

ATTACHMENT 15

2020 SUPPLEMENTAL HABITAT ANALYSIS

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POINT MOLATE MIXED-USE DEVELOPMENT PROJECT



JULY 2020

PREPARED FOR:

City of Richmond
450 Civic Center Plaza
Richmond, CA 94804

PREPARED BY:

Analytical Environmental Services
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- A. Database Query Results
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1.0 INTRODUCTION

To support the Draft Supplemental Environmental Impact Report (DSEIR) effort for the Point Molate Mixed-Use Development Project (Modified Project), Analytical Environmental Services (AES) has prepared this Botanical Report (report) on behalf of the City of Richmond (City) as the lead agency for the Modified Project under CEQA. This report expands on and clarifies some of the biological information described in the Draft SEIR

The purpose of this report is to provide the results of protocol level botanical field surveys for special-status native plant populations and sensitive natural communities for the 2020 season, to maintain a record of botanical surveys during the CEQA process and to answer questions raised during the response to comments process. This report also assesses the current state of special status plants and sensitive communities by documenting the distribution, condition, and classification of the vegetation communities found within the site.

As part of this analysis, we evaluated the project site for California Sensitive Natural Communities (CSNC) using the vegetation criteria established by the California Department of Fish and Wildlife (CDFW) in their California Natural Community List (CDFW, 2019). This qualitative habitat assessment of the project site is therefore used to:

- Evaluate native plant diversity and overall habitat quality;
- Evaluate the potential of each surveyed site to support locally rare, unusual, and significant native plants;
- Identify the best remaining examples of suitable habitat for native species;
- Propose target areas on the project site where preservation and restoration of natural habitats would most likely be successful and beneficial; and
- Propose degraded areas on the project site where rehabilitation would be most feasible and beneficial.

2.0 METHODS

This report describes the results of botanical and habitat surveys for the Point Molate Mixed-Use Development Project site (project site; **Figures 1 and 2**) for the 2020 season and provides a discussion on habitat classification based on the current California Department of Fish and Wildlife (CDFW) classification systems. The project site covers the project site described in the DSEIR (AES, 2020) and previous botanical studies that support the SEIR), with a particular focus on areas designated for development and potential mitigation within the project site.

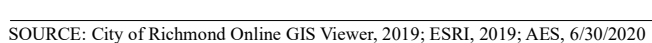
2.1 LITERATURE REVIEW

For this report, we reviewed the findings of the following reports previously prepared to analyze special status plants and vegetation of the project site:

- *Special-Status Plant Survey and Habitat Assessment for Naval Fuel Depot Point Molate*. Tetra Tech, Inc., and M. Wood, 1998.



Figure 1
Regional Location



- *The 2007 Delineation of Potential Jurisdictional Water of the United States* (Vollmar Consulting, 2007; Appendix L of the 2011 FEIR) approved May 15, 2009 (USACE, 2009)
- *Natural Resources Impacts and Mitigation Measures Report; Point Molate*. Wetlands and Water Resources, Inc. (WRR, 2007). *Point Molate Mixed-Use Tribal Destination Resort and Casino Project Final EIS/EIR*. Analytical Environmental Services (AES). 2011.
- *Biological Report of Findings for the Point Molate Mixed-Use Tribal Destination Resort and Casino Project*. AES. July, 2010.
- *Supplemental Habitat Analysis: Point Molate Mixed-Use Tribal Destination Resort and Casino Project*. AES. August, 2010.
- Point Molate Botanical Survey, 2019 – Technical Memo. AES. September, 2019.

Prior to the botanical surveys, the following database resources were queried for updated information on occurrences of special-status plant species and communities known to occur in the project vicinity (**Attachment A**):

- California Natural Diversity Database (CNDDDB) query of state and federally listed special-status species known to occur in the “San Quentin” and “Richmond” 7.5-minute CA topographic quads. Last updated June 28, 2020 (CDFW, 2020; **Attachment A**);
- California Natural Community List. Vegetation Classification and Mapping Program (VegCAMP) (CDFW, 2020; **Attachment A**);
- A Manual of California Vegetation, Online Edition. California Native Plant Society (CNPS) (CNPS, 2020a; **Attachment A**)
- Inventory of Rare and Endangered Plants of California query of special-status plants known to occur in the “San Quentin” and “Richmond” 7.5-minute CA topographic quads, last updated June 28, 2020 (CNPS, 2020b; **Attachment A**);
- United States Fish and Wildlife (USFWS), Official Species List of federally listed special-status species with the potential to occur on or be affected by the proposed project, last updated June 28, 2020 (USFWS, 2020a; USFWS, 2020b; **Attachment A**)
- The Cal-IPC Inventory. California Invasive Plant Council (Cal-IPC) (Cal-IPC, 2020).

Background database review concluded that there are no changes to the classification or listing status of special-status species addressed in the 2019 Point Molate Rare Plant Survey, which was conducted to support the DSEIR, nor are there additional special-status species with the potential to occur that were not previously addressed in the DSEIR.

Plant species observed were identified to the taxonomic level necessary to determine rarity using *The Jepson Manual: Vascular Plants of California 2nd Edition* (Baldwin et al. 2012). A list of plants observed is included in **Attachment B**. Plant nomenclature follows the Jepson Flora Project (2020) in instances when subsequent revisions have been published. Because in some cases regulatory agencies and CNPS base rarity on taxonomic treatments not published by the Jepson Flora Project, precedence is given to the nomenclature as provided in the official special-status plant listings.

2.2 SITE VISITS

Site visits were conducted by AES biologists throughout early 2020 to investigate special-status presence and to refine habitat mapping performed in earlier years. A summary of site visits is shown in **Table 1**.

TABLE 1
BOTANICAL SITE VISITS

Date	AES Personnel	Purpose	Survey Hours
May 19, 2020	Cedrick Villaseñor Kathleen Sholty	Botanical Surveys	16
May 20, 2020	Kathleen Sholty Amy Gondran	Botanical Surveys and Habitat Analysis	20
May 26-27, 2020	Cedrick Villaseñor Amy Gondran	Botanical Surveys and Habitat Analysis	35
June 4, 2020	Cedrick Villaseñor David Pfuhler	Habitat Analysis and Water of the U.S.	4

2.3 RARE PLANT SURVEYS

Floristic protocol-level surveys were conducted using pedestrian-based transects at differing distances depending on the quality and habitat suitability for special-status plant species with the potential to occur on the project site, and if the habitat was within the proposed development footprint. Site visits were conducted on May 19, 20, 26, and 27. Surveys were designed to maintain a continuous record of study while the project is in the CEQA review process.

Surveys were conducted in accordance with the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018) to verify that no new special-status species occur within the project site. Per City standards, surveys focused on state and federally listed species and species qualified for listing under CESA (CDFW State Rare, Species of special concern and species with a CNPS listing of 1 or 2). Previous surveys have identified a population of Suisun marsh aster (*Symphyotrichum lentum*) located in the wetland area in the southern portion of the project site. Special attention was given to areas under consideration for development, as described in the DSEIR. Habitat was evaluated for past, present, and potential future occurrence of special-status rare plant species. Past survey findings within the project area by both AES and others as described in **Section 2.1** were utilized for these analyses to determine the potential for particular habitats to support special-status species.

Point Molate and the surrounding areas are a dynamic landscape, and identifiable populations of plants can change from year to year. Populations of noxious weeds occur within the project site, including French broom (*Genista monspessulana*), and year-over-year changes in habitat quality and distribution, or competition with other native species or noxious weeds, could result in the extirpation of populations of sensitive or special-status species.

Previously recorded locations of Suisun marsh aster were visited to determine if the special-status species still occur and to document the status of potentially occurring populations and the quality of habitat. Focused surveys for special-status plants (CNPS List 1 and 2) were conducted during the habitat assessments. Methodology included pedestrian transects at differing distances depending on the quality and habitat suitability for special-status plant species with the potential to occur on the project site, and if the habitat was within the proposed development footprint.

2.4 VEGETATION MAPPING AND CLASSIFICATION

The 2010 *Supplemental Habitat Analysis: Point Molate Mixed-Use Tribal Destination Resort and Casino Project* (AES, 2010b), report classified habitats based on descriptions from the *Preliminary Descriptions of the Terrestrial Communities of California* (Holland, 1986), and where appropriate as presented in *A Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf and Evens, 2009). To update the results from the 2010 Habitat Analysis report, this study updated the vegetation community classifications based on the membership rules prescribed for existing plant community alliance descriptions in *A Manual of California Vegetation, Online Edition* (MCV) (CNPS 2020a).

Vegetation community alliance descriptions in the MCV were based on observed dominant and co-dominant species composition and derived from the determination keys and membership rules derived by studies used by the VegCAMP. In most cases the membership rules for alliances are defined by criteria such as relative cover of dominant plants in the uppermost stratified vegetation layer, or indicator species that are considered diagnostic. However, in some cases it was necessary to classify developed and disturbed, ruderal habitats or non-vegetated areas that are not described by the MCV. VegCAMP's current *California Natural Community List*, provides the vegetation Alliances, Associations, and Special Stands and are ranked using the National Vegetation Classification System standards with ranks of S1-S3 are considered Sensitive Natural Communities to be addressed in the environmental review processes of CEQA (CDFW, 2020b). Surveys were conducted by AES biologists as described in **Table 1**. Qualitative vegetation sampling followed *CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment and Relevé Field Form* (CDFW, 2019a). The assessment also mapped the current distribution of habitats from the 2010 Supplemental Habitat Analysis (AES, 2010b).

