INSIGNIA ENVIRONMENTAL

LS POWER GRID CALIFORNIA, LLC

COLLINSVILLE 500/230 KILOVOLT SUBSTATION PROJECT

BOTANICAL SURVEY REPORT ADDENDUM

NOVEMBER 2024

PREPARED FOR:

LS POWER GRID CALIFORNIA

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1 – INTRODUCTION

LS Power Grid California, LLC (LSPGC) retained Insignia Environmental (Insignia) to conduct fully floristic botanical surveys for the Collinsville 500/230 Kilovolt (kV) Substation Project (Proposed Project). As depicted in Figure 1: Project Overview Map, the Proposed Project includes the construction of a new 500/230 kV substation (Collinsville Substation), the construction of two new 500 kV single-circuit transmission line segments that would loop Pacific Gas and Electric Company's (PG&E's) existing Vaca Dixon-Tesla 500 kV Transmission Line into the proposed LSPGC Collinsville Substation, and the construction of one new 230 kV double-circuit transmission line that would connect the proposed Collinsville Substation to PG&E's existing Pittsburg Substation. The Proposed Project has been designed to address overloads on the existing Contra Costa-Newark 230 kV corridor and provide an additional supply into the northern greater San Francisco Bay Area to increase reliability to the area and advance additional renewable generation.

The Botanical Survey Report (Report) (Insignia 2023) was prepared in October 2023 to identify special-status plant species that may be present within or adjacent to the Proposed Project's terrestrial survey area.[1] The terrestrial survey area has since been expanded by approximately 184 acres, and fully floristic botanical surveys were required within the revised terrestrial survey area. Additionally, the 2023 surveys were conducted outside the blooming period for four special-status plant species. Therefore, 2024 surveys included fully floristic botanical surveys in the revised terrestrial survey area and targeted botanical surveys for four special-status plant species in the terrestrial survey area. This Botanical Survey Report Addendum (Report Addendum) details the findings of the 2024 targeted and fully floristic surveys within the terrestrial survey area and revised terrestrial survey area, respectively.

2 – PROJECT LOCATION

The location of the Proposed Project has not changed since the submission of the 2023 Report. As depicted in Figure 1: Project Overview Map, the proposed LSPGC Collinsville Substation would be located near the unincorporated community of Collinsville, located in the southwestern portion of Solano County. The revised terrestrial survey area is bordered on the south and southwest by the Sacramento River, where it debouches into Suisun Bay; on the west by the Montezuma Hills and Suisun Marsh; and to the north and east by agricultural lands. The Proposed Project would create a connection to PG&E's existing Pittsburg Substation, which is located in the City of Pittsburg in the northern portion of Contra Costa County.

[1] The terrestrial survey area primarily consists of all terrestrial areas of the Proposed Project north of the Sacramento River, as well as an approximately 10-acre buffer. Terrestrial areas south of Suisun Bay, in the vicinity of PG&E's existing Pittsburg Substation, comprise a small portion of the terrestrial survey area.

3 – METHODS

3.0 DEFINITIONS

The following definitions were used to define special-status resources within the terrestrial survey area and revised terrestrial survey area.

3.0.0 Special-Status Plants

Plant species are considered special-status if they met one or more of the following criteria:

- Species listed or candidates for listing as threatened or endangered under the federal Endangered Species Act;
- Species listed or candidates for listing as threatened or endangered under the California Endangered Species Act;
- Species meeting the definition of endangered, rare, or threatened under the California Environmental Quality Act (CEQA) (14 California Code of Regulations Section 15380), which may include species not found on the federal or state endangered species lists; or
- Species considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California (i.e., California Rare Plant Ranks [CRPRs] 1A, 1B, 2A, 2B, and 3).

3.0.1 Sensitive Natural Communities and Habitats

Natural communities are considered sensitive if they met one or more of the following criteria:

- Sensitive vegetation communities/habitats identified in local or regional plans, policies, or regulations, or designated as sensitive by the California Department of Fish and Wildlife (CDFW) or United States (U.S.) Fish and Wildlife Service (USFWS) (including communities assigned a State Rarity Rank of S1 to S3 under the CDFW Vegetation Classification and Mapping Program);
- Areas that provide habitat for locally unique biotic species/communities (e.g., oak woodlands, grasslands, and forests);
- Habitat that contains or supports rare, endangered, or threatened wildlife or plant species as defined by the CDFW and USFWS;
- Habitat that supports one or more CDFW Species of Special Concern;
- Areas that provide habitat for rare or endangered species and that meet the definition in CEQA Guidelines Section 15380;
- Existing game and wildlife refuges and reserves;

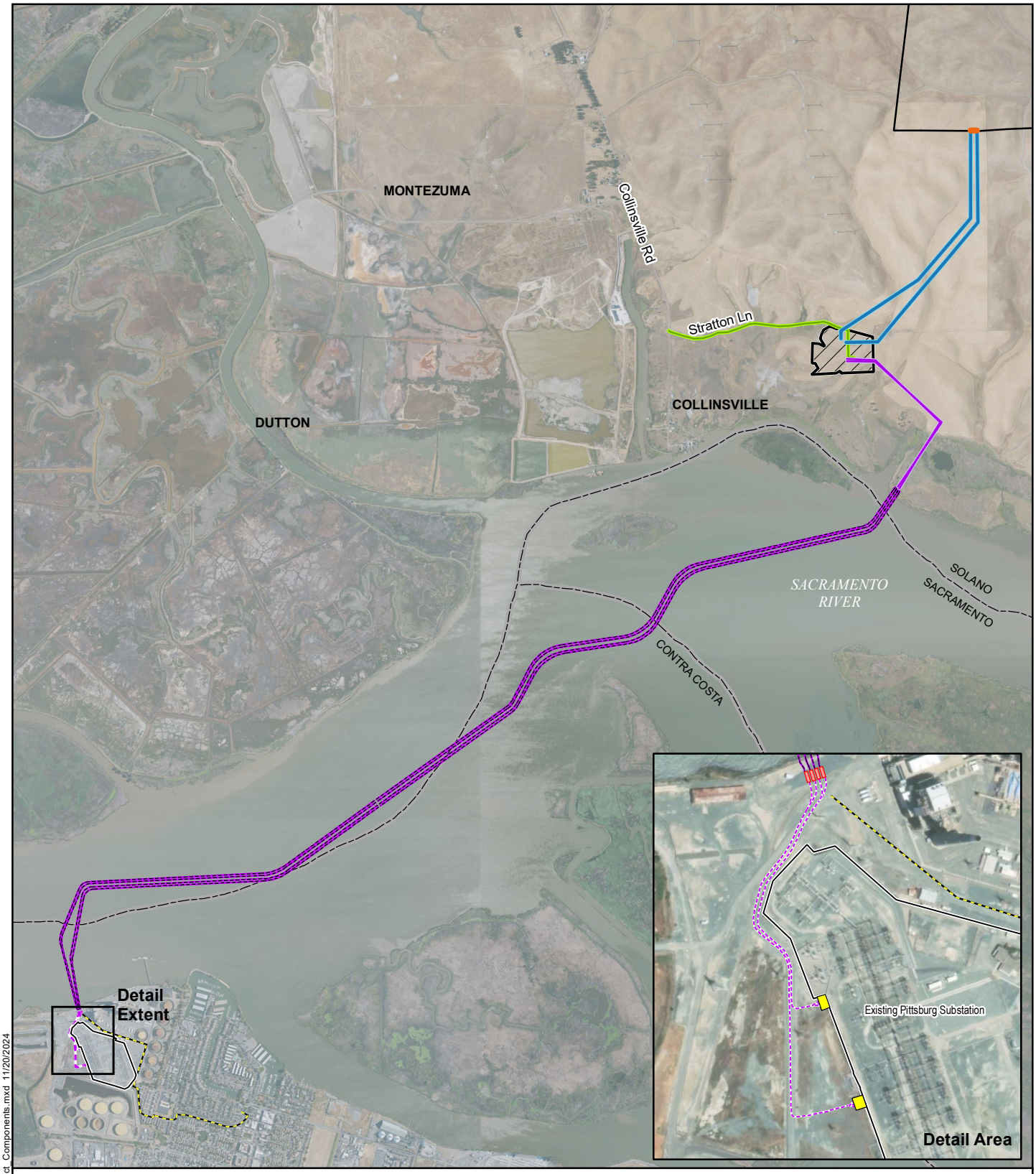

Figure 1: Project Overview Map

Collinsville 500/230 Kilovolt Substation Project

- Proposed LSPGC 230 kV Overhead Segment
- Proposed LSPGC 230 kV Submarine Segment
- Proposed LSPGC 230 kV Underground Segment
- Proposed PG&E 500 kV Interconnection
- Proposed PG&E 12 kV Distribution Line
- Existing PG&E 500 kV Transmission Line to be Removed
- County Boundary
- Existing PG&E Vaca Dixon-Tesla Transmission Line
- Existing Pittsburg Substation
- Proposed LSPGC Collinsville Substation Site
- Proposed LSPGC Telecommunications Line
- Proposed Riser
- Proposed Utility Vault

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- Lakes, wetlands, estuaries, lagoons, streams, and rivers; or
- Riparian corridors.

