

# Technical Memorandum

July 13, 2023

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|---------------------|---------------------------------------------------------------------|--------------------|--------------------------------------------------------|
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| <b>From</b>         | Miles Hartnett, GHD Biologist                                       | <b>Project No.</b> | 12603187                                               |
| <b>Project Name</b> | Life Plan Humboldt (LPH) Aging in Place Life Plan Community Project |                    |                                                        |
| <b>Subject</b>      | Botanical Survey and Report Memorandum                              |                    |                                                        |

## 1. Introduction

This technical memorandum reports the results of the completed protocol-level botanical surveys on behalf of Life Plan Humboldt (LPH), in support of the Aging in Place Life Plan Community Project (Project) in McKinleyville, California. GHD conducted seasonally appropriate floristic surveys for special status plant species and Sensitive Natural Communities (SNC's) within the Project Study Boundary (PSB) on May 9<sup>th</sup> and June 13<sup>th</sup>, 2023. This technical memorandum summarizes all botanical and vegetation classification studies conducted during the survey. One special status plant species, Harlequin lotus (*Hosackia gracilis*-CRPR 4.2) and one SNC, Coastal dune willow - Sitka willow - Douglas spiraea thickets Shrubland Alliance (*Salix hookeriana* - *Salix sitchensis* - *Spiraea douglasii*- S3/G4) was detected within the PSB. Vegetative SNC's were mapped in addition to wetland communities identified in the Aquatic Resources Delineation Report completed for Life Plan Humboldt on March 8, 2023.

### 1.1 Project Location and Setting

The Project site is located within Section 6, Township 06 North, Range 01 East, and Section 31, Township 07 North, Range 01 East, Arcata North USGS 7.5 Minute Quadrangle, in Humboldt County, California. The site is comprised of approximately 14.7 acres and includes the entirety of Assessor Parcel Numbers (APNs) 510-133-013 and 508-251-060 on Hiller Road, McKinleyville, California (**Attachment A: Figure 1, Vicinity Map**).

The surveys were conducted within the Project Study Boundary (PSB) as shown in **Attachment A: Figure 2, PSB**. The PSB consists of the two APNs and contains an open pasture and a scattered eucalyptus grove bordered by the McKinleyville shopping center and open space to the north, commercial development to the east, residential development to the south, and a church and active pastureland to the west. The property is a generally flat to gently sloped with a wet swale that dissects the site in a north westerly direction.

## 2. Regulatory Setting

### 2.1 Federally Listed Species

Special status plant species under federal jurisdiction include those listed as endangered, threatened, or as candidate species by the United States Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (ESA).

### 2.2 State Listed and/or Special Status Species

Special status plant species under California Department of Fish and Wildlife (CDFW) jurisdiction include the following:

- Endangered, Threatened, or Candidate plant species listed under the California Endangered Species Act (CESA)
- Plants listed as Rare under California Native Plant Protection Act (FGC, § 1900 et seq.)
- Plants on the California Native Plant Society's (CNPS) California Rare Plant Rank (CRPR) Lists 1 and 2.
- Taxa which meet the criteria for listing as described in Section 15380 of the California Environmental Quality Act (CEQA). All CRPR 1 and 2 and some CRPR 3 and 4 plants may fall under Section 15380 of CEQA.
- Locally significant plants (CEQA Guidelines, § 15125, subd. (c)) as designated in local or regional plans, policies, or ordinances are also considered special status plant species (CDFW 2018).

Plant species on CRPR Lists 1 and 2 are considered eligible for state listing as endangered or threatened pursuant to the California Fish and Game Code (FGC), and CDFW has oversight of these special status plant species as a trustee agency under Section 1802 of the FGC. Such species are considered during the CEQA process because they meet the definition of threatened or endangered under Sections 2062 and 2067 of the FGC.

Plant species on CRPR Lists 3 and 4 do not have formal protection under CEQA, but may merit consideration in certain circumstances including occurrences at the periphery of a species' range, areas where the taxon is especially uncommon, areas where the taxon has sustained heavy losses or is declining, occurrences exhibiting unusual morphology or occurring on unusual substrates, species maintained on BLM, USFWS, or USFS sensitive species lists, and taxa associated with a habitat that is declining in California at a significant rate (CNPS 2020).

