Label	Name	EcoRegion	Type
BA10	Santa Cruz Mtn.- Hamilton Mtn.	Bay Area	Choke-point
BA103	Alameda Creek Watershed	Bay Area	Missing Link, Choke-point
BA104	Coyote Creek	Bay Area	Landscape Linkage, Choke-point
BA107	Bay Wetlands	Bay Area	linkages, stepping stones
BA109	Pajaro River	Bay Area	Landscape Linkage
BA12	Santa Cruz Mtns - Gavilan	Bay Area	Landscape Linkage, Choke-point
BA3	Altamont Hills	Bay Area	Choke-point
BA4	Vargas Plateau - Nile Canyon	Bay Area	Choke-point, Missing Link
BA4	Vargas Plateau - Nile Canyon	Bay Area	Choke-point, Missing Link
CC1	Santa Cruz - Mt. Hamilton	Central Coast	Landscape Linkage, Choke-point
CC17	Salinas River Riparian Corridor	Central Coast	Landscape Linkage
CC18	Uvas Creek	Central Coast	Choke-point
CC19	Llagas Creek	Central Coast	Missing Link
CC20	Lower N. Salinas River	Central Coast	Landscape Linkage
CC3	Santa Luciz - Gabilan, Ventana Wilderness	Central Coast	Choke point
CC6	Cuesta Grade	Central Coast	Landscape Linkage, Missing Link
CC7	Montana de Oro - Bald Mountain	Central Coast	Landscape Linkage, Choke-point
CV22	Putah Creek	Central Valley	Landscape Linkage
CV25	Cosummes River - Mather	Central Valley	Landscape Linkage
CV8	Carrizo Plain - W. San Joaquin Valley	Central Valley	Landscape Linkage, Choke-point
SC104	Somis: Las Posas Hills - South Mountain	South Coast	Missing Link
SC105	Alamos Canyon (Simi - Moorpark)	South Coast	Landscape Linkage, Choke-point
SC108	Santa Susana Pass	South Coast	Choke-point
SC115	Griffith Park - Verdugo Hills	South Coast	Missing Link
SC201	San Gabriel River	South Coast	Missing Link
SC203	Puente-San Jose-San Gabriel	South Coast	Missing Link, Choke-point
SC60	Santa Clara River	South Coast	Landscape Linkage

See Figure 4.4-4 for the location of the connectivity areas.

San Luis Obispo County is second, with a minimum total of 76 streams and crossings. Together, these two counties contain nearly 40% of the documented streams and drainages along the mainline.

### **Wildlife Movement Corridors**

Based on the database query of the California Essential Habitat Connectivity Project (CEHC), a total of 27 Essential Connectivity Areas (ECAs) have been identified along the UPRR mainline. The ECAs help to establish the reported movement corridors for mammal species and assessed corridor quality at a landscape level. The location of these ECAs is intended to only be a broad scale representation of areas that provide essential connectivity. It is expected that additional linkages will be identified as new data becomes available for various species. For the purposes of this analysis, it is reasonable to assume that the various streams and drainages that transect the mainline (discussed above) also may be used by wildlife as movement corridors on a smaller scale.

Table 4.4.1 identifies those ECAs that intersect with the UPRR mainline, grouped into four main ecoregions: Bay Area, Central Coast, Central Valley, and South Coast. Based on the existing data, there are nine ECAs identified within the Bay Area, eight within the Central Coast, three within the Central Valley, and seven within the South Coast ecoregion. The locations of these ECAs are shown in Figure 4.4-4 above.

Types of linkages have been categorized and defined within the California Missing Linkages Project (a contributing study to the CEHC) by Penrod et al (2001) as the following:

- **Landscape Linkages:** Large regional connections between habitat blocks (“core areas”) meant to facilitate animal movements and other essential flows between different sections of the landscape.
- **Choke-Point:** A narrow, impacted, or otherwise tenuous habitat linkage connecting two more habitat blocks (“core areas”).
- **Missing Link:** A highly impacted area currently providing limited to no connectivity function (due to intervening development, roadways, etc.), but based on location that is critical to restore connectivity function.

In terms of wetlands, the two counties total a minimum of 378 documented wetland features. This consists of nearly 65% of the total wetland features along the mainline route. Additional information on the major water crossing is discussed in Section 4.13, Water Resources.

### **Sensitive Habitats and ESHA**

Based on a database query of the CNDDDB, a total of 20 sensitive habitats are documented within 300 feet on each side of the UPRR mainline. Examples of sensitive habitat include: Central Dune Scrub, Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, Southern Riparian Scrub, Southern Coastal Lagoon, and Southern Willow Scrub. Most of the sensitive species documented within the route occur between Ventura and Monterey counties, which account for 14 of the total 20 documented occurrences. The remaining occurrences are located in Contra Costa, Solano, and Sacramento counties. Overall, the database query results showing only 20

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sensitive habitats is considered to be low and likely underestimated since the UPRR mainline transects numerous properties and habitat types that may have not been mapped and/or documented within the CNDDDB.

With regards to ESHA within the coastal zone, a review of Local Coastal Plans for various counties identified several coastal ESHA's along the UPRR mainline. Below is a general summary of ESHA within each county as it relates the UPRR mainline (south to north):

- Ventura County - Within Ventura County, ESHA includes: tidepools and beaches, creek corridors, coastal dunes and wetlands. For tidepools and beaches, the mainline runs just east of several beaches, separated by Highway 1. The mainline also crosses several significant creeks, including Rincon Creek and many others. In terms of coastal dunes ESHA, the mainline is approximately 4 miles north of the Mandalay Beach coastal dune complex. Ventura County ESHA also includes viable dunes near McGrath Lake, which the mainline is approximately 5 miles east of. With regards to wetlands, the mainline crosses Santa Clara River 5 miles upstream of the mouth of the river. The mainline is also 5 miles east of McGrath Lake, as previously noted.
- Santa Barbara County – The UPRR mainline is within the coastal zone most of its path through Santa Barbara County. According to the Santa Barbara County Coastal Land Use Plan, environmentally sensitive habitats in the County's coastal zone include rare and endangered species habitats, wetlands, streams, near shore reefs, tide pools, offshore rocks, native plant communities, dunes, kelp beds, harbor seal rookeries and hauling out grounds, and seabird roosting and nesting areas. The mainline crosses the Santa Ynez River Mouth, considered dune and wetland ESHA, and runs approximately 0.8 mile east of the Point Conception ESHA. It also runs adjacent to the rocky intertidal areas between Point Conception and Ellwood and along the eastern border of the El Estero wetland area. According to an available GIS dataset from the County, the mainline also intersects 42 features labeled as ESHA, the majority of which are drainages. Included within these features are also monarch butterfly overwintering habitat and riparian areas.
- San Luis Obispo County – Within San Luis Obispo County, the mainline runs within the coastal zone between Pismo Beach and Guadalupe. According to the San Luis Obispo County LCP, ESHA includes unique plant habitats, rare and endangered animal habitats, wetlands, coastal streams, rocky points, intertidal areas, and kelp beds. Within the Pismo Beach area, the mainline crosses Pismo Creek and runs adjacent to the dunes and habitat at Pismo State Beach for approximately 1.5 miles. Within the area of Oceano, the mainline runs along the eastern border of ESHA terrestrial habitat for approximately 2.5 miles, adjacent to the Oceano Dunes State Vehicular Area. It also runs adjacent to a number of ESHA wetlands south of the Pismo Dunes Natural Preserve, the closest of which sits approximately 200 feet east of the mainline.
- Monterey County – Within Monterey County, the mainline runs within the coastal zone between just north of Castroville, through the Elkhorn Slough, and the coastal zone just south of Watsonville. According to the Monterey County LCP, ESHA includes: Monterey Bay, dunes and beaches, large sloughs, saltwater and freshwater marshes, riparian corridors, maritime chaparral, Monterey cypress and Gowan cypress forest communities, Del Monte

forest and coast, rocky intertidal areas, Carmel Coastal segment, and Big Sur coast. Of the various ESHA's, the mainline primarily transects the Elkhorn Slough, which is known sensitive habitat for a variety of species. The mainline at its most western point is 2.2 miles from Monterey Bay, dunes and beaches. The mainline is likely to cross several riparian corridors and marshes that would be considered ESHA within the coastal zone.

## **4.4.2 Regulatory Setting**

### **4.4.2.1 Federal Policies and Regulations**

#### **Federal Endangered Species Act of 1973 (FESA)**

FESA provides legislation to protect federally-listed plant and animal species. Impacts to listed species resulting from the implementation of a project would require the responsible agency or individual to formally consult with the USFWS or National Marine Fisheries Service (NMFS) to determine the extent of impact to a particular species. If USFWS or NMFS determine that impacts to a federally-listed species would likely occur, alternatives and measures to avoid or reduce impacts must be identified. USFWS and NMFS also regulate activities conducted in federal critical habitat, which are geographic units designated as areas that support primary habitat constituent elements for listed species.

#### **Migratory Bird Treaty Act of 1918 (MBTA)**

The MBTA protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to put an end to the commercial trade in bird feathers, popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies.

#### **Oil Spill Pollution Act (OSA) of 1990**

The Oil Pollution Act (OPA) was signed into law in August 1990, largely in response to rising public concern following the Exxon Valdez incident. The OPA improved the nation's ability to prevent and respond to oil spills by establishing provisions that expand the federal government's ability, and provide the money and resources necessary, to respond to oil spills. The OPA also created the national Oil Spill Liability Trust Fund, which is available to provide up to one billion dollars per spill incident. One of the key provisions of the OSA is that it strengthens planning and prevention activities by: (1) by establishing spill contingency plans for all areas of the U.S.; (2) mandating the development of response plans for individual tank vessels and certain facilities for responding to a worst case discharge or a substantial threat of such a discharge; and (3) providing requirements for spill removal equipment and periodic inspections. The current regulations require that a basic oil spill response plan (OSRP) be developed for shipments having a capacity of 3,500 gallons per package or more, and a comprehensive OSRP be developed for oil shipments having a capacity of more than 42,000 gallons per package. As this applies to rail cars, the per package would be per rail car.

The purpose of the OSRP is to ensure that personnel are trained and available and equipment is in place to respond to an oil spill, and that procedures are established before a spill occurs, so

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that required notifications and appropriate response actions will follow quickly when there is a spill. Neither the basic nor the comprehensive OSRP is required to address response on a vehicle- or location-specific basis. A nationwide, regional or other generic plan is acceptable, provided that it covers the range of spill scenarios that the owner or operator foreseeably could encounter. Thus, scenarios ranging from a minor discharge to a “worst-case discharge,” must be addressed, as well as the range of topographical and climatological conditions the owner or operator may face. The OSRP also must describe the response when the discharge results from, or is accompanied by, a complicating condition, such as explosion or fire. A comprehensive OSRP must, at a minimum, address the following:

- Range of response scenarios that foreseeably could occur;
- Qualified individual, the alternate qualified individual, and all other personnel with a role in spill response;
- Training, including drills, required for each of these persons;
- Equipment necessary for response to the maximum extent practicable in each of the identified scenarios;
- Means by which the availability of personnel and equipment will be ensured to respond to a spill to the maximum extent practicable;
- Governmental officials and others to be notified in the event of a spill, and the notification procedure to be followed;
- Means for communicating among responsible personnel and between personnel and officials during a response; and
- Procedures to be followed during a response.

In July of 2014 the USDOT issued an advanced notice of proposed rulemaking covering oil spill response plans for high-hazard flammable trains. The advanced notice of proposed rulemaking would set a lower threshold for when a comprehensive OSRP is required for crude oil trains. Some of the thresholds that are suggested in the notice are 1,000,000 gallons or more per train (approximately 35 car loads), 20 or more car loads, or 42,000 gallons per train. The notice also discusses the possibility of having the OSRP approved by the Federal Rail Road Administration (FRA), conducting training, drills, and equipment testing, and placing oil spill response equipment along rail road tracks.

This advanced notice of proposed rulemaking is currently out for a 90-day comment period. It is expected that the USDOT will eventually issue a notice of proposed rulemaking and adopt some final regulation regarding oil spill response plans for high-hazard flammable trains.

### 4.4.2.2 State Policies and Regulations

#### **California Endangered Species Act (CESA)**

The CESA ensures legal protection for plants listed as rare or endangered, and wildlife species formally listed as endangered or threatened. The state also maintains a list of California Species of Special Concern (CSC). CSC status is assigned to species that have limited distribution, declining populations, diminishing habitat; or unusual scientific, recreational, or educational value. Under state law, the CDFW is empowered to review projects for their potential to impact special-status species and their habitats. Under CESA, CDFW reserves the right to request the

replacement of lost habitat that is considered important to the continued existence to CESA protected species.

Take of state-listed species would require a Section 2081 Incidental Take Permit from the CDFW. This process requires submittal of a sensitive species study and permit application package to CDFW as the regulatory and decision-making agency. It is likely that a Section 2081 Incidental Take Permit (ITP) will be required for potential impacts to the state listed Nipomo Mesa lupine.

### **Section 1602 of the Fish and Game Code**

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires any person, state or local government agency, or public utility proposing a project that may impact a river, stream, or lake to notify the CDFW before beginning the project. If the CDFW determines that the proposed project may adversely affect existing fish and wildlife resources, a Lake or Streambed Alteration Agreement is required. A Streambed Alteration Agreement lists the CDFW conditions of approval relative to the proposed project, and serves as an agreement between an applicant and the CDFW for a term of not more than five years for the performance of activities subject to this section of the Code. A Streambed Alteration Agreement from the CDFW would be required prior to any direct or indirect impact to streambeds, banks, channels or associated riparian resources.

### **Other Sections of the California Fish and Game Code**

California Fish and Game Code Section 3511 includes provisions to protect Fully Protected (FP) species, such as: (1) Prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" the species; and (3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. The CDFW is unable to authorize incidental take of "fully protected" species when activities are proposed in areas inhabited by those species. Sections 3503 and 3503.5 of the Fish and Game Code state that it is unlawful to take, possess, or destroy the nest or eggs of any bird, with occasional exceptions. In addition, Section 3513 states that it is unlawful to take or possess any migratory bird as designated in the MBTA or any part of such migratory birds except as provided by rules and regulations under provisions of the MBTA.

### **California Coastal Act**

The California Coastal Act was enacted in 1976 to provide long-term protection of California's coastal resources. The Act's coastal resources management policies are based on recommendations contained in the California Coastal Plan. One such policy includes:

“Protection, enhancement and restoration of environmentally sensitive habitats, including intertidal and nearshore waters, wetlands, bays and estuaries, riparian habitat, certain wood and grasslands, streams, lakes, and habitat for rare or endangered plants or animals.”

The County must evaluate proposed impacts to these resources listed above. Any proposed impacts to these habitats must conform to Coastal Act/Local Coastal Plan requirements.

##### **Senate Bill (SB) 1334 Oak Woodlands Conservation**

Under SB 1334, county governments are responsible for conserving oak woodlands within their jurisdiction. During the CEQA review process, SB 1334 requires County governments to determine if a proposed project would result in the conversion of oak woodland. If the determination is made, the County is mandated to require implementation of specified mitigation as outlined in an oak woodland management plan. In San Luis Obispo County, oak woodlands are defined as areas containing greater than ten percent oak canopy cover. The County defines conversion as cutting or removing ten percent or more of the oak woodland canopy, or removing more than ten oak trees.

##### **Senate Bill (SB) 861 Oil Spill Prevention and Response**

In 2014, Governor Brown expanded California's oil spill prevention and response program to cover all statewide surface waters at risk of oil spills. This expansion provided funding for industry preparedness, spill response, and continued coordination with local, state and federal government along with industry and non-governmental organizations. Senate Bill 861 authorized the Office of Spill Prevention and Response (OSPR) with the statewide expansion and regulatory oversight. The key objectives are:

- Target critical locations to stage spill responders and equipment for the best response to rail and pipeline incidents;
- Develop effective regulations in close collaboration with local government, non-governmental organizations, and industry;
- Implement regulations that will guide industry, local and state government, and the public and build relationships with local governments through workshops and presentations;
- Create inland response plans that have the depth and breadth of the marine Area Contingency Plans; and,
- Work with communities to build a strong response spill team.

The changes would apply to railroads, pipelines, and oil well/production facilities. These facilities will be required to have oil spill contingency plans. The legislation also requires announced and unannounced drills to test response and cleanup operations, equipment, contingency plans, and procedures. All elements of the plan must be excised at least one very three years. Operators of covered facilities must be able to demonstrate financial resources to pay for spill response and damages based upon a reasonable worst case spill volume.

The regulation requires a six and one-half cent per barrel tax on crude oil and petroleum products received at refineries or marine terminals within California to cover the cost of the expanded oil spill response program. The current time line for adopting the final implementation regulations is fall of 2014 (OSPR 2014).

### 4.4.2.3 Local Policies and Regulations

#### San Luis Obispo County Coastal Plan Policies

The San Luis Obispo County Coastal Plan Policies (1988; revised 2007) provides general plan policies and identification of detailed land use recommendations in order to carry out the policies of the California Coastal Act of 1976. Related to biological resources, the Coastal Plan contains policies that are specific to environmentally sensitive habitat (Chapter 6), and coastal watershed (Chapter 9), which are mapped in the Land Use Element. Within Chapter 6 (Environmentally Sensitive Habitat) the Coastal Plan provides specific policies for the following areas mapped on the LUE combining designation maps: sensitive habitats, wetlands, coastal streams, terrestrial environments and marine habitats. None of these mapped designations are within the boundaries of the Rail Spur Project area. Chapter 9 (Coastal Watershed) includes streams, wetlands, and lakes. None of these resources are located within the Rail Spur Project area.