During surveys, special attention was given to areas that will potentially be impacted by the proposed project or in areas that may be targeted by mitigation activities, as described in the DSEIR (AES, 2020). Previous mapping efforts focused on determining the extent of coastal prairie and coastal scrub habitats, as these habitats, as described in Stromberg et al. (2002), and in Sawyer et al. (2009), were identified in the site's previous studies listed in **Section 2.1** (Tetra Tech, 1998; WWR, 2007; AES, 2010a, 2010b) as particularly sensitive and of limited distribution in the area. These habitat designations are not consistent with the current CDFW habitat types, and an effort was made to conform the habitats observed during the 2020 surveys to the CDFW current system.

A discussion of previous habitat designations and their equivalents in the current CDFW habitat classification systems are shown in **Table 2**. Alliance and association designations are discussed within **Section 3** below. Due to the dynamic nature of the project site, these closely related alliances and associations are grouped together to be consistent with the 2010 habitat designations (AES, 2010b).

TABLE 2
TERRESTRIAL HABITAT CLASSIFICATIONS WITHIN THE PROJECT SITE

Habitat Type 2011	Acres ¹	Habitat Type 2020	Acres ²	Rank ³
Terrestrial				
Ruderal/Developed	94.1	Ruderal/Developed	97.71	N/A
Annual Grassland	27.3	Wild oats and annual brome grasslands (Alliance)	10.22	N/A
Coastal Terrace Prairie	10.7	Purple Needle grass - melic grass grassland (Alliance)	20.47	S4
Coastal Scrub	58.2	California sagebrush scrub (Alliance)	11.53	S5
--	--	Coyote brush scrub (Alliance)	38.64	S5
Mixed Riparian	3.8	Arroyo willow thickets (Alliance)	6.23	S4
Invasive Scrub	25.7	Broom patches (Alliance)	39.90	N/A
Mixed Riparian	3.8	Arroyo willow thickets (Alliance)	6.23	S4
Eucalyptus Woodland	44.3	Eucalyptus – tree of heaven – black locust groves (Alliance)	47.60	N/A
Beach Strand	6.5	Coastal Strand	8.00	N/A
Aquatic				
Seasonal Wetland	2.8	N/A	2.19	--
Tidal Marsh	0.11	N/A	0.11	--
¹ Based off of 2010 Biological Field Surveys ² 2020 Botanical Field Surveys – Based off of CNPS. 2020. A Manual of California Vegetation, Online Edition. http://www.cnps.org/cnps/vegetation/ ; searched on May 27, 2020. California Native Plant Society, Sacramento, CA. ³ Vegetation Classification and Mapping Program (VegCAMP). California Natural Community List. Available at: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities				

3.0 RESULTS

3.1 TERRESTRIAL HABITATS MAPPED AND CLASSIFIED IN THE PROJECT SITE

Terrestrial habitats observed on the site are described in detail below and are shown in **Figure 3** and summarized in **Table 2**. Representative site photographs are included in **Attachment C**. Aquatic habitats were delineated through a wetland delineation document (WRA, 2020) approved by the relevant state and federal agencies. A discussion of the location and boundaries of such features are dependent on determinations made by the U.S. Army Corps of Engineers and the California Regional Water Quality Control Board and are outside of the scope of this document.



SOURCE: DigitalGlobe Aerial Photograph, 8/31/2017; NOAA, 2/20/2018; Wetlands and Water Resources, Inc., 2007; AES, 7/1/2020

Figure 3
Habitat Types

Habitat designations are based on CDFW's current California Natural Community List (CDFW, 2019b), and described to at least the Alliance level. Associations are identified when possible within each alliance, although the boundaries between associations within the alliances are not defined. Due to the dynamic nature of this landscape, a thorough breakdown of the associations within each alliance was not conducted at this time. Acreages of each association within a given alliance can function as a proxy for habitat quality in establishing impacts and equivalent mitigation for projects of this type, since certain associations within an alliance can be more or less rare than others within the same alliance. Since these associations depend on dominance or codominance of particular species and due to the dynamic nature of this landscape, an evaluation of habitat quality as measured by association breakdown would be best accomplished at the time of impacts.

Grassland Habitats

Annual and perennial grassland types are common and wide-spread within the project site, with a total area of 30.69 acres within the project site. The annual grasslands tended to have lower native plant diversity and higher amount of non-native or noxious vegetation compared to the perennial grasslands. In the 2011 botanical survey and subsequently in the DSEIR, perennial grasslands were described as "coastal terrace prairie" (CTP). While it is understood that CTP is a habitat of special concern to regional plant preservation organizations, this habitat type does not match current CDFW alliance and association designations. Distribution of grasslands can be seen in **Figure 3**, and are discussed in more detail below.

Annual Grasslands

Annual grasslands are dominated by non-native annual grasses, and the vegetation composition can be highly variable. This grassland type is common throughout California, and is scattered throughout the project site with a total area of 10.22 acres (**Figure 3**). On disturbed slopes, particularly around the old buried fuel tanks, the annual grasslands on the project site correspond to the wild oat and annual brome grasslands, a semi-natural alliance. This habitat is characterized on the site by a highly disturbed landscape, and these areas are regularly mowed or otherwise maintained to reduce fire hazards. Trees and shrubs are largely absent within this habitat, and non-native annual grasses and forbs usually dominate.

Common plant species observed within the wild oat and annual brome grasslands on the project site included wild oat (*Avena fatua*), big quaking grass (*Briza maxima*), soft brome (*Bromus hordeaceus*), ryegrass (*Lolium multiflorum*), rattail fescue (*Vulpia myuros*), field mustard (*Brassica rapa*), smooth cat's-ear, (*Hypochaeris glabra*) ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), nit grass (*Gastridium ventricosum*), and rough cat's ear (*Hypochaeris radicata*). Vetch species (*Vicia* spp.) and filaree (*Erodium botrys*) were common in the matrix. Occasional dense patches of Italian thistle (*Carduus pycnocephalus*), purple thistle (*Centaurea calcitrapa*), yellow star thistle (*C. solstitialis*), and rose clover (*Trifolium hirtum*) were easily found. Native species persisting even at low densities in this grassland type include purple needlegrass (*Nassella pulchra*), sheep sorrel (*Rumex acetosella*), Fitch's spikeweed (*Hemizonia fitchii*), and sticky tarweed (*Holocarpha virgata*), although these native species were uncommon. Species common to the *Brachypodium distachyon* association observed within the wild oat and annual brome grassland included soft brome, wild oat, ripgut brome, red brome, nit grass, ryegrass, rattail fescue, and field mustard. Patches of Italian thistle, purple thistle, yellow star thistle, and rose clover were common. Native species were very uncommon to absent in this grassland type.

Perennial Grasslands

Perennial grasslands on the project site have been described as Coastal Terrace Prairie (CTP), both in the DSEIR, in the FEIR previously performed on this site (AES, 2011), and in previous botanical surveys. This habitat is best described in the current Online MCV (2020) as “needle grass – melic grass grassland alliance”. Grasslands along the coast that have higher concentrations of native perennial bunchgrass species have long been described as “coastal terrace prairie”, but grassland classification in California is highly variable and not well defined and therefore difficult to classify. However, the CDFW and others have strived to better define these habitats and determine their distribution and relative rarity. The needle grass alliance has a state ranking of 4, putting it outside of the threshold to be evaluated within the CEQA process, but individual associations within that alliance have a ranking of 3 or lower, requiring analysis. These habitats occupy approximately 20.5 acres within the project site.

CTP, as described by (Holland 1986), is found on marine terraces near the coast (below ~700-1,000 feet) within the zone of coastal fog incursion from Santa Cruz County north into Oregon. CTP in general is dominated by both sod and tussock-forming perennial grasses approximately one meter in height, and includes relatively high diversity of both native and non-native species. Trees are largely absent within this community and non-native annual grasses and forbs are often dominant or co-dominant; this grassland habitat frequently intermingles with scrub habitat to create a mosaic of interrelated habitats across the landscape. The exact composition of native and non-native species depends on historical land use, geographic location, disturbance, and site conditions, but coastal prairie is typically characterized by the ubiquity of purple needlegrass and California oatgrass (*Danthonia californica*).

Stromberg et al., (2002) distinguish three types of “coastal prairie” that correlate with topography and distance from the coast: coastal terraces immediately adjacent to the ocean that are almost level (i.e., Coastal Terrace Prairie); grasslands on the sides of isolated bald hills arising inland and up at least 10 m from the terraces, sometimes locally known as “potreritos” (i.e., Bald Hill Prairie); and drier, inland ridges well over 100 m above the coastal terraces and bases of the inland mountain ranges (Inland Nassella Prairie). Stromberg et al., (2002) in their survey of coastal prairie from Avila Beach to San Francisco, found that the percent of species present that were native plant species averaged 52 percent in Coastal Terrace Prairies, 63 percent in Bald Hill Prairies, and 37 percent in Inland Nassella Prairies.