3.1 DESKTOP REVIEW

A literature and database review was conducted to identify special-status plant species with the potential to occur within the terrestrial survey area and revised terrestrial survey area. A geographic information system review of records from the California Natural Diversity Database (CNDDB) (CDFW 2023b), was conducted in the U.S. Geological Survey 7.5-minute quadrangles within and adjacent to the terrestrial survey area. Records for all known special-status plant species within 0.25 mile, 1 mile, and 5 miles of the Proposed Project were compiled and reviewed. The CNPS Inventory of Rare and Endangered Plants of California (CNPS 2023a) was reviewed with a nine-quadrangle search to obtain additional information regarding special-status plant species. The terrestrial survey area overlaps significantly with the Sacramento Municipal Utility District's (SMUD's) Solano 4 Wind Project, for which a final Environmental Impact Report is available (SMUD 2021); this document was referenced during the preliminary desktop review to identify special-status plant species and their potential to occur within the terrestrial survey area. Attachment B: Special-Status Species with the Potential to Occur in the 2023 Report contains a list of special-status plants with the potential to occur in the terrestrial survey area. Aerial imagery (Google Earth 2024) and the Vegetation Community and Mapping Program (VegCAMP) (CDFW 2023c) were used to assess land cover and habitat types within the terrestrial survey area and revised terrestrial survey area.

3.2 REFERENCE POPULATION SEARCH

Reference population checks were conducted in accordance with the CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities guidelines (CDFW 2018). Known occurrences and populations of special-status plants within 12 miles of the revised terrestrial survey area were investigated concurrent with the botanical surveys to confirm the blooming status and obtain a visual image of the special-status plant species. Further, local botanists working in areas adjacent to the Proposed Project were consulted to determine if special-status plants were observed to be blooming prior to field surveys dates.

3.3 FIELD SURVEY

3.3.0 Fully Floristic Survey

The geographical boundaries of the fully floristic survey, as depicted in Attachment A: Biological Resources Map, were limited to the revised terrestrial survey area and included approximately 184 acres of previously unsurveyed land associated with the land-based portions of the Proposed LSPGC Collinsville Substation Site, the Proposed LSPGC 230 kV Overhead Segment, the Proposed PG&E 500 kV Interconnection, and the Proposed PG&E 12 kV Distribution Line. While PG&E's existing Pittsburg Substation, located at the southern terminus of the Proposed Project in Contra Costa County, is situated adjacent to marsh habitat suitable for marsh-dependent special-status plant species, the substation site does not provide suitable habitat for special-status plant species because the facility is located entirely within developed land (e.g.,

graveled or paved), and unvegetated rip-rap is present along much of the shoreline. Because Proposed Project activities at PG&E's existing Pittsburg Substation site are not anticipated to occur within or result in impacts to suitable habitat for special-status plant species, the revised terrestrial survey area in the vicinity of PG&E's existing Pittsburg Substation site was excluded from fully floristic surveys.

Insignia biologists conducted fully floristic plant surveys that covered 100 percent of the revised terrestrial survey area. Transect spacing between surveyors was less than or equal to 10 meters. The surveys were conducted in accordance with guidelines published by the CNPS (2001), the CDFW (2018), and the USFWS (2000), which state the following:

- Surveys should be conducted at the proper time of year when locally significant plants are both evident and identifiable.
- Surveys must be floristic in nature, and the species, subspecies, or variety must be identified for every observed plant to determine the rarity status.
- Surveys must be conducted in a manner that is consistent with conservation ethics and accepted plant collection and documentation techniques.

3.3.1 Targeted Survey

The geographical boundaries of the targeted survey, depicted as the terrestrial survey area in Attachment A: Biological Resources Map of the 2023 Report, were limited to the terrestrial survey area from the 2023 Report and include the land-based portions of the Proposed LSPGC Collinsville Substation Site, the Proposed LSPGC 230 kV Overhead Segment, the Proposed PG&E 500 kV Interconnection, and the Proposed PG&E 12 kV Distribution Line. As described in Section 3.3.0 Fully Floristic Survey, PG&E's existing Pittsburg Substation site was excluded from the targeted surveys.

Insignia biologists conducted targeted surveys during appropriate blooming periods for three of four special-status plant species that covered 100 percent of the terrestrial survey area. The fourth species, Carquinez goldenbush, is a perennial shrub and is identifiable year-round.

Transect spacing between surveyors was less than or equal to 10 meters. The targeted surveys were focused on the following special-status plant species:

- diamond-petaled California poppy (*Eschscholzia rhombipetala*),
- fragrant fritillary (*Fritillaria liliacea*),
- Carquinez goldenbush (*Isocoma arguta*), and
- chaparral ragwort (*Senecio aphanactisii*).

4 – RESULTS

4.0 GEOGRAPHY, CLIMATE, AND HYDROLOGY

The Proposed Project area receives an average of 16.6 inches of rainfall per year, with the majority of precipitation falling between November and March (Weather Spark 2024). Average annual temperatures range from 48 to 73 degrees Fahrenheit (National Oceanic and Atmospheric

Administration [NOAA] 2023). The elevation of the Proposed Project area ranges from 3 to 250 feet above sea level.

4.1 DESKTOP REVIEW

Similar to the results of the initial desktop analysis, upland areas around the proposed LSPGC Collinsville Substation site and transmission line route within the revised terrestrial survey area are mainly composed of grassland habitat and agricultural areas. The southern edge of the revised terrestrial survey area along the Sacramento River appeared to support native riparian habitat areas and freshwater wetlands.[2] No special-status plant species were observed in portions of the terrestrial survey area and the revised terrestrial survey area that overlap with the Solano 4 Winds Project. PG&E's existing Pittsburg Substation site in Contra Costa County may have some fringe marsh habitat near the shoreline outside of the revised terrestrial survey area, but the majority of the facility appeared to be developed (e.g., graveled or paved) with rip-rap present along much of the revised terrestrial survey area shoreline.

Insignia compiled a list of 28 special-status plant species that have potential to occur within 5 miles of the revised terrestrial survey area and terrestrial survey area. A list of these species and further details about their listing status, life history, blooming period, and a brief assessment of their potential to occur within the terrestrial survey area and revised terrestrial survey area are described in Attachment B: Special-Status Species with the Potential to Occur of the Report. Attachment B: CNDDB Plant Occurrences Map depicts the locations of all special-status plant occurrences in the CNDDB within 5 miles of the terrestrial survey area and the revised terrestrial survey area. No USFWS-designated critical habitat for federally listed plants was found within or adjacent to the terrestrial survey area or the revised terrestrial survey area.

4.2 REFERENCE POPULATION SEARCH

Prior to fully floristic botanical surveys in 2023, reference checks were attempted at eight locations within 5 miles of the terrestrial survey area. Many of these locations have historically documented occurrences of special-status plants but have since been converted to active agriculture use. This cover type is extensive and is the primary land use within 5 miles of the terrestrial survey area. Further, the reference populations for many special-status plant species in the Report were located on private property and were inaccessible to the survey team. None of the eight reference sites checked in 2023 were revisited in 2024.

To increase the chances of observing reference populations of special-status plant species, three additional locations up to 12 miles from the revised terrestrial survey area were assessed. Two of the three reference sites visited in 2024 were located on private property with limited access; however, one special-status plant species, Contra Costa goldfields (*Lasthenia conjugens*), was observed blooming abundantly at the third reference site.

To supplement field reference checks, local botanists working in areas adjacent to the Proposed Project were consulted. The following six special-status plant species were observed in leaf or in

[2] Formal wetland and waters delineations were conducted between May 6, 2024 and July 10, 2024 in the Proposed Project area. Attachment A: Biological Resources Map depicts wetland boundaries from the formal delineations.

bloom in habitats adjacent to the Proposed Project before or during the April survey period (Bartosh 2024):

- Alkali milk-vetch (*Astralagus tener* var. *tener*) was observed in bloom during April.
- Mt. Diablo buckwheat (*Eriogonum truncatum*) was observed in leaf before April.
- Diamond-petaled California poppy was observed in leaf before April.
- San Joaquin spearscale (*Extriplex joaquinana*) was observed in leaf during April.
- Fragrant fritillary was observed in bloom before April.
- Diablo helianthella (*Helianthella castanea*) was observed in bloom during April.

Findings from reference population checks and additional outreach with local botanists prompted the initiation of the field surveys and confirmed that they would be conducted within the appropriate blooming periods for the applicable species.

4.3 FIELD SURVEY

From April 22 to 26, 2024, Insignia biologists conducted fully floristic botanical surveys and targeted surveys within the revised terrestrial survey area and terrestrial survey area, respectively. All observed special-status plant species were photographed and recorded using a submeter-accurate Global Positioning System unit. The following subsections describe the results of the field surveys.

4.3.0 Vegetation Communities

The following 11 vegetation community alliances and land cover types were identified within the terrestrial survey area and revised terrestrial survey area:

- *Brassica nigra - Centaurea* (*solstitialis, melitensis*) Herbaceous Semi-Natural Alliance
- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance*[3]
- *Juncus arcticus* (var. *balticus, mexicanus*) Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- Open water
- Road
- *Rosa californica* Shrubland Alliance*
- *Salix exigua* Shrubland Alliance
- *Schoenoplectus* (*acutus, californicus*) Herbaceous Alliance*
- *Schoenoplectus acutus/Rosa californica* Association*

The vegetation community and land cover locations are documented in Attachment A: Biological Resources Map. Four of the nine natural communities observed are considered sensitive natural communities by the CDFW (CDFW 2023a). Descriptions of each vegetation community identified within the terrestrial survey area and revised terrestrial survey area are provided in the 2023 Report.

[3] The asterisks refer to a CDFW-designated sensitive natural community (State Rarity Rank S1-S3).