#### Coastal Zone Land Use Ordinance

As part of the proposed project, the Coastal Zone Land Use Ordinance (CZLUO) (1988; revised November 2013) standards and associated findings for mapped combining designations in the LUE must be considered. Applicable combining designations are identified and discussed within section of Chapter 7 of the CZLUO. For biological resource impact analysis, the following combining designations have been considered as they relate to the proposed project.

#### *Sensitive Resource Area (SRA) (Section 23.07.160 through 23.07.166)*

CZLUO Section 23.07.160 describes the Sensitive Resource Area combining designation as only applied by the Official Maps (Part III) of the Land Use Element to identify areas with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources. The purpose of these combining designation standards is to require that proposed uses be designed with consideration of the identified sensitive resources, and the need for their protection, and, where applicable, to satisfy the requirements of the California Coastal Act. The standards of Sections 23.07.160 through 23.07.166 apply to uses requiring a land use permit that are located within a SRA combining designation. The South County Area Plan has been updated in August 2013 and does not indicate that the Rail Spur Project area is within a Sensitive Resource Area.

#### *Environmentally Sensitive Habitat Area (Section 23.07.170)*

CZLUO Section 23.07.170 describes the provisions that apply to development within or adjacent to (within 100 feet of the boundary of) and Environmentally Sensitive Habitat as defined by Section 23.11. Section 23.11 defines both Mapped ESHA and Unmapped ESHA. Although no mapped ESHA occurs within the Rail Spur Project area, the definition has still been included below for regulatory background purposes. ESHA occurs south of the UPRR mainline but is not within 100 feet of new development.

Mapped ESHA is defined as: “A type of Sensitive Resource Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations. Is the same as an

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*Environmentally Sensitive Habitat.*” No Mapped ESHA is located within the Rail Spur Project area.

Unmapped ESHA is defined as: “A type of Sensitive Resources Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include, but are not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information.

*Unmapped ESHA includes but is not limited to:*

- a) *Areas containing features or natural resources when identified by the County or County approved expert as having equivalent characteristics and natural function as mapped other environmental sensitive habitat areas;*
- b) *Areas previously known to the County from environmental experts, documents or recognized studies as containing ESHA resources;*
- c) *Other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.”*

Based on the best available information that was collected during the preparation of the EIR, the presence of sensitive communities, sensitive plants, and sensitive animal species suggests the potential for Unmapped ESHA. This is discussed in greater detail in Section 4.4.4 below.

##### *Wetlands, Wetland Setbacks (Section 23.07.172)*

As noted under CZLUO Section 23.07.172d (Wetlands, Wetland setbacks) “new development shall be located a minimum of 100 feet from the upland extent of all wetlands, except as provided by subsection d(2)”, unless a biological report determines that a greater setback should be provided. Permitted uses within the 100-foot wetland setback include passive recreation and educational uses, which are applicable to a more passive level of design. Subsection d(2) (Wetland setback adjustment) allows a reduction to the 100-foot buffer setback (but no less than 25 feet) provided mitigation is identified and the following findings are adopted:

- (1) The site would be physically unusable for the principal permitted use unless the setback is reduced.
- (2) The reduction is the minimum that would enable a principal permitted use to be established on the site after all practical design modifications have been considered.
- (3) That the adjustment would not allow the proposed development to locate closer to the wetland than allowed by using the stringline setback method pursuant to Section 23.04.118a of this title.

The nearest mapped wetland to the Rail Spur Project area is within Oso Flaco Creek. The Rail Spur Project area is approximately 500 feet from a tributary to the creek.

*Stream and Riparian Vegetation (Section 23.07.174)*

CZLUO Section 23.07.174 states that coastal streams and adjacent riparian areas are environmentally sensitive habitats. The provisions of this section are intended to preserve and protect the natural hydrological system and ecological functions of coastal streams. As stated above, the nearest wetland to the Rail Spur Project area would be a tributary to Oso Flaco Creek approximately 500 feet from the Rail Spur Project, and is currently mapped as a coastal stream.

*Terrestrial Habitat Protection (Section 23.07.176)*

CZLUO Section 23.07.176 states that it is intended to preserve and protect rare and endangered species of terrestrial plants and animals by preserving their habitat. Emphasis for protection is on the entire ecological community rather than only the identified plant or animal. As noted within the section “development shall be sited to minimize disruption of habitat”, and includes the following development standards:

- (1) Revegetation. Native plants shall be used where vegetation is removed.
- (2) Area of disturbance. The area to be disturbed by development shall be shown on a site plan. The area in which grading is to occur shall be defined on site by readily-identifiable barriers that will protect the surrounding native habitat areas.
- (3) Trails. Any pedestrian or equestrian trails through the habitat shall be shown on the site plan and marked on the site. The biologist's evaluation required by Section 23.07.170a shall also include a review of impacts on the habitat that may be associated with trails.

The Rail Spur Project area is not located within an area that is currently within a Sensitive Habitat Protection combining designation. The nearest combining designation is located directly to the west of the UPRR mainline.

**4.4.3 Significance Criteria**

The significance of potential biological impacts are based on thresholds identified within Appendix G of the CEQA Guidelines and the County's Initial Study Checklist, which provide the following thresholds for determining impact significance with respect to biological resources. Biological impacts would be considered significant if the proposed project would:

- Substantially affect a rare or endangered species;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) and/or the Coastal Act;
- Interfere substantially with the movement of any resident or migratory species of wildlife or with established native resident or migratory wildlife corridors;
- Conflict with any local policies or ordinances protecting biological resources;

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- Conflict with the provisions of an adopted Federal Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state Habitat Conservation Plan;
- Reduce the long term viability of native plant, fish, or wildlife populations;
- Reduce species diversity or numbers of species; or
- Introduce invasive plant or animal species.

For biological resources impacts due to an accidental crude oil spill would be potentially significant if operations would increase the probability or volume of oil spills into the environment depending upon the location and the resource effected.

Potential impacts are expected to occur where proposed construction or development activities or on-going operational activities would result in temporary or permanent modification of sensitive communities or habitats occupied or potentially occupied by special-status species. Where potential Project-related impacts to sensitive resources were identified, measures for avoiding or minimizing adverse effects to these resources are recommended.

##### 4.4.4 Project Impacts and Mitigation Measures

Prior to conducting a reconnaissance survey of the BSA, SWCA Environmental Consultants (SWCA) conducted a review of the applicant prepared biological studies and queried the California Natural Diversity Data Base (CNDDDB 2013) to determine which species are known to occur in the area. The database review focused on the U.S. Geologic Service (USGS) 7.5' quadrangle maps for Oceano and seven surrounding quadrangles (Pismo Beach, Arroyo Grande NE, Tar Spring Ridge, Nipomo, Santa Maria, Guadalupe, and Point Sal). Typically a nine quadrangle survey is conducted, but due to the coastal location of the BSA only eight quadrangles were used. The results of the records search were reviewed to evaluate the potential for occurrence of sensitive plants and wildlife within or near the BSA. The California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2013) were reviewed for additional special-status occurrence records in the region. Lastly, Natural Resource Conservation Service (NRCS) and County soil survey data, and previous SWCA studies conducted in the region were reviewed to determine potential sensitive species presence and habitat suitability within the site.

Following a review of the CNDDDB and applicant prepared reports, SWCA biologists conducted reconnaissance field surveys. SWCA Natural Resources Team Leader, Jon Claxton and SWCA Senior Biologist, Travis Belt conducted surveys of the site on July 18, 2013, from 10:00 a.m. through 3 p.m. and on August 2, 2013 from 7 a.m. to 3 p.m. Weather during both survey dates was overcast and cool (65 to 70 °F). The purpose of the reconnaissance survey was to walk the entire BSA in order to verify the accuracy of the applicant-prepared data (referenced in Section 4.4.1). The survey area reviewed by SWCA is referred to herein as the Biological Study Area (BSA) and accounts for a 100-foot buffer beyond the applicant's proposed limits of disturbance near the rail spur and the proposed Emergency Vehicle Access route (EVA) to the southeast.

The reconnaissance survey evaluated the accuracy of the applicant-prepared data as it is related to existing conditions and sensitive biological resources (e.g., regulated habitats, special-status species, and sensitive habitats) that could be affected by the Rail Spur Project (refer to Figure 4.4-1). Specifically, field verification surveys focused on: 1) assessment of native and non-native plant communities and their ability to provide habitat for sensitive and common wildlife species, including the potential for bird nesting and foraging; 2) sensitive plant species identification to the extent feasible outside of the blooming period; and, 3) assessment of habitat mapping and the quality of habitat types present within the BSA.

Impact assessment for the proposed activities within the Rail Spur Project area focused on identifying potential project-related impacts associated with implementation of the project, and was based on details presented within the project description. Identified impacts represent a reasonable worst case scenario based on the provided conceptual project plans and preliminary grading plans for the Rail Spur Project improvements. Potential impacts within the Rail Spur Project area are expected to occur where proposed construction or development activities would result in temporary or permanent modification of sensitive communities or habitats occupied by sensitive species.

Impacts to biological resources within the BSA were evaluated by determining the sensitivity, significance, or rarity of each resource that would be adversely affected by the proposed project, and thresholds of significance were applied to determine if the impact constituted a significant impact. The significance threshold may be different for each habitat or species and is based on the resource's rarity or sensitivity and the level of impact that would result from the proposed project. Where potential project-related impacts to sensitive resources were identified, measures for avoiding or minimizing adverse effects to these resources are recommended.

In general, the Rail Spur Project has potential to impact a variety of biological resources within and adjacent to the Rail Spur Project area. Construction activities associated with project implementation have the potential to directly impact natural plant communities and sensitive plant and animal species. Aquatic resources located on the adjacent property could also be directly impacted by erosion and sedimentation, or an unforeseen hazardous materials spill. Wildlife areas have the potential to be impacted by fuel management, vegetation removal, increased human presence, increased night lighting, and by increased storm water runoff containing pollutants. Such pollutants may include residual hydrocarbons, and other chemicals that may be commonly used at the proposed facility.

Based on a search of the USFWS Habitat Conservation Plan (HCP) Database, there are no habitat conservation plans or natural community conservation plans (NCCP) that encompass the BSA that would be affected by the Rail Spur Project. The closest HCPs to the BSA are located in Los Osos and Morro Bay, over 20 miles away.

An HCP is currently being drafted by the California Department of Parks and Recreation (State Parks) for all state parks in the County, including the Oceano Dunes SVRA west of the Project Site. However, the HCP has not yet been adopted; therefore, no inconsistency would occur. Because the Rail Spur Project proposes modifications and improvements to its on-site processing operations only, it would not likely affect uses within the adjacent Oceano Dunes SVRA that

#### 4.4 Biological Resources

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would have implications under any HCP ultimately adopted for the site. Therefore, impacts to HCP or NCCP are not discussed further in this section.

In addition, as currently proposed, the Rail Spur Project would have no impact on federally protected wetlands or marine environments. Therefore, impacts to federally protected wetlands and marine environments are not discussed further in this section.

The Rail Spur Project was evaluated for potential consistency with coastal policy law and policies including the California Coastal Act and the County's Local Coastal Program including Coastal Plan Policies, the South County Coastal Area Plan, and the Coastal Zone Land Use Ordinance. Appendix G contains the detailed preliminary policy consistency analysis. Presented below is a discussion of the potential for Environmentally Sensitive Habitat Areas (ESHA) to existing within the area of the Rail Spur Project site.

The Rail Spur Project is not located within any mapped combining designations for ESHA as currently shown in the South County Coastal Area Plan. The County also has not historically identified areas in the County as Unmapped ESHA.

Regardless, the site was evaluated to determine whether ESHA is present, per the ESHA Identification guidance of the California Coastal Commission (July 31, 2013), which states:

*“Pursuant to Section 30107.5, in order to determine whether an area constitutes an ESHA, and is therefore subject to the protections of Section 30240 of the Coastal Act, the California Coastal Commission has asked if either of the two conditions have been met:*

- 1) *There are rare species or habitat in the subject area;*
- 2) *There are especially valuable species or habitat in the area, which is determined based on:*
  - a. *Whether any species or habitat that is present has a special nature, or;*
  - b. *Whether any species or habitat that is present has a special role in the ecosystem.”*

When the Commission has found that either of these two conditions is met, it has assessed whether the habitat or species meeting these conditions is easily disturbed or degraded by human activities and developments. If they are, the Commission has found the area to be ESHA (CCC 2013).

To determine whether the Rail Spur Project area meets these guidelines for ESHA, or the County definition of Unmapped ESHA, the County reviewed the wildlife and botanical survey reports prepared by the applicant's consultant (Arcadis), conducted a site visit to review the reports content and accuracy, conducted independent review of existing literature, database queries, and mapping data, and corresponded with species experts.

Following the circulation of the Public Draft EIR, additional survey efforts were conducted in 2015 by Arcadis and Leidos to ensure accuracy and consistency with vegetation type mapping with the National Vegetation Classification system, as described within *A Manual of California Vegetation* (Sawyer et al 2009).

Based on the best available information, it was determined that the Rail Spur Project area:

- 1) Is not currently occupied by rare, threatened or endangered species protected under the California or Federal Endangered Species Act;
- 2) Is not currently occupied by “fully protected species”, but does provide habitat for, and has been occupied by, “species of special concern” as defined by the California Department of Fish and Wildlife;
- 3) Is currently occupied by plant species that are listed as Rank 1B status by the California Native Plant Society; and,
- 4) Is currently occupied by sensitive communities recognized by the California Department of Fish and Wildlife.

Due to these factors, the Rail Spur Project area meets the definition of ESHA as defined in the guidelines set forth by the California Coastal Commission for defining ESHA (CCC 2013). The Rail Spur Project site also appears to meet the definition of Unmapped ESHA in the County’s LCP (CZLUO Section 23.11) since the area contains sensitive plant and animal species needing protection, which includes California Rare Plant Rank 1B species (i.e., Blochman’s leafy daisy and dune larkspur), burrowing owls, and coast horn lizard. Utilizing this definition, and as discussed below in impact BIO.5, the Rail Spur Project would permanently impact approximately 20.88 acres of habitat that is considered sensitive by California Department of Fish and Wildlife (CDFW).

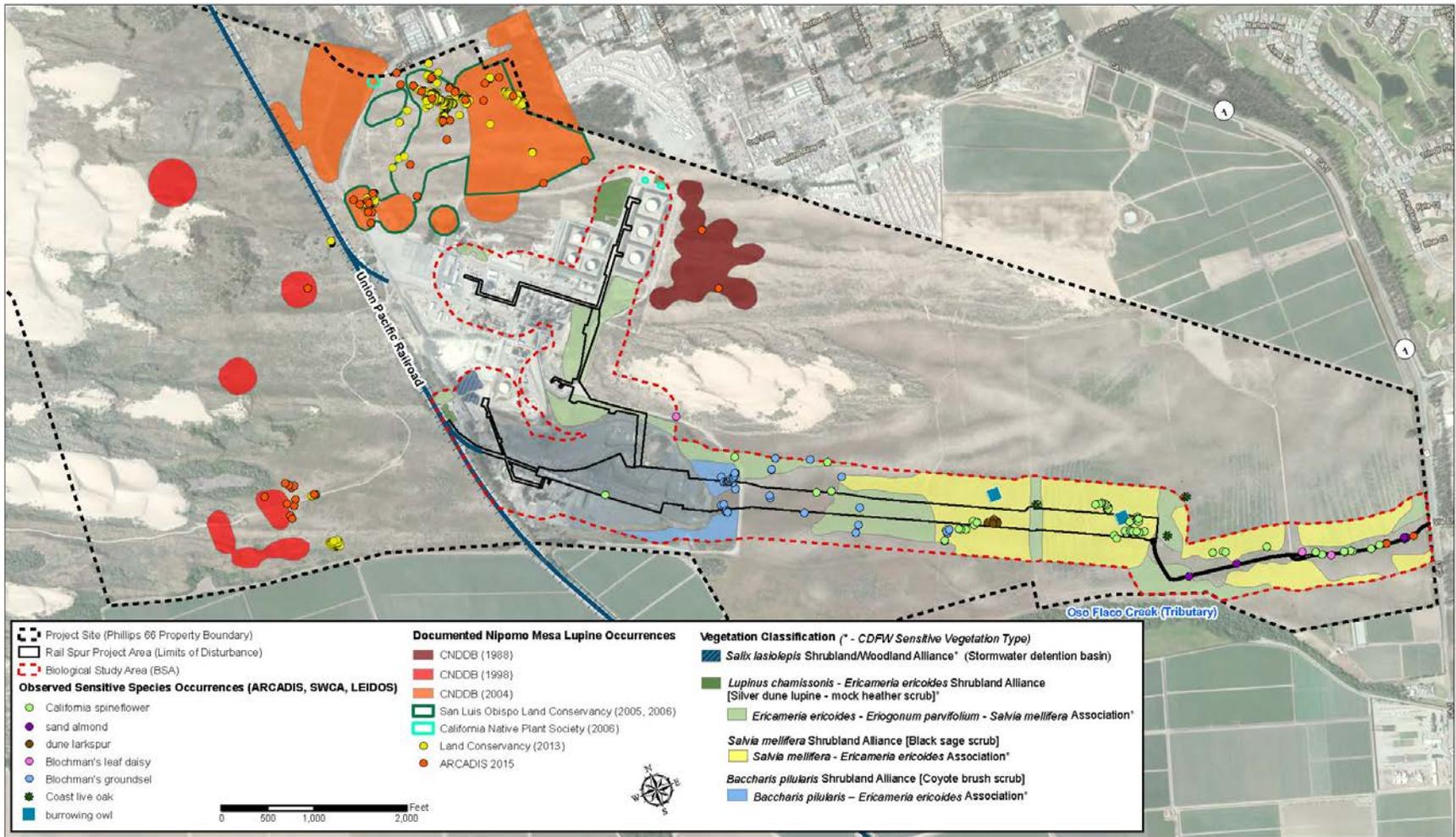
It is important to also consider that the Rail Spur Project area has been highly disturbed and degraded from agricultural, industrial, and human activities for several decades and does not appear to contain features that have an equivalent characteristic or natural function as other mapped ESHA. This conclusion is based on a qualitative comparison with ESHA habitat that is located to the west of the UPRR mainline, which contains a high habitat value and supports numerous special-status species. Removal of agricultural practices and large-scale restoration efforts would be necessary to restore the functions and values to the area. Similar efforts have shown to be successful in the area east of the UPRR east and north of the SMR and the area west of the UPRR.