Along the northern California coast, CTP typically corresponds to California oat grass Prairie Alliance; Bald Hill Prairie can correspond to needle grass – melic grass grassland alliance or California oat grass prairie alliance; and Inland Nassella Prairie typically corresponds to needle grass – melic grass grassland alliance (Sawyer et al., 2009). Based on vegetation analysis, only habitats consistent with CTP and Bald Hill Prairie perennial grasslands were found on the project site, and these habitats would be currently categorized within the needle grass alliance in current CDFW categorization standards. This habitat is further described below. Due to the ambiguity of the differences between CTP, Bald Hill prairie, and inland nassella prairie, these closely related habitats and the geographic position of these habitats in relation to the San Francisco Bay, this perennial grasslands was previously classified as CTP in previous botanical studies listed in Section 2.1. Current mapping, as shown in **Figure 3**, lumps the perennial grasslands together. This serves two purposes – it helps reflect and recognize the dynamic nature of this landscape, and it indicates that these closely related habitat alliances may shift on a year-over-year basis.

A delineation effort of the boundaries between perennial grassland alliances and associations will be undertaken at the time of impacts, as required by the mitigation measures presented in the DSEIR for the project, to accurately capture the conditions and proportions of this habitat at the time of impact.

Needle grass – melic grass grassland

The majority of the area described as perennial grassland, and formerly described as CTP, falls under the what Stromberg et al., (2002) distinguish as Bald Hill Prairie, and is best categorized as Needle Grass – Melic Grass Grassland Alliance in the California natural community list (CDFW, 2019). This alliance is ranked as a “4”, outside of the analysis threshold within the CEQA process, but individual associations within this alliance have a more sensitive ranking of 2 or 3. The most representative stands of this alliance are located on the eastern edge of the project site bordering the Chevron Property, outside of the proposed impact areas for the project. These are excellent candidates for special restoration/preservation as part of the overall restoration plan.

Characteristic species found within this alliance include purple needle grass, wild oats, big quaking grass, California brome (*Bromus carinatus* ssp. *carinatus*), ripgut brome, soft brome, California oat grass, Jepson’s blue wildrye (*Elymus glaucus* ssp. *jepsonii*), big squirreltail (*Elymus multisetus*), red fescue (*Festuca rubra* ssp. *rubra*), ryegrass, summer lupine (*Lupinus formosus* ssp. *formosus*), Torrey’s melic grass (*Melica torreyana*), brome fescue, and rattail fescue. Common forbs include yarrow (*Achillea millefolium*), harvest brodiaea (*Brodiaea elegans*), owl clover (*Castilleja densiflora* ssp. *densiflora*), soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*), blue dicks (*Dichelostemma capitatum* ssp. *capitatum*), smooth cat’s-ear, blue eyed grass (*Sisyrinchium bellum*), rose clover, winter vetch (*Vicia villosa*), filaree, sheep sorrel, and Ithuriel’s spear (*Triteleia laxa*). While the majority of this habitat consists of herbaceous species, woody scrub species found within this habitat include California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), toyon (*Heteromeles arbutifolia*), sticky monkeyflower (*Mimulus aurantiacus*), and poison oak (*Toxicodendron diversilobum*).

Scrub habitats

Scrub habitat types comprise the majority of the project site, totaling 50.17 acres (**Table 2** and **Figure 3**). Several scrub habitats have been described, mapped and analyzed by previous studies (Tetra-Tech 1998, AES 2010b). These habitat types, distributions, and compositions display vegetation succession and naturally change over time as new species become more dominant, changing the composition of the vegetation and those previously dominant senesce. The overall state of coastal scrub is composed primarily of native species, with a consistent increase of invasive non-native species, while the riparian scrub is a mixture of natural and non-native species. The invasive scrub is composed of non-native, invasive species and represents a high threat of invasion to other habitats onsite. These scrub habitat types are discussed in more detail below.

Coastal Scrub

Coastal scrub habitat is the dominant vegetation community with approximately 11.53 acres found on project site. This vegetation type creates a complex mosaic with other vegetation communities. While these habitats have been described as coastal scrub in some previous documents, the dominant or co-dominant species in a portion of these habitats is California sagebrush scrub (*Artemisia californica*).

Habitats dominated by this species represent a CDFW-listed vegetation alliance as well as a component of other vegetation associations, some of which are listed as sensitive in the CDFW rankings. This vegetation type has been converted to broom patches semi-natural alliance, Eucalyptus semi-natural alliance, and Coyote brush scrub alliance in parts of the project site.

California sagebrush scrub represents some of the highest quality shrub habitat on the site. The best stands are largely adjacent to the best remaining coastal prairie on the project site, where they will not be impacted by the proposed project. These areas are excellent candidates for special restoration/preservation as part of the overall restoration plan. Trees are largely absent within this community, though a few isolated coast live oak (*Quercus agrifolia*) were observed at higher elevations. Shrub species are the dominant strata within this habitat type, with an understory of herbaceous species. The most common shrub species within the coastal scrub habitats are native: toyon, coyote bush, California sagebrush, and bush monkey flower. Other native woody species observed within the coastal scrub habitat onsite include poison oak, coffeeberry (*Rhamnus californica* var. *californica*), snowberry (*Symphoricarpos albus* var. *laevigatus*), gooseberry (*Ribes californicum*), and oso berry (*Oemlaria cerasiformis*). Native herbaceous species observed in this community include pipevine (*Aristolochia californica*), goldenback fern (*Pentagramma triangularis*), pearly everlasting (*Anaphalis margaritaceae*), yerba buena (*Satureja douglasii*), soap plant, and California figwort (*Scrophularia californica*).

The California Sagebrush Scrub cedes to a codominant matrix of coyote bush, with inclusions of coffee berry (*Frangula californica*), monkey flower, poison oak, and California sagebrush in much of the scrublands, representing 38.64 acres of the project site. (**Figure 3**). The layer of herbaceous vegetation below the scrub consists mostly of wild oat. Coastal Scrub stands throughout the project site, are often smaller than an acre with wide integration zones between coyote bush scrub, annual grassland, coastal terrace prairie, mixed riparian scrub, and broom patches invasive broom scrub throughout the site. Perennial grass species such as purple needle grass and several non-native annual grassland species are often interspersed within small openings in the canopy of this habitat habitats.

Mixed Riparian Scrub

Mixed riparian scrub surrounds the majority of ephemeral drainages that occur within the project site (**Figure 1**). This vegetation community is a dense, prolific corridor with a highly variable species composition. These habitats could be described as the Goodding's willow – red willow riparian woodlands alliance in current CDFW classification. These habitats occupy approximately 6.23 acres within the project site.

Tree, shrub, and/or vine species observed in this community include: red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), coyote bush, Douglas false-willow (*Baccharis douglasii*), blue elderberry (*Sambucus l2ellogii*), California bay (*Umbellularia californica*), poison oak, Himalayan blackberry (*Rubus armeniacus*), California blackberry (*Rubus ursinus*), rose (*Rosa sp.*), and California buckeye (*Aesculus californica*). Herbaceous species observed within the mixed riparian community on-site include: poison-hemlock (*Conium maculatum*), yampah (*Perideridia l2ellogii*), hedge-nettle (*Stachys ajugoides* var. *rigida*), willow-herb (*Epilobium sp.*), orchard grass (*Dactylis glomerata*), blue wild-rye, California goldenrod (*Solidago californica*).

This habitat type is found adjacent to the majority of ephemeral drainages onsite. Willows comprise the majority of the canopy of this habitat type adjacent to the wetland areas in the south-central and far southeastern parts of the project site. The proposed project now includes a 50 foot buffer for all jurisdictional wetlands and waters of the U.S. therefore; these riparian corridors would not be impacted by the proposed project. Along the ephemeral drainages on the hill slopes, the species matrix is comprised mostly of scrub and small trees such as toyon, California buckeye, California bay and elderberry. Several locally significant plants occur within this habitat type, including pipevine and slender rush.

Invasive Scrub

Invasive scrub is scattered throughout the project site and occurs in high concentrations along the roadways and around many of the ruderal/developed areas, occupying approximately 39.9 acres within the project site (**Figure 3**). Invasive scrub also has encroached significantly on the grassland habitats since the 1997 and 2007 field surveys (TetraTech and Wood, 1998 and AES, 2008). This habitat type most closely resembles the Broom (*Cytisus scoparius* and Others) Semi-Natural Shrubland Stands (Sawyer et al., 2009), and would be classified as a broom patches semi-natural alliance in the current CDFW classification system. Most of the plant species that compose this community are non-native invasive (i.e., exotic) species that thrive on disturbance.

In most instances, the invasive scrub onsite is comprised of a single dominant species that has completely colonized former grassland and native scrub habitats. French broom has a California Invasive Plant Council (Cal-IPC, 2010) rank of high, based on having significant ecological impacts, invasive potential, and ecological distribution. Other areas of invasive scrub on the project site are composed of multiple non-native plant species along with French broom, such as fennel (*Foeniculum vulgare*), big quaking grass, Himalayan blackberry, Italian thistle, yellow star-thistle, bristly ox-tongue, prickly lettuce (*Lactuca serriola*), shortpod mustard (*Hirschfeldia incana*), purple sandspurry (*Spergularia rubra*), Tangier pea (*Lathyrus tingitanus*), cut-leaf plantain (*Plantago coronopus*), bur-clover (*Medicago polymorpha*), spotted spurge (*Chamaesyce maculata*), fluellin (*Kickxia elatine*), ripgut brome, red brome, pampas grass (*Cortaderia jubata*), and mullein (*Verbascum thapsus*). None of these species, typical of invasive scrub, are native. This habitat type is indicated for removal under mitigation measures in the DSEIR as part of an invasive species mitigation plan.