4.3.1 Special-Status Plants

Insignia biologists identified a total of 208 plant species during the 2023 and 2024 fully floristic botanical surveys in the terrestrial survey area and revised terrestrial survey area. An additional 56 plant species were identified within the revised terrestrial survey area that had not been previously observed within the terrestrial survey area. The addition of the revised terrestrial survey area did not change any determinations on Attachment B: Special-Status Plant Species with the Potential to Occur in the 2023 Report because there were no changes in suitable habitat within the revised terrestrial survey area and the terrestrial survey area. One special-status plant species—Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*)—was identified within the revised terrestrial survey area. Several new populations of Delta mudwort (*Limosella australis*) were observed within the terrestrial survey area. All plants observed within the terrestrial survey area and revised terrestrial survey area are listed in Attachment C: Plant Species Observed; species not previously observed within the terrestrial survey area are noted with asterisks. Photographs of the special-status plants observed within the revised terrestrial survey area are provided in Attachment D: Special-Status Plant Photographs. The locations of all special-status plants observed within the terrestrial survey area and revised terrestrial survey area are depicted in Attachment A: Biological Resources Map. A summary of the special-status plant species observed during fully floristic surveys and targeted surveys is provided in the following subsections.

Delta Tule Pea

Delta tule pea is a perennial herb endemic to California with a CRPR of 1B.2. Two populations of this species were observed within the revised terrestrial survey area. One of the two populations is located adjacent to an inlet along the north shore of the Sacramento River within *Rosa californica* Shrubland Alliance and *Schoenoplectus acutus*/*Rosa Californica* Association vegetation communities. The second population is located on the south shore of the Sacramento River within *Schoenoplectus* (*acutus*, *californicus*) Herbaceous Alliance nearby Delta tule pea populations found during 2023 surveys. Populations found in 2023 were observed and confirmed to be present in 2024. These areas are depicted on maps 1 and 13 in Attachment A: Biological Resources Map. Attachment D: Special-Status Plant Photographs provides photographs of select populations of Delta tule pea. CNDDB forms for the Delta tule pea populations identified in the terrestrial survey area have been completed and are provided in Attachment E: CNDDB Submittal Forms.

Mason's Lilaeopsis

Mason's lilaeopsis (*Lilaeopsis masonii*) is a perennial herb endemic to California with a CRPR of 1B.1. During the 2023 surveys, extensive populations of this species were observed along the southern edge of the terrestrial survey area within intertidal vegetation communities, including the *Schoenoplectus acutus* Herbaceous Alliance and *Juncus arcticus* (var. *balticus*, *mexicanus*) Herbaceous Alliance. During the 2024 surveys, this species was observed in bloom and confirmed to be present within the same areas of the terrestrial survey area mapped in 2023. These areas are depicted in map 1 of Attachment A: Biological Resources Map. No additional populations were observed during the 2024 surveys.

Welsh Mudwort

Welsh mudwort is a perennial herb native to California with a CRPR of 2B.1. During the 2023 surveys, this species was observed within the intertidal zone at the southern edge of the terrestrial survey area and within the *Schoenoplectus acutus* Herbaceous Alliance. During the 2024 surveys, this species was observed in bloom and confirmed to be present within the areas of the terrestrial survey area mapped in 2023. Additional populations of this species were observed and recorded within the same intertidal zone in 2024. These areas are depicted in map 1 of Attachment A: Biological Resources Map.

5 – DISCUSSION AND SUMMARY

During the fully floristic surveys conducted in April 2024, one special-status plant species—Delta tule pea—was observed in the revised terrestrial survey area on both the north and south shores of the Sacramento River, as shown in Attachment A: Biological Resources Map. Additionally, during targeted surveys, incidental observations of Delta mudwort and Mason's lilaeopsis were mapped in the terrestrial survey area adjacent to the populations that were previously mapped during the 2023 surveys. These populations are depicted in Attachment A: Biological Resources Map. No additional special-status species were observed in the terrestrial survey area or the revised terrestrial survey area during the 2024 surveys.

The vast majority of the upland habitats in the northern portions of the terrestrial survey area and revised terrestrial survey area are dominated by non-native and invasive plant species and therefore likely do not provide suitable habitat for the special-status plants with potential to occur. Additionally, some upland habitat in the northern portion of the terrestrial survey area and revised terrestrial survey area was observed to have been disturbed and subsequently hydroseeded with a native seed mix as a part of construction on the Solano 4 Wind Project.

6 – REFERENCES

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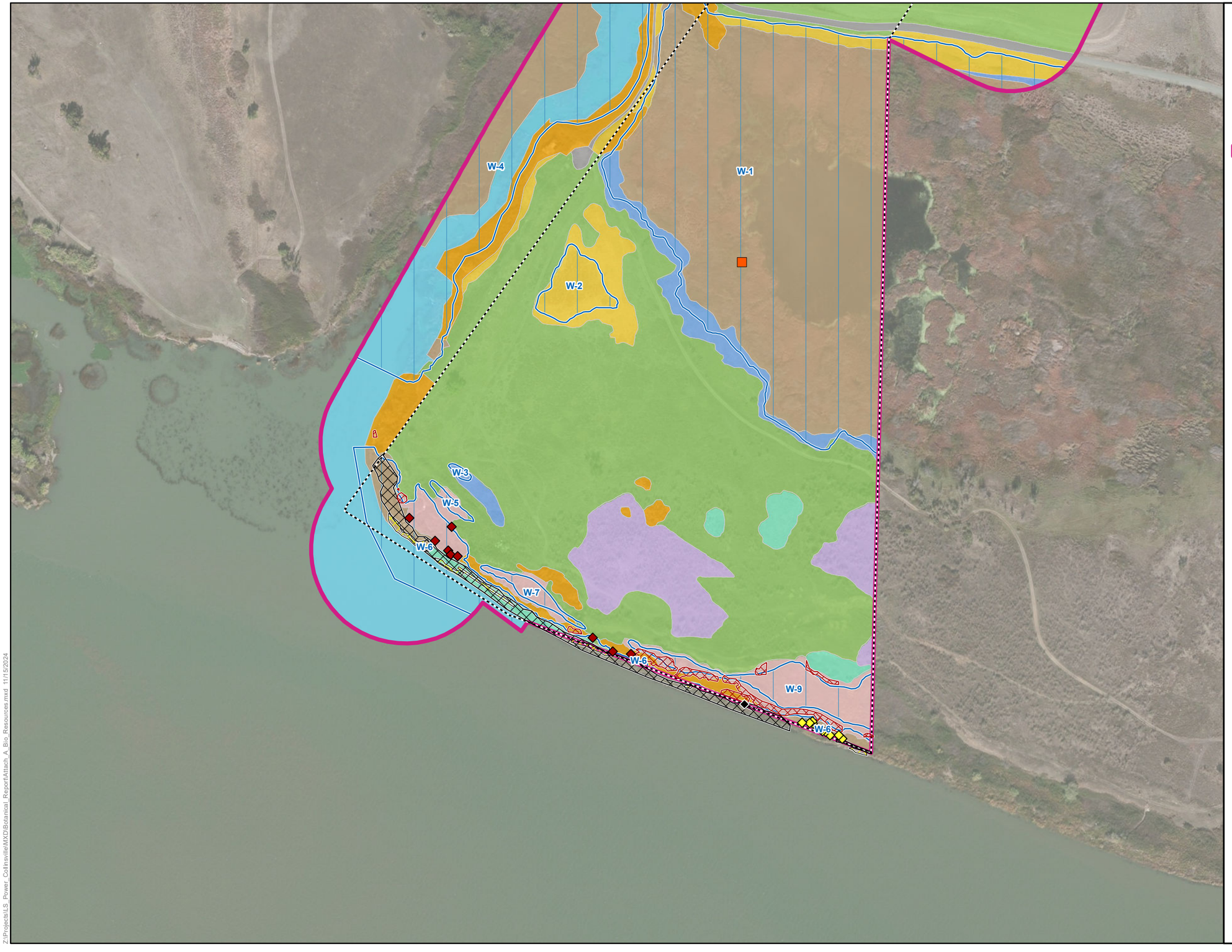
ATTACHMENT A: BIOLOGICAL RESOURCES MAP

Attachment A:
Biological Resources Map
Map 1 of 15

Collinsville 500/230 Kilovolt Substation Project



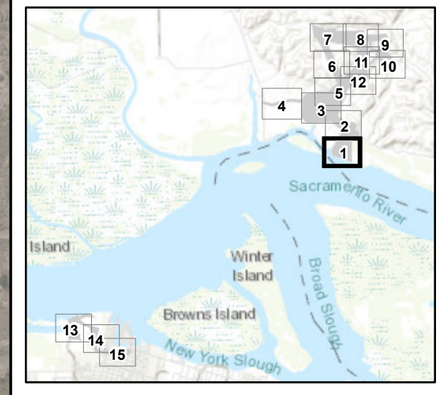
- Terrestrial Survey Area
- Revised Terrestrial Survey Area
- Wetland
- Northern Harrier Nest

Rare Plants

- Delta tule pea
- Mason's lilaeopsis
- Welsh mudwort
- Delta tule pea
- Mason's lilaeopsis
- Welsh mudwort

Vegetation Community

- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Juncus arcticus (var. balticus, mexicanus)* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Rosa californica* Shrubland Alliance
- *Salix exigua* Shrubland Alliance
- *Schoenoplectus (acutus, californicus)* Herbaceous Alliance
- *Schoenoplectus acutus/rosa californica* Association
- Road/Bare Ground
- Open Water



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Attachment A:
Biological Resources Map
Map 2 of 15

Collinsville 500/230 Kilovolt Substation Project

- Terrestrial Survey Area
- Revised Terrestrial Survey Area
- Wetland

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Polygonum lapathifolium - Xanthium strumarium* Herbaceous Alliance
- *Rosa californica* Shrubland Alliance
- *Schoenoplectus (acutus, californicus)* Herbaceous Alliance
- Road/Bare Ground
- Open Water