Impact #	Impact Description	Phase	Impact Classification
BIO.1	Proposed construction of the Rail Spur Project has the potential to impact Nipomo Mesa lupine, a state and federally endangered plant species.	Construction	Class II

Nipomo Mesa lupine, a state and federally endangered plant species, is known to occur within the Phillips 66 property boundary, or Project Site. Based on CNDDDB records, the nearest known occurrence of this species is located adjacent to existing tank facilities (refer to Figure 4.4-5).

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Figure 4.4-5 Sensitive Species Map



Source: Adapted from Arcadis 2013.

Due to the proximity to this documented location and the presence of suitable habitat within portions of the Project Site that are currently undeveloped, Arcadis biologists specifically focused on identifying occurrences of this species during the surveys conducted in April 2013, during the typical blooming period for this species (December through May).

In accordance with CDFW survey guidelines, the survey effort included a review of recent records of known populations. Arcadis biologists then conducted a field verification to determine presence of blooming species. Following a positive identification of this species in bloom, a focused pedestrian survey of the BSA was conducted

Reference populations were visited prior to conducting the field survey to ensure the species was blooming (pers. comm., Greg McGowan). The results of this survey effort were negative for the presence of this species within the BSA.

An additional focused survey for Nipomo Mesa lupine was conducted in March 2015 during the EIR process. Results were also negative for Nipomo Mesa lupine within the BSA. Arcadis did observe and map locations of individuals within the Project Site that were located outside of the BSA in areas that are consistent with locations of known populations. Refer to Appendix C.6.

Based on discussions between SWCA and local species expert Mr. John Chesnut of CNPS, this endemic population is mapped on an annual basis by The Land Conservancy of San Luis Obispo through coordination with State Parks and Phillips 66.

As part of this EIR analysis, SWCA acquired the most recent data from Mr. Daniel Bohlman of The Land Conservancy. The population trend of Nipomo Mesa lupine has been studied for a 7 year period through coordination between The Land Conservancy and the Cheadle Center for Biodiversity and Ecological Restoration (CCBER) at the University of California at Santa Barbara (TLC 2013).

These studies have been limited to the northwestern portion of the Phillips 66 property and areas along the railroad and access roads within the dunes west of the railroad. Access to the remaining portions of the property has not been granted in the past. Therefore, the area of the Rail Spur Project has not been previously studied by the Land Conservancy or its affiliates.

According to existing data, there has been a fluctuation in the population trend from 2007 to 2013. In 2013, a population of 1,677 Nipomo Mesa lupine individuals was documented within the study area, which consists of State Parks and Phillips 66 property. Of this population 759 individuals had achieved seed set, resulting in a 45% effective population for the 2012-13 season. This is a notable increase from a population of 295 individuals in 2012, with an effective population of 180 which achieved seed set. This data provides supporting evidence of an existing seed bank within the property from previous blooming seasons.

Decreases in population seem to be driven by early season rains followed by a prolonged dry period mid-winter which greatly reduce survivorship of early germinating individuals (The Land Conservancy 2013).

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Several actions are being taken by The Land Conservancy to ensure survivorship of this species, including employing chemical and mechanical control measures to help abate exotic competition of non-native plant species. Additionally, cattle have been employed as an invasive species control method (The Land Conservancy 2013). According to the CNPS, this methodology of cattle-grazing was not been successful (Chipping 2014).

According to Mr. Chesnut, ground disturbances are likely to produce a flush of Nipomo Mesa lupine in favorable (rainfall) years. Evidence of large populations of this species is generally associated with disturbed areas within the Phillips 66 property, State Parks property, and California Department of Transportation (CalTrans) Highway 1 right-of-way after a road realignment project (pers. comm. John Chesnut 2013). Therefore, there is a potential for this species to occur within the Rail Spur Project area as a result of grading and construction activities associated with the Rail Spur Project.

The current determination of presence/absence of Nipomo Mesa lupine within the Rail Spur Project area cannot be definitively determined based on the survey data from Arcadis (April 2013), and moreover as a result that verification by SWCA was not possible since reconnaissance surveys were outside of the normal blooming period for this species (December-May). Additionally, due to the drought level conditions of 2012/13 and 2013/14, a seed bank has the potential to persist within the Rail Spur Project area without producing any individuals. These concerns were also stated by local species expert Mr. John Chesnut and the USFWS through public comment letters to the County, in response to the NOP.

Although the presence of this species is unlikely due to the distance from historically mapped populations, the Rail Spur Project may result in potential impacts to Nipomo Mesa lupine, which would be considered a significant impact.

#### Mitigation Measures

*BIO-1 Prior to initiation of project activities, a floristic survey shall be conducted within the Rail Spur Project area in accordance with the California Department of Fish and Wildlife (CDFW) Protocol for surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (2009) and the Guidelines for Conducting and Reporting Botanical Inventories for Federally listed, Proposed, and Candidate Species (USFWS 2000). The survey shall specifically focus on the presence/absence of Nipomo Mesa lupine and, if normal rainfall conditions are present during the survey, the findings would be only valid for a period of two years.*

*The floristic survey shall be conducted during a blooming period with normal rainfall. A 'normal' rainfall period is equivalent to the monthly or annual average of precipitation over a 30 year time period for the area. The results of this survey shall be submitted to the County, United States Fish and Wildlife Service, and California Department of Fish and Wildlife within 30 days of completing the survey.*

*If 'normal' rainfall conditions have occurred prior to the initiation of the survey, and the results of this survey effort determine that Nipomo Mesa lupine is absent from the Rail Spur Project area, no further mitigation for this species shall be required at this time. Because it is well documented that Nipomo Mesa lupine may occur as a result of*

site disturbance, floristic surveys shall be conducted on an annual basis until there is no further disturbance to the native soil as a result of construction activities. Should Nipomo Mesa lupine be identified during construction, or if Nipomo Mesa lupine is identified prior to the initiation of activities during ‘normal’ rainfall conditions, the project shall avoid the individual or population to the extent feasible. If avoidance is not feasible then the applicant would be required by law to coordinate with California Department of Fish and Wildlife to acquire a 2081 Incidental Take Permit for this species and comply with any conditions imposed by that permit. At a minimum, the applicant shall implement BIO-5a (Dune Habitat Restoration Plan) and include Conservation Measures to establish and monitor Nipomo Mesa lupine population(s) within the identified on-site mitigation area at a ratio of 3:1 for individuals. The mitigation area for Nipomo Mesa lupine may overlap with the mitigation area for sensitive community impacts, which shall be protected from any grazing activities in perpetuity.

**Residual Impact**

Although Nipomo Mesa lupine has not been documented within the BSA, there is a potential this species may occur. With implementation of the above mitigation measures, any potential impacts to Nipomo Mesa lupine will be identified during an appropriate blooming period under a ‘normal’ rainfall period. A ‘normal’ rainfall period is equivalent to the monthly or annual average of precipitation over a 30 year time period for the area. Should this species be identified within the Rail Spur Project area, direct impacts to Nipomo Mesa lupine would be *less than significant with mitigation (Class II)*. Implementation of a Dune Scrub Habitat Restoration Plan would mitigate any significant impacts to the Nipomo Mesa lupine.

Impact #	Impact Description	Phase	Impact Classification
BIO.2	Proposed construction of the Rail Spur and associated Emergency Vehicle Access route would result in the removal of plant species considered to be rare by the California Native Plant Society.	Construction	Class II

A total of five sensitive plant species were identified within the BSA. These species include: California spineflower (*Mucronea californica*), sand almond (*Prunus fasciculata* var. *punctata*), Blochman’s groundsel (*Senecio blochmaniae*), and Blochman’s leafy daisy (*Erigeron blochmaniae*), and dune larkspur (*Delphinium parryi* ssp. *blochmaniae*). None of these species are state or federally listed; however, they are all considered rare by the CNPS.

Based on botanical surveys conducted by Arcadis in 2013, the BSA includes approximately three thousand individuals of California spineflower, three individuals of sand almond, fifty individuals of Blochman’s groundsel, and a limited number of Blochman’s leafy daisy. Although a specific number was not provided for Blochman’s leafy daisy, SWCA identified less than fifty individuals within the BSA along the EVA route during the field survey conducted in

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July 2013. Dune larkspur was also observed during a field verification survey in March 2015 by Leidos, Inc. Approximately 100 individuals were observed.

Avoidance of Blochman's leafy daisy individuals located along the EVA route may be avoided; however, it is expected that the population of all annual plant species will fluctuate in upcoming years depending upon rainfall and site conditions. Therefore, it is assumed that all five species of rare plants have the potential to be impacted.

The proposed impact would not likely result in any substantial adverse effect on the five rare plant species that were identified within the BSA. Many of the species within the Rail Spur Project area are of concern, but within a rarity category that is of lower concern than CNPS Rank 1 or 2. Construction of the Rail Spur Project would impact CNPS Rank 1B species such as Blochman's leafy daisy and dune larkspur, which would be considered a potentially significant impact.

Therefore, impacts to plant species considered to be rare by the California Native Plant Society would be considered potentially significant.

#### Mitigation Measures

*BIO-2 Prior to project activities, the total number of California spineflower (*Mucronea californica*), sand almond (*Prunus fasciculata* var. *punctata*), Blochman's groundsel (*Senecio blochmaniae*), Blochman's leafy daisy (*Erigeron blochmaniae*), and dune larkspur (*Delphinium parryi* ssp. *blochmaniae*) shall be accurately estimated during the implementation of BIO-1. These population estimates shall be utilized as the basis for the in-kind replacement of these species described in Mitigation Measure BIO-5e. Should any additional populations of sensitive plant species that are considered rare by the California Native Plant Society (and not formally listed under the Endangered Species Act) be identified during the implementation of BIO-1 that were not previously observed in 2013, these species will also be replaced in-kind as part of the Dune Habitat Restoration Program and replacement success would be held to the same performance standards.*

#### Residual Impacts

Project impacts on plant species considered rare by the California Native Plant Society would occur as a result of the Rail Spur Project. Potential impacts may occur to species such as: California spineflower (*Mucronea californica*), sand almond (*Prunus fasciculata* var. *punctata*), Blochman's groundsel (*Senecio blochmaniae*), and Blochman's leafy daisy (*Erigeron blochmaniae*), and dune larkspur (*Delphinium parryi* ssp. *blochmaniae*). The population of these annual species is expected to fluctuate from year to year. However, given the estimated population and the relatively common occurrence of these species, with the implementation of mitigation measure BI)-2, residual impacts are considered to be *less than significant with mitigation (Class II)*. Implementation of the Dune Habitat Restoration Plan (DHRP) (BIO-5a) would further reduce any impacts to these species.

Impact #	Impact Description	Phase	Impact Classification
BIO.3	Proposed construction and operational activities could result in disturbance and mortality to common ground-dwelling wildlife and sensitive ground-dwelling animal species.	Construction and Operations	Class II

Construction activities associated with the proposed Rail Spur Project could result in the potential loss of individuals of common ground-dwelling wildlife species and California Species of Special Concern, as defined by the CDFW. Impacts associated with ground disturbances, vegetation removal, noise, light, and increase human presence could include mortality to less-mobile reptile and rodent species inhabiting the Rail Spur Project Area. Sensitive ground-dwelling animal species that are assumed to occur within the dune scrub habitat include coast horned lizard, silvery legless lizard; both are considered by CDFW as California Species of Special Concern.

Impacts to common ground-dwelling wildlife (e.g., California ground squirrel) would occur; however, these impacts would be less than significant because common wildlife is generally more abundant and are well adapted to human activity. It is expected that these species would disperse to alternative habitats in the area. Suitable surrounding habitat includes the vast expanse of dune habitat to the east, north, and south of the Project Site.

Operational activities of the Rail Spur Project have the potential also impact sensitive and common species. It is unlikely that these species would occur within the Rail Spur Project area upon development, but species may create burrow systems at the margin of the development or use man-made objects for denning or cover.

Nighttime lighting from the proposed Rail Spur Project would also have both a positive and negative effect for the interaction between prey and predators that occur on-site. Depending upon the amount of light emitted, night lighting can compromise the advantage that predators seek during the night to forage for prey. However, lighting can also provide a larger prey base for species like bats, where many species can be attracted to the insect population that is drawn to the lighting. Night lighting may also cause nocturnal rodent species to be more vulnerable to being preyed upon by foraging owls or mammals. As currently proposed, the project includes Dark-sky compliant light fixtures and other recommended mitigation (refer to Section 4.1.6, AV-3a) and is expected to result in less than significant impacts to wildlife.

**Mitigation Measures**

*BIO-3 Prior to issuance of grading and construction permits, a qualified wildlife biologist shall prepare a Sensitive Species Management Plan, which outlines the procedures and protocols for capturing and relocating sensitive animal species including coast horned lizard and silvery legless lizard during all phases of grading. This plan shall be approved by the County and California Department of Fish and Wildlife. Implementation of the Plan is required where impacts to sensitive animal species and their habitats are unavoidable and located within a minimum of 100 feet of the Disturbance Area (or greater as determined by the California Department of Fish and Wildlife). Within 30 days prior to mobilization, grading or construction, a qualified*

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*wildlife biologist shall conduct a pre-construction survey of the area of impact to determine the presence of sensitive wildlife species. Individuals will be searched and captured using techniques appropriate to the species of concern and approved by the appropriate resource agencies. All captured individuals will be released as soon as possible into nearby suitable habitat that has been previously identified by the qualified wildlife biologist in consultation with the County and California Department of Fish and Wildlife. The size or age-class, location of capture, and the relocation site shall be recorded for each individual relocated from the site.*

#### Residual Impacts

Construction and operational activities are expected to have impacts on common and sensitive wildlife species that are known to occur within the Rail Spur Project area. With implementation of the above mitigation measures, direct impacts to common fossorial wildlife and sensitive fossorial animals would be *less than significant with mitigation (Class II)*.

Impact #	Impact Description	Phase	Impact Classification
BIO.4	Proposed construction activities could result in disturbance of American badger, potentially including mortality.	Construction	Class II

Evidence of American badger has been documented as occurring within the BSA by Arcadis and verified by SWCA observations. Construction activities associated with the Rail Spur Project may result in the potential loss of individuals of American badger a California Species of Concern, as defined by the CDFW.

#### Mitigation Measures

*BIO-4 At a minimum, the following measures shall be incorporated in the Sensitive Species Management Plan:*

- 1. Prior to grading activities, a County-approved biologist shall conduct a survey to identify whether badgers are using any portion of the site near the area in which disturbance is proposed. The survey shall be conducted no less than 14 days and no more than 30 days prior to construction. The survey shall cover the boundaries of proposed disturbance and 100 feet beyond, including all access roads, and shall examine both old and new dens. If potential badgers dens are found, they shall be inspected to determine whether they are occupied by badgers. Occupation of the den shall be determined by one or more of the following methods:
  - a. Use of a fiber-optic scope to examine the den to the end;*
  - b. Partially obstruct the den entrance with sticks, grass, and leaves for three consecutive nights and examine for signs that animals are entering or leaving the den;**

- c. *Dust the den entrance with a fine layer of dust or tracking medium for three consecutive nights and examine the following mornings for tracks.*
2. *Inactive dens within construction areas shall be excavated by hand with a shovel to prevent re-use of dens during construction.*
3. *If badgers are found in dens between August and January, a qualified biologist shall establish a 50 foot diameter exclusion zone around the entrance. To avoid disturbance and the possibility of direct take of badgers, no construction, grading, or staging of equipment shall be conducted within the buffer area until the biologist has determined that the badger(s) have vacated the den.*
4. *If badgers are found in dens between February and July, nursing young may be present. Therefore, a County-approved biologist shall establish a 200-foot diameter buffer around the den. No construction, grading, or staging of equipment shall be conducted within the buffer area until the biologist has determined that the badgers have vacated the den.*

**Residual Impacts**

Construction activities are expected to have impacts on common and sensitive wildlife species that are known to occur within the Rail Spur Project area, including American badger. With implementation of the above mitigation measures, take of American badger can be avoided and direct impacts would be *less than significant with mitigation (Class II)*.