Eucalyptus Woodland

Eucalyptus woodland has become naturalized in California since eucalyptus trees were first brought to the State in the mid 1880s. These eucalyptus-dominated forests within the project site correspond to the *Eucalyptus (globulus, camaldulensis)* Semi-Natural Woodland Stands (Sawyer et al., 2009), and is represented by eucalyptus – tree of heaven – black locust groves semi-natural alliance, and more specifically to the eucalyptus provisional association in the current CDFW California natural community list. The eucalyptus woodlands within the project site are a virtual monoculture and eucalyptus is the dominant tree species in this habitat type, and they occupy approximately 47.60 acres within the project site. The majority of the eucalyptus woodland habitat on the project site is located in the northern and eastern regions of the site, up slope from the ruderal/developed areas associated with the Naval Fuel Depot (**Figure 1**). A few smaller and less predominant stands of this habitat occur in the eastern and southern regions of the site.

Blue gum (*Eucalyptus globules*) is the dominant sub-canopy species within this community because few other plant species can occur underneath the dense canopies of the stands and because eucalyptus trees secrete allelopathic chemicals that inhibit the growth of other plant species. However, French broom, fennel, poison oak, toyon, Himalyan blackberry, pampas grass, Pacific sanicle (*Sanicula crassicaulis*), and honeysuckle (*Lonicera hispidula* var. *vacillans*) are sparsely distributed in the peripheries of the thick eucalyptus stands, and herbaceous cover including sticky monkey flower, wild oats, California and red fescues can be found where the canopy is sparse enough to allow light to reach the ground.

On north- and west-facing cutbanks that receive more ample sunlight than the rest of the eucalyptus understory, ecotones occur that contain more native vegetation. Native species that grow on these hillsides include California and red fescues, blue wildrye, purple needlegrass, poison oak, sticky monkey flower, and California figwort.

Ruderal/Developed

The areas classified as ruderal/developed habitat within the project site include existing buildings and structures, pumps and stations, roads and parking areas, above ground pipes, cement-lined catch basins, and otherwise human-maintained, disturbed or disrupted regions. This is the largest single habitat unit within the project site, occupying approximately 97.71 acres. Plant species observed within the ruderal/disturbed communities onsite include: ryegrass, ripgut brome, soft brome, poison oak, Himalayan blackberry, fennel, yellow star-thistle, bristly ox-tongue, prickly sow thistle (*Sonchus asper*), shortpod mustard, Fuller's teasel, French broom, Iberian knapweed (*Centaurea iberica*), skeleton weed (*Chondrilla juncea*), prickly lettuce, filaree, and paniced willow-herb (*Epilobium brachycarpum*).

Areas onsite where underground tanks have been buried are also classified as ruderal/disturbed habitat because these regions have been manipulated and flattened, have sparsely distributed non-native vegetation and few native species, and are frequently mowed. At the time of the surveys in July, the areas where underground tanks are located had been recently mowed and much of the vegetation was difficult to identify.

Another area of note that is classified as ruderal/developed is the flat drum storage area located at the southeast end of the site. While much of the vegetation growing here had sprouted through the cracks of the pavement and are non-native, weedy species, there were areas of interest along the margins where created wetlands occur. Several species of native sedge (*Juncus* sp. and *Carex* sp.) can be found in these wetlands, including the locally significant slender rush. Additionally, a locally rare species of Centaury (*Centaureum muehlenbergii*) occurs within the cracks and along the margins of the paved area.

4.0 DISCUSSION

Prior to the introduction of non-native plants in California, the grasslands of the Portrero Hills, which include Pt. Molate and the project site, could probably have been classified as a mosaic of alliances similar to California Oatgrass, Purple Needlegrass and Red Fescue alliances, depending on differences in soils, moisture and slopes. This mosaic of grasslands would have been considered Coastal Prairie as described by Holland 1986 descriptions. These grasslands have undergone significant changes since they were first studied and described in the 1998 Tetra Tech report.

The distribution, species composition, level of interspersions with other vegetation types, and competition from invasive non-native species has resulted in decreased size and quality of these habitats.

Grassland vegetation is inherently difficult to survey and analyze due to seasonal and annual variance in plant community composition and abundance. In some years depending on precipitation and temperature climatic weather variation, native species may dominate and in others non-native plants may be the dominants. Additionally topographic and micro-site conditions, to a certain extent, may also influence the species composition.

However, historic land use patterns on the project site have resulted in vegetation ranging from urban landscaping, invasive scrub and Eucalyptus woodland, to Annual Grassland interspersed with native coastal grassland (including CTP and Bald Hills Prairie) and shrubland remnants (AES, 2009; Tetra Tech, Inc. and Wood, 1998). The flat lands adjacent to the ocean (formerly beach strand, scrub and grassland) have been heavily disturbed since the early 1900's. With fill materials placed over Bay Mud and marsh deposits, the soil in this area is now classified as Urban Land soil (AES, 2009). With the exception of grazing and the introduction of some exotic forage plants, most of the hillsides on the project site, comprised of Millsholm Loam soil, were relatively undisturbed prior to heavy earth-moving for road building, tank installations and other infrastructure related to the establishment of the fuel depot in the 1940's (AES, 2009). The least disturbed area on the project site appears to be the ridgeline area along the southeast edge of the project site, adjacent to the Chevron facilities.

These historic land use patterns are reflected in the 2010 surveys. Several areas along the southeastern edge of the project site provide surprisingly good stands of coastal prairie habitat. Fourteen to 20 native species were found in each of these project sites in the late May surveys, and higher overall diversity would be reflected if surveys were repeated early and late in the growing season to capture species not identifiable with a single survey. Nonetheless, these numbers compare favorably with good stands of coastal prairie types elsewhere in central and northern California (Stromberg et al., 2002). In contrast, areas classified strictly as Annual Grassland (**Figure 3**) generally had fewer than five, if any, native grassland species. In addition, some grassland project sites, especially in the northern and western portions of the project site, have become overgrown with invasive French broom and eucalyptus species since the 1998 surveys were completed and would be classified as a non-native habitat type, such as broom patches alliance. Indeed, some of these areas have seen canopy closure by French broom just within the last three years since AES conducted floristic surveys in 2017.

Several project sites provide surprisingly good stands of native coastal scrub and perennial grassland habitat. In all of the grassland areas across the project site and regardless of vegetation classification, the percent cover of non-native grasses is a minimum of 60 percent. As noted from the Elkhorn Slough workshop on the management and restoration of coastal prairie (2004), the diversity of native plants, not the percent cover, provides the best tool for identifying good candidates for preservation and restoration.

On the project site, the highest quality grasslands had at least 50 percent native species observed and were all needlegrass grassland. The steep slopes, Millsholm soils, and south- and west- aspects of most of the coastal prairie sampled on the project site suggest relatively xeric coastal conditions compared to what might be found on flat terraces.

The flat hilltops on the project site were used to bury tanks or install other infrastructure, and have few remnant native species. Native grass indicators of drier coastal prairie present on the project site include purple needlegrass, red fescue, California brome, big squirreltail grass, and Jepson's blue wildrye. California oatgrass, a native grass that prefers somewhat more mesic conditions, was present at low frequencies in some of the project sites, and was only found to be ubiquitous in some of the coastal terrace sites.

Regardless of these subtle differences in categorizing remnant coastal grassland, what the data show to be high quality sites have the potential to be considered sensitive native habitat in the California Natural Diversity Database (CNDDDB). Native coastal grassland has been reduced by more than 99 percent over the past 250 years, and all areas have been invaded to various degrees by exotic species. The high quality sites identified in this report can be improved by managing to reduce non-native species, and as reference data to create new perennial grassland restorations. They are therefore identified as some of the best candidates for preservation and restoration under the final restoration plan which will be developed for the site with local input.

In addition to the grasslands of significance onsite, much of the California sagebrush scrub identified in **Figure 3** is of high quality. The best areas of sagebrush scrub exist in conjunction with the perennial grasslands at the eastern portion of the project site in areas proposed for restoration and preservation.