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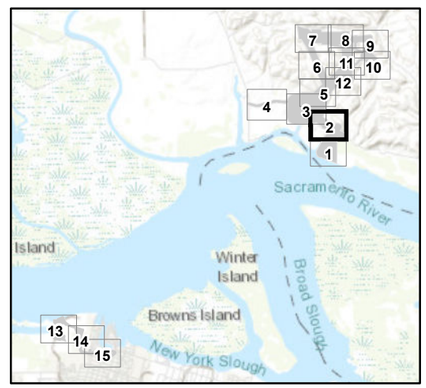
W-4
W-1



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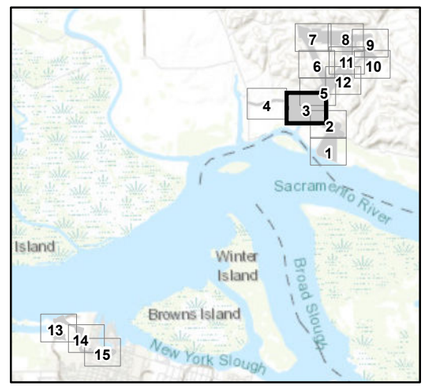
Attachment A:
Biological Resources Map
Map 3 of 15

Collinsville 500/230 Kilovolt Substation Project

- Terrestrial Survey Area
- Revised Terrestrial Survey Area
- Wetland

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Polygonum lapathifolium - Xanthium strumarium* Herbaceous Alliance
- *Sarcocornia pacifica* Herbaceous Alliance
- *Rosa californica* Shrubland Alliance
- *Schoenoplectus (acutus, californicus)* Herbaceous Alliance
- *Schoenoplectus americanus* Herbaceous Alliance
- *Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance
- Road/Bare Ground



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Attachment A:
Biological Resources Map
Map 4 of 15

Collinsville 500/230 Kilovolt Substation Project

Revised Terrestrial Survey Area

Wetland

Vegetation Community

Brassica nigra - Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance

Distichlis spicata Herbaceous Alliance

Frankenia salina Herbaceous Alliance

Lolium perenne Herbaceous Semi-Natural Alliance

Sarcocornia pacifica Herbaceous Alliance

Schoenoplectus (acutus, californicus) Herbaceous Alliance

Road/Bare Ground

Developed

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W-22
W-29
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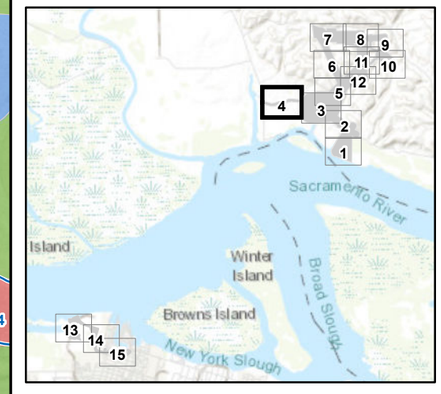
W-13
W-14
W-12



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Attachment A:
Biological Resources Map
Map 5 of 15

Collinsville 500/230 Kilovolt Substation Project

- Terrestrial Survey Area
- Revised Terrestrial Survey Area
- Ephemeral Stream
- Wetland

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance
- Road/Bare Ground

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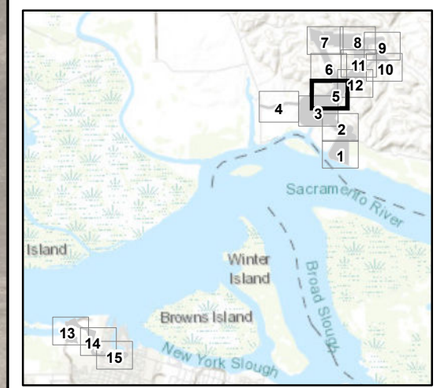

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LS POWER GRID CALIFORNIA

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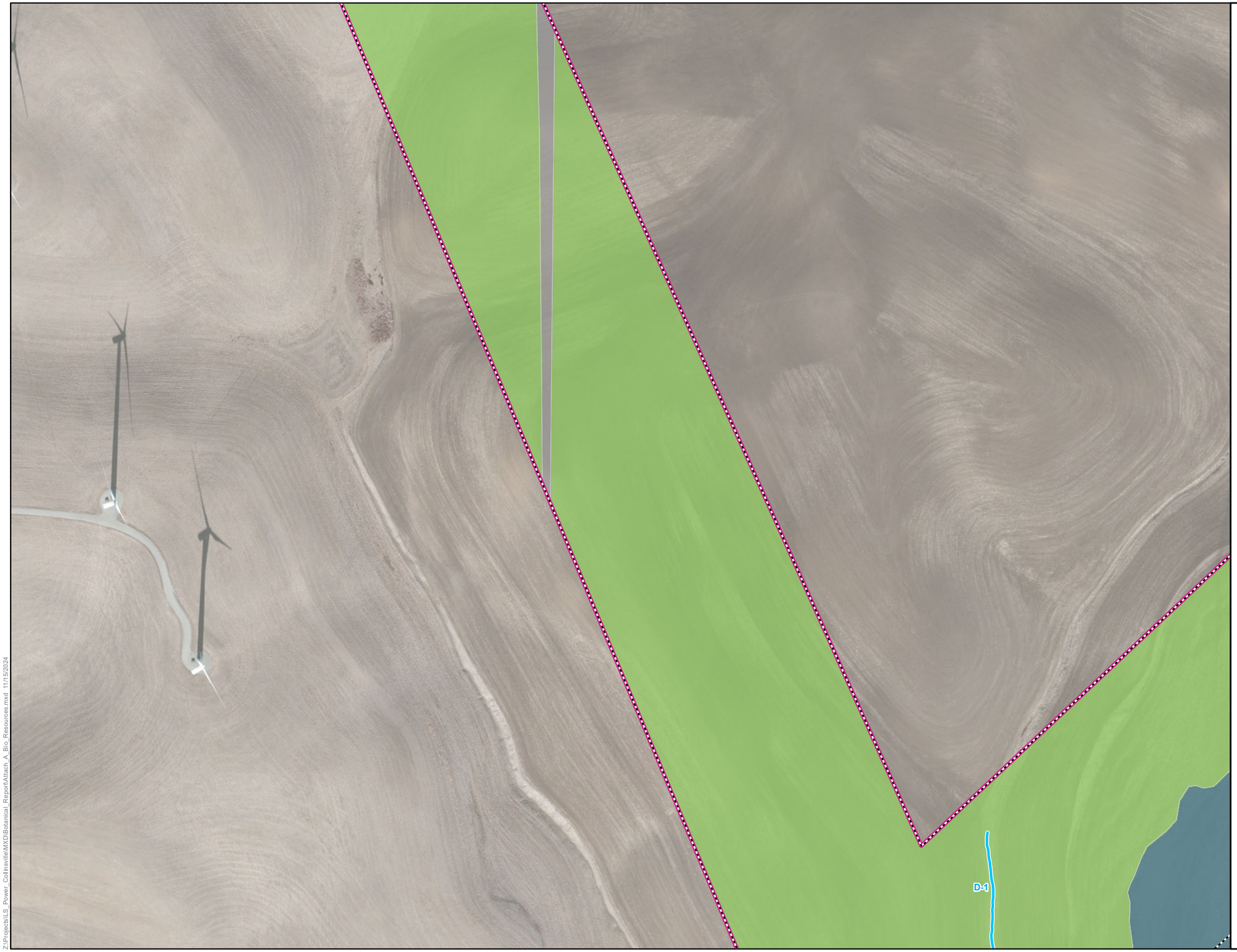


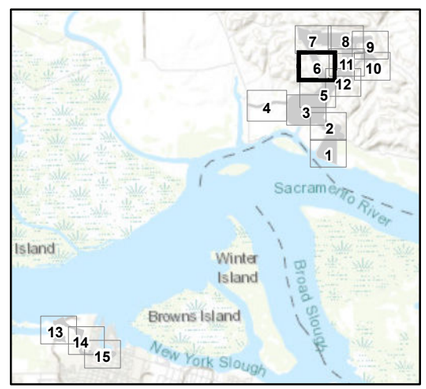
Attachment A:
Biological Resources Map
Map 6 of 15

Collinsville 500/230 Kilovolt Substation Project

- Terrestrial Survey Area
- Revised Terrestrial Survey Area
- Ephemeral Stream

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- Road/Bare Ground



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Attachment A:
Biological Resources Map
Map 7 of 15

Collinsville 500/230 Kilovolt Substation Project

Terrestrial Survey Area

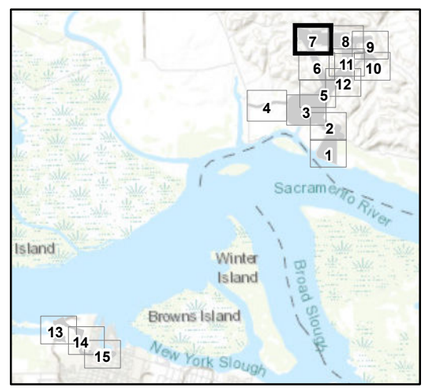
Revised Terrestrial Survey Area

Vegetation Community

Brassica nigra - Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance

Lolium perenne Herbaceous Semi-Natural Alliance

Road/Bare Ground



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Attachment A:
Biological Resources Map
Map 8 of 15