### 2.3 Sensitive Natural Communities

SNC's include those that are tracked in the California Natural Diversity Database (CNDDB) as well as A Manual of California Vegetation (MCV2) alliances or associations with NatureServe State Ranks of S1 to S3. CDFW maintains a list of MCV2 alliances that must be considered during the CEQA process (CDFW 2023a). Aquatic resources (e.g. watercourses, ponds, wetlands, vernal pools, etc.) are also considered sensitive communities and are afforded special protections under CEQA and other federal, state, and local laws, regulations, and ordinances.

Sources for assessing SNC's include *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), *List of Vegetation Alliances* (CDFW 2023a), and *A Manual of California Vegetation Online Edition* (CNPS 2023b).

### 3. Methods

#### 3.1 Pre-Survey Investigations

A scoping list of special status plant species and communities with recorded occurrences in the project vicinity was compiled prior to surveys on April 7, 2023 by consulting the CNDDDB (CDFW 2023b), the CNPS Rare Plant Inventory (CNPS 2023a), and U.S. Fish and Wildlife Service IPaC (USFWS 2023) The CNDDDB RareFind database was also consulted for rare plant occurrences documented in the project vicinity.

The scoping list includes special status plant species with documented occurrences within a nine-quad search of the PSB including the Arcata North USGS 7.5-Minute quadrangle and adjacent eight quadrangles (Trinidad, Crannell, Panther Creek, Blue Lake, Korbel, Arcata South, Eureka, and Tyee City). The query yielded 58 special status plant species with documented occurrences within the nine-quad scoping area. All special status plant species identified in the database queries described above were compiled and reviewed prior to the field survey visits and evaluated for their potential to occur within the PSB based on existing habitat availability (**Table 1**). Results of each database query are provided in **Attachment E: Database Query Results**.

Of the 58 special status species identified in the database query, 15 were determined to have a moderate to high potential to occur within the PSB based on existing habitat observed during site visits. The remaining 43 species have no or low potential to occur within the PSB because they are restricted by hydrologic conditions, soil or substrate, topographic conditions, pH conditions, geographic isolation, or associated vegetative communities that do not occur within the PSB.

Special status plant species with a moderate to high potential to occur within the PSB include the following 15 species: Bolander's reed grass (*Calamagrostis bolanderi*), bristle-stalked sedge (*Carex leptalea*), northern meadow sedge (*Carex praticola*), Oregon goldthread (*Coptis laciniata*), giant fawn lily (*Erythronium oregonum*), harlequin lotus (*Hosackia gracilis*), western lily (*Lilium occidentale*), leafy-stemmed miterwort (*Mitellastrum caulescens*), Howell's montia (*Montia howellii*), nodding semaphore grass (*Pleuropogon refractus*), maple-leaved checkerbloom (*Sidalcea malachroides*), Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*), coast checkerbloom (*Sidalcea oregana* ssp. *eximia*), Scouler's catchfly (*Silene scouleri* ssp. *scouleri*), and cylindrical trichodon (*Trichodon cylindricus*).

**Table 1** below details all 58 special status plant species identified in the database scoping and query results described above as well as a discussion of the potential for each species to occur within the PSB based on the existing habitat present.

Table 1. Potential for Special Status Plants to Occur within the PSB

| Scientific Name                                              | Common Name              | FESA | CESA | Global Rank <sup>2</sup> | State Rank <sup>2</sup> | CRPR <sup>2</sup> | Habitat Requirements <sup>1</sup>                                                                                                                            | Potential to Occur in the PSB                                                                                                         |
|--------------------------------------------------------------|--------------------------|------|------|--------------------------|-------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <i>Abronia umbellate</i><br><i>var. breviflora</i>           | Pink sand-verbena        | None | None |                          | S2                      | 1B.1              | Coastal dunes                                                                                                                                                | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                                      |
| <i>Angelica lucida</i>                                       | sea-watch                | None | None | G5                       | S3                      | 4.2               | Coastal bluff scrub, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt).                                                                        | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                                      |
| <i>Astragalus pycnostachyus</i><br><i>var. pycnostachyus</i> | Coastal marsh milk vetch | None | None | G2T2                     | S2                      | 1B.2              | Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides)                                                                         | <b>No potential.</b> The PSB does not contain suitable habitat for this species. Wetland meadow habitat is freshwater wetland.        |
| <i>Astragalus rattanii</i><br><i>var. rattanii</i>           | Rattan's milk-vetch      | None | None | G4T4                     | S4                      | 4.3               | Chaparral, Cismontane woodland, Lower montane coniferous forest                                                                                              | <b>No potential.</b> The PSB does not contain suitable habitat for this species                                                       |
| <i>Calamagrostis bolanderi</i>                               | Bolander's reed grass    | None | None | G4                       | S4                      | 4.2               | Bogs and fens, Broadleafed upland forest, Closed-cone coniferous forest, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species.            |
| <i>Cardamine angulata</i>                                    | seaside bittercress      | None | None | G4G5                     | S3                      | 2B.2              | Lower montane coniferous forest, North Coast coniferous forest                                                                                               | <b>No potential.</b> The PSB does not contain suitable habitat for this species                                                       |
| <i>Carex arcta</i>                                           | Northern clustered sedge | None | None | G5                       | S1                      | 2B.2              | Bogs and fens, North Coast coniferous forest (mesic)                                                                                                         | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species and is outside of its known elevation range. |