Impact #	Impact Description	Phase	Impact Classification
BIO.5	Proposed construction of the Rail Spur Project could result in a permanent impact to approximately 20.88 acres of vegetation types that are considered sensitive communities by the California Department of Fish and Wildlife following the National Vegetation Classification.	Construction	Class II

Vegetation types within the BSA have been mapped according to protocols described *A Manual of California Vegetation, Second Edition* (Sawyer et al 2009), which follows the National Vegetation Classification System. As a result, it is determined that the Rail Spur Project could permanently impact three sensitive communities (or vegetation types) as currently recognized by the California Department of Fish and Wildlife under the most recent classification system: 1) *Ericameria ericoides-Erigonum parvifolium-Salvia mellifera* Association (part of the *Lupinus chamissonis-Ericameria ericoides* Shrubland Alliance [sensitive]); 2) *Salvia mellifera-Ericameria ericoides* Association (part of the *Salvia mellifera* Shrubland Alliance [sensitive]); and, 3) *Baccharis pilularis* Association (part of the *Baccharis pilularis* Shrubland Alliance [not sensitive in absence of *Ericameria ericoides*]). These three vegetation types may be also generally referred to as Central Dune Scrub which continues to be recognized by the CDFW as a sensitive community under the Holland (1986) legacy classification system. The total acreage of potential impacts to these sensitive communities is provided in Table 4.4.2.

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**Table 4.4.2 Potential Permanent Impacts to CDFW Sensitive Communities (Vegetation Types)**

Sensitive Community (Vegetation Type)	Total Acres Present in BSA	Total Acres Permanently Impacted
<i>Lupinus chamissonis</i> - <i>Ericameria ericoides</i> Shrubland Alliance <i>Ericameria ericoides</i> - <i>Erigonum parvifolium</i> - <i>Salvia mellifera</i> Association	47.84	8.65
<i>Salvia mellifera</i> Shrubland Alliance <i>Salvia mellifera</i> - <i>Ericameria ericoides</i> Association	70.20	11.34
<i>Baccharis pilularis</i> Shrubland Alliance <i>Baccharis pilularis</i> Association	7.51	0.89
<b>Total Acres (All Associations)</b>	<b>125.55</b>	<b>20.88</b>
Source: Arcadis 2013, 2015		

Short-term impacts to these sensitive communities vegetation type within the boundaries of the Rail Spur Project would not be considered significant due to the lack of quality within the vegetation type. Specifically, the degraded condition of the habitat type has resulted from decades of livestock grazing and industrial land use practices. Many of these sensitive communities contain a large amount of invasive exotic species (e.g., veldt grass) within their understory. However, the long-term impacts to this vegetation type resulting from removal of vegetation and permanent loss of habitat resulting from construction of the Rail Spur Project would be potentially significant.

#### Mitigation Measures

*BIO-5a Prior to issuance of any grading permits, the applicant shall retain a qualified biologist and/or botanist acceptable to the County to prepare a Dune Habitat Restoration Plan (DHRP) for review and approval by the County in consultation with the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS). The DHRP shall be signed by the retained qualified biologist and/or botanist and shall detail the methods for restoring or enhancing a minimum of 41.76 acres (2:1 for permanent impacts) of vegetation types considered to be sensitive communities by CDFW, with an emphasis on restoring known rare plant associations found within the BSA and those associations considered locally rare to the Guadalupe-Nipomo Dunes. The restoration area(s) shall be located within the Phillips 66 property boundary and protected from any grazing activity. The DHRP shall focus on restoring and enhancing sensitive communities, known rare plant associations, and species of locally rare plant associations, by removing invasive species (iceplant, veldt grass, and other invasive species) and planting appropriate native species, including but not limited to: mock heather, purple nightshade, Blochman's ragwort, Blochman's leafy daisy, California spineflower, sand almond and suffrutescent wallflower.*

*Should Nipomo Mesa lupine be identified within the Rail Spur Project area as a result of BIO-1, and avoidance of this species is not feasible, the DHRP shall also include methods of restoring and enhancing Nipomo Mesa lupine at a ratio of 3:1 for permanent impacts to individuals. Regardless of whether Nipomo Mesa lupine is identified on-site as part of BIO-1, the DHRP shall also focus on restoring and*

enhancing sensitive communities and rare plant associations immediately adjacent to known Nipomo Mesa lupine populations in order to promote expansion of the existing population.

At a minimum, the DHRP shall include the following elements:

- a. Identification of locations, amounts, size and types of plants to be replanted, as well as any other necessary components (e.g., temporary irrigation, amendments, etc.) to ensure successful reestablishment.
- b. Provide for a native seed collection effort prior to ground disturbing activities. Collection of native seed shall be propagated by a County-approved contractor. Plants shall include but not be limited to California Native Plant Society (CNPS) listed plant species that may be affected.
- c. Quantification of impact based on “as-built plans” and quantification of mitigation areas such that the replacement criteria are met (2:1 acreage ratio, or 3:1 for Nipomo Mesa lupine individuals).
- d. A program schedule and success criteria for a minimum five year monitoring and reporting program that is structured to ensure the success of the DHRP.
- e. Provide for the in-kind replacement of the following sensitive species that occur within the Rail Spur Project area, which may include: California spineflower (*Mucronea californica*), sand almond (*Prunus fasciculata* var. *punctata*), Blochman’s groundsel (*Senecio blochmaniae*), Blochman’s leafy daisy (*Erigeron blochmaniae*) and dune larkspur (*Delphinium parryi* ssp. *blochmaniae*). Should Nipomo Mesa lupine be identified onsite, in-kind replacement of this species shall also be included. Individuals that are removed or damaged shall be replaced in-kind at a 3:1 ratio (based on square feet cover) within the designated restoration area with 100% success in 5 years.
- f. Identification of access and methods of materials transport to the restoration area, including personnel, vehicles, tools, plants, irrigation equipment, water, and all other similar supplies. Access shall not result in new or additional impacts to habitat and special-status species.
- g. The required Dune Habitat Restoration Program shall incorporate an invasive species control program and be implemented by qualified personnel to ensure that the invasive species control program does not result in any additional impacts to Nipomo Mesa lupine, or other rare species.
- h. The restoration area shall be protected in perpetuity by an easement. The easement shall either be an open space easement, or a conservation easement if required by the California Department of Fish and Wildlife and United States Fish and Wildlife Service, or if chosen by the Applicant. The easement shall be in a form approved by County Counsel and CDFW and/or USFWS if required by those agencies.

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- i. *Upon successful completion of the Dune Habitat Restoration Program and subsequent approval by the permitting resource agencies, the applicant shall consider providing non-profit organizations such as California Native Plant Society and The Land Conservancy with long term access to the restoration site for the purposes of education, and long-term maintenance of the restoration site. Long-term maintenance activities would only occur if permitted by the applicant, and would require coordination with California Department of Fish and Wildlife and United States Fish and Wildlife Service. Access to the site is not guaranteed as a result of this measure. Funding for any future long-term maintenance activities shall be facilitated by the non-profit organization.*

*BIO-5b Prior to initiation of construction, the applicant shall retain a qualified biologist or botanist acceptable to the County to supervise the implementation of the DHRP. The qualified biologist or botanist shall supervise plant salvage and/or seed collection (prior to construction), plant propagation, site preparation, implementation timing, species selected for planting, planting installation, maintenance, monitoring, and reporting of the restoration efforts. The qualified biologist or botanist shall prepare and submit four annual reports and one final monitoring report to the County for review and approval in consultation with California Department of Fish and Wildlife and United States Fish and Wildlife Service.. The annual and final monitoring reports shall include discussions of the restoration activities, project photographs, an assessment of success criteria attainment, and any remediation actions that may have been required in order to achieve the success criteria.*

*BIO-5c Prior to issuance of grading and construction permits, the applicant shall define and clearly mark construction zone boundaries adjacent to known sensitive species occurrences with high visibility construction fencing, and shall mark groups of individual plants located within potential disturbance areas with highly visible flagging or fencing.*

*BIO-5d Prior to construction (within 48 hours), the applicant's retained biologist or botanist shall provide instruction to construction personnel regarding avoidance of sensitive habitats and special-status plants located in the vicinities of areas experiencing ground disturbance. The training shall include presentation of photos of sensitive plant species and habitat, summary of regulations and conditions applicable to protection of the species, identification of areas where removal of the species is permitted pursuant to the final conditions of approval and DHRP, and any ramifications for non-compliance.*

*BIO-5e During construction, where disturbance to sensitive habitat and sensitive plant species is unavoidable (and permitted by the County upon approval of the project), the top four inches of surface material shall be salvaged and stockpiled for restoration use in consultation with the County, California Department of Fish and Wildlife and United States Fish and Wildlife Service. Existing native vegetation shall also be removed and included as mulch in order to capture any existing native seed material. The salvaged material shall be used as the finish layer on fill slopes and other disturbed areas that will not require regular vegetation maintenance.*

*BIO-5f During construction, the use of heavy equipment shall be restricted to within the identified work areas throughout the duration of construction activities and all construction personnel shall be advised of the importance of limiting ground disturbance and construction activities to within the identified work areas. A full-time biological monitor shall monitor shall map any populations or individual sensitive species that may bloom within, or directly adjacent to, areas of ground disturbance. Should Nipomo Mesa lupine be identified at any time during construction, the species shall be completely avoided and the County shall be contacted immediately. If avoidance is not feasible, or the species was inadvertently impacted during construction before identification by the biological monitor, the County and the applicant shall coordinate directly with the California Department of Fish and Wildlife and United States Fish and Wildlife Service. At a minimum, the impacts to any sensitive plant species shall be mitigated through implementation of BIO-5a.*

**Residual Impact**

Although implementation of the project would result in the loss of 20.88 acres of CDFW sensitive communities (vegetation types), identified mitigation would require restoration of 41.76 acres of habitat (2:1 acreage ratio). The restoration efforts, and five years of monitoring, would be documented by a biologist or botanist approved by the County, pursuant to an approved plan. The restoration area would be protected in the long term consistent with required restoration plan. Therefore, with implementation of the above mitigation measures, direct impacts to CDFW sensitive communities (vegetation types) would be *less than significant with mitigation (Class II)*.

Impact #	Impact Description	Phase	Impact Classification
BIO.6	Proposed construction of the Rail Spur Project has the potential to impact individual specimens of coast live oak of 5-inch DBH or greater.	Construction	Class II

Based on current design plans for the Rail Spur Project, one mature coast live oak (*Quercus agrifolia*) may be impacted as part of the proposed Rail Spur Project. The specimen, along with other remnant oaks on the property, do not constitute an oak woodland, rather they are individual stands within dune scrub that serve as shading for cattle that have been grazing within the property for at least 30 years. Due to the lack of surrounding trees and the availability of foraging opportunities within the dune scrub, these oaks also provide optimal perching opportunities for foraging raptors, including red-tailed hawk and great horned owl, both of which have been regularly observed utilizing these trees. These trees also provide suitable nesting habitats, although no raptor nests were observed during any of the field surveys conducted by Arcadis and SWCA. The oak tree individual that may be impacted, is located directly on the project boundary of the impact area is a multi-branched coast live oak with diameters at breast height (dbh) of 5 inches or greater. Impacts to oak trees within the project are defined by the County of San Luis Obispo as follows:

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*If any of the following conditions occur, the tree is considered "impacted" under County of San Luis Obispo guidelines:*

1. *More than 10% of the tree mass is removed, or any limb larger than 5"*
2. *New encroachment within the root zone of an oak tree. The root zone is defined as any area within the tree canopy edge/dripline before any oak branch trimming. Encroachment includes:*
  - a. *Any cutting or trenching into soil (directional boring that is more than 24 inches below surface is exempt)*
  - b. *Addition of fill material*
  - c. *Compaction of soil from vehicle travel (one single pass within canopy footprint is exempt) or any other compacting activity*
  - d. *Any grubbing that involves soil disturbance*
  - e. *Any storage of materials or equipment*
  - f. *Paving within dripline*
  - g. *Irrigation/overspray within tree dripline*
  - h. *Establishment of non-native, invasive understory plants*
3. *If 50% or more of the root zone is impacted or tree mass is removed, the tree will be considered "lost" and must be replaced at a 4:1 basis.*
4. *Storage of liquids or hazardous materials, including washout areas for concrete, etc., within the tree canopy edge/dripline; any spills or leaks of toxic substances within the canopy edge/dripline and 10 feet beyond the canopy edge/dripline would constitute an impacted tree, or potentially lost tree if the spill or leak is extensive.*

Since there is a potential that impacts to oak trees may exceed the criteria listed above, the impacts to oaks would be considered significant.

#### **Mitigation Measures**

*BIO-6a At the time of application for grading and/or construction permits, the applicant shall prepare an Oak Tree Inventory, Avoidance, and Protection Plan as outlined herein. The plan shall be reviewed by a County-approved arborist prior to approval of grading and/or construction permits, and shall include the following items:*

- a. *Construction plans shall clearly delineate all trees within 50 feet of areas where soil disturbance would occur, and shall show which trees are to be impacted, and which trees are to remain unharmed. All inventoried trees shall be shown on maps. The species, diameter at breast height, location, and condition of these trees shall be documented in data tables.*
- b. *Prior to any grading or grubbing, all trees that are within fifty feet of construction or grading activities shall be marked for protection and their root zone shall be fenced. The outer edge of the tree root zone to be fenced shall be outside of the canopy 1/2 again the distance as measured between the tree trunk and outer edge of the canopy (i.e., 1-1/2 times the distance from the trunk to the drip line of the tree), unless otherwise shown on the approved construction plans.*

- c. *Prior to any grading or grubbing, a certified arborist shall be retained by the applicant to identify at risk limbs and perform all necessary trimming of oak tree limbs that could be damaged by project activities. Pruning shall be conducted as needed along all access roads and construction areas, including paved portions of County roads used for project equipment access. All pruning shall be conducted prior to construction equipment passage to minimize the potential for inadvertent damage to oak tree limbs. Removal of larger lower branches should be minimized to 1) avoid making tree top heavy and more susceptible to “blow-overs”, 2) reduce having larger limb cuts that take longer to heal and are much more susceptible to disease and infestation, 3) retain wildlife habitat values associated with the lower branches, 4) retain shade to keep summer temperatures cooler and 5) retain the natural shape of the tree. The certified arborist shall document all pruning impacts in a report submitted to the County San Luis Obispo.*
- d. *A certified arborist shall be retained by the applicant to supervise all construction activities in areas containing oak trees in order to minimize disturbance to identified trees and their root zones wherever possible. The certified arborist will document all construction-related impacts to oak trees in an “as-built” report submitted to the County San Luis Obispo.*
- e. *Immediately following submittal of the oak tree impact “as-built” report to the County San Luis Obispo, the applicant shall implement mitigation for all identified pruning and construction-related oak impacts per current County San Luis Obispo ratios and methods for oak tree mitigation and replacement. County oak tree replacement standards require a project proponent to prepare and implement an oak tree replacement plan. The plan shall provide for the in-kind replacement, at a 4:1 ratio, of all oak trees removed as a result of the project. In addition, the plan must provide for the in-kind planting, at a 2:1 ratio, of all oak trees impacted but not removed. The replacement trees must be monitored for seven years after planting.*

*BIO-6b Upon application for grading and construction permits, the applicant shall submit an Oak Tree Replacement, Monitoring, and Conservation Plan to the County Department of Planning and Building. The Plan shall include the following:*

- a. *The County-approved arborist shall provide or submit approval of an oak tree replacement plan at a minimum 4:1 ratio for oak trees removed and a minimum replacement ration of 2:1 ratio for oak trees impacted (i.e., disturbance within the root zone area).*
- b. *Replacement oak trees shall be from regionally or locally collected seed stock grown in vertical tubes or deep one-gallon tree pots. Four-foot diameter shelters shall be placed over each oak tree to protect it from deer and other herbivores, and shall consist of 54-inch tall welded wire cattle panels (or equivalent material) and be staked using T-posts. Wire mesh baskets, at least two feet in diameter and two feet deep, shall be use below ground. Planting during the warmest, driest months (June through September) shall be avoided. The plan shall provide a*

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*species-specific planting schedule. If planting occurs outside this time period, an irrigation plan shall be submitted prior to permit issuance and implemented upon approval by the county.*

- c. *Replacement oak trees shall be planted no closer than 20 feet on center and shall average no more than four planted per 2,000 square feet. Trees shall be planted in random and clustered patterns to create a natural appearance. As feasible, replacement trees shall be planted in a natural setting on the north side of and at the canopy/dripline edge of existing mature native oak trees (if present); on north-facing slopes; within drainage swales (except when riparian habitat present); where topsoil is present; and away from continuously wet areas (e.g., lawns, irrigated areas, etc). Replanting areas shall be either in native topsoil or areas where native topsoil has been reapplied. A seasonally timed maintenance program, which includes regular weeding (hand removal at a minimum of once early fall and once early spring within at least a three-foot radius from the tree or installation of a staked “weed mat” or weed-free mulch) and a temporary watering program, shall be developed for all oak tree planting areas. A qualified arborist/botanist shall be retained to monitor the acquisition, installation, and maintenance of all oak trees to be replaced. Replacement trees shall be monitored and maintained by a qualified arborist/botanist for at least seven years or until the trees have successfully established as determined by the County Environmental Coordinator. Annual monitoring reports will be prepared by a qualified arborist/botanist and submitted to the County by October 15 each year.*
- d. *The restored area shall be at a minimum equal in size to the area of oak habitat lost or disturbed.*

#### Residual Impacts

Implementation of identified mitigation would minimize potential impacts to oak trees, and will ensure that mitigation for all impacts will be conducted per County requirements, including replanting and long-term monitoring to ensure success. Therefore, potential impacts to coast live oak would be *less than significant with mitigation (Class II)*.