Collinsville 500/230 Kilovolt Substation Project

Terrestrial Survey Area

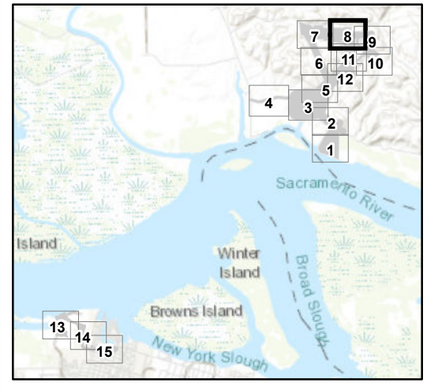
Revised Terrestrial Survey Area

Vegetation Community

Brassica nigra - Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance

Lolium perenne Herbaceous Semi-Natural Alliance

Road/Bare Ground



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Attachment A:
Biological Resources Map
Map 9 of 15

Collinsville 500/230 Kilovolt Substation Project

Terrestrial Survey Area

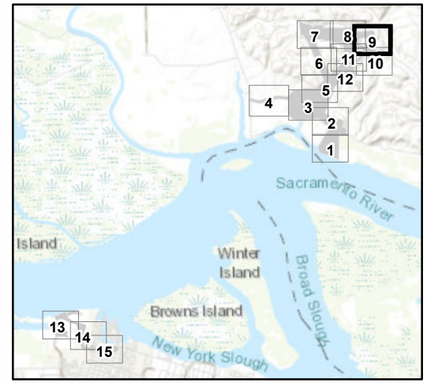
Revised Terrestrial Survey Area

Vegetation Community

Brassica nigra - Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance

Lolium perenne Herbaceous Semi-Natural Alliance

Road/Bare Ground



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Attachment A:
Biological Resources Map
Map 10 of 15

Collinsville 500/230 Kilovolt Substation Project

Terrestrial Survey Area

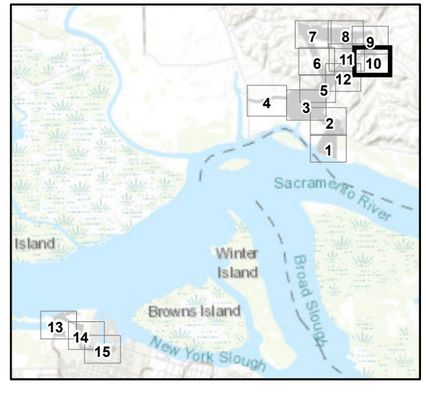
Revised Terrestrial Survey Area

Vegetation Community

Brassica nigra - Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance

Lolium perenne Herbaceous Semi-Natural Alliance

Road/Bare Ground



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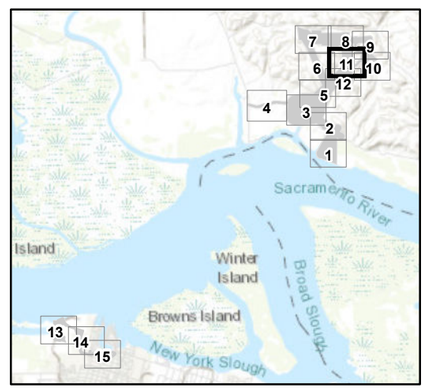
Attachment A:
Biological Resources Map
Map 11 of 15

Collinsville 500/230 Kilovolt Substation Project

- Terrestrial Survey Area
- Revised Terrestrial Survey Area
- Ephemeral Stream

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- Road/Bare Ground



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Attachment A:
Biological Resources Map
Map 12 of 15

Collinsville 500/230 Kilovolt Substation Project

- Terrestrial Survey Area
- Revised Terrestrial Survey Area
- Ephemeral Stream

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- Road/Bare Ground

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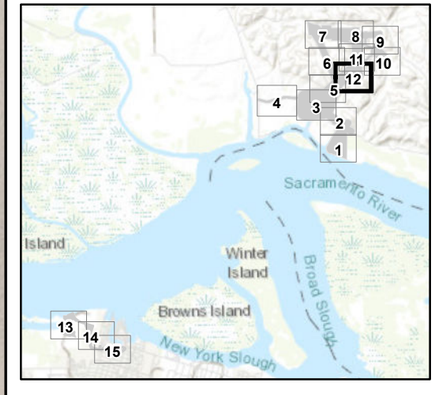

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Attachment A:
Biological Resources Map
Map 13 of 15

Collinsville 500/230 Kilovolt Substation Project

Revised Terrestrial Survey Area

Rare Plants

Delta tule pea

Vegetation Community

Lepidium latifolium – Lactuca serriola Herbaceous Alliance

Ornamental Vegetation

Juncus arcticus (var. balticus, mexicanus) Herbaceous Alliance

Schoenoplectus (acutus, californicus) Herbaceous Alliance

Baccharis pilularis Shrubland Alliance

Disturbed

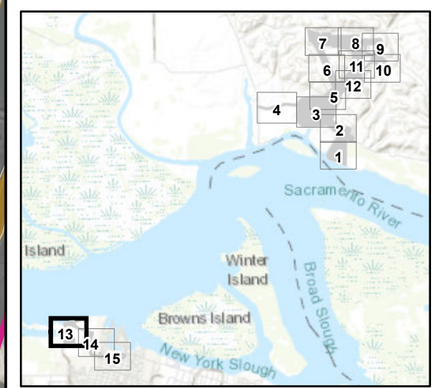
Road/Bare Ground

Rip Rap

Open Water

Developed

Not Surveyed



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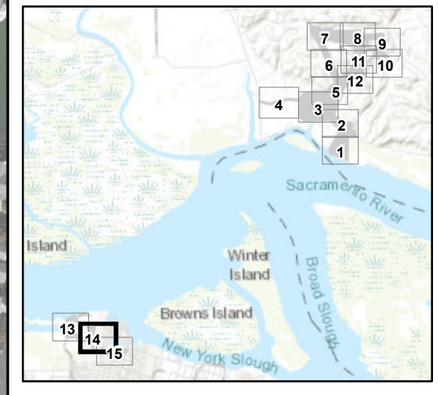
Attachment A:
Biological Resources Map
Map 14 of 15

Collinsville 500/230 Kilovolt Substation Project

Revised Terrestrial Survey Area

Vegetation Community

- *Lepidium latifolium – Lactuca serriola* Herbaceous Alliance
- Ornamental Vegetation
- *Baccharis pilularis* Shrubland Alliance
- Disturbed
- Developed
- Not Surveyed



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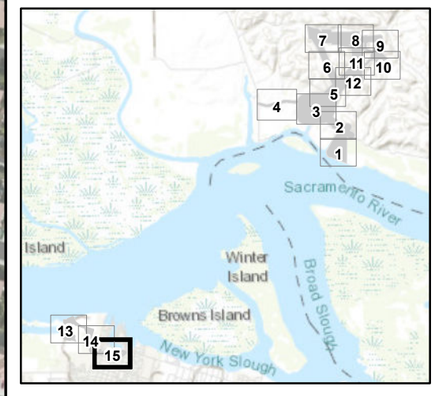
Attachment A:
Biological Resources Map
Map 15 of 15

Collinsville 500/230 Kilovolt Substation Project

Revised Terrestrial Survey Area

Vegetation Community

- Ornamental Vegetation
- Disturbed
- Developed
- Not Surveyed



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ATTACHMENT B: CNDDB PLANT OCCURRENCES MAP

Attachment B:
CNDDB Plant Occurrences Map

Collinsville 500/230 Kilovolt Substation Project

- Project Buffers

Special Status Plant Species

- Alkali milk-vetch
- Antioch Dunes buckwheat
- Antioch Dunes evening-primrose (within 1 mile)
- Bearded popcornflower
- Big tarplant (within 1 mile)
- Bolander's water-hemlock (within 1 mile)
- Brittlescale
- Carquinez goldenbush
- Chaparral ragwort
- Contra Costa goldfields
- Contra Costa wallflower (within 1 mile)
- Delta mudwort (within 1 mile)
- Delta tule pea (within 1 mile)
- Diablo helianthella
- Diamond-petaled California poppy
- Dwarf downingia
- Fragrant fritillary
- Hall's bush-mallow
- Heartscale
- Hoover's cryptantha
- Keck's checkerbloom
- Mason's lilaeopsis (within 1 mile)
- Mt. Diablo buckwheat
- Pappose tarplant
- San Joaquin spearscale
- Showy golden madia
- Suisun Marsh aster (within 1 mile)
- Soft salty bird's-beak

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ATTACHMENT C: PLANT SPECIES OBSERVED

ATTACHMENT C: PLANT SPECIES OBSERVED

Family	Scientific Name	Common Name
Aizoaceae	*Sesuvium verrucosum*	Smooth Sea-Purslane
Alismataceae	*Alisma gramineum*	Slender Water Plantain
Alismataceae	*Alisma triviale*	Northern Water Plantain
Amaranthaceae	*Alternanthera philoxeroides** [1]	Alligator Weed
Amaranthaceae	*Atriplex prostrata**	Spreading Saltbush
Amaranthaceae	*Atriplex semibaccata*	Australian Saltbush
Amaranthaceae	*Atriplex suberecta*	Desert Holly
Amaranthaceae	*Chenopodium murale*	Nettle-leaved Goosefoot
Amaranthaceae	*Chenopodium vulvaria*	Stinking Goosefoot
Amaranthaceae	*Salicornia pacifica*	Pacific Glasswort
Amaranthaceae	*Salsola tragus*	Russian Thistle
Anacardiaceae	*Schinus molle*	California Pepper Tree
Anacardiaceae	*Pistacia atlantica**	Pistachio
Apiaceae	*Anthriscus caucalis**	Bur Parsley
Apiaceae	*Apium graveolens*	Wild Celery
Apiaceae	*Conium maculatum*	Poison Hemlock
Apiaceae	*Foeniculum vulgare*	Sweet Fennel
Apiaceae	*Lilaeopsis masonii*	Mason's Lilaeopsis
Apiaceae	*Oenanthe sarmentosa*	Water Parsley
Apiaceae	*Sanolus parviflorus*	Small-Flowered Sanolus
Apiaceae	*Torilis nodosa*	Wild Parsley
Apocynaceae	*Asclepias fasicularius*	Narrow-Leaved Milkweed
Araliaceae	*Hydrocotyle verticillata*	Whorled Pennywort
Arecaceae	*Phoenix canariensis**	Canary Island Date Palm
Asparagaceae	*Asparagus officinalis*	Wild Asparagus
Asteraceae	*Achillea millefolium**	Common Yarrow
Asteraceae	*Achyrachaena mollis*	Soft Blow Wives
Asteraceae	*Ambrosia psilostachya*	Western Ragweed

[1] Species that were observed in the revised terrestrial survey area and were not observed in the terrestrial survey area during 2023 surveys are marked with an asterisk.