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|-----------------------------------------------------|-------------------------------|------|------|--------------------------|-------------------------|-------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <i>Carex leptalea</i>                               | bristle-stalked sedge         | None | None | G5                       | S1                      | 2B.2              | Bogs and fens, Marshes and swamps, Meadows and seeps     | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Carex lyngbyei</i>                               | Lyngbye's sedge               | None | None | G5                       | S3                      | 2B.2              | Marshes and swamps (brackish)                            | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Carex praticola</i>                              | northern meadow sedge         | None | None | G5                       | S2                      | 2B.2              | Meadows and seeps                                        | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Castilleja ambigua</i> var. <i>humboldtensis</i> | Humboldt Bay owl's-clover     | None | None | G4T2                     | S2                      | 1B.2              | Marshes and swamps (coastal salt)                        | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Castilleja litoralis</i>                         | Oregon coast paintbrush       | None | None | G3                       | S3                      | 2B.2              | Coastal bluff scrub, Coastal dunes, Coastal scrub        | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Chloropyron maritimum</i> ssp. <i>palustre</i>   | Point Reyes salty bird's-beak | None | None | G4?T2                    | S2                      | 1B.2              | Marshes and swamps (coastal salt)                        | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Chrysosplenium glechomifolium</i>                | Pacific golden saxifrage      | None | None | G5?                      | S3                      | 4.3               | North Coast coniferous forest, Riparian forest           | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Collinsia corymbosa</i>                          | round-headed collinsia        | None | None | G1                       | S1                      | 1B.2              | Coastal dunes                                            | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Coptis laciniata</i>                             | Oregon goldthread             | None | None | G4?                      | S3?                     | 4.2               | Meadows and seeps, North Coast coniferous forest         | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Eleocharis parvula</i>                           | small spikerush               | None | None | G5                       | S3                      | 4.3               | Marshes and swamps                                       | <b>No potential.</b> The PSB does not contain suitable habitat (i.e. coastal salt marsh) for this species.                 |
| <i>Epilobium septentrionale</i>                     | Humboldt County fuchsia       | None | None | G4                       | S4                      | 4.3               | Broadleafed upland forest, North Coast coniferous forest | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Erysimum menziesii</i>                           | Menzies' wallflower           | FE   | CE   | G1                       | S1                      | 1B.1              | Coastal dunes                                            | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |

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|------------------------------------------------------|--------------------|------|------|--------------------------|-------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <i>Erythronium oregonum</i>                          | giant fawn lily    | None | None | G5                       | S2                      | 2B.2              | Cismontane woodland, Meadows and seeps                                                                                       | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Erythronium revolutum</i>                         | coast fawn lily    | None | None | G4G5                     | S3                      | 2B.2              | Bogs and fens, Broadleafed upland forest, North Coast coniferous forest                                                      | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                  |
| <i>Fissidens pauperculus</i>                         | minute pocket moss | None | None | G3?                      | S2                      | 1B.2              | North Coast coniferous forest                                                                                                | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Fritillaria purdyi</i>                            | Purdy's fritillary | None | None | G4                       | S4                      | 4.3               | Chaparral, Cismontane woodland, Lower montane coniferous forest                                                              | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Gilia capitata</i> ssp. <i>pacifica</i>           | Pacific gilia      | None | None | G5T3                     | S2                      | 1B.2              | Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland                                               | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                  |
| <i>Gilia millefoliata</i>                            | dark-eyed gilia    | None | None | G2                       | S2                      | 1B.2              | Coastal dunes                                                                                                                | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Glehnia littoralis</i> ssp. <i>leiocarpa</i>      | American glehnia   | None | None | G5T5                     | S2S3                    | 4.2               | Coastal dunes                                                                                                                | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Hemizonia congesta</i> ssp. <i>tracyi</i>         | Tracy's tarplant   | None | None | G5T4                     | S4                      | 4.3               | Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest                                              | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                  |
| <i>Hesperevax sparsiflora</i> var. <i>brevifolia</i> | short-leaved evax  | None | None | G4T3                     | S3                      | 1B.2              | Coastal bluff scrub, Coastal dunes, Coastal prairie                                                                          | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                  |
| <i>Hosackia gracilis</i>                             | harlequin lotus    | None | None | G3G4                     | S3                      | 4.2               | Broadleafed upland forest, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal prairie, Coastal | <b>Present.</b> Species was observed within the PSB on June 13 <sup>th</sup> , 2023.                                       |