5.0 REFERENCES

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ATTACHMENTS

ATTACHMENT A

SPECIAL-STATUS SPECIES LISTS



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

June 28, 2020

Consultation Code: 08ESMF00-2019-SLI-2560

Event Code: 08ESMF00-2020-E-07005

Project Name: Point Molate Mixed-Use Development Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

San Francisco Bay-Delta Fish And Wildlife

650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

Project Summary

Consultation Code: 08ESMF00-2019-SLI-2560

Event Code: 08ESMF00-2020-E-07005

Project Name: Point Molate Mixed-Use Development Project

Project Type: DEVELOPMENT

Project Description: Botanical Studies

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.94787414274457N122.41504978795334W>



Counties: Contra Costa, CA

Endangered Species Act Species

There is a total of 15 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
San Bruno Elfin Butterfly <i>Callophrys mossii bayensis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Flowering Plants

NAME	STATUS
Marin Dwarf-flax <i>Hesperolinon congestum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5363	Threatened
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Tiburon Jewelflower <i>Streptanthus niger</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4187	Endangered
Tiburon Mariposa Lily <i>Calochortus tiburonensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2858	Threatened
Tiburon Paintbrush <i>Castilleja affinis ssp. neglecta</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2687	Endangered
White-rayed Pentachaeta <i>Pentachaeta bellidiflora</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7782	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
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[http://kim_squires@fws.gov](mailto:kim_squires@fws.gov)

In Reply Refer To:

June 28, 2020

Consultation Code: 08FBDT00-2019-SLI-0264

Event Code: 08FBDT00-2020-E-00479

Project Name: Point Molate Mixed-Use Development Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

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This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife

650 Capitol Mall

Suite 8-300

Sacramento, CA 95814

(916) 930-5603

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Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08FBDT00-2019-SLI-0264

Event Code: 08FBDT00-2020-E-00479

Project Name: Point Molate Mixed-Use Development Project

Project Type: DEVELOPMENT

Project Description: Botanical Studies

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.94787414274457N122.41504978795334W>



Counties: Contra Costa, CA

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

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Mammals

NAME	STATUS
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Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
San Bruno Elfin Butterfly <i>Callophrys mossii bayensis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Flowering Plants

NAME	STATUS
Tiburon Jewelflower <i>Streptanthus niger</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4187	Endangered
Tiburon Mariposa Lily <i>Calochortus tiburonensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2858	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

33 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3712283 and 3712284;

[Modify Search Criteria](#)
[Export to Excel](#)
[Modify Columns](#)
[Modify Sort](#)
[Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	State Listing Status	Federal Listing Status
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	4.3	S4		
Arctostaphylos pallida	pallid manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	1B.1	S1	CE	FT
Aspidotis carlotta-halliae	Carlotta Hall's lace fern	Pteridaceae	perennial rhizomatous herb	Jan-Dec	4.2	S3		
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1		
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	Apr-Jul	4.3	S3		
Calochortus tiburonensis	Tiburon mariposa lily	Liliaceae	perennial bulbiferous herb	Mar-Jun	1B.1	S1	CT	FT
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3?		
Calystegia purpurata ssp. saxicola	coastal bluff morning-glory	Convolvulaceae	perennial herb	(Mar)Apr-Sep	1B.2	S2S3		
Castilleja affinis var. neglecta	Tiburon paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	1B.2	S1S2	CT	FE
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4		

<u>Chloropyron maritimum ssp. palustre</u>	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	1B.2	S2		
<u>Dirca occidentalis</u>	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2	S2		
<u>Eriogonum luteolum var. caninum</u>	Tiburon buckwheat	Polygonaceae	annual herb	May-Sep	1B.2	S2		
<u>Fritillaria liliacea</u>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2		
<u>Helianthella castanea</u>	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2		
<u>Hesperolinon congestum</u>	Marin western flax	Linaceae	annual herb	Apr-Jul	1B.1	S1	CT	FT
<u>Hoita strobilina</u>	Loma Prieta hoita	Fabaceae	perennial herb	May-Jul(Aug-Oct)	1B.1	S2?		
<u>Holocarpha macradenia</u>	Santa Cruz tarplant	Asteraceae	annual herb	Jun-Oct	1B.1	S1	CE	FT
<u>Iris longipetala</u>	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3		
<u>Lessingia hololeuca</u>	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3		
<u>Meconella oregana</u>	Oregon meconella	Papaveraceae	annual herb	Mar-Apr	1B.1	S2		
<u>Micropus amphibolus</u>	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4		
<u>Pentachaeta bellidiflora</u>	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	1B.1	S1	CE	FE
<u>Piperia michaelii</u>	Michael's rein orchid	Orchidaceae	perennial herb	Apr-Aug	4.2	S3		
<u>Ranunculus lobbii</u>	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3		
<u>Spergularia macrotheca var. longistyla</u>	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May(Jun)	1B.2	S2		
<u>Streptanthus albidus ssp. peramoenus</u>	most beautiful jewelflower	Brassicaceae	annual herb	(Mar)Apr-Sep(Oct)	1B.2	S2		
<u>Streptanthus glandulosus ssp. niger</u>	Tiburon jewelflower	Brassicaceae	annual herb	May-Jun	1B.1	S1	CE	FE
<u>Suaeda californica</u>	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	1B.1	S1		FE
<u>Symphyotrichum lentum</u>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2		
<u>Trifolium amoenum</u>	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1		FE
<u>Trifolium hydrophilum</u>	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2		

[Triquetrella californica](#)

coastal triquetrella

Pottiaceae

moss

1B.2

S2

Suggested Citation

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS (San Quentin (3712284) OR Richmond (3712283))
< AND (Dune OR Scrub OR Herbaceous OR Marsh OR Riparian OR Woodland OR Forest OR Alpine OR Inland Waters OR Marine OR Estuarine OR Riverine OR Palustrine OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	PDFAB08012	None	None	G4T2	S2	1B.2
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
<i>Arctostaphylos pallida</i> pallid manzanita	PDERI04110	Threatened	Endangered	G1	S1	1B.1
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Calochortus tiburonensis</i> Tiburon mariposa-lily	PMLIL0D1C0	Threatened	Threatened	G1	S1	1B.1
<i>Calystegia purpurata</i> ssp. <i>saxicola</i> coastal bluff morning-glory	PDCON040D2	None	None	G4T2T3	S2S3	1B.2
<i>Castilleja affinis</i> var. <i>neglecta</i> Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	G4G5T1T2	S1S2	1B.2
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
<i>Coastal Terrace Prairie</i> Coastal Terrace Prairie	CTT41100CA	None	None	G2	S2.1	
<i>Dirca occidentalis</i> western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
<i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat	PDPGN083S1	None	None	G5T2	S2	1B.2
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Helianthella castanea</i> Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
<i>Hesperolinon congestum</i> Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
<i>Hoita strobilina</i> Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
<i>Holocarpa macradenia</i> Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
<i>Northern Maritime Chaparral</i> Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
<i>Plagiobothrys glaber</i> hairless popcornflower	PDBOR0V0B0	None	None	GH	SH	1A
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
<i>Spergularia macrotheca var. longistyla</i> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
<i>Streptanthus glandulosus ssp. niger</i> Tiburon jewelflower	PDBRA2G0T0	Endangered	Endangered	G4T1	S1	1B.1
<i>Suaeda californica</i> California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
<i>Symphotrichum lentum</i> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<i>Trifolium amoenum</i> two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
<i>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Triquetrella californica</i> coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 29

ATTACHMENT B

LIST OF PLANT SPECIES OBSERVED

Appendix A. Table of Plant Species Observed on the Project Site; May 19-20, 26-27, and June 4, 2020

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Acacia dealbata</i>	silver wattle	Fabaceae	non-native	tree	moderate	–
<i>Acanthus mollis</i>	bear's breeches	Acanthaceae	non-native	perennial herb	none	–
<i>Acena pinnatifida</i>	acaena	Roasaceae	native	perennial herb	–	none
<i>Achillea millefolium</i>	yarrow	Asteraceae	native	annual herb	–	none
<i>Acmispon glaber</i>	deerweed	Fabaceae	native	perennial herb	–	none
<i>Acmispon wrangelianus</i>	Chilean lotus	Fabaceae	native	annual herb	–	none
<i>Aesculus californica</i>	buckeye	Sapindaceae	native	tree	–	none
<i>Agave americana</i>	American century	Agavaceae	non-native	shrub	none	–
<i>Agoseris sp.</i>	agoseris	Asteraceae	N/A	perennial herb	–	–
<i>Agrostis avenacea</i>	Pacific bentgrass	Poaceae	non-native	perennial grass	limited	–
<i>Agrostis sp.</i>	bent grass	Poaceae	N/A	perennial grass	–	–
<i>Aira caryophylla</i>	hairgrass	Poaceae	non-native	annual grass	none	–
<i>Allium triquetrum</i>	white flowered onion	Alliaceae	non-native	perennial herb (bulb)	none	–
<i>Ambrosia chamissonis</i>	beach but	Asteraceae	native	perennial herb	–	none
<i>Anaphalis margaritacea</i>	pearly everlasting	Asteraceae	native	perennial herb	–	none
<i>Anthriscus caucalis</i>	bur chervil	Apiaceae	non-native	annual herb	none	–
<i>Antirrhinum majus</i>	common snapdragon	Plantaginaceae	non-native	annual/perennial herb	none	–
<i>Aphanes occidentalis</i>	field parsley	Rosaceae	native	perennial herb	–	none
<i>Aristolochia californica</i>	California pipevine	Aristolochiaceae	native	perennial vine	–	none
<i>Artemisia californica</i>	California sagebrush	Asteraceae	native	shrub	–	none
<i>Artemisia douglasiana</i>	California mugwort	Asteraceae	native	perennial herb	–	none
<i>Asclepias fascicularis</i>	narrow leaf milkweed	Apocynaceae	native	perennial herb	–	none
<i>Astragalus gambelianus</i>	dwarf loco weed	Fabaceae	native	annual herb	–	none
<i>Atriplex prostrata</i>	fat hen	Chenopodeaceae	non-native	annual herb	none	–
<i>Avena barbata</i>	slender wild oat	Poaceae	non-native	annual grass	moderate	–