Family	Scientific Name	Common Name
Asteraceae	*Anaphalis margaritacea**	Pearly Everlasting
Asteraceae	*Anthemis cotula*	Mayweed
Asteraceae	*Artemisia douglasiana*	Mugwort
Asteraceae	*Baccharis glutinosa*	Sticky Baccharis
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	Coyote Brush
Asteraceae	*Baccharis salicifolia*	Mule Fat
Asteraceae	*Carduus pycnocephalus*	Italian Thistle
Asteraceae	*Centaurea calcitrapa**	Purple Star Thistle
Asteraceae	*Centaurea solstitialis*	Yellow Starthistle
Asteraceae	*Centromadia parryi*	Pappose Tarweed
Asteraceae	*Centromadia pungens* ssp. *pungens**	Common Tarweed
Asteraceae	*Chondrilla juncea*	Rush Skeletonweed
Asteraceae	*Cirsium vulgare*	Bull Thistle
Asteraceae	*Cotula cornopilfoila*	Brass Buttons
Asteraceae	*Cynara cardunculus* ssp. *cardunculus**	Artichoke
Asteraceae	*Erigeron philadelphicus*	Philadelphia Fleabane
Asteraceae	*Euthamia occidentalis*	Western Goldenrod
Asteraceae	*Grindelia camporum**	Common Gumplant
Asteraceae	*Grindelia stricta*	Gumplant
Asteraceae	*Helenium puberulum**	Sneezeweed
Asteraceae	*Helminthotheca echioides*	Bristly Oxtongue
Asteraceae	*Heterotheca grandiflora*	Telegraph Weed
Asteraceae	*Hoita macrostachya*	Showy Goldeneye
Asteraceae	*Hypochoeris glabra*	Smooth Cat's Ear
Asteraceae	*Iva axillaris*	Poverty Weed
Asteraceae	*Lactuca serriola*	Prickly Lettuce
Asteraceae	*Madia gracilis*	Graceful Tarweed
Asteraceae	*Matricaria discoidea**	Pineapple Weed
Asteraceae	*Matricaria occidentalis*	Valley Mayweed
Asteraceae	*Pseudognaphalium stramineum**	Cottonbatting Plant
Asteraceae	*Senecio hydrophilus*	Marsh Ragwort
Asteraceae	*Senecio vulgaris*	Common Groundsel

Family	Scientific Name	Common Name
Asteraceae	*Silybum marianum*	Milk Thistle
Asteraceae	*Sonchus asper*	Prickly Sowthistle
Asteraceae	*Tragopogon porrifolius**	Purple Salsify
Asteraceae	*Xanthium spinosum*	Spiny Cocklebur
Asteraceae	*Xanthium strumarium*	Common Cocklebur
Bataceae	*Batis maritima**	Saltwort
Betulaceae	*Alnus rhombifolia**	White Alder
Boraginaceae	*Amsinckia intermedia*	Common Fiddleneck
Boraginaceae	*Eriodictyon crassifolium*	Thick-leaved Yerba Santa
Boraginaceae	*Heliotropium curassavicum*	Salt Heliotrope
Brassicaceae	*Brassica nigra*	Black Mustard
Brassicaceae	*Cakile edentula**	Sea Rocket
Brassicaceae	*Capsella bursa-pastoris**	Shepherd's Purse
Brassicaceae	*Lepidium latifolium*	Broadleaf Pepperweed
Brassicaceae	*Raphanus sativus*	Radish
Caryophyllaceae	*Silene gallica**	Common Catchfly
Caryophyllaceae	*Spergula marina*	Salt Sandspurry
Caryophyllaceae	*Spergularia arvensis*	Corn Spurry
Caryophyllaceae	*Stellaria media**	Chickweed
Chenopodiaceae	*Bassia scoparia**	Burningbush
Chenopodiaceae	*Salicornia depressa**	Annual Pickleweed
Convolvulaceae	*Calystegia silvatica*	Chaparral Dodder
Convolvulaceae	*Convolvulus arvensis*	Field Bindweed
Convolvulaceae	*Cressa truxillensis*	Alkaliweed
Crassulaceae	*Crassula tillaea**	Mediterranean Pygmy Weed
Cucurbitaceae	*Marah fabacea*	Wild Cucumber
Cyperaceae	*Bolboschoenus maritimus**	Alkali Bulrush
Cyperaceae	*Bolboschoenus maritimus* ssp. *paludosus**	Saltmarsh Bulrush
Cyperaceae	*Bolboschoenus robustus*	California Bulrush
Cyperaceae	*Carex barbarae*	Santa Barbara Sedge
Cyperaceae	*Eleocharis acicularis* var. *acicularis*	Needle Spikerush
Cyperaceae	*Eleocharis macrostachya*	Tall Spike-rush

Family	Scientific Name	Common Name
Cyperaceae	*Isolepis cernua*	Nodding Centaury
Cyperaceae	*Schoenoplectus acutus* var. *occidentalis*	Common Tule
Cyperaceae	*Schoenoplectus americanus*	Three Square Bulrush
Cyperaceae	*Schoenoplectus californicus*	California Bulrush
Cyperaceae	*Schoenoplectus pungens*	Common Threesquare
Equisetaceae	*Equistem hyemale* ssp. *affine*	Scouring Rush
Euphorbiaceae	*Croton setiger*	Dove Weed
Fabaceae	*Acmispon americanus* var. *americanus*	American Bird's-Foot
Fabaceae	*Acmispon glaber* var. *glaber*	Deerweed
Fabaceae	*Acmispon strigosus*	Strigose Bird's-Foot Trefoil
Fabaceae	*Lathyrus jepsonii* var. *jepsonii*	Delta Tule Pea
Fabaceae	*Lotus corniculatus*	Bird's-Foot Trefoil
Fabaceae	*Lotus tenuis*	Slender Lotus
Fabaceae	*Lupinus bicolor*	Miniature Lupine
Fabaceae	*Lupinus microcarpus**	Chick Lupine
Fabaceae	*Lupinus succulentus*	Arroyo Lupine
Fabaceae	*Medicago polymorpha*	California Burr Medic
Fabaceae	*Melilotus indicus*	Annual Yellow Sweetclover
Fabaceae	*Sesbania punicea*	Red Sesbania
Fabaceae	*Trifolium hirtum*	Rose Clover
Fabaceae	*Trifolium hybridum*	Alsike Clover
Fabaceae	*Trifolium incarnatum**	Crimson Clover
Fabaceae	*Trifolium wormskioldii*	Cow Clover
Fabaceae	*Vicia sativa*	Common Vetch
Fabaceae	*Vicia villosa*	Hairy Vetch
Frankeniaceae	*Frankenia salina*	Alkali Heath
Gentianaceae	*Centaurium tenuiflorum**	Slender Centaury
Geraniaceae	*Erodium botrys*	Long-Beaked Filaree
Geraniaceae	*Erodium cicutarium*	Redstem Filaree
Geraniaceae	*Geranium dissectum*	Cutleaf Geranium
Hydrocharitaceae	*Limnobium laevigatum**	West Indian Spongeplant
Iridaceae	*Iris pseudacorus*	Yellow Flag Iris

Family	Scientific Name	Common Name
Juglandaceae	*Juglans hindsii**	Northern California Black Walnut
Juncaceae	*Juncus balticus*	Baltic Rush
Juncaceae	*Juncus bufonius*	Toad Rush
Juncaceae	*Juncus effusus**	Common Bog Rush
Juncaceae	*Juncus gerardii* ssp. *gerardii*	Salt Marsh Rush
Juncaceae	*Juncus mexicanus*	Mexican Rush
Juncaginaceae	*Triglochin striata**	Three Ribbed Arrow Grass
Lamiaceae	*Lamium amplexicaule**	Giraffe Head
Lamiaceae	*Marrubium vulgare*	White Horehound
Lamiaceae	*Mentha spicata*	Spearmint
Lamiaceae	*Pterostegia drymariodes*	Fairy Mist
Lythraceae	*Lythrum hyssopifolia*	Hyssop Loosestrife
Malvaceae	*Malva multiflora**	Cretan Mallow
Malvaceae	*Malva parviflora*	Small-Flowered Mallow
Malvaceae	*Malvella leprosa*	Round-Leaved Mallow
Montiaceae	*Calandrinia menziesii**	Red Maids
Montiaceae	*Claytonia perfoliata*	Miner's Lettuce
Onagraceae	*Epilobium brachycarpum**	Annual Fireweed
Onagraceae	*Epilobium ciliatum*	Fringed Willowherb
Onagraceae	*Ludwigia grandiflora**	Large-Flowered Primrose-Willow
Onagraceae	*Ludwigia peploides**	Floating Primrose Willow
Orobanchaceae	*Castilleja exserta* ssp. *exserta*	Purple Owl's Clover
Orobanchaceae	*Bellardia trixago*	Mediterranean Lineseed
Oxalidaceae	*Oxalis pes-caprae**	Bermuda Buttercup
Papaveraceae	*Eschscholzia californica**	California Poppy
Phrymaceae	*Erythranthe grandis**	Magnificent Seep Monkeyflower
Plantaginaceae	*Plantago coronopus*	Buckshorn Plantain
Plantaginaceae	*Plantago lanceolata*	English Plantain
Plantaginaceae	*Veronica persica**	Birdeye Speedwell
Poaceae	*Agrostis stolonifera*	Creeping Bentgrass
Poaceae	*Arundo donax*	Giant Reed
Poaceae	*Avena fatua*	Wild Oat