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|----------------------------------------------------|-------------------------|------|------|--------------------------|-------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                    |                         |      |      |                          |                         |                   | scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Valley and foothill grassland                        |                                                                                                                                                                   |
| <i>Iliamna latibracteata</i>                       | California globe mallow | None | None | G2G3                     | S2                      | 1B.2              | Chaparral (montane), Lower montane coniferous forest, North Coast coniferous forest (mesic), Riparian scrub (streambanks)         | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                                                                  |
| <i>Lasthenia californica</i> ssp. <i>macrantha</i> | perennial goldfields    | None | None | G3T2                     | S2                      | 1B.2              | Coastal bluff scrub, Coastal dunes, Coastal scrub                                                                                 | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                                                                  |
| <i>Lathyrus glandulosus</i>                        | sticky pea              | None | None | G3                       | S3                      | 4.3               | Cismontane woodland                                                                                                               | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                                                                  |
| <i>Lathyrus japonicus</i>                          | seaside pea             | None | None | G5                       | S2                      | 2B.1              | Coastal dunes                                                                                                                     | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                                                                  |
| <i>Lathyrus palustris</i>                          | marsh pea               | None | None | G5                       | S2                      | 2B.2              | Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                                                         |
| <i>Layia carnosa</i>                               | beach layia             | FE   | CE   | G2                       | S2                      | 1B.1              | Coastal dunes, Coastal scrub                                                                                                      | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                                                                  |
| <i>Lilium kelloggii</i>                            | Kellogg's lily          | None | None | G3                       | S3                      | 4.3               | Lower montane coniferous forest, North Coast coniferous forest                                                                    | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                                                                  |
| <i>Lilium occidentale</i>                          | western lily            | FE   | CE   | G1                       | S1                      | 1B.1              | Bogs and fens, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes                                                       | <b>Moderate potential.</b> The PSB contains wet pasture and meadow habitat that may be suitable for this species. The closest recent occurrences (< 20 years) are |

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|------------------------------------------------|----------------------------|------|------|--------------------------|-------------------------|-------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|                                                |                            |      |      |                          |                         |                   | and swamps, North Coast coniferous forest                                                                    | located at the Table Bluff Ecological Reserve in the Fields Landing quad.                                                  |
| <i>Listera cordata</i>                         | heart-leaved twayblade     | None | None | G5                       | S4                      | 4.2               | Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest                                | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                  |
| <i>Lycopodium clavatum</i>                     | running pine               | None | None | G5                       | S3                      | 4.1               | Lower montane coniferous forest (mesic)<br>Marshes and swamps<br>North Coast coniferous forest (mesic)       | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                  |
| <i>Mitellastrum caulescens</i>                 | leafy-stemmed mitrewort    | None | None | G5                       | S4                      | 4.2               | Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Monotropa uniflora</i>                      | ghost-pipe                 | None | None | G5                       | S2                      | 2B.2              | Broadleafed upland forest, North Coast coniferous forest                                                     | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Montia howellii</i>                         | Howell's montia            | None | None | G3G4                     | S2                      | 2B.2              | Meadows and seeps, North Coast coniferous forest, Vernal pools                                               | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Oenothera wolffii</i>                       | Wolf's evening-primrose    | None | None | G2                       | S1                      | 1B.1              | Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest                         | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                  |
| <i>Packera bolanderi</i> var. <i>bolanderi</i> | seacoast ragwort           | None | None | G4T4                     | S2S3                    | 2B.2              | Coastal scrub, North Coast coniferous forest                                                                 | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Piperia candida</i>                         | white-flowered rein orchid | None | None | G3                       | S3                      | 1B.2              | Broadleafed upland forest, Lower montane coniferous                                                          | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |