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Avena fatua</i>	wild oat	Poaceae	non-native	annual grass	moderate	–
<i>Baccharis douglasii</i>	masrsh baccharis	Asteraceae	native	perennial herb	–	none
<i>Baccharis pilularis</i>	coyote brush	Asteraceae	native	shrub	–	none
<i>Bellardia trixago</i>	Mediterranean linseed	Orobanchaceae	non-native	annual herb	limited	–
<i>Brachypodium distachyon</i>	false brome	Poaceae	non-native	annual herb	moderate	–
<i>Brassica nigra</i>	black mustard	Brassicaceae	non-native	annual herb	moderate	–
<i>Brassica rapa</i>	field mustard	Brassicaceae	non-native	annual herb	limited	–
<i>Briza maxima</i>	rattlesnake grass	Poaceae	non-native	annual grass	limited	–
<i>Briza minor</i>	little rattlesnake grass	Poaceae	non-native	annual grass	none	–
<i>Brodiaea elegans</i>	harvest brodiaea	Themidaceae	native	perennial herb	–	none
<i>Bromus diandrus</i>	ripgut brome	Poaceae	non-native	annual grass	moderate	–
<i>Bromus hordeaceus</i>	soft chess	Poaceae	non-native	annual grass	moderate	–
<i>Bromus madritensis ssp. rubens</i>	foxtail brome	Poaceae	non-native	annual grass	high	–
<i>Cakile maritima</i>	sea-rocket	Brassicaceae	non-native	annual herb	limited	–
<i>Callistemon citrinus</i>	crimson bottlebrush	Myrtaceae	non-native	tree	none	–
<i>Calystegia purpurata</i>	western morning glory	Convolvulaceae	native	perennial herb	–	none
<i>Carduus pycnocephalus</i>	Italian thistle	Asteraceae	non-native	annual herb	moderate	–
<i>Carex barbarae</i>	valley sedge	Cyperaceae	native	perennial herb	–	none
<i>Carex nebrascensis</i>	Nebraska sedge	Cyperaceae	native	perennial herb	–	none
<i>Carex obnuta</i>	sough sedge	Cyperaceae	native	perennial herb	–	none
<i>Carex praegracilis</i>	field sedge	Cyperaceae	native	perennial herb	–	none
<i>Carex subbracteata</i>	small bract sedge	Cyperaceae	native	perennial herb	–	none
<i>Carex tumulicola</i>	split awn sedge	Cyperaceae	native	perennial herb	–	none
<i>Carpobrotus edulis</i>	iceplant	Aizoaceae	non-native	perennial herb	high	–
<i>Casaurina sp.</i>	horsetail sheoak	Casuarinaceae	non-native	tree	none	–

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Castilleja attenuata</i>	narrow leaf owl clover	Orobanchaceae	native	annual herb	–	none
<i>Castilleja foliolosa</i>	woolly paintbrush	Orobanchaceae	native	perennial herb	–	none
<i>Centaurea calcitrapa</i>	purple star thistle	Asteraceae	non-native	annual/perennial herb	moderate	–
<i>Centaurea melitensis</i>	Tocalote	Asteraceae	non-native	annual herb	moderate	–
<i>Centaurium tenuiflorum</i>	slender centaury	Gentianaceae	non-native	annual herb	none	–
<i>Centranthus ruber</i>	red valerian	Valerianaceae	non-native	annual/perennial herb	none	–
<i>Centranthus ruber</i>	red valerian	Valerianaceae	non-native	annual/perennial herb	none	–
<i>Cerastium glomeratum</i>	sticky chickweed	Caryophyllaceae	non-native	annual herb	none	–
<i>Chenopodium album</i>	lambs quarters	Chenopodiaceae	non-native	annual herb	none	–
<i>Chlorogalum pomeridianum</i>	Amole	Alliaceae	native	perennial herb (bulb)	–	none
<i>Cichorium intybus</i>	chicory	Asteraceae	non-native	perennial herb	none	–
<i>Cirsium vulgare</i>	bullthistle	Asteraceae	non-native	perennial-herb	moderate	–
<i>Claytonia perfoliata</i>	Miner's lettuce	Montiaceae	native	annual herb	–	none
<i>Conium maculatum</i>	poison hemlock	Apiaceae	non-native	perennial herb	moderate	–
<i>Convolvulus arvensis</i>	field bindweed	Convolvulaceae	non-native	perennial herb	none	–
<i>Cortaderia jubata</i>	pampas grass	Poaceae	non-native	perennial herb	high	–
<i>Cotoneaster sp.</i>	Cotoneaster	Rosaceae	non-native	shrub	moderate	–
<i>Croton setiger</i>	turkey-mullein	Euphorbiaceae	native	perennial herb	–	none
<i>Cuscuta sp.</i>	dodder	Convolvulaceae	N/A	annual herb	–	–
<i>Cynara cardunculus</i>	artichoke thistle	Asteraceae	non-native	perennial herb	moderate	–
<i>Cynodon dactylon</i>	Bermuda grass	Poaceae	non-native	perennial herb	moderate	–
<i>Cynosurus echinatus</i>	dogtail grass	Poaceae	non-native	annual herb	moderate	–
<i>Cyperus eragrostis</i>	tall flatsedge	Cyperaceae	native	perennial herb	–	none
<i>Dactylis glomerata</i>	orchard grass	Poaceae	non-native	perennial grass	limited	–
<i>Daucus pusillus</i>	American wild carrot	Apiaceae	native	annual herb	–	none
<i>Deschampsia sp.</i>	hairgrass	Poaceae	N/A	perennial herb	–	–

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Dichelostemma capitatum</i>	wild hyacinth	Themidaceae	native	perennial herb	–	none
<i>Dichondra donelliana</i>	California ponysfoot	Convolvulaceae	native	perennial herb/vine	–	none
<i>Diplacus aurantiacus</i>	Sticky monkeyflower	Phrymaceae	native	shrub	–	none
<i>Diplacus sp.</i>	monkey flower	Phrymaceae	native	annual herb	–	none
<i>Dipsacus sativus</i>	indian teasel	Dipsacaceae	non-native	annual herb	moderate	–
<i>Distichlis spicata</i>	salt grass	Poaceae	native	perennial herb	–	none
<i>Dittrichia graveolens</i>	stinkwort	Asteraceae	non-native	annual herb	moderate	–
<i>Dudleya farinosa</i>	sea lettuce	Crassulaceae	native	perennial herb	–	none
<i>Echium candicans</i>	pride of Madeira	Boraginaceae	non-native	perennial herb	limited	–
<i>Eleocharis sp.</i>	spike rush	Juncaceae	native	perennial herb	–	none
<i>Elymus glaucus ssp. glaucus</i>	blue wildrye	Poaceae	native	perennial herb	–	none
<i>Elymus multisetus</i>	big squirrel tail grass	Poaceae	native	perennial herb	–	none
<i>Elymus triticoides</i>	beardless wild rye	Poaceae	native	perennial herb	–	none
<i>Epilobium brachycarpum</i>	willow herb	Onagraceae	native	annual herb	–	none
<i>Epilobium ciliatum</i>	slender willow herb	Onagraceae	native	perennial herb	–	none
<i>Erigeron canadensis</i>	Canada horseweed	Asteraceae	native	annual herb	–	none
<i>Eriogonum nudum var. auriculatum</i>	ear-shaped wild buckwheat	Polygonaceae	native	perennial herb	–	none
<i>Eriophyllum staechadifolium</i>	seaside golden yarrow	Asteraceae	native	perennial herb	–	none
<i>Erodium botrys</i>	big heron bill	Geraniaceae	non-native	annual herb	none	–
<i>Erodium cicutarium</i>	red-stemmed filaree	Geraniaceae	non-native	annual herb	limited	–
<i>Erodium moschatum</i>	white-stemmed filaree	Geraniaceae	non-native	annual herb	none	–
<i>Eschscholzia californica</i>	California poppy	Papaveraceae	native	annual/perennial herb	–	none
<i>Eucalyptus globulus</i>	blue gum	Myrtaceae	non-native	tree	limited	–
<i>Euphorbia maculata</i>	spotted spurge	Euphorbiaceae	non-native	annual herb	none	–
<i>Festuca bromoides</i>	brome fescue	Poaceae	non-native	annual herb	none	–
<i>Festuca californica</i>	California fescue	Poaceae	native	perennial herb	–	none