Impact #	Impact Description	Phase	Impact Classification
BIO.7	A rupture or leak from, pipelines, rails cars, or other facility related infrastructure during operation of the Rail Spur Project has potential to impact surrounding onsite sensitive habitats.	Operations	Class II

Implementation of the project could result in spills at the Rail Spur Project area due to mechanical failure, structural failure, corrosion, or human error during pipeline use and oil transportation to and from the Rail Spur. The Rail Spur and the proposed pipeline are immediately adjacent to sensitive coastal scrub habitat and approximately 500 feet from a tributary channel to Oso Flaco Creek. Crude oil or oily water spills during the rainy season have the potential to affect large areas of coastal scrub and adjacent property with riparian habitat.

Given the low speed the trains would be moving at the site (3 mph) it is unlikely that a tank car could be impacted enough to result in a spill. The estimated shell and head puncture velocity of the tank car design proposed for use by the Applicant are 8.3 and 10.3 miles per hour respectively (USDOT 2014). In addition, most of the rail spur would be below the surrounding grade (see grading plans in Appendix A). This would help to contain any oil spilled within the rail spur graded area. The most likely spill related event would be a release during the unloading process due to a loading line failure. The unloading racks are equipped with oil spill drain boxes which would feed below-grade 16-inch-diameter drain lines routed to three parallel 20,000 gallon rectangular storage tanks (approximately 60,000 gallons total volume) located in a vault for containment. The capacity of the storage tanks and drain boxes would be sufficient to hold three full tanker cars of oil. Spilled material collected in this containment system would be removed via vacuum truck. This system would serve to prevent any spilled oil from impacting sensitive habitat. The unloading operations would be manned at all times, so if there were a failure in the loading lines the operation would be shutdown well before a tank car could be fully drained.

There is also the potential for a spill from the crude oil pipeline from the unloading area to the crude oil storage tanks. The worst case spill would be if the pipeline leaked or ruptured near the unloading rack since the pipeline increases in elevation as the line runs from the unloading area to the storage tanks. The worst case spill from this pipeline would be approximately 90,800 gallons. A spill near the unloading rack would drain into the spill drain boxes. Potential spills along the rest of the pipeline would be smaller in size due to the elevation change. As one moves up the pipeline toward the storage tanks, the maximum spill volumes decrease, with the smallest spill volumes being near the storage tanks. In the event of a release from the pipeline the oil would drain into the area around the pipeline and unloading racks (see grading plans in Appendix A).

The rail spur and unloading/pipeline system has been designed to contain oil spills within the facility boundaries, which would avoid impacts to surrounding sensitive habitats.

In the unlikely event that spilled oil did reach sensitive habitat, the oiled vegetation and soils would likely need to be removed and taken to a landfill. Cleanup activities that result in the removal of vegetation would require restoration of native habitat following cleanup. The level of impact would depend on the type, size, and location of the spill, the types of habitats and species affected, and cleanup methods. The potential for oil spills is already present within the existing SMR, but the potential to impact sensitive habitats would increase as the Rail Spur project would be located in close proximity to coastal scrub habitat. Even though the likelihood of oil impacting sensitive habitat is low, it would be considered a potentially significant impact.

#### **Mitigation Measures**

*BIO-7 Prior to issuance of grading and construction permits, the existing Santa Maria Refinery Spill Prevention, Control and Countermeasure Plan (SPCCP) shall be amended and submitted for review and approval to the County Planning and Building Department and the California Department of Fish and Wildlife, Office of Spill Prevention and Response. The Plan shall address protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Plan shall incorporate, at a minimum, the following:*

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- a. *An estimate of the worst case spill volume associated with the rail unloading operations.*
- b. *A description of the spill containment equipment for the facility that clearly demonstrates that the worst case spill can be contained within the rail facility boundaries.*
- c. *A description of the operating procedures for the rail unloading facilities that sever to prevent an oil spill.*
- d. *Measures taken to assure that the crude oil pipeline shall be designed such that any spill from the pipeline shall drain back to rail unloading area or shall otherwise be contained within the access roadway.*
- e. *Provide a list of onsite oil spill response equipment that is adequate to handle the worst case spill volume.*
- f. *Identify training requirement for oil spill response personnel, which includes annual spill drills.*
- g. *Identification and communication protocols and agreements for responsible parties tasked with emergency response, cleanup, and rehabilitation efforts of any wildlife species and habitat that may be impacted.*
- h. *Identification of known sensitive resources within any area that may be impacted by a potential oil spill or cleanup activities, and identification of staging areas and predetermined access and egress routes that pose little or no threat to sensitive biological resources.*
- i. *Identification of oil spill cost recovery procedures for state and local government agencies.*
- j. *Specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during oil spill response and cleanup operations. For Rail Spur construction and operation, the Plan shall specifically address measures to 1) prevent oil spills from entering the adjacent property which includes a tributary to Oso Flaco Creek, and 2) in case a spill does enter any of these water features, shall include measures to prevent a spill from reaching the waters of Oso Flaco Lake. The plan shall describe the worst case scenario for maximum oil spill volume.*
- k. *When habitat disturbance cannot be avoided, the Plan shall provide protocol and methodologies for removing contaminated vegetation from sensitive areas. Low-impact site-specific techniques such as hand-cutting contaminated vegetation, hand raking, and shoveling of contaminated soils shall be specified to remove spilled material from particularly sensitive wildlife habitats.*
- l. *When habitat disturbance cannot be avoided, the Plan shall provide stipulations for development and implementation of site-specific habitat restoration plans and to restore native plant communities to pre-spill conditions. Procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by non-native species, replaces them with suitable native species) shall also be included.*

### Residual Impacts

With the implementation of mitigation measure BIO-7 and the design features of the rail spur and unloading racks, potential oil spill impacts within the SMR site would be *less than significant with mitigation (Class II)*.

Impact #	Impact Description	Phase	Impact Classification
BIO.8	Proposed construction and operational activities could result in disturbance and mortality to nesting migratory bird species and overwintering burrowing owl.	Construction and Operations	Class II

Vegetation within the Rail Spur Project area provides suitable nesting habitat for a variety of ground-nesting and shrub nesting bird species. As a result of studies conducted by Arcadis, it has been determined that the Rail Spur Project area provides suitable habitat for wintering burrowing owls (Arcadis 2013). Spring and summer conditions at the Rail Spur Project area also appear suitable for potential breeding by this species; however, no evidence of breeding was found during the surveys conducted by Arcadis and is considered unlikely. Breeding by burrowing owls along the coast in Santa Barbara and San Luis Obispo Counties has not been documented since the late 1980's and possibly early 1990's (personal communication, Brad Schram). The entire Rail Spur Project area could be considered habitat for this species. Therefore, construction of the Rail Spur Project would result in a loss of 26.5 acres of available habitat for this species and operational project activities may also adversely affect these species. A staff report on burrowing owl mitigation has been prepared by CDFW which provides mitigation measures intended to offset the loss of habitat and slow or reverse further decline of the species and is incorporated below.

Grading activities are currently proposed during the winter season; however, the schedule may fluctuate upon implementation. Therefore, depending on the actual timing, the project may result in direct disturbance of breeding and nesting special-status bird species during vegetation removal and ground disturbance, and generation of noise and equipment use during grading and construction activities would impact adjacent breeding and nesting of special-status bird species. During the construction and operation phase, noise and lighting from the Rail Spur could deter bird species from nesting and foraging within the area.

### Mitigation Measures

*BIO-8a Prior to and during construction, the applicant shall avoid disturbance of bird breeding and nesting activities if construction activities are scheduled to occur during the typical bird nesting season (February 15 and September 1). A qualified biologist shall also be retained to conduct a pre-construction survey on a weekly basis throughout the breeding season only during construction for the purpose of identifying potential bird nesting activity. Should construction continue to occur beyond September 1, a qualified biologist shall conduct a bi-weekly survey during the wintering season for overwintering use by burrowing owl. If no nesting activities or overwintering burrowing owl are detected within the proposed work area, noise-*

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*producing construction activities may proceed and no further mitigation is required. If nesting activity or overwintering burrowing owl are detected during pre-construction nesting surveys or at any time during the monitoring of construction activities, the following shall occur:*

- a. Work activities within 300 feet (500 feet if raptors) shall be delayed. CDFW and/or USFWS shall be contacted to determine the appropriate biological buffer distance around active nest sites.*
- b. Construction activities will be prohibited within the buffer zone until a biologist determines that the young birds have fledged and left the nest, or overwintering burrowing owl is no longer utilizing the burrow. The results of the surveys shall be immediately submitted to the CDFW and the County, demonstrating compliance with the Migratory Bird Treaty Act of 1918.*
- c. If destruction of occupied burrows is unavoidable during the non-breeding season, or if burrowing owls must be translocated during the non-breeding season, a Burrowing Owl Exclusion Plan shall be developed by a qualified biologist following the guidance of the CDFW Staff Report on Burrowing Owl Mitigation (2012).*

*BIO-8b To mitigate for the loss of burrowing owl habitat, a minimum of 26.5 acres of suitable burrowing owl foraging and nesting habitat shall be provided in perpetuity through an easement prior to any project construction activities. If feasible, the protected lands shall occur within the boundaries of the Phillips 66 property or lands immediately adjacent to any known burrow site. At a minimum, the mitigation lands shall include similar vegetative attributes as the impact area, be of sufficiently large acreage and include the presence of fossorial mammals. Mitigation lands for burrowing owl may overlap with lands which are designated for restoration under the Dune Habitat Restoration Plan. Should there be any overlap, neither mitigation effort should negatively affect the goals and success criteria of the other. The location of the protected lands shall be determined in coordination with CDFW.*

#### **Residual Impacts**

Implementation of appropriate mitigation measures would reduce the potential for disturbance of nesting and breeding special-status birds, and therefore, this impact would be *less than significant with mitigation* (Class II).

<b>Impact #</b>	<b>Impact Description</b>	<b>Phase</b>	<b>Impact Classification</b>
BIO.9	Proposed construction activities could result in disturbance and the introduction or spread of invasive plant species.	Construction	Class II

Project construction activities would include a large amount of grading activities and stockpiling of soils within the boundaries of the Rail Spur Project area. Implementation of these project

elements would require removing and replacing soil that contains seeds of invasive plant species. Disturbance of the soil containing invasive species seeds could facilitate the spread of invasive species in and out of the Rail Spur Project area.

**Mitigation Measures**

*BIO-9 Prior to issuance of grading and construction permits, the following measures shall be included on applicable plan sheets and the Dune Habitat Restoration Plan:*

- a. During construction, the applicant will make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing on-site should be used for fill material. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free is invasive plant species; or the material must consist of purchased clean material such as crushed aggregate, sorted rock, or similar.*
- b. During construction, the contractor shall stockpile topsoil and redeposit the stockpiled soil within disturbed areas onsite after construction of the Rail Spur is complete, or transport the topsoil to a certified landfill or other allowable location for disposal if soil cannot be used within disturbed areas onsite.*
- c. All erosion control materials including straw bales, straw wattles, or mulch used on-site must be free of invasive species seed.*
- d. The required Dune Habitat Restoration Program shall incorporate an invasive species control program.*

**Residual Impacts**

Implementation of mitigation measure BIO-9 would reduce the potential for the introduction and spread of invasive species; therefore, this impact would be considered *less than significant with mitigation (Class II)*.

Impact #	Impact Description	Phase	Impact Classification
BIO.10	Long term air quality impacts could result in impacts to known overwintering monarch butterfly habitat located approximately one-mile east of the Rail Spur Project.	Operation	Class III

As described within Section 4.3 (Air Quality), there are potential air quality impacts associated with construction of the proposed project are considered to be less than significant with mitigation (Class II). Operational impacts have shown a potential for significant and unavoidable (Class I) or less than significant with mitigation (Class II). Regardless, these thresholds of significance used to determine the level of impacts to human health and do not take into consideration potential impacts to biological species such as monarch butterfly.

To evaluate the potential long-term impacts to monarch butterfly, Dr. Kingston Leong and Dr. Francis Villablanca were contacted to determine if scientific literature was available to evaluate

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the potential impact. Dr. Leong confirmed that there is no scientific literature currently available which evaluates pollutants on monarch butterfly. Dr. Leong added that he has conducted unpublished research regarding the effects of smoke on monarch butterfly and has observed that smoke directly impacts the species causing the individuals to fall from their roosting location. Upon recovery, these individuals exhibited behavior indicating that they do not prefer to return to the existing roosting habitat at which the pollutant (smoke) was applied to them. Although the Rail Spur project would not result in any additional pollutants due to smoke, this unpublished observation by Dr. Leong supports that idea that the species may be affected by other environmental pollutants. Therefore, it is reasonable to assume that long-term impacts from pollutants cannot be discounted, although the effects are unknown.

Because of the unknown effects of pollutants on this species, impacts to this species have been inferred based existing conditions elsewhere along the UPRR route where diesel and particulates likely exceed the levels that are expected with construction and operations of the Rail Spur Project. For comparison purposes, the UPRR railroad is directly located adjacent to overwintering habitat located at the Pismo Preserve and at overwintering locations near Carpentaria. Given the level of short-term air and noise pollutants associated with operational activities along this route due to commuter rail traffic and cargo traffic, it is reasonable to assume that this short-term activity would expose monarchs to a higher level of pollutants than the long-term operation of the Rail Spur Project. Considering the long-term continued success of the overwintering populations at these locations given their proximity to pollutants from the UPRR mainline and the existing vehicle traffic adjacent to their locations, it is inferred that the potential impacts due to construction and operational activities of the Rail Spur Project would be less than significant (Class III).

#### Mitigation Measures

No mitigation measure is needed since the impact is less than significant.

#### Residual Impacts

Impacts from construction and operational activities on monarch butterfly are unknown due to a lack of sufficient scientific information. However, impacts to the species are expected to be *less than significant (Class III)* based on a qualitative comparison of nearby successful overwintering sites for monarch butterfly.

Impact #	Impact Description	Phase	Impact Classification
BIO.11	Crude oil transportation along the UPRR mainline could result in a crude oil spill that impacts sensitive plant and wildlife species and wetlands.	Operations	Class I

Transportation of crude oil along the UPRR mainline transects a very wide range of natural habitats and urban areas. Given the overall size of the UPRR mainline and the range of speculation related to prediction of the exact location in which the train derailment or cargo spill may occur, a focused biological survey or delineation of these resources was not conducted as

part of this evaluation. Project impacts were evaluated based on database queries for sensitive resources documented within 300 feet on each side of the UPRR mainline.

Because the analysis of impacts to these resources is limited to available data, the documented occurrences are only intended to serve as a minimum baseline for describing the potential impact that could occur under a scenario of train derailment and oil spill. In addition to these resources, it is reasonable to assume that the UPRR mainline also transects additional sensitive resources that are not currently mapped along the entire route as a sensitive resource for a various reasons such as private property constraints, etc. It cannot be overlooked that the UPRR mainline also transects a variety of “non-sensitive” habitats that may not be unique or threatened but serve as suitable habitat to a wide range of wildlife species for the purposes of foraging and breeding. In the event of a derailment and oil spill, a qualified biologist could develop resource-specific measures for further avoidance and minimization of biological resources and habitat within the vicinity of the accident; however, total avoidance in the event of a derailment and oil spill would not be feasible. Therefore, if biological resources or natural habitat are affected, the impact would be significant.

### **Sensitive Plant Species**

Based on the database query among the UPRR mainline, there are currently a minimum of 167 sensitive plant species occurrences documented within 300 feet of the rail. Approximately 35% of these species occur within San Luis Obispo and Santa Barbara counties alone. In the event of a trail derailment or cargo spill, sensitive plant species could be either directly impacted by the spill, or incur secondary impacts associated with emergency response units and oil spill clean-up procedures. In the case of most sensitive plant species, it is unlikely that a train derailment or cargo spill would eliminate the entire population of the species, as most sensitive plant species populations occur in more than one location. However, highly localized species such as Nipomo Mesa lupine, a federally endangered species, there is a potential that the entire population could be permanently lost or severely damaged in a catastrophic event. However, a major spill along the mainline tracks in the vicinity of the SMR would be unlikely since the trains would be moving at speeds of about five miles per hour since they would be on the mainline siding positioning for entering or exiting the refinery. For a major spill that could affect the entire population of Nipomo Mesa lupine, there would have to be a puncture of the head or shell of a rail car. The estimated shell and head puncture velocity of the tank car design proposed for use by the Applicant are 8.3 and 10.3 miles per hour respectively (USDOT 2014). Direct impacts or secondary impacts to sensitive plants as a result of any trail derailment crude oil spill would be considered a significant impact.

### **Sensitive Animals Species**

Based on the database query among the UPRR mainline, there are currently a minimum of 219 sensitive animal species occurrences documented within 300 feet of the rail. Based on the existing data, the distribution of these species is fairly uniform amongst counties along the UPRR mainline. Nearly half of the sensitive animal species documented along the route occur between Los Angeles to Monterey County. The other majority of the occurrences are from Contra Costa County to Sacramento County. Sensitive species include aquatic, semi-aquatic, and terrestrial animal species. In the event of a train derailment or oil spill it is reasonable to assume that the potential for impacts may be somewhat greater to semi-aquatic and aquatic

#### 4.4 Biological Resources

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species do to the increased probability of contaminants are likely to gravity flow towards drainages, channels, waterbodies, wetlands, etc. Depending on the location and extent of any accident, avian and terrestrial species would likely have a greater potential to avoid impact due to greater mobility and ability to utilize surrounding habitats. Regardless, any train derailment or crude oil spill that would also require mobilization of emergency response units and equipment would have the potential to impact sensitive species and habitat utilized by these species. Therefore, oil spills along the UPRR mainline tracks could be significant depending upon the location of the spill.