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|-----------------------------------------------|---------------------------|------|------|--------------------------|-------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|                                               |                           |      |      |                          |                         |                   | forest, North Coast coniferous forest                                                                                      |                                                                                                                            |
| <i>Pityopus californicus</i>                  | California pinefoot       | None | None | G4G5                     | S4                      | 4.2               | Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Pleuropogon refractus</i>                  | nodding semaphore grass   | None | None | G4                       | S4                      | 4.2               | Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest                         | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Ribes laxiflorum</i>                       | trailing black currant    | None | None | G5?                      | S3                      | 4.3               | North Coast coniferous forest                                                                                              | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Sidalcea malachroides</i>                  | maple-leaved checkerbloom | None | None | G3                       | S3                      | 4.2               | Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland                | <b>Moderate potential.</b> The PSB contains some habitat that may be suitable for this species.                            |
| <i>Sidalcea malviflora</i> ssp. <i>patula</i> | Siskiyou checkerbloom     | None | None | G5T2                     | S2                      | 1B.2              | Coastal bluff scrub, Coastal prairie, North Coast coniferous forest                                                        | <b>Moderate potential.</b> The PSB contains some habitat that may be suitable for this species                             |
| <i>Sidalcea oregana</i> ssp. <i>eximia</i>    | coast checkerbloom        | None | None | G5T1                     | S1                      | 1B.2              | Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest                                          | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Silene scouleri</i> ssp. <i>scouleri</i>   | Scouler's catchfly        | None | None | G5T4T5                   | S2S3                    | 2B.2              | Coastal bluff scrub, Coastal prairie, Valley and foothill grassland                                                        | <b>Moderate potential.</b> The PSB contains some habitat that may be suitable for this species                             |

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|--------------------------------------------------------|---------------------------|------|------|--------------------------|-------------------------|-------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <i>Spergularia canadensis</i> var. <i>occidentalis</i> | western sand-spurrey      | None | None | G5T4                     | S1                      | 2B.1              | Marshes and swamps (coastal salt)                                             | <b>No potential.</b> The PSB does not contain suitable habitat (i.e. coastal salt marsh) for this species.                 |
| <i>Sulcaria spiralifera</i>                            | twisted horsehair lichen  | None | None | G3G4                     | S2                      | 1B.2              | Coastal dunes, North Coast coniferous forest                                  | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Tiarella trifoliata</i> var. <i>trifoliata</i>      | trifoliolate laceflower   | None | None | G5T5                     | S2S3                    | 3.2               | Lower montane coniferous forest, North Coast coniferous forest                | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Trichodon cylindricus</i>                           | cylindrical trichodon     | None | None | G4G5                     | S2                      | 2B.2              | Broadleafed upland forest, Meadows and seeps, Upper montane coniferous forest | <b>Moderate potential.</b> Wetland meadow habitat is present in the PSB and may contain suitable habitat for this species. |
| <i>Usnea longissima</i>                                | Methuselah's beard lichen | None | None | G4                       | S4                      | 4.2               | Broadleafed upland forest, North Coast coniferous forest                      | <b>No potential.</b> The PSB does not contain suitable habitat for this species.                                           |
| <i>Viola palustris</i>                                 | alpine marsh violet       | None | None | G5                       | S1S2                    | 2B.2              | Bogs and fens, Coastal scrub                                                  | <b>Low potential.</b> The PSB contains only marginally suitable habitat for this species.                                  |

Footnotes:

1 General habitat, and microhabitat column information, reprinted from CNDDB (April 7, 2023).

2 Rankings from CNDDB (April 7, 2023)

Column Header Categories and Abbreviations:

FESA Listing status under the federal Endangered Species Act (ESA)

FE Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; FD = Federally Delisted

CESA Listing status under the California state Endangered Species Act (CESA)

SE State Endangered; SD = State Delisted; ST = State Threatened.

G-Rank: Global Rank from NatureServe's Heritage Methodology (NatureServe 2021) (ranking according to degree of global imperilment - G1 = Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors; G2 = Imperiled—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors; G3 = Vulnerable—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors; G4 = Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors; G5 = Secure—Common; widespread and abundant.

Subspecies/variety level: "Subspecies/varieties receive a T-rank attached to the G-rank. With the subspecies/varieties, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety" (CDFW 2021b); ? = "Denotes inexact numeric rank" (NatureServe 2021); Q = "Questionable taxonomy that may reduce conservation priority" (NatureServe 2021)

S-Rank: State Rank from NatureServe's Heritage Methodology (NatureServe 2021) (ranking according to degree of imperilment in the state (California) - S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state; S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state; S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state; S4 = Apparently Secure—Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors; S5 = Secure—Common, widespread, and abundant in the state; SNR = State Not Ranked.