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Festuca microstachys</i>	small fescue	Poaceae	native	annual grass	–	none
<i>Festuca myuro</i>	rattail sixweeks grass	Poaceae	non-native	annual herb	moderate	–
<i>Festuca perennis</i>	Italian rye grass	Poaceae	non-native	annual/perennial herb	moderate	–
<i>Festuca rubra</i>	red fescue	Poaceae	native	perennial herb	–	none
<i>Foeniculum vulgare</i>	sweet fennel	Apiaceae	non-native	perennial herb	high	–
<i>Frangula californica</i>	cofeeberry	Rhamnaceae	native	shrub	–	none
<i>Frankenia salina</i>	alkali heath	Frankeniaceae	native	perennial herb	–	none
<i>Galium aparine</i>	cleavers	Rubiaceae	native	annual herb	–	none
<i>Gazania linearis</i>	Gazania	Asteraceae	non-native	perennial herb	moderate	–
<i>Genista monspessulana</i>	French broom	Fabaceae	non-native	shrub	high	–
<i>Geranium dissectum</i>	wild geranium	Geraniaceae	non-native	annual herb	limited	–
<i>Grindelia hirsutula</i>	coastal gumplant	Asteraceae	native	perennial herb	–	none
<i>Grindelia stricta</i> var. <i>angustifolia</i>	marsh gumplant	Asteraceae	native	perennial herb	–	none
<i>Hedera helix</i>	English ivy	Araliaceae	non-native	perennial vine	high	–
<i>Hedypnois cretica</i>	Cretan weed	Asteraceae	non-native	annual herb	none	–
<i>Heliotropium curassavicum</i>	heliotrope	Asteraceae	native	perennial herb	–	none
<i>Helminthotheca echioides</i>	bristly ox-tongue	Asteraceae	non-native	annual/perennial herb	limited	–
<i>Hemizonia fitchii</i>	spikeweed	Asteraceae	native	annual herb	–	none
<i>Heracleum maximum</i>	common cowparsnip	Apiaceae	native	perennial herb	–	none
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	Cupressaceae	native	tree	–	–
<i>Hesperocyparis stephensonii</i>	Arizona cypress	Cupressaceae	native	tree	–	none
<i>Heteromeles arbutifolia</i>	toyon	Rosaceae	native	shrub/tree	–	none
<i>Hirschfeldia incana</i>	short-podded mustard	Brassicaceae	non-native	perennial herb	moderate	–
<i>Holcus lanatus</i>	velvet grass	Poaceae	non-native	perennial grass	moderate	–
<i>Hordeum brachyantherum</i>	meadow barley	Poaceae	native	perennial grass	–	none
<i>Hordeum marinum</i>	seaside barley	Poaceae	non-native	annual grass	none	–

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Hordeum murinum</i>	barley	Poaceae	non-native	annual grass	moderate	–
<i>Hypochaeris glabra</i>	smooth cats ear	Asteraceae	non-native	annual herb	limited	–
<i>Hypochaeris radicata</i>	hairy cats ear	Asteraceae	non-native	annual herb	moderate	–
<i>Iva axillaris</i>	poverty weed	Asteraceae	native	perennial herb	–	none
<i>Jaumea carnosa</i>	Jaumea	Asteraceae	native	perennial herb	–	none
<i>Juncus bufonius</i>	toad rush	Juncaceae	native	annual grass	–	none
<i>Juncus effusus</i>	common rush	Juncaceae	native	perennial herb	–	none
<i>Juncus occidentalis</i>	western rush	Juncaceae	native	perennial herb	–	none
<i>Juncus patens</i>	spreading rush	Juncaceae	native	perennial herb	–	none
<i>Juncus phaeocephalus</i>	brown headed rush	Juncaceae	native	perennial herb	–	none
<i>Juncus sp.</i>	rush	Juncaceae	native	perennial herb	–	none
<i>Lactuca serriola</i>	prickly lettuce	Asteraceae	non-native	annual herb	none	–
<i>Lathyrus tingitanus</i>	Tangier pea	Fabaceae	non-native	annual herb	none	–
<i>Lathyrus vestitus</i>	hillside pea	Fabaceae	native	perennial herb	none	–
<i>Lepidium latifolium</i>	perennial pepperweed	Brassicaceae	non-native	perennial herb	high	–
<i>Lepidium nitidum</i>	peppergrass	Brassicaceae	native	annual herb	–	none
<i>Limonium sinuatum</i>	wavyleaf sealavender	Plumbaginaceae	native	perennial herb	none	–
<i>Logfia filaginoides</i>	California cottonrose	Asteraceae	native	annual herb	–	none
<i>Logfia gallica</i>	narrowleaf cottonrose	Asteraceae	non-native	annual herb	none	–
<i>Lonicera sp.</i>	honeysuckle	Caprifoliaceae	native	vine/shrub	–	none
<i>Lotus corniculatus</i>	birdfoot trefoil	Fabaceae	non-native	perennial herb	none	–
<i>Lupinus bicolor</i>	lupine	Fabaceae	native	annual/perennial herb	–	none
<i>Lupinus formosus</i>	western lupine	Fabaceae	native	perennial herb	–	none
<i>Lysimachia arvensis</i>	scarlet pimpernel	Myrsinaceae	non-native	annual herb	none	–
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	Lythraceae	non-native	annual/perennial herb	limited	–
<i>Madia sativa</i>	coast tarweed	Asteraceae	native	annual herb	–	none

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Malva parviflora</i>	cheeseweed	Malvaceae	non-native	annual herb	none	–
<i>Marah fabacea</i>	California man-root	Cucurbitaceae	native	perennial herb/vine	–	none
<i>Medicago polymorpha</i>	burclover	Fabaceae	non-native	annual herb	limited	–
<i>Melica californica</i>	California melicgrass	Poaceae	native	perennial grass	–	none
<i>Melica sp.</i>	melica	Poaceae	native	perennial grass	–	none
<i>Melilotus indicus</i>	annual yellow clover	Fabaceae	non-native	annual herb	none	–
<i>Modiola caroliniana</i>	Carolina bristlemallow	Malvaceae	non-native	perennial herb	none	–
<i>Myoporum laetum</i>	myoporum	Scrophulariaceae	non-native	shrub/tree	moderate	–
<i>Navarretia squarrosa</i>	skunkweed	Polemoniaceae	native	annual herb	–	none
<i>Nerium oleander</i>	oleander	Apocynaceae	non-native	shrub	none	–
<i>Nerium oleander</i>	oleander	Apocynaceae	non-native	shrub/tree	none	–
<i>Olea europea</i>	olive	Oleaceae	non-native	shrub/tree	limited	–
<i>Oxalis pes-caprae</i>	sourgrass	Oxalidaceae	non-native	annual herb	moderate	–
<i>Paspalum dilatatum</i>	dallisgrass	Poaceae	non-native	perennial herb	none	–
<i>Pellaea sp.</i>	fern	Pteridaceae	native	fern	–	–
<i>Pentagramma triangularis</i>	gold back fern	Pteridaceae	native	fern	–	none
<i>Perideridia kelloggii</i>	Yampah	Apiaceae	native	perennial herb	–	none
<i>Phacelia californica</i>	California phacelia	Boraginaceae	native	perennial herb	–	none
<i>Phalaris sp.</i>	canary grass	Poaceae	non-native	annual grass	–	–
<i>Phoenix canariensis</i>	Canary island date palm	Arecaceae	non-native	tree	limited	–
<i>Phyla nodiflora</i>	common lippia	Verbenaceae	native	perennial herb	–	none
<i>Picris echioides</i>	bristly oxtongue	Asteraceae	non-native	perennial herb	limited	–
<i>Pinus canariensis</i>	Canary island pine	Pinaceae	non-native	tree	none	–
<i>Pinus pinea</i>	Italian stone pine	Pinaceae	non-native	tree	none	–
<i>Pinus radiata</i>	Monterey pine	Pinaceae	native	tree	–	–
<i>Pittosporum undulatum</i>	mock orange	Pittosporaceae	non-native	perennial herb	none	–

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Plantago coronopus</i>	cut leaf plantain	Plantaginaceae	non-native	annual herb	none	–
<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	non-native	perennial herb	limited	–
<i>Plantago major</i>	common plantain	Plantaginaceae	non-native	perennial herb	none	–
<i>Plantago maritima</i>	seaside plantain	Plantaginaceae	native	perennial herb	–	none
<i>Platanus sp.</i>	sycamore	Plantanaceae	N/A	tree	–	–
<i>Poa annua</i>	annual blue grass	Poaceae	non-native	annual herb	none	–
<i>Poa secunda</i>	one-sided blue grass	Poaceae	native	perennial grass	–	none
<i>Polycarpon tetraphyllum</i>	four leaved polycarp	Caryophyllaceae	non-native	annual herb	none	–
<i>Polygonum aviculare</i>	prostate knotweed	Polygonaceae	native	annual/perennial herb	–	none
<i>Polypodium californicum</i>	California polypody	Polypodiaceae	native	fern	–	none
<i>Polypogon monspeliensis</i>	rabbitsfoot grass	Poaceae	non-native	perennial herb	limited	–
<i>Prunus sp.</i>	plum/cherry	Rosaceae	non-native	tree	–	–
<i>Pseudognaphalium luteoalbum</i>	everlasting cudweed	Asteraceae	non-native	annual herb	none	–
<i>Psilocarphus sp.</i>	woolly marbles	Asteraceae	native	annual herb	–	none
<i>Pteridium aquilinum</i>	western brackenfern	Dennstaedtiaceae	native	fern	–	none
<i>Quercus agrifolia</i>	coast live oak	Fagaceae	native	tree	–	none
<i>Raphanus sativus</i>	wild radish	Brassicaceae	non-native	annual/biennial herb	limited	–
<i>Rhamnus californica</i>	coffee berry	Rhamnaceae	native	shrub	–	none
<i>Ribes californicum</i>	California gooseberry	Grossulariaceae	native	shrub	–	none
<i>Robinia pseudoacacia</i>	black locust	Fabaceae	non-native	tree	limited	–
<i>Rorippa sp.</i>	yellow cress	Brassicaceae	native	annual/perennial herb	–	none
<i>Rosa sp.</i>	rose	Rosaceae	N/A	shrub	–	–
<i>Rubus armeniacus</i>	Himalayan blackberry	Rosaceae	non-native	vine/shrub	high	–
<i>Rubus ursinus</i>	California blackberry	Rosaceae	native	vine/shrub	–	none
<i>Rumex acetosella</i>	common sheep sorrel	Polygonaceae	non-native	perennial herb	moderate	–
<i>Rumex crispus</i>	curley dock	Polygonaceae	non-native	perennial herb	limited	–