##### **Streams, Rivers, Wetlands and Other Waterbodies**

Based on the database query among the UPRR mainline, a minimum of 411 streams and rivers are located within 300 feet of the mainline, and a minimum of 26 waterbodies and 578 wetlands documented by the National Wetland Inventory (NWI). Based on the existing data, Santa Barbara County has the most streams and rivers identified along the mainline, a minimum of 108 in total. San Luis Obispo County is second, with a minimum total of 76 streams and crossings. Together, these two counties contain nearly 40% of the documented streams and drainages along the mainline.

In terms of wetlands, the two counties total a minimum of 378 documented wetland features. This consists of nearly 65% of the total wetland features along the mainline route. As mentioned in the discussion above, in the event of a train derailment or crude oil spill it is reasonable to assume that crude oil would gravity flow towards drainages, channels, waterbodies, wetlands, etc. The footprint of the impacts is currently unknown and would greatly depend upon the amount of crude that is spilled, topographical features and other natural barriers, gradient of the channel, presence of water within the channel, etc. Regardless, any train derailment or oil spill would require mobilization of emergency response units and equipment would also have the potential to impact streams, rivers, wetlands and other waterbodies. Therefore, oil spills along the UPRR mainline tracks could be significant, depending upon the location of the spill.

##### **Sensitive Habitats**

Based on a database query of the CNDDDB, a total of 20 sensitive habitats are documented within 300 feet of the UPRR mainline. Examples of sensitive habitat include: Central Dune Scrub, Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, Southern Riparian Scrub, Southern Coastal Lagoon, and Southern Willow Scrub. Most of the sensitive species documented within the route occur between Ventura and Monterey counties, which account for 14 of the total 20 documented occurrences. The remaining occurrences are located in Contra Costa, Solano, and Sacramento counties. Overall, the database query of only 20 sensitive habitats is considered to be low, and likely underestimated since the UPRR mainline transects numerous properties and habitat types that may have not been mapped and/or documented within the CNDDDB.

##### **Oil Spills**

The probability of a crude oil train release incident exceeding 100 gallons would range between one every 45 years to once every 76 years depending upon the rail route used to get to the SMR. (See Appendix H.1 for a detailed discussion of the route specific accident rates.)

The topography or terrain in the area of the oil spill would affect the extent of the potential impacts. Hills, valleys, low areas, and other land features can affect how a release is contained or migrates over the ground surface. A release in an area with a steep slope can accelerate the rate of oil migration and cause the spill to cover a greater area. Releases near low areas or confined valleys could pool and contain the oil and reduce aerial coverage of the release. Spills that flow into a drainage ditch or channel might flow greater distances from the release site due to the funneling of the oil in the channel. Smaller drainage channels generally flow into larger channels, which potentially could empty to a surface water feature, thus increasing the impacts of the spill. A spill released to level, flat ground would generally not migrate as far from the release site. (US State Department, 2013).

In the event of a crude oil spill UPRR would rely first upon local emergency response agencies (police and fire). If needed, UPRR has standing contracts with emergency response firms that are available around the clock to manage any release of crude oil. UPRR maintains spill response contracts with companies throughout their rail network in California. All of the UPRR response firms are rated Oil Spill Response Organization (OSRO) by the State of California and classified Oil Spill Removal Organization by the United States Coast Guard. Depending upon the location, and extent of a spill local response teams, UPRR response personnel and State and Federal response agencies would be involved in the containment and cleanup operations. UPRR has a hazardous Materials Emergency Response Plan that covers their mainlines within the United States. However, this plan does not address the location and staging of any oil spill response equipment along their mainline tracks.

Depending upon the location of an oil spill along the UPRR mainline tracks, there may be no oil spill containment or cleanup equipment immediately available, and it could take some time for emergency response teams to mobilize adequate spill response equipment. Depending upon the location of the spill this could allow enough time for the spill to impact sensitive habitats, and plants and animal species that may occur within these habitats. Therefore, oil spills along the UPRR mainline tracks could be significant depending upon the location of the spill.

#### *Spill Impacts beyond Roseville and Colton Yards*

Beyond the two UPRR Yards, trains could travel any number of routes (refer to Figure 2-8). Also, crude oil delivered to California by UPRR would generally pass through either of these two rail yards in route to the SMR. Depending upon the source of the crude oil, crude oil trains could use any portion of the UPRR network between Roseville/Colton and the source location for the crude oil. The exact route that would be taken would depend upon a number of factors, that could include the source of the crude oil, weather conditions, train traffic conditions, etc.

While the exact route the trains would take to get to these two rail yards is speculative, all of the routes within and outside of California would traverse numerous sensitive biological areas, which would increase the probability of a spill impacting sensitive biological resources. In the event of a spill impacting sensitive biological resources along this portion of the route the impacts could be significant for the same reasons discussed above for the routes between Roseville/Colton and the SMR.

##### **Mitigation Measures**

*BIO-11 The Applicant's contract with UPRR, shall include a provision to provide that UPRR has an Oil Spill Contingency Plan in place for all mainline rail routes in California that could be used for transporting crude oil to the SMR. The Oil Spill Contingency Plan shall at a minimum include the following:*

- 1. A set of notification procedures that includes a list of immediate contacts to call in the event of a threatened or actual spill. This shall include a rated oil spill response organization, the California Office of Emergency Services, California Department of Fish and Wildlife, Oil Spill Prevention and Response, and appropriate local emergency responders.*
- 2. Identification of the resources that could be at risk from an oil spill equal to 20% of the train volume. The resources that shall be identified in the plan, and shown on route maps, include but are not limited to the following:*
  - a. Habitat types, shoreline types, and associated wildlife resources in those locations;*
  - b. The presence of state or federally-listed rare, threatened or endangered species;*
  - c. The presence of aquatic resources including state fish, invertebrates, and plants including important spawning, migratory, nursery and foraging areas;*
  - d. The presence of terrestrial animal and plant resources;*
  - e. The presence of migratory and resident state bird and mammal migration routes, and breeding, nursery, stopover, haul-out, and population concentration areas by season;*
  - f. The presence of commercial and recreational fisheries including aquaculture sites, kelp leases and other harvest areas.*
  - g. Public beaches, parks, marinas, boat ramps and diving areas;*
  - h. Industrial and drinking water intakes, power plants, salt pond intakes, and important underwater structures;*
  - i. Areas of known historical and archaeological sites (but not their specific description or location);*
  - j. Areas of cultural or economic significance to Native Americans (but not their specific description or location).*
  - k. A description of the response strategies to protect the identified site and resources at risk.*
  - l. A list of available oil spill response equipment and staging locations along the mainline tracks and shall include.*
  - m. A program for oil spill training of response staff and a requirement for annual oil spill drillings.*
- 3. The oil spill contingency plan must be able to demonstrate that response resources are adequate for containment and recovery of 20% of the train's volume within 24*

*hours. In addition, within six hours of the spill the response resources shall be adequate for containment and recovery of 50% of the spill, and 75% of the spill within 12 hours.*

*The Applicant's contract with UPRR, shall include provision that UPRR's Oil Spill Contingency Plan shall be reviewed and approved by California Department of Fish and Wildlife, Office of Spill Prevention and Response prior to delivery of crude oil by rail to the Santa Maria Refinery.*

*In addition, the Applicant's contract with UPRR, shall include provisions to provide a copy of UPRR's Oil Spill Contingency Plan to all first response agencies along the mainline rail routes in California that could be used by trains carrying crude oil to the Santa Maria Refinery for the life of the project. Only first response agencies that are able to receive security sensitive information as identified pursuant to Section 15.5 of Part 15 of Title 49 of the Code of Federal Regulations, shall be provided this information.*

### **Residual Impacts**

Implementation of mitigation measures BIO-11 and PS-4a through PS-4e would serve to reduce the likelihood of an oil spill and the ability of first response agencies to respond to a crude oil spill by having equipment properly staged, and workers properly trained in oil spill response. In particular, PS-4b would require the use of safer tank cars that would reduce the likelihood of a spill in the event of an accident. Even with implementation of these mitigation measures oil spill impacts to biological resources along the mainline rail routes would remain significant and unavoidable depending upon the location of the spill.

The County may be preempted by federal law from implementing this measure as they require particular contractual provisions that might be determined to improperly impact interstate commerce.

OSPR is currently in the process of implementing the requirements of SB 861, which will require railroads to have detailed oil spill response plans and to conduct oil spill response drills. Oil Spill Contingency Plans are due January 1, 2016. However, the timing of when the plans will have to be in place and the drill would start is not yet know. Portions of this legislation as it relates to railroads have been subject to litigation, and it is likely that further litigation by the railroads will occur, since the railroad claim the State is preempted by federal law. If implemented this legislation would improve oil spill response for train derailments that lead to spills.

In addition, the USDOT is evaluating proposed rules that would require rail operators of crude oil trains to have a comprehensive OSRP that addresses may of the same requirements as the plans required by SB 861. If the DOT adopts a final rule covering crude oil trains, it would improve oil spill response for train derailments that lead to spills.

The USDOT has new rules covering enhancements to tank car standards and operational controls for high-hazardous flammable trains, which include crude oil trains. These new rules would

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serve to reduce the likelihood of a train derailment and release of crude oil. Section 4.7, Hazards and Hazardous Materials provides, additional information on the new USDOT rule.

If and when all these rules are adopted and in place, they would serve to reduce train derailments and improve emergency response in the event of an accident. However, even if all of these regulation are implemented, mainline rail oil spills impacts to biological resources along the UPRR mainline tracks could remain *significant and unavoidable (Class I)*, depending upon the location of the spill.

Impact #	Impact Description	Phase	Impact Classification
BIO.12	Crude oil transportation along the UPRR mainline could result impacts to wildlife in the vicinity of the mainline.	Operations	Class III

The crude oil trains servicing the SMR would use existing mainline routes that are currently used by both freight and passenger trains. The mainline tracks handle between about 10 and 80 freight trains per day depending upon the location (Caltrans 2013). All of these existing freight trains have the potential to impact wildlife from noise, light and collisions. The addition of the Rail Spur Project would increase the annual freight train traffic on the mainline sections by 1.7 percent for the most heavily traveled mainlines (Colton to Nevada and Roseville to Nevada) and by about 13 percent for the lightest traveled mainline (SMR to Gilroy). The percent increase in rail traffic on the mainline would be substantially less in some areas if passenger train traffic is taken into account. These numbers are based upon the assumption that all the crude oil unit trains use the same route and includes ten one-way trips per week (five to the SMR and five from the SMR).

There are no established criteria relating train noise and animal behavior. However, some characteristics of train noise are similar to low overflights of aircraft, and researchers generally agree that high noise levels from aircraft overflights can have a disturbing effect on wildlife. Some animals get used to noise exposure while some do not. Documented effects range from simply taking notice and changing body position to taking flight in panic. Whether these responses represent a threat to survival of animals remains unclear, although panic flight may result in injuries to animals in rough terrain.

There is evidence of variation among species in their sensitivity to noise. Noise sensitivity may also differ with the type of noise, which varies in amplitude, frequency, temporal pattern, and duration. Duration may be particularly critical; most anthropogenic noise (manmade noise) is chronic and the effects of chronic noise may differ substantially from those of short-term noise in both severity and response type. For example, brief noise exposure may cause elevated heart rate and a startle response, whereas chronic noise may induce physiological stress and alter social interactions (Blickley 2011).

A sound exposure level (SEL) in excess of 100 dBA has a potential for effects on wildlife. (DOT 2012). The distance to an SEL of 100 dBA for a freight train is 75 feet where the warning horn is not sounded. This screening distance assumes a freight train consisting of two

locomotives and 100 railcars traveling at 50 mph, which is typical for trains on the UPRR tracks (California High-Speed Rail Authority, 2011). Since most railroad right-of-ways are 100 feet wide wildlife would have to be within approximately 25 feet of the edge of the right-of-way to experience noise effects above the recommended threshold. Given that the trains would use existing mainline routes, the limited distance that noise would impact wildlife, and the small increase in train traffic that would result from the project, the impact on wildlife of train noise on the mainline would be considered less than significant.

Light exposure from a train's headlight would only be present for a short period as the train passed any given location, and would only apply to trains moving at night. The train light would not be a permanent light source that would change the overall level of light during all nighttime hours. Given that the trains would use existing mainline routes that have existing trains traffic and that the light from a train is limited in duration at any given location, the impact on wildlife of train light on the mainline would be considered less than significant.

The frequency of wildlife crossing railway lines is influenced by a number of factors, the most significant of them are: (i) character of the surrounding landscape and concentration of mammals in the vicinity, (ii) grade level (height) of the railway in relation to the geomorphology of the surrounding terrain (large mammals run onto the railway particularly in those places where the grade level of the railroad is at the level of the surrounding terrain), (iii) age of the railway (mammals run more often onto newly constructed railways), and (iv) food and migration needs of mammals (Kusta 2011).

Increased train traffic on existing mainline routes can increase the impacts associated with barrier to movement and collisions with wildlife. While there is substantial data on collisions with wildlife, there exists very little data that addresses the probability of a train colliding with wildlife. A study conducted on the risk of moose-train collisions estimated the probability of a collision at about three percent (Gundersen 1998). Another study on the effect of transportation infrastructure on grizzly bears in northwestern Montana collected data on the number of trains and the number of bear crossings over a three year period (Waller 2005). Data in this study would indicate that over the study period there was less than a one percent probability of a bear being stuck and killed by a train.

The Rail Spur Project would use existing mainline rail routes that have been in service for long periods of time and carry substantial levels of existing freight and passenger train traffic. The addition of five trains per week (ten one-way trips per week) to these existing mainline routes would not be expected to substantially increase the incident of wildlife collisions since there would be such a small increase in hourly average train traffic. For example, the grizzly bear study discussed above had average hourly train traffic of 1.2 trains per hour. The addition of five trains per week would increase this hourly average to 1.25 trains, which is not a significant increase.

Given that the trains would use existing mainline routes, the relatively small increase in train traffic that would result from the project and the low estimated probabilities of collisions with wildlife, the impact of train-wildlife collisions on the mainline would be considered less than significant.

### Mitigation Measures

No mitigation measure is needed since the impact is less than significant.

### Residual Impacts

Impacts to wildlife of train operations on the mainline are considered to be less *than significant* (Class III).

#### 4.4.5 Cumulative Analysis

The Rail Spur Project significantly increases human activity in portions of the Phillips 66 property that consist of sensitive coastal scrub habitat that has been historically used for cattle grazing. Although this area has been historically cattle grazed, the Rail Spur Project would result in permanent impacts to common and rare plant species and wildlife which utilize this habitat. The Rail Spur Project also increases the potential for oil and other materials spills within the property and along the UPRR mainline.

According to the list of cumulative projects (Table 3-1), no other similar developments are currently proposed in the area of the SMR that would also impact coastal scrub and suitable habitat for sensitive species, or the species directly. Therefore, impacts from the proposed project would not exacerbate any loss of habitat, impacts to Nipomo Mesa lupine, or western burrowing owl within implementation of these surrounding projects. Adjacent farming and residential uses are expected to continue with little biological effect from the project. Application of appropriate state and local development guidelines such as the Migratory Bird Treaty Act of 1918, and mitigation measures similar to those listed above would reduce cumulative impacts to a significant but mitigable level.

There is the potential for cumulative impacts associated with the crude by rail project discussed in Chapter 3. In conducting the cumulative analysis for crude by rail it has been assumed that the cumulative projects listed in Table 3.1 would use the same rail car tank design as the SMR Rail Spur Project, and that the cumulative crude by rail projects, with the exception of the Phillips Rail Spur Project, would transport a Bakken type crude, which is a worst case assumption.<sup>1</sup> It has also been assumed that all of the Rail Spur Project crude oil trains would use routes discussed below.

If all of the crude by rail projects travel via the UPRR Roseville Rail Yard, then up to eight crude oil trains per day could travel on the stretch of track between Sacramento and the California boarder (two for Valero, one for Kinder Morgan, two for Alon, one for Targa, one for Plains All American, and one for the SMR). From Roseville, rail traffic would likely follow two different routes; one following the I-80 corridor to Reno, Nevada, with the other heading north along the I-5 corridor to Oregon. A third route through the Feather River Canyon was not considered for further analysis.

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<sup>1</sup> Canadian Crude, as specified in the Project Description, was assumed for the Phillips Rail Spur Project as part of the project and cumulative analysis.

From Sacramento the crude oil trains servicing the Valero Benicia and Kinder Morgan projects could use the same UPRR tracks as the Rail Spur Project from Sacramento to the Bay Area. This portion of track could have up to four crude oil trains per day (two for Valero, one for Kinder Morgan, and one for the SMR).

From Sacramento the crude oil trains servicing the Alon, Targa, and Plains All American projects could use the same tracks as the Rail Spur Project from Sacramento to Stockton a distance of about 46 miles. This portion of track could have up to five crude oil trains per day (two for Alon, one for Plains All American, one for Targa, and one for the SMR).

This level of crude oil train traffic would increase the probability of an oil spill along these mainline routes. Assuming all of the cumulative crude oil trains use the same route from Sacramento to the California border, the cumulative probability of a 100 gallon or greater oil spill would be about once every seven years for the route from the SMR to the Oregon border, and once every six years for the route from the SMR to the Nevada border. Both of these mainline rail routes pass through a number of sensitive biological areas including water body crossings. In the event of an oil spill along this stretch of the mainline rail route, sensitive biological resources could be impacted.