CRPR: California Rare Plant Ratings (CNPS 2023a) - 1A = Plants presumed extinct in California; 1B = Plants rare, threatened or endangered in California and elsewhere; 2 = Plants rare, threatened, or endangered in California, but more common elsewhere; 3 = Plants about which more information is needed (a review list); 4 = Plants of limited distribution (a watch list); n/a = not applicable; Threat Code extensions and their meanings: ".1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 – Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat); .3 – Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)"

Potential to Occur:

No potential: Habitat in and adjacent to the PSB is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Low potential: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found in the PSB.

Moderate potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found in the PSB.

High potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on in the PSB

Present: Detected or documented on-site.

## 3.2 Floristic Surveys

GHD wildlife biologist/botanist, Miles Hartnett, conducted floristic surveys on May 9<sup>th</sup>, 2023 and June 13<sup>th</sup>, 2023 during the appropriate blooming period for each special status plant species with moderate or high potential to occur within the PSB as determined above in **Table 1**. The special status plant survey followed *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018) and *General Rare Plant Survey Guidelines by the Endangered Species Recovery Program* (USFWS 2002). The special status plant survey was conducted by walking the site and identifying all plant species encountered to the lowest taxonomic level necessary for rare plant identification. Nomenclature follows *The Jepson Manual, Second Edition* (Baldwin et al 2012).

Miles Hartnett has nine years of professional experience in wildlife biology, forestry, botany, and environmental compliance and received a Bachelor of Science degree in Environmental Science and Ecological Restoration from Humboldt State University in 2011 with multiple studies pertaining to plant taxonomy, biology, ecology, soils, wetland soils, and watershed management. Mr. Hartnett holds a Rare Plant Voucher Collecting Permit (No. 2081 a-20-090-V).

A complete list of all species observed within the project area is provided in **Attachment B: List of Observed Taxa**. Observed SNCs were recording using the *Combined Vegetation Rapid Assessment and Releve Filed Form* provided in Attachment D.

## 4. Results

### 4.1 Special Status Plants

This study constitutes a seasonally appropriate botanical survey for this project. A total of 87 plant species were observed within the PSB during all site visits. A complete list of all plant species observed is included in **Attachment B: List of Observed Taxa**.

One special status plant species was observed within the PSB during the survey site visits and is detailed below:

1). Harlequin lotus (*Hosackia gracilis* Benth) (Attachment C: Photos 1-2)

Conservation Status:

- CA Rare Plant Rank of 4.2 (Watch List/Limited Distribution; fairly threatened in California).
- Global Rank: G3G4 (Vulnerable to Apparently Secure)
- State Rank: S3 (Vulnerable)

A population of approximately 1,000 individuals of *H. gracilis* was identified throughout the PSB on June 13, 2023. Prior to this occurrence, there have been no other occurrences of *H. gracilis* documented on the CNDDDB or Rare Plant Inventory within the Arcata North USGS 7.5-Minute quadrangle. *H. gracilis* individuals observed were primarily associated with non-native pasture grasses such as *Anthoxanthum odoratum*, *Holcus lanatus*, and *Agrostis stolonifera*, and were integrating closing with *Lotus ulginosus*. The occurrences were located in open pasture areas between GPS coordinates (40.941981, -124.105896) and (40.940997, -124.104844) at an elevation of approximately 135 feet above sea level (**Attachment A: Figure 3, Special Status Plant Species**).

*H. gracilis* is a perennial rhizomatous herb in the Fabaceae family and associates with many general habitat types including broadleafed upland forest, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, meadows and seeps, north

---

coast coniferous forest, and valley and foothill grassland. General micro habitats include wetlands and roadsides. Threats to this species include development, grazing, feral pigs, habitat alteration, and competition (CNPS 2023a).

## 4.2 Sensitive Natural Communities

Natural communities within the PSB were classified according to *A Manual of California Vegetation Online Edition* (Sawyer et. al. 2019). SNC's include those that are listed in CNDDDB as well as observed alliances or associations with NatureServe State Rarity Ranks of S1 to S3 and are listed on CDFW's *List of California Sensitive Natural Communities* (CDFW 2023a). Observed SNC's were recorded in the field using the *Combined Vegetation Rapid Assessment and Releve Field Form* provided in **Attachment D: Rapid Assessment Datasheets**.

Aquatic resources including wetlands are also classified as sensitive communities. Aquatic resources identified within the PSB during the Aquatic Resources Delineation completed for Life Plan Humboldt on March 8, 2023 are included with SNC's for the purposes of this report. Please see the Aquatic Resources Delineation Report for Life Plan Humboldt for details, maps, and datasheets regarding wetland communities identified within the PSB (GHD 2023).