Family	Scientific Name	Common Name
Poaceae	*Bromus berteroanus*	Chilean Brome
Poaceae	*Bromus diandrus*	Ripgut Brome
Poaceae	*Bromus hordeaceus*	Soft Brome
Poaceae	*Bromus madritensis* ssp. *rubens*	Red Brome
Poaceae	*Bromus tectorum*	Cheatgrass
Poaceae	*Cortaderia jubata*	Purple Pampas Grass
Poaceae	*Cynodon dactylon*	Bermuda Grass
Poaceae	*Cynosurus echinatus*	Coast Bur Grass
Poaceae	*Distichlis spicata*	Saltgrass
Poaceae	*Elymus triticoides*	Beardless Wildrye
Poaceae	*Festuca bromoides*	Red Fescue
Poaceae	*Festuca perennis*	Meadow Fescue
Poaceae	*Hordeum jubatum*	Foxtail Barley
Poaceae	*Hordeum marinum*	Seaside Barley
Poaceae	*Hordeum murinum*	Wall Barley
Poaceae	*Hordeum vulgare*	Common Barley
Poaceae	*Phalaris canariensis*	Canary Grass
Poaceae	*Phalaris paradoxa*	Hairy Canarygrass
Poaceae	*Phragmites australis*	Common Reed
Poaceae	*Polypogon monspeliensis**	Rabbitsfoot Grass
Poaceae	*Triticum aestivum**	Common Wheat
Polygonaceae	*Persicaria* spp.	Smartweeds
Polygonaceae	*Polygonum argyrocoleon*	Silverweed Knotweed
Polygonaceae	*Polygonum aviculare*	Prostrate Knotweed
Polygonaceae	*Rumex acetosella*	Sheep Sorrel
Polygonaceae	*Rumex californicus*	California Dock
Polygonaceae	*Rumex crispus*	Curly Dock
Polygonaceae	*Rumex pulcher**	Fiddle Dock
Pontederiaceae	*Eichhornia crassipes**	Common Water Hyacinth
Portulacaceae	*Portulaca oleracea**	Common Purslane
Ranunculaceae	*Ranunculus sceleratus*	Cursed Buttercup
Rosaceae	*Potentilla anseriana* ssp. *pacifica*	Silverweed

Family	Scientific Name	Common Name
Rosaceae	*Rosa californica*	California Wild Rose
Rosaceae	*Rubus armeniacus*	Himalayan Blackberry
Rosaceae	*Rubus ursinus**	California Blackberry
Salicaceae	*Salix exigua*	Narrowleaf Willow
Salicaceae	*Salix exigua* var. *hindsiana*	Sandbar Willow
Salicaceae	*Salix gooddingii*	Goodding's Willow
Salicaceae	*Salix laevigata*	Red Willow
Salicaceae	*Salix lasiolepis**	Arroyo Willow
Salviniaceae	*Azolla filiculoides*	Water Fern
Scrophulariaceae	*Limosella australis*	Delta Mudwort
Scrophulariaceae	*Zeltnera muehlenbergii*	Little Redstem
Simaroubaceae	*Ailanthus altissima**	Tree of Heaven
Solanaceae	*Solanum americanum*	American Nightshade
Tamaricaceae	*Tamarix parviflora**	Fourstamen Tamarisk
Themidaceae	*Brodiaea elegans* ssp. *elegans*	Elegant Brodiaea
Themidaceae	*Triteleia laxa**	Ithuriel's Spear
Typhaceae	*Sparganium erectum**	Simplestem Bur Reed
Typhaceae	*Typha latifolia*	Common Cattail
Urticaceae	*Urtica urens**	Annual Stinging Nettle
Verbenaceae	*Phyla nodiflora*	Turkey Tangle Fogfruit

ATTACHMENT D: SPECIAL-STATUS PLANT PHOTOGRAPHS

ATTACHMENT D: SPECIAL-STATUS PLANT PHOTOGRAPHS

Photograph 1: Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*).

ATTACHMENT E: CNDDB SUBMITTAL FORMS

CNDDB Online Field Survey Form Report

California Natural Diversity Database
Department of Fish and Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: 916.324.0475
cnddb@wildlife.ca.gov
www.dfg.ca.gov/biogeodata/cnddb/

This data has been reported to the CNDDB, but may not have been evaluated by the CNDDB staff

Source code CRO23F0003
Quad code 3812117
Occ. no. _____
EO index no. _____
Map index no. _____

Scientific name: *Limosella australis*

Common name: Delta mudwort

Date of field work (mm-dd-yyyy): 05-24-2023

Comment about field work date(s):

OBSERVER INFORMATION

Observer: Brian Cropper

Affiliation: Insignia Environmental

Address: 3028 Juniper St Apt 3

Email: bcropper@insigniaenv.com

Phone: (920) 544-7989

Other observers: Deanna Giuliano

DETERMINATION

Keyed in: Jepson Manual

Compared w/ specimen at:

Compared w/ image in: Jepson Herbarium, Calflora

By another person: Deanna Giuliano

Other:

Identification explanation:

Identification confidence: Very confident

Species found: Yes **If not found, why not?**

Level of survey effort: Fully botanical survey

Total number of individuals: 150-250

Collection? No **Collection number:**

Museum/Herbarium:

PLANT INFORMATION

Phenology:

90 %	10 %	0 %
vegetative	**flowering**	**fruiting**

SITE INFORMATION

Habitat description: Species were found in tidally influenced saturated soils directly adjacent to riprap along the coastline. Associated species included predominantly Juncus.

Slope: 1-2 percent

Land owner/manager:

Aspect:

Site condition + population viability:

Immediate & surrounding land use: Potential grazing

Visible disturbances: Trash/debris, man-made berms, riprap.

Threats: Trash accumulation, grazing.

General comments:

MAP INFORMATION

ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Solano	Antioch North	-9999	38.06929	-121.82582	602994	4214154	10
1	**Public Land Survey**	**Feature Comment**						
	M T03N R01E 26	Spreads via rhizomes consistent along coast						

ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Solano	Antioch North	-9999	38.06990	-121.82799	602803	4214219	10
2	**Public Land Survey**	**Feature Comment**						
	M T03N R01E 26							

The mapped feature is accurate within: 10 m

Source of mapped feature: Handheld submeter GPS unit

Mapping notes: Species spreads along coast in between mapped points.

Location/directions comments:

Attachment(s):

CNDDB Online Field Survey Form Report

California Natural Diversity Database
Department of Fish and Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: 916.324.0475
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This data has been reported to the CNDDB, but may not have been evaluated by the CNDDB staff

Source code CRO23F0001
Quad code 3812117
Occ. no. _____
EO index no. _____
Map index no. _____

Scientific name: *Lathyrus jepsonii var. jepsonii*

Common name: Delta tule pea

Date of field work (mm-dd-yyyy): 05-24-2023

Comment about field work date(s):

OBSERVER INFORMATION

Observer: Brian Cropper

Affiliation: Insignia Environmental

Address: 3028 Juniper St Apt 3

Email: bcropper@insigniaenv.com

Phone: (920) 544-7989

Other observers: Deanna Giuliano

DETERMINATION

Keyed in: Jepson Manual

Compared w/ specimen at:

Compared w/ image in: Jepson Herbarium, Calflora

By another person: Deanna Giuliano

Other:

Identification explanation:

Identification confidence: Very confident

Species found: Yes **If not found, why not?**

Level of survey effort: Fully botanical survey

Total number of individuals: 150-200

Collection? No **Collection number:**

Museum/Herbarium:

PLANT INFORMATION

Phenology:

vegetative	flowering	fruiting
70 %	25 %	5 %

SITE INFORMATION

Habitat description: Rosa californica and Schoenoplectus dominated habitat and associations. Delta tule pea was commonly found climbing up upland shrubs adjacent to sloughs approximately 15-20 feet from the coast.