None of the other cumulative crude by rail projects would use the mainline tracks along the southern route through the Los Angeles Basin since the crude oil trains going to Bakersfield would use Tehachapi Pass via Barstow and would not travel as far west as Colton. However, up to four unit trains per day could share the route between Nevada and Barstow (two for Alon, one for Plains All American, and one for the SMR). Assuming these cumulative crude oil trains use the same route from Barstow to the California border, the cumulative probability of a 100 gallon or greater oil spill would be about once every 25 years for the southern route from the SMR to the Nevada border. This mainline rail route passes through a number of sensitive biological areas including water body crossings. In the event of an oil spill along this stretch of the mainline rail route, sensitive biological resources could be impacted.

In the event of an accident along these stretches of mainline rail routes, a crude oil spill of significant amounts of transported crude could occur, potentially impact sensitive biological resources. Depending upon the location of an oil spill along the UPRR mainline tracks, there may be no oil spill containment or cleanup equipment immediately available, and it could take some time for emergency response teams to mobilize adequate spill response equipment. Depending upon the location of the spill this could allow enough time for the spill to impact sensitive habitats, and plants and animal species that may occur within these habitats. Therefore, oil spills along the UPRR mainline tracks could be cumulatively significant depending upon the location of the spill.

There are a number of cumulative oil development projects in Northern Santa Barbara County (see Table 3.1, Cumulative Project List) that plan to move oil to the Phillips 66 SMPS and then via pipeline to the SMR. In the short-term, depending upon the volume of crude oil received by rail, some of this oil could be displaced and might have to be trucked to other refinery destinations. Any displaced crude oil would likely be sold to other refineries in the Los Angeles basin. The amount, location, and destination of any displaced oil would be driven by market

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forces. Given the dynamics of the crude oil market, it is speculative as to what if any local crude oil would be displaced, and what would happen to any oil if it were displaced.

It is possible that the OCS oil delivered to the SMR via the All American and Sisquoc Pipelines could be displaced. In this case the OCS oil would continue to use the All American Pipeline system to refinery markets in Los Angeles. If the OCS crude was displaced, than Phillips 66 could reverse the Sisquoc Pipeline allowing local producers to ship their crude oil via pipeline to Los Angeles. Such reversal of the pipeline flow direction would allow production from area producers to be transported to refinery destinations via pipeline instead of by truck if the SMR is not available. If the Sisquoc Pipeline is not reversed, and the local Northern Santa Barbara County crude oil cannot be processed at the SMR, then as much as 23,000 barrels of crude might have to be trucked to refineries in the Los Angeles Basin. This would equate to about 120 truck trips per day (round trips), which would increase the potential for crude oil spills from trucks. However, potential spill volumes from a truck would be substantially smaller than from a crude oil unit train.

Implementation of mitigation measures PS-4a through PS-4e identified for the Rail Spur Project would reduce the likelihood of an oil spill and the ability of first response agencies to respond to a crude oil spill. In particular, PS-4b would require the use of safer tank cars that would reduce the likelihood of a spill in the event of an accident by about 74 percent.

Implementation of the requirements specified in SB 861 could also serve to reduce the impacts of a spill by having equipment staged in places near sensitive biological resources, and improving the response activities to an oil spill.

Under Federal and State law, UPRR and the owner of the crude oil would be responsible for cleanup and remediation of any oil spill. SB 861 requires that operators demonstrate they have the financial resources to pay for spill response, cleanup, and damages based upon a reasonable worst case spill volume.

Depending upon the location of the spill, impacts may occur to sensitive biological resources that cannot be mitigated through oil spill response, remediation and restoration, and the impact of oil spills from rail cars and trucks would be significant and unavoidable.

The cumulative crude oil trains could increase freight traffic along the northern routes in California by about 17 percent assuming they all use the same mainline. This is highly unlikely since some of the crude oil trains would be operated by BNSF and some by UPRR. In some areas these railroads have they own tracks. The increase in mainline freight traffic from cumulative crude oil trains is more likely to be less than 10 percent taking into account the use different mainline routes. The percent increase would be less if existing passenger train traffic is included. These percentages are based on one-way trips for the cumulative crude oil trains.

This increase in crude oil trains could increase impacts to wildlife due to noise, light, movements and collisions. These impacts already exist for all of the mainline routes due to the existing freight and passenger trains. As discussed in Impact BIO.12 above, a sound exposure level (SEL) in excess of 100 dBA has a potential for effects on wildlife. The distance to an SEL of 100 dBA for a freight train is 75 feet where the warning horn is not sounded. This screening distance

assumes a freight train consisting of two locomotives and 100 railcars traveling at 50 mph, which is typical for trains on the UPRR tracks (California High-Speed Rail Authority, 2011). Since most railroad right-of-ways are 100 feet wide wildlife would have to be within approximately 25 feet of the edge of the right-of-way to experience noise effects above the recommended threshold. Given that the trains would use existing mainline routes, the limited distance that noise would impact wildlife, and the limited increase in overall rail traffic, the cumulative impacts to wildlife of train noise on the mainline would be considered less than significant.

Light exposure from a train’s headlight would only be present for a short period as the train passed any given location, and would only apply to trains moving at night. The train light would not be a permanent light source that would change the overall level of light during all nighttime hours. Given that the trains would use existing mainline routes that have existing trains traffic and that the light from a train is limited in duration at any given location, the cumulative impact on wildlife of train light on the mainline would be considered less than significant.

Increased train traffic on existing mainline routes can increase the impacts associated with barrier to movement and collisions with wildlife. As discussed above under Impact BIO-12 a number of studies can be used to estimate the probability of collisions with wildlife. These probabilities ranged from less than one percent to about three percent. All of the cumulative crude by rail projects would use existing mainline rail routes that have been in service for long periods of time and carry substantial levels of existing freight and passenger train traffic. The addition of an average of seven trains per day to these existing mainline routes would not be expected to substantially increase the incident of wildlife collisions since there would be such a small increase in hourly average train traffic. For the route from Roseville to Nevada the average hourly traffic is about 3.3 trains. With the addition of the cumulative crude oil trains this would increase to about 3.9 trains per hour on average.

Given that the trains would use existing mainline routes, the relatively small increase in train traffic that would result from the project and the low estimated probabilities of collisions with wildlife, the impact of train-wildlife collisions on the mainline would be considered less than significant.

**4.4.6 Mitigation Monitoring Plan**

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
BIO-1	Prior to initiation of project activities, a floristic survey shall be conducted within the Rail Spur Project area in accordance with the California Department of Fish and Wildlife (CDFW) Protocol for surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (2009) and the Guidelines for Conducting and Reporting Botanical Inventories for Federally listed, Proposed, and Candidate Species (USFWS 2000). The survey shall specifically focus on the presence/absence of Nipomo Mesa lupine and, if	Conduct focused survey during non-drought year	Prior to ground disturbance	County approved biologist, County Planning and Building

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Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>normal rainfall conditions are present during the survey, the findings would be only valid for a period of two years.</p> <p>The floristic survey shall be conducted during a blooming period with normal rainfall. A ‘normal’ rainfall period is equivalent to the monthly or annual average of precipitation over a 30 year time period for the area. The results of this survey shall be submitted to the County, United States Fish and Wildlife Service, and California Department of Fish and Wildlife within 30 days of completing the survey.</p> <p>If ‘normal’ rainfall conditions have occurred prior to the initiation of the survey, and the results of this survey effort determine that Nipomo Mesa lupine is absent from the Rail Spur Project area, no further mitigation for this species shall be required at this time. Because it is well documented that Nipomo Mesa lupine may occur as a result of site disturbance, floristic surveys shall be conducted on an annual basis until there is no further disturbance to the native soil as a result of construction activities. Should Nipomo Mesa lupine be identified during construction, or if Nipomo Mesa lupine is identified prior to the initiation of activities during ‘normal’ rainfall conditions, the project shall avoid the individual or population to the extent feasible. If avoidance is not feasible then the applicant would be required by law to coordinate with California Department of Fish and Wildlife to acquire a 2081 Incidental Take Permit for this species and comply with any conditions imposed by that permit. At a minimum, the applicant shall implement BIO-5a (Dune Habitat Restoration Plan) and include Conservation Measures to establish and monitor Nipomo Mesa lupine population(s) within the identified on-site mitigation area at a ratio of 3:1 for individuals. The mitigation area for Nipomo Mesa lupine may overlap with the mitigation area for sensitive community impacts, which shall be protected from any grazing activities in perpetuity.</p>			
BIO-2	<p>Prior to project activities, the total number of California spineflower (<i>Mucronea californica</i>), sand almond (<i>Prunus fasciculata</i> var. <i>punctata</i>), Blochman’s groundsel (<i>Senecio blochmaniae</i>), Blochman’s leafy daisy (<i>Erigeron blochmaniae</i>), and dune larkspur (<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>) shall be accurately estimated during the implementation of BIO-1. These population estimates shall be utilized as the basis for the in-kind replacement of these species described in Mitigation Measure BIO-5e. Should any additional populations of sensitive plant species that are considered rare by the California Native Plant Society (and not formally listed under the Endangered Species Act) be identified during the implementation of BIO-1 that were not previously</p>	<p>Conduct focused survey during non-drought year</p>	<p>Prior to ground disturbance</p>	<p>County approved biologist, County Planning and Building</p>

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	observed in 2013, these species will also be replaced in-kind as part of the Dune Habitat Restoration Program and replacement success would be held to the same performance standards.			
BIO-3	Prior to issuance of grading and construction permits, a qualified wildlife biologist shall prepare a Sensitive Species Management Plan, which outlines the procedures and protocols for capturing and relocating sensitive animal species including coast horned lizard and silvery legless lizard during all phases of grading. This plan shall be approved by the County and California Department of Fish and Wildlife. Implementation of the Plan is required where impacts to sensitive animal species and their habitats are unavoidable and located within a minimum of 100 feet of the Disturbance Area (or greater as determined by the California Department of Fish and Wildlife). Within 30 days prior to mobilization, grading or construction, a qualified wildlife biologist shall conduct a pre-construction survey of the area of impact to determine the presence of sensitive wildlife species. Individuals will be searched and captured using techniques appropriate to the species of concern and approved by the appropriate resource agencies. All captured individuals will be released as soon as possible into nearby suitable habitat that has been previously identified by the qualified wildlife biologist in consultation with the County and California Department of Fish and Wildlife. The size or age-class, location of capture, and the relocation site shall be recorded for each individual relocated from the site.	Review and approval of Sensitive Species Management Plan	Prior to issuance of grading and construction permits	California Department of Fish and Wildlife, County Planning and Building
BIO-4	At a minimum, the following measures shall be incorporated in the Sensitive Species Management Plan: 1. Prior to grading activities, a County-approved biologist shall conduct a survey to identify whether badgers are using any portion of the site near the area in which disturbance is proposed. The survey shall be conducted no less than 14 days and no more than 30 days prior to construction. The survey shall cover the boundaries of proposed disturbance and 100 feet beyond, including all access roads, and shall examine both old and new dens. If potential badgers dens are found, they shall be inspected to determine whether they are occupied by badgers. Occupation of the den shall be determined by one or more of the following methods: a. Use of a fiber-optic scope to examine the den to the end; b. Partially obstruct the den entrance with sticks, grass, and leaves for three consecutive nights and examine for signs that animals are entering or leaving the den;	Review and approval of Sensitive Species Management Plan	Prior to issuance of grading and construction permits	County approved biologist, County Planning and Building

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Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>c. Dust the den entrance with a fine layer of dust or tracking medium for three consecutive nights and examine the following mornings for tracks.</p> <p>2. Inactive dens within construction areas shall be excavated by hand with a shovel to prevent re-use of dens during construction.</p> <p>3. If badgers are found in dens between August and January, a qualified biologist shall establish a 50 foot diameter exclusion zone around the entrance. To avoid disturbance and the possibility of direct take of badgers, no construction, grading, or staging of equipment shall be conducted within the buffer area until the biologist has determined that the badger(s) have vacated the den.</p> <p>4. If badgers are found in dens between February and July, nursing young may be present. Therefore, a County-approved biologist shall establish a 200-foot diameter buffer around the den. No construction, grading, or staging of equipment shall be conducted within the buffer area until the biologist has determined that the badgers have vacated the den.</p>			
BIO-5a	<p>Prior to issuance of any grading permits, the applicant shall retain a qualified biologist and/or botanist acceptable to the County to prepare a Dune Habitat Restoration Plan (DHRP) for review and approval by the County in consultation with the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS). The DHRP shall be signed by the retained qualified biologist and/or botanist and shall detail the methods for restoring or enhancing a minimum of 41.76 acres (2:1 for permanent impacts) of vegetation types considered to be sensitive communities by CDFW, with an emphasis on restoring known rare plant associations found within the BSA and those associations considered locally rare to the Guadalupe-Nipomo Dunes. The restoration area(s) shall be located within the Phillips 66 property boundary and protected from any grazing activity. The DHRP shall focus on restoring and enhancing sensitive communities, known rare plant associations, and species of locally rare plant associations, by removing invasive species (iceplant, veldt grass, and other invasive species) and planting appropriate native species, including but not limited to: mock heather, purple nightshade, Blochman’s ragwort, Blochman’s leafy daisy, California spineflower, sand almond and suffrutescent wallflower.</p> <p>Should Nipomo Mesa lupine be identified within the Rail Spur Project area as a result of BIO-1, and avoidance of this species is not feasible, the DHRP shall also include methods of restoring and enhancing Nipomo Mesa lupine at a ratio of 3:1 for permanent impacts to</p>	<p>Review and Approval of Dune Habitat Restoration Plan</p>	<p>Prior to issuance of grading permits</p>	<p>County approved biologist or botanist, County Planning and Building</p>

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>individuals. Regardless of whether Nipomo Mesa lupine is identified on-site as part of BIO-1, the DHRP shall also focus on restoring and enhancing sensitive communities and rare plant associations immediately adjacent to known Nipomo Mesa lupine populations in order to promote expansion of the existing population. At a minimum, the DHRP shall include the following elements:</p> <ul style="list-style-type: none"> <li>a. Identification of locations, amounts, size and types of plants to be replanted, as well as any other necessary components (e.g., temporary irrigation, amendments, etc.) to ensure successful reestablishment.</li> <li>b. Provide for a native seed collection effort prior to ground disturbing activities. Collection of native seed shall be propagated by a County-approved contractor. Plants shall include but not be limited to California Native Plant Society (CNPS) listed plant species that may be affected.</li> <li>c. Quantification of impact based on “as-built plans” and quantification of mitigation areas such that the replacement criteria are met (2:1 acreage ratio, or 3:1 for Nipomo Mesa lupine individuals).</li> <li>d. A program schedule and success criteria for a minimum five year monitoring and reporting program that is structured to ensure the success of the DHRP.</li> <li>e. Provide for the in-kind replacement of the following sensitive species that occur within the Rail Spur Project area, which may include: California spineflower (<i>Mucronea californica</i>), sand almond (<i>Prunus fasciculata</i> var. <i>punctata</i>), Blochman’s groundsel (<i>Senecio blochmaniae</i>), Blochman’s leafy daisy (<i>Erigeron blochmaniae</i>) and dune larkspur (<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>). Should Nipomo Mesa lupine be identified onsite, in-kind replacement of this species shall also be included. Individuals that are removed or damaged shall be replaced in-kind at a 3:1 ratio (based on square feet cover) within the designated restoration area with 100% success in 5 years.</li> <li>f. Identification of access and methods of materials transport to the restoration area, including personnel, vehicles, tools, plants, irrigation equipment, water, and all other similar supplies. Access shall not result in new or additional impacts to habitat and special-status species.</li> <li>g. The required Dune Habitat Restoration Program shall incorporate an invasive species control program and be implemented by qualified personnel to ensure that the invasive species control program</li> </ul>			

#### 4.4 Biological Resources

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>does not result in any additional impacts to Nipomo Mesa lupine, or other rare species.</p> <p>h. The restoration area shall be protected in perpetuity by an easement. The easement shall either be an open space easement or a conservation easement if required by the California Department of Fish and Wildlife and United States Fish and Wildlife Service, or if chosen by the Applicant. The easement shall be in a form approved by County Counsel and CDFW and/or USFWS if required by those agencies.</p> <p>i. Upon successful completion of the Dune Habitat Restoration Program and subsequent approval by the permitting resource agencies, the applicant shall consider providing non-profit organizations such as California Native Plant Society and The Land Conservancy with long term access to the restoration site for the purposes of education, and long-term maintenance of the restoration site. Long-term maintenance activities would only occur if permitted by the applicant, and would require coordination with California Department of Fish and Wildlife and United States Fish and Wildlife Service. Access to the site is not guaranteed as a result of this measure. Funding for any future long-term maintenance activities shall be facilitated by the non-profit organization.</p>			
BIO-5b	<p>Prior to initiation of construction, the applicant shall retain a qualified biologist or botanist acceptable to the County to supervise the implementation of the DHRP. The qualified biologist or botanist shall supervise plant salvage and/or seed collection (prior to construction), plant propagation, site preparation, implementation timing, species selected for planting, planting installation, maintenance, monitoring, and reporting of the restoration efforts. The qualified biologist or botanist shall prepare and submit four annual reports and one final monitoring report to the County for review and approval in consultation with California Department of Fish and Wildlife and United States Fish and Wildlife Service. The annual and final monitoring reports shall include discussions of the restoration activities, project photographs, an assessment of success criteria attainment, and any remediation actions that may have been required in order to achieve the success criteria.</p>	<p>Approval of biologist or botanist, for implementing Dune Habitat Restoration Plan</p>	<p>Prior to initiation of construction</p>	<p>County Planning and Building</p>
BIO-5c	<p>Prior to issuance of grading and construction permits, the applicant shall define and clearly mark construction zone boundaries adjacent to known sensitive species occurrences with high visibility construction fencing, and shall mark groups of individual plants located within potential disturbance areas with highly visible flagging or fencing.</p>	<p>Field verification of delineated construction zone boundaries</p>	<p>Prior to issuance of grading and construction permits</p>	<p>County Planning and Building</p>