Non-sensitive vegetative communities observed within the PSB include common velvet grass-sweet vernal grass meadows (*Anthoxanthum odoratum* - *Holcus lanatus*) Herbaceous Semi-Natural Alliance, Kentucky bluegrass - Redtop – Creeping bentgrass meadows (*Poa pratensis* - *Agrostis gigantea* - *Agrostis stolonifera*) Herbaceous Semi-Natural Alliance, and Eucalyptus groves (*Eucalyptus spp.*) Woodland Semi-Natural Alliance.

One SNC was observed within the PSB in addition to previously delineated wetlands and is detailed below:

1). Coastal dune willow- Sitka willow – Douglas spiraea (*Salix hookeriana* - *Salix sitchensis* - *Spiraea douglasii*) Shrubland Alliance **Attachment C: Photos 3-4**:

Conservation Status:

- Global Rank: G3 (Vulnerable)
- State Rank: S3 (Vulnerable)

One discontinuous community of Coastal dune willow- Sitka willow – Douglas spiraea (*Salix hookeriana* - *Salix sitchensis* - *Spiraea douglasii*) Shrubland Alliance comprising approximately 3,025 sqft within the PSB was identified on May 9<sup>th</sup>, 2023. The occurrences were located primarily along the outer edges of wetland communities between GPS coordinates (40.942177, -124.104115) and (40.941778, -124.106008) at an elevation of approximately 135 feet above sea level (**Appendix A: Figure 4, Wetlands and Sensitive Natural Communities**).

*Salix hookeriana* and *Salix sitchensis* alliances were treated as separate alliances in *A Manual of California Vegetation, Second Edition* (2009), however, they have since been merged into a combined alliance in *A Manual of California Vegetation, Online Edition* (2023). *Salix sitchensis* and *S. hookeriana* are typical dominants or co-dominants in this alliance and stands range from Alaska to California. They grow along low elevation streams and lagoons along the North Coast of California. Stands commonly occur in road banks and along shores of creeks, rivers, lagoons, and dune hollows. It is the major willow scrub along the moist, northwestern coastal belt of California (CNPS 2023b).

## 5. Conclusion

Seasonally appropriate floristic surveys for special status plants and SNCs with potential to occur within the PSB were conducted by GHD on May 9<sup>th</sup> and June 13<sup>th</sup>, 2023. One special-status plant species, Harlequin lotus (*Hosackia gracilis*-CRPR 4.2) and one SNC, Coastal dune willow- Sitka willow – Douglas spiraea (*Salix hookeriana* - *Salix sitchensis* - *Spiraea douglasii*) Shrubland Alliance (G3/S3) were observed throughout the PSB.