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Rumex pulcher</i>	fiddle	Polygonaceae	non-native	perennial herb	none	–
<i>Rumex crassus</i>	willow dock	Polygonaceae	native	perennial herb	–	none
<i>Salicornia sp.</i>	pickleweed	Chenopodiaceae	native	herb	–	none
<i>Salix laevigata</i>	red willow	Salicaceae	native	shrub/tree	–	none
<i>Salix lasiolepis</i>	arroyo willow	Salicaceae	native	shrub/tree	–	none
<i>Salsola soda</i>	alkali Russian thistle	Chenopodiaceae	non-native	annual herb	moderate	–
<i>Sambucus nigra ssp. caerulea</i>	blue elderberry	Adoxaceae	native	shrub	–	none
<i>Sanicula crassicaulis</i>	Pacific sanicle	Apicaceae	native	perennial herb	–	none
<i>Scrophularia californica</i>	California bee plant	Scrophulariaceae	native	perennial herb	–	none
<i>Senecio vulgaris</i>	common groundsel	Asteraceae	non-native	annual herb	none	–
<i>Sidalcea sp.</i>	checker mallow	Malvaceae	native	annual herb	none	–
<i>Silene gallica</i>	common catchfly	Caryophyllaceae	non-native	annual herb	none	–
<i>Silybum marianum</i>	milk thistle	Asteraceae	non-native	annual/perennial herb	limited	–
<i>Sisyrinchium bellum</i>	blue eyed grass	Iridaceae	native	perennial herb	–	none
<i>Solanum americanum</i>	white nightshade	Solanaceae	native	annual/perennial herb	–	none
<i>Solidago velutina ssp. californica</i>	California goldenrod	Asteraceae	native	perennial herb	–	none
<i>Soliva sessilis</i>	field burrweed	Asteraceae	non-native	annual herb	none	–
<i>Sonchus asper</i>	sow thistle	Asteraceae	non-native	annual herb	none	–
<i>Sonchus oleraceus</i>	sow thistle	Asteraceae	non-native	annual herb	none	–
<i>Spergularia macrotheca var. macrotheca</i>	sticky sand spurry	Caryophyllaceae	native	perennial herb	–	none
<i>Spergularia rubra</i>	purple sand spurry	Caryophyllaceae	non-native	annual/perennial herb	none	–
<i>Spergularia villosa</i>	hairy sandspurry	Caryophyllaceae	non-native	perennial herb	none	–
<i>Stipa pulchra</i>	purple needle grass	Poaceae	native	perennial grass	–	none
<i>Stachys ajugoides</i>	ajuga hedge nettel	Lamiaceae	native	perennial herb	–	none
<i>Stellaria media</i>	chickweed	Caryophyllaceae	non-native	annual herb	none	–

SCIENTIFIC NAME	COMMON NAME	FAMILY	ORIGIN	FORM	Cal-IPC ²	STATUS ¹
<i>Stephanomeria sp.</i>	wire lettuce	Asteraceae	native	annual herb	–	none
<i>Symphoricarpos mollis</i>	creeping snowberry	Caprifoliaceae	native	shrub	–	none
<i>Symphyotrichum lentum</i>	Suisun marsh aster	Asteraceae	native	perennial herb	–	1B.2
<i>Syzygium sp.</i>	bush cherry	Myrtaceae	non-native	tree	none	–
<i>Tetragonia tetragonoides</i>	New Zealand spinach	Aizoaceae	non-native	perennial herb	limited	–
<i>Torilis arvensis</i>	hedgепarsley	Apiaceae	non-native	annual herb	moderate	–
<i>Toxicodendron diversilobum</i>	poison oak	Anacardiaceae	native	perennial vine/shrub	–	none
<i>Tragopogon dubius</i>	yellow salsify	Asteraceae	non-native	annual herb	none	–
<i>Trifolium subterraneum</i>	subterranean clover	Fabaceae	non-native	annual herb	none	–
<i>Trifolium hirtum</i>	rose clover	Fabaceae	non-native	annual herb	limited	–
<i>Trifolium dubium</i>	shamrock	Fabaceae	non-native	annual herb	none	–
<i>Trifolium fragiferum</i>	strawberry clover	Fabaceae	non-native	annual herb	none	–
<i>Trifolium microcephalum</i>	hairy clover	Fabaceae	native	annual herb	–	none
<i>Trifolium sp.</i>	clover	Fabaceae	N/A	annual herb	–	–
<i>Triteleia laxa</i>	Ithuriel's spear	Themidaceae	native	perennial herb	–	none
<i>Tropaeolum majus</i>	nasturtium	Tropaeolaceae	non-native	annual herb	none	–
<i>Typha sp.</i>	cat tail	Typhaceae	native	perennial herb	–	none
<i>Ulmus sp.</i>	elm	Ulmaceae	non-native	tree	none	–
<i>Umbellularia californica</i>	California bay	Lauraceae	native	tree	–	none
<i>Verbascum thapsus</i>	woolly mullein	Schrophulariaceae	non-native	perennial herb	limited	–
<i>Vicia sativa</i>	spring vetch	fabaceae	non-native	annual herb/vine	none	–
<i>Vicia villosa</i>	vetch	fabaceae	non-native	annual herb/vine	none	–
<i>Vinca major</i>	periwinkle	Apocynaceae	non-native	perennial vine	moderate	–
<i>Wyethia angustifolia</i>	narrow leaf mule ears	Asteraceae	native	perennial vine	–	none
<i>Xanthium strumarium</i>	spiny cocklebur	Asteraceae	native	annual herb	–	none

SOURCE FOR TABLE:

- Nomenclature (unless stated otherwise) and identification for all species using the Jepson eFlora [Jepson Flora Project (eds.) 2020]
- Rarity Status: CNPS (2020), CNDDDB (2020), CCC (2020)

¹ RARITY STATUS RANK:**FEDERAL (USFWS):**

- FC Candidate for Federal Listing
- FE Federally Endangered
- FP Federally Protected
- FT Federally Threatened

STATE (California Department of Fish and Game):

- CE California Listed Endangered
- CT California Listed Threatened
- CSC California Species of Special Concern
- SR State Rare

CNPS California Rare Plant Ranking (CRPR):

- 1A Plants Presumed Extinct in California
- 1B Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3 Plants About Which We Need More Information – A Review List
- 4 Plants of Limited Distribution – A Watch List

CNPS Threat Ranks:

- 0.1 Seriously Threatened in California (Over 80 percent of occurrences threatened/high degree and immediacy of threat)
- 0.2 Fairly Threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- 0.3 Not Very Threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats)

² INVASIVE STATUS: California Invasive Plant Inventory (Cal-IPC 2020)

- High: Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
- Moderate: Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited moderate distribution ecologically
- Limited: Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
- Assessed: Assessed by Cal-IPC and determined to not be an existing current threat

ATTACHMENT C

SITE PHOTOS



PHOTO 1: Ruderal/developed habitat in the proposed H-Mixed Use development area. View facing south.



PHOTO 2: Ruderal/developed habitat at Point Molate Beach Park. View facing south.



PHOTO 3: Eucalyptus habitat in the foothills of the project site. View facing east.



PHOTO 4: Black locust grove as part of Eucalyptus habitat, with annual grassland understory. View facing west.



PHOTO 5: Invasive scrub and Eucalyptus grove habitats in the foothills of the project site. View facing north.



PHOTO 6: Invasive scrub, Eucalyptus groves and ruderal/developed habitats in the foothills of the project site. View facing north.



PHOTO 7: Annual grassland, black locust grove and Eucalyptus habitats in the foothills of the project site. View facing east.



PHOTO 8: Previously disturbed hillside with annual grassland.



PHOTO 9: Coastal terrace prairie habitat dominated by foothill needle grass.



PHOTO 10: Coastal terrace prairie habitat surrounded by invasive scrub. View facing east.



PHOTO 11: California sagebrush scrub habitat at the heighest elevations of the project site. View facing east.



PHOTO 12: California sagebrush scrub habitat along the bluffs of the most northern bluffs of the project site. View facing north.



PHOTO 13: Mosaic of coyotebush scrub and annual grasslands habitats in the foothills of the project site. View facing southeast.



PHOTO 14: Coyotebush scrub habitat with small openings of annual grasses in the foothills of the project site. View facing southeast.



PHOTO 15: Mosaic of habitats with mixed riparian in the draw of a canyon of the project site. View facing west.



PHOTO 16: Mixed riparian habitat in a drainage that ends at a catchment basin.



PHOTO 17: Wetland habitat along Burma Road, which runs along the coastline of the project site.



PHOTO 18: Wetland habitat in the southern portion of the project site.