Slope: 5 to 10%

Land owner/manager:

Aspect:

Site condition + population viability: Fair

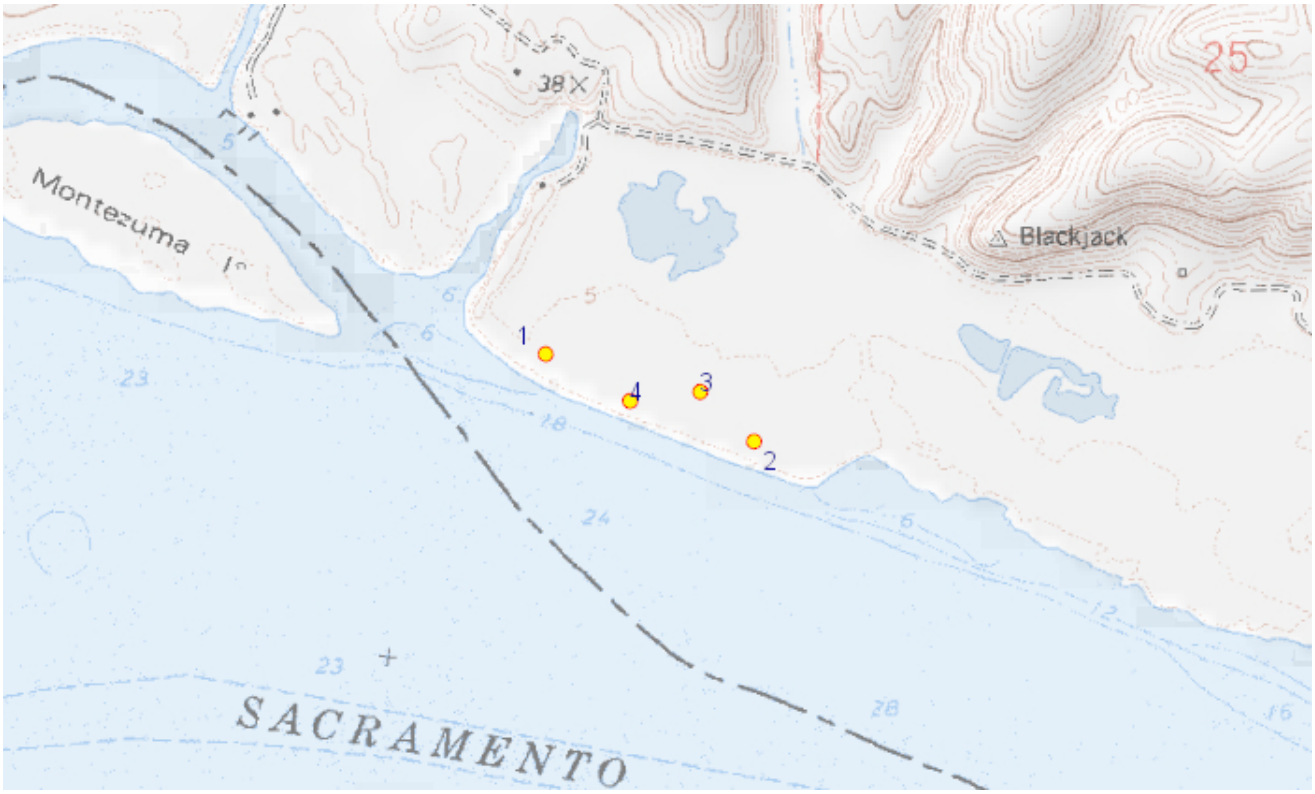
Immediate & surrounding land use: Agriculture/grazing

Visible disturbances: evidence of grazing, man-made berms, riprap along coastline.

Threats: Grazing, development

General comments:

MAP INFORMATION



ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Solano	Antioch North	14	38.07143	-121.83111	602527	4214386	10
1	**Public Land Survey**	**Feature Comment**						
	M T03N R01E 26							

ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Solano	Antioch North	20	38.06985	-121.82633	602949	4214216	10
2	**Public Land Survey**	**Feature Comment**						
	M T03N R01E 26	Large polygon with 25+ individuals						

ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Solano	Antioch North	20	38.07074	-121.82756	602839	4214314	10
3	**Public Land Survey**	**Feature Comment**						
	M T03N R01E 26	Large polygon with 20+ individuals						

ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Solano	Antioch North	9	38.07058	-121.82917	602698	4214294	10
4	**Public Land Survey**	**Feature Comment**						
	M T03N R01E 26	Large polygon with 75+ individuals						

The mapped feature is accurate within: 20 m

Source of mapped feature: Submeter handheld GPS device

Mapping notes:

Location/directions comments:

Attachment(s):

CNDDB Online Field Survey Form Report

California Natural Diversity Database
Department of Fish and Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: 916.324.0475
cnddb@wildlife.ca.gov
www.dfg.ca.gov/biogeodata/cnddb/

This data has been reported to the CNDDB, but may not have been evaluated by the CNDDB staff

Source code CRO23F0002
Quad code 3812117
Occ. no. _____
EO index no. _____
Map index no. _____

Scientific name: *Lilaeopsis masonii*

Common name: Mason's lilaeopsis

Date of field work (mm-dd-yyyy): 05-24-2023

Comment about field work date(s):

OBSERVER INFORMATION

Observer: Brian Cropper

Affiliation: Insignia Environmental

Address: 3028 Juniper St Apt 3

Email: bcropper@insigniaenv.com

Phone: (920) 544-7989

Other observers: Deanna Giuliano

DETERMINATION

Keyed in: Jepson Manual

Compared w/ specimen at:

Compared w/ image in: Jepson Herbarium, Calflora

By another person: Deanna Giuliano

Other:

Identification explanation:

Identification confidence: Very confident

Species found: Yes **If not found, why not?**

Level of survey effort: Fully botanical survey

Total number of individuals: 200-500

Collection? No **Collection number:**

Museum/Herbarium:

PLANT INFORMATION

Phenology:

vegetative	flowering	fruiting
15 %	85 %	0 %

SITE INFORMATION

Habitat description: Species were observed approximately 2-5 feet from the coast in tidally influenced saturated soils adjacent to riprap along coast. Dominant species and habitat included primarily Juncus.

Slope: 1-2 percent

Land owner/manager:

Aspect:

Site condition + population viability: Good

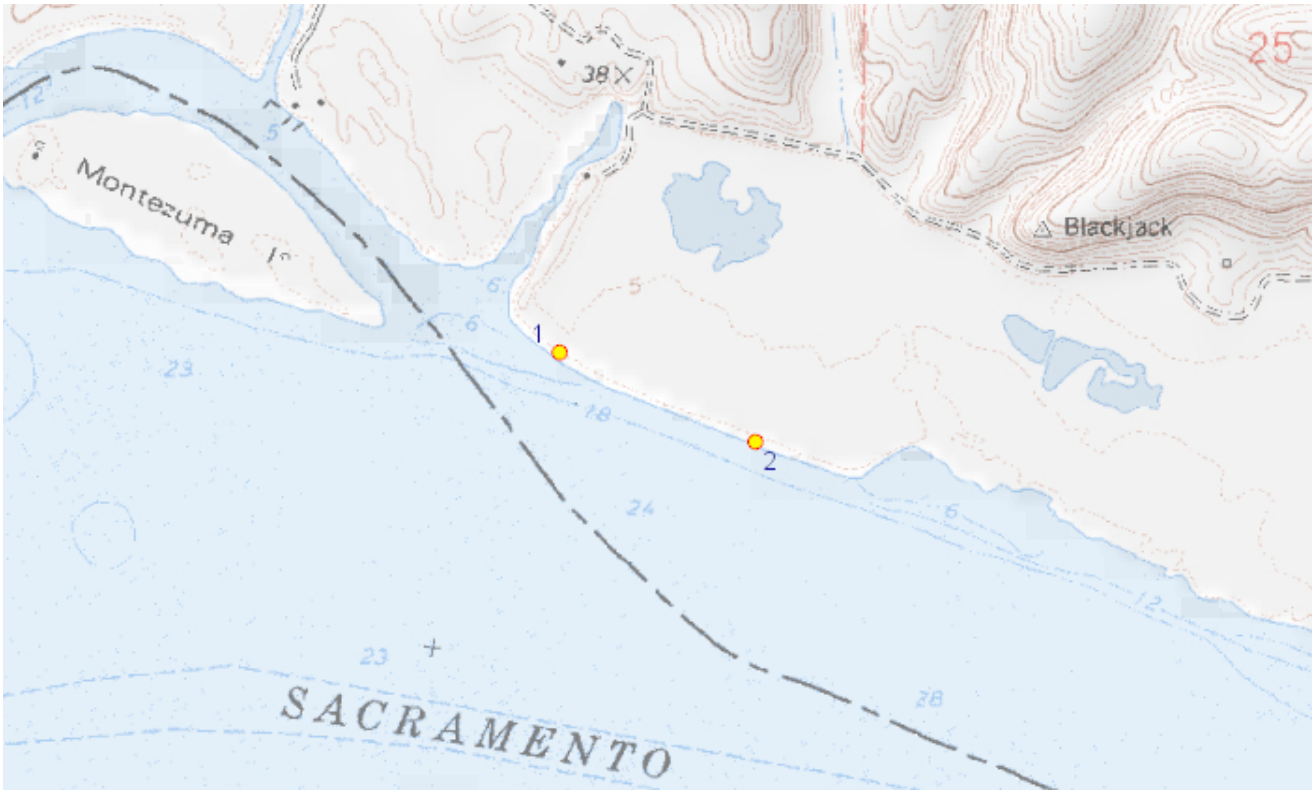
Immediate & surrounding land use: N/A

Visible disturbances: Riprap along coast, trash/debris, man-made berms.

Threats: Trash accumulation, potential grazing

General comments:

MAP INFORMATION



ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Solano	Antioch North	-9999	38.07129	-121.83182	602465	4214370	10
1	**Public Land Survey**	**Feature Comment**						
	M T03N R01E 26	rhizomatous spreading aprox. 5 ft from coast						

ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Solano	Antioch North	-9999	38.06968	-121.82733	602861	4214196	10
2	**Public Land Survey**	**Feature Comment**						
	M T03N R01E 26	Rhizomatous spreading along coast						

The mapped feature is accurate within: 10 m

Source of mapped feature: Handheld submeter GPS unit

Mapping notes: Species spreads along the coast and was found consistently between the two mapped points.

Location/directions comments:

Attachment(s):