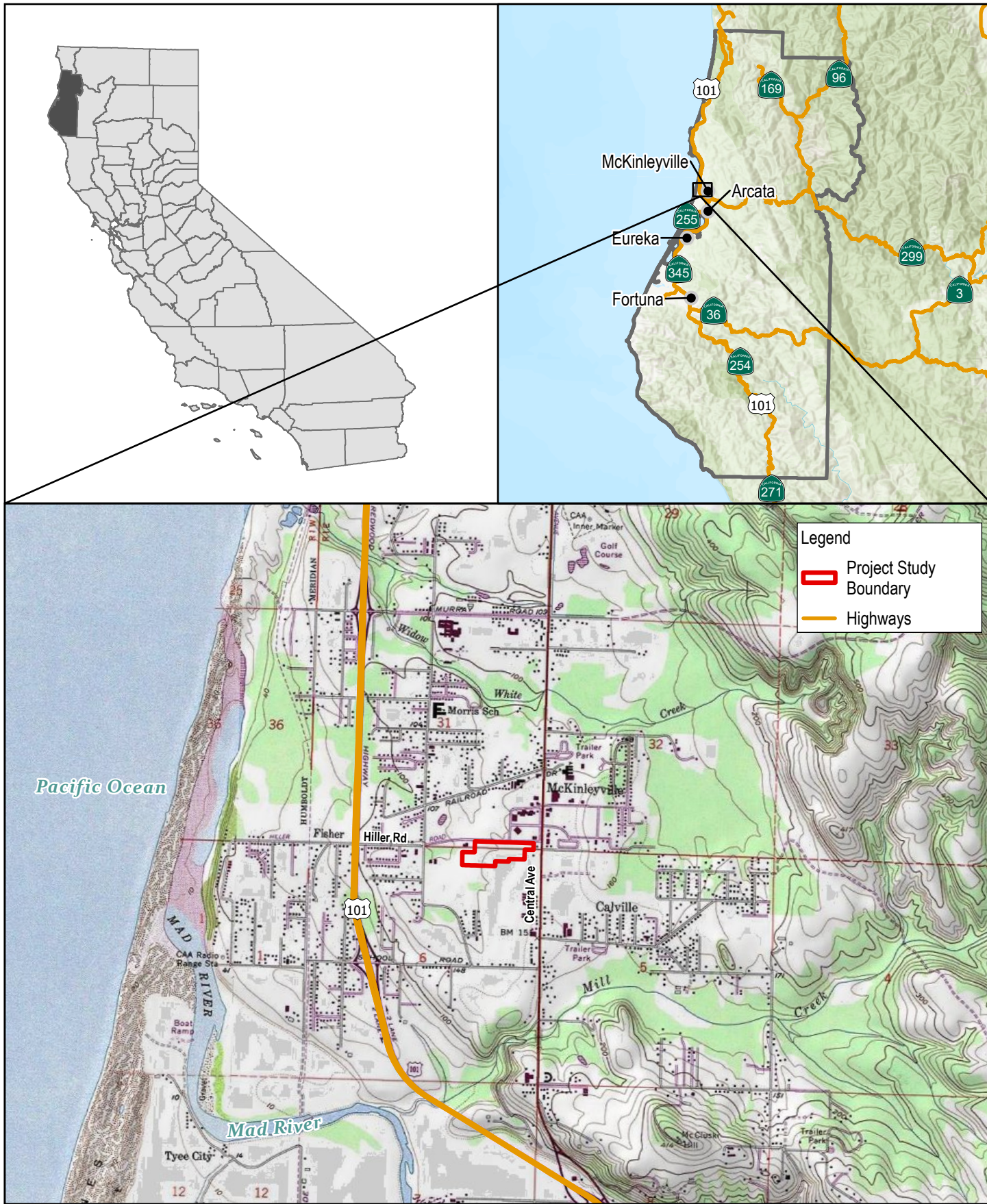
## 6. References

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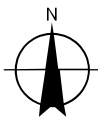
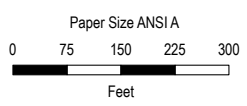
# **Attachment A**

## **Figures**





Legend  
 Project Study Boundary



Map Projection: Lambert Conformal Conic  
 Horizontal Datum: North American 1983  
 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



Life Plan Humboldt  
 Rare Plants and Sensitive Natural Communities Survey  
 McKinleyville

**Project Study Boundary  
 (PSB)**

Project No. 12603187  
 Revision No. -  
 Date Jun 2023

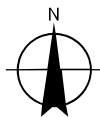
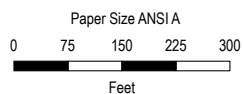
**FIGURE 2**



**Legend**

Project Study Boundary

▲ Harlequin lotus (*Hosackia gracilis*): CRPR 4.2



Map Projection: Lambert Conformal Conic  
Horizontal Datum: North American 1983  
Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet

Life Plan Humboldt  
Rare Plants and Sensitive Natural Communities Survey  
McKinleyville

Project No. 12603187  
Revision No. -  
Date Jun 2023

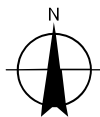
**Special Status Species**

**FIGURE 3**



Paper Size ANSI A  
0 75 150 225 300  
Feet

Map Projection: Lambert Conformal Conic  
Horizontal Datum: North American 1983  
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



Life Plan Humboldt  
Rare Plants and Sensitive Natural Communities Survey  
McKinleyville

Wetlands and Sensitive Natural  
Communities (SNC)

Project No. 12603187  
Revision No. -  
Date Jul 2023

FIGURE 4

# **Attachment B**

## **List of Observed Taxa**

Attachment B. Plant species observed in the PSB 2022.

| Scientific Name                       | Common Name          | Family          | Status              |
|---------------------------------------|----------------------|-----------------|---------------------|
| <i>Abies grandis</i>                  | grand fir            | Pinaceae        | native              |
| <i>Acemisson parvula</i>              | hill lotus           | Fabaceae        | native              |
| <i>Agrostis stolonifera</i>           | redtop               | Poaceae         | invasive non-native |
| <i>Alnus rubra</i>                    | red alder            | Betulaceae      | native              |
| <i>Anthoxanthum odoratum</i>          | sweet vernal grass   | Poaceae         