4.4 Biological Resources

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
BIO-5d	Prior to construction (within 48 hours), the applicant's retained biologist or botanist shall provide instruction to construction personnel regarding avoidance of sensitive habitats and special-status plants located in the vicinities of areas experiencing ground disturbance. The training shall include presentation of photos of sensitive plant species and habitat, summary of regulations and conditions applicable to protection of the species, identification of areas where removal of the species is permitted pursuant to the final conditions of approval and DHRP, and any ramifications for non-compliance.	Onsite review of environmental training	Prior to construction (max 48 hours)	County Planning and Building
BIO-5e	During construction, where disturbance to sensitive habitat and sensitive plant species is unavoidable (and permitted by the County upon approval of the project), the top four inches of surface material shall be salvaged and stockpiled for restoration use in consultation with the County, California Department of Fish and Wildlife and United States Fish and Wildlife Service. Existing native vegetation shall also be removed and included as mulch in order to capture any existing native seed material. The salvaged material shall be used as the finish layer on fill slopes and other disturbed areas that will not require regular vegetation maintenance.	Onsite verification that topsoil is retained	During construction	County Planning and Building
BIO-5f	During construction, the use of heavy equipment shall be restricted to within the identified work areas throughout the duration of construction activities and all construction personnel shall be advised of the importance of limiting ground disturbance and construction activities to within the identified work areas. A full-time biological monitor shall monitor shall map any populations or individual sensitive species that may bloom within, or directly adjacent to, areas of ground disturbance. Should Nipomo Mesa lupine be identified at any time during construction, the species shall be completely avoided and the County shall be contacted immediately. If avoidance is not feasible, or the species was inadvertently impacted during construction before identification by the biological monitor, the County and the applicant shall coordinate directly with the California Department of Fish and Wildlife and United States Fish and Wildlife Service. At a minimum, the impacts to any sensitive plant species shall be mitigated through implementation of BIO-5a.	Onsite verification that use of equipment is restricted to designated work area	During construction	County Planning and Building
BIO-6a	At the time of application for grading and/or construction permits, the applicant shall prepare an Oak Tree Inventory, Avoidance, and Protection Plan as outlined herein. The plan shall be reviewed by a County-approved arborist prior to approval of grading and/or construction permits, and shall include the following items:	Review and approval of Oak Tree Inventory, Avoidance, and Protection Plan	Prior to issuance of grading and construction permits	County Planning and Building

**4.4 Biological Resources**

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>a. Construction plans shall clearly delineate all trees within 50 feet of areas where soil disturbance would occur, and shall show which trees are to be impacted, and which trees are to remain unharmed. All inventoried trees shall be shown on maps. The species, diameter at breast height, location, and condition of these trees shall be documented in data tables.</p> <p>b. Prior to any grading or grubbing, all trees that are within fifty feet of construction or grading activities shall be marked for protection and their root zone shall be fenced. The outer edge of the tree root zone to be fenced shall be outside of the canopy 1/2 again the distance as measured between the tree trunk and outer edge of the canopy (i.e., 1-1/2 times the distance from the trunk to the drip line of the tree), unless otherwise shown on the approved construction plans.</p> <p>c. Prior to any grading or grubbing, a certified arborist shall be retained by the applicant to identify at risk limbs and perform all necessary trimming of oak tree limbs that could be damaged by project activities. Pruning shall be conducted as needed along all access roads and construction areas, including paved portions of County roads used for project equipment access. All pruning shall be conducted prior to construction equipment passage to minimize the potential for inadvertent damage to oak tree limbs. Removal of larger lower branches should be minimized to 1) avoid making tree top heavy and more susceptible to “blow-overs”, 2) reduce having larger limb cuts that take longer to heal and are much more susceptible to disease and infestation, 3) retain wildlife habitat values associated with the lower branches, 4) retain shade to keep summer temperatures cooler and 5) retain the natural shape of the tree. The certified arborist shall document all pruning impacts in a report submitted to the County San Luis Obispo.</p> <p>d. A certified arborist shall be retained by the applicant to supervise all construction activities in areas containing oak trees in order to minimize disturbance to identified trees and their root zones wherever possible. The certified arborist will document all construction-related impacts to oak trees in an “as-built” report submitted to the County San Luis Obispo.</p> <p>e. Immediately following submittal of the oak tree impact “as-built” report to the County San Luis Obispo, the applicant shall implement mitigation for all identified pruning and construction-related oak impacts per current County San Luis Obispo ratios</p>			

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	and methods for oak tree mitigation and replacement. County oak tree replacement standards require a project proponent to prepare and implement an oak tree replacement plan. The plan shall provide for the in-kind replacement, at a 4:1 ratio, of all oak trees removed as a result of the project. In addition, the plan must provide for the in-kind planting, at a 2:1 ratio, of all oak trees impacted but not removed. The replacement trees must be monitored for seven years after planting.			
BIO-6b	<p>Upon application for grading and construction permits, the applicant shall submit an Oak Tree Replacement, Monitoring, and Conservation Plan to the County Department of Planning and Building. The Plan shall include the following:</p> <ol style="list-style-type: none"> <li>a. The County-approved arborist shall provide or submit approval of an oak tree replacement plan at a minimum 4:1 ratio for oak trees removed and a minimum replacement ration of 2:1 ratio for oak trees impacted (i.e., disturbance within the root zone area).</li> <li>b. Replacement oak trees shall be from regionally or locally collected seed stock grown in vertical tubes or deep one-gallon tree pots. Four-foot diameter shelters shall be placed over each oak tree to protect it from deer and other herbivores, and shall consist of 54-inch tall welded wire cattle panels (or equivalent material) and be staked using T-posts. Wire mesh baskets, at least two feet in diameter and two feet deep, shall be use below ground. Planting during the warmest, driest months (June through September) shall be avoided. The plan shall provide a species-specific planting schedule. If planting occurs outside this time period, an irrigation plan shall be submitted prior to permit issuance and implemented upon approval by the county.</li> <li>c. Replacement oak trees shall be planted no closer than 20 feet on center and shall average no more than four planted per 2,000 square feet. Trees shall be planted in random and clustered patterns to create a natural appearance. As feasible, replacement trees shall be planted in a natural setting on the north side of and at the canopy/dripline edge of existing mature native oak trees (if present); on north-facing slopes; within drainage swales (except when riparian habitat present); where topsoil is present; and away from continuously wet areas (e.g., lawns, irrigated areas, etc). Replanting areas shall be either in native topsoil or areas where native topsoil has been</li> </ol>	Review and approval of Oak Tree Replacement, Monitoring, and Conservation Plan	Prior to issuance of grading and construction permits	County Planning and Building

**4.4 Biological Resources**

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>reapplied. A seasonally timed maintenance program, which includes regular weeding (hand removal at a minimum of once early fall and once early spring within at least a three-foot radius from the tree or installation of a staked “weed mat” or weed-free mulch) and a temporary watering program, shall be developed for all oak tree planting areas. A qualified arborist/botanist shall be retained to monitor the acquisition, installation, and maintenance of all oak trees to be replaced. Replacement trees shall be monitored and maintained by a qualified arborist/botanist for at least seven years or until the trees have successfully established as determined by the County Environmental Coordinator. Annual monitoring reports will be prepared by a qualified arborist/botanist and submitted to the County by October 15 each year. d. The restored area shall be at a minimum equal in size to the area of oak habitat lost or disturbed.</p>			
BIO-7	<p>Prior to issuance of grading and construction permits, the existing Santa Maria Refinery Spill Prevention, Control and Countermeasure Plan (SPCCP) shall be amended and submitted for review and approval to the County Planning and Building Department and the California Department of Fish and Wildlife, Office of Spill Prevention and Response . The Plan shall address protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Plan shall incorporate, at a minimum, the following:</p> <ol style="list-style-type: none"> <li>An estimate of the worst case spill volume associated with the rail unloading operations.</li> <li>A description of the spill containment equipment for the facility that clearly demonstrates that the worst case spill can be contained within the rail facility boundaries.</li> <li>A description of the operating procedures for the rail unloading facilities that sever to prevent an oil spill.</li> <li>Measures taken to assure that the crude oil pipeline shall be designed such that any spill from the pipeline shall drain back to rail unloading area or shall otherwise be contained within the access roadway.</li> <li>Provide a list of onsite oil spill response equipment that is adequate to handle the worst case spill volume.</li> <li>Identify training requirement for oil spill response personnel, which includes annual spill drills.</li> <li>Identification and communication protocols and agreements for responsible parties tasked with</li> </ol>	<p>Review and approval of Spill Prevention and Response Plan / Emergency Response Action Plan</p>	<p>Prior to issuance of grading and construction permits</p>	<p>County Planning and Building  California Department of Fish and Wildlife, Office of Spill Prevention and Response</p>

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>emergency response, cleanup, and rehabilitation efforts of any wildlife species and habitat that may be impacted.</p> <p>h. Identification of known sensitive resources within any area that may be impacted by a potential oil spill or cleanup activities, and identification of staging areas and predetermined access and egress routes that pose little or no threat to sensitive biological resources;</p> <p>i. Identification of oil spill cost recovery procedures for state and local government agencies;</p> <p>j. Specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during oil spill response and cleanup operations. For Rail Spur construction and operation, the Plan shall specifically address measures to 1) prevent oil spills from entering the adjacent property which includes a tributary to Oso Flaco Creek, and 2) in case a spill does enter any of these water features, shall include measures to prevent a spill from reaching the waters of Oso Flaco Lake. The plan shall describe the worst case scenario for maximum oil spill volume.</p> <p>k. When habitat disturbance cannot be avoided, the Plan shall provide protocol and methodologies for removing contaminated vegetation from sensitive areas. Low-impact site-specific techniques such as hand-cutting contaminated vegetation, hand raking, and shoveling of contaminated soils shall be specified to remove spilled material from particularly sensitive wildlife habitats.</p> <p>l. When habitat disturbance cannot be avoided, the Plan shall provide stipulations for development and implementation of site-specific habitat restoration plans and to restore native plant communities to pre-spill conditions. Procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by non-native species, replaces them with suitable native species) shall also be included.</p>			
BIO-8a	<p>Prior to and during construction, the applicant shall avoid disturbance of bird breeding and nesting activities if construction activities are scheduled to occur during the typical bird nesting season (February 15 and September 1). A qualified biologist shall also be retained to conduct a pre-construction survey on a weekly basis throughout the breeding season only during construction for the purpose of identifying potential bird</p>	<p>Avoid nesting birds through timing or verification by survey</p>	<p>Prior to and during construction</p>	<p>County approved biologist, County Planning and Building</p>

#### 4.4 Biological Resources

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>nesting activity. Should construction continue to occur beyond September 1, a qualified biologist shall conduct a bi-weekly survey during the wintering season for overwintering use by burrowing owl. If no nesting activities or overwintering burrowing owl are detected within the proposed work area, noise-producing construction activities may proceed and no further mitigation is required. If nesting activity or overwintering burrowing owl are detected during pre-construction nesting surveys or at any time during the monitoring of construction activities, the following shall occur:</p> <ol style="list-style-type: none"> <li>Work activities within 300 feet (500 feet if raptors) shall be delayed. CDFW and/or USFWS shall be contacted to determine the appropriate biological buffer distance around active nest sites.</li> <li>Construction activities will be prohibited within the buffer zone until a biologist determines that the young birds have fledged and left the nest, or overwintering burrowing owl is no longer utilizing the burrow. The results of the surveys shall be immediately submitted to the CDFW and the County, demonstrating compliance with the Migratory Bird Treaty Act of 1918.</li> <li>If destruction of occupied burrows is unavoidable during the non-breeding season, or if burrowing owls must be translocated during the non-breeding season, a Burrowing Owl Exclusion Plan shall be developed by a qualified biologist following the guidance of the CDFW Staff Report on Burrowing Owl Mitigation (2012).</li> </ol>			
BIO-8b	<p>To mitigate for the loss of burrowing owl habitat, a minimum of 26.5 acres of suitable burrowing owl foraging and nesting habitat shall be provided in perpetuity through an easement prior to any project construction activities. If feasible, the protected lands shall occur within the boundaries of the Phillips 66 property or lands immediately adjacent to any known burrow site. At a minimum, the mitigation lands shall include similar vegetative attributes as the impact area, be of sufficiently large acreage and include the presence of fossorial mammals. Mitigation lands for burrowing owl may overlap with lands which are designated for restoration under the Dune Habitat Restoration Plan. Should there be any overlap, neither mitigation effort should negatively affect the goals and success criteria of the other. The location of the protected lands shall be determined in coordination with CDFW.</p>	Review and approval	Prior to issuance of grading and construction permits	<p>County Planning and Building</p> <p>California Department of Fish and Wildlife</p>
BIO-9	<p>Prior to issuance of grading and construction permits, the following measures shall be included on applicable plan sheets and the Dune Habitat Restoration Plan:</p> <ol style="list-style-type: none"> <li>During construction, the applicant will make all</li> </ol>	Review and approval of grading and construction	Prior to issuance of grading and construction	County Planning and Building

Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>reasonable efforts to limit the use of imported soils for fill. Soils currently existing on-site should be used for fill material. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free is invasive plant species; or the material must consist of purchased clean material such as crushed aggregate, sorted rock, or similar.</p> <p>b. During construction, the contractor shall stockpile topsoil and redeposit the stockpiled soil within disturbed areas onsite after construction of the Rail Spur is complete, or transport the topsoil to a certified landfill or other allowable location for disposal if soil cannot be used within disturbed areas onsite.</p> <p>c. All erosion control materials including straw bales, straw wattles, or mulch used on-site must be free of invasive species seed.</p> <p>d. The required Dune Habitat Restoration Program shall incorporate an invasive species control program.</p>	plans	permits	
BIO-11	<p>The Applicant’s contract with UPRR, shall include a provision to provide that UPRR has an Oil Spill Contingency Plan in place for all mainline rail routes in California that could be used for transporting crude oil to the SMR. The Oil Spill Contingency Plan shall at a minimum include the following:</p> <ol style="list-style-type: none"> <li>1. A set of notification procedures that includes a list of immediate contacts to call in the event of a threatened or actual spill. This shall include a rated oil spill response organization, the California Office of Emergency Services, California Department of Fish and Wildlife, Oil Spill Prevention and Response, and appropriate local emergency responders.</li> <li>2. Identification of the resources that could be at risk from an oil spill equal to 20% of the train volume. The resources that shall be identified in the plan, and shown on route maps, include but are not limited to the following:               <ol style="list-style-type: none"> <li>a. Habitat types, shoreline types, and associated wildlife resources in those locations;</li> <li>b. The presence of state or federally-listed rare, threatened or endangered species;</li> <li>c. The presence of aquatic resources including state fish, invertebrates, and plants including important spawning, migratory, nursery and foraging areas;</li> <li>d. The presence of terrestrial animal and plant resources;</li> <li>e. The presence of migratory and resident state</li> </ol> </li> </ol>	Review and approval of Spill Contingency Plan	Prior to operation of rail unloading facility	California Department of Fish and Wildlife, Office of Spill Prevention and Response

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Mitigation Measure	Plan Requirements and Timing	Compliance Verification		
		Method	Timing	Responsible Party
	<p>bird and mammal migration routes, and breeding, nursery, stopover, haul-out, and population concentration areas by season;</p> <p>f. The presence of commercial and recreational fisheries including aquaculture sites, kelp leases and other harvest areas.</p> <p>g. Public beaches, parks, marinas, boat ramps and diving areas;</p> <p>h. Industrial and drinking water intakes, power plants, salt pond intakes, and important underwater structures;</p> <p>i. Areas of known historical and archaeological sites (but not their specific description or location);</p> <p>j. Areas of cultural or economic significance to Native Americans (but not their specific description or location).</p> <p>k. A description of the response strategies to protect the identified site and resources at risk.</p> <p>l. A list of available oil spill response equipment and staging locations along the mainline tracks and shall include.</p> <p>m. A program for oil spill training of response staff and a requirement for annual oil spill drillings.</p> <p>3. The oil spill contingency plan must be able to demonstrate that response resources are adequate for containment and recovery of 20% of the train's volume within 24 hours. In addition, within six hours of the spill the response resources shall be adequate for containment and recovery of 50% of the spill, and 75% of the spill within 12 hours.</p> <p>The Applicant's contract with UPRR, shall include provision that UPRR's Oil Spill Contingency Plan shall be reviewed and approved by California Department of Fish and Wildlife, Office of Spill Prevention and Response prior to delivery of crude oil by rail to the Santa Maria Refinery.</p> <p>In addition, the Applicant's contract with UPRR, shall include provisions to provide a copy of UPRR's Oil Spill Contingency Plan to all first response agencies along the mainline rail routes in California that could be used by trains carrying crude oil to the Santa Maria Refinery for the life of the project. Only first response agencies that are able to receive security sensitive information as identified pursuant to Section 15.5 of Part 15 of Title 49 of the Code of Federal Regulations, shall be provided this information.</p>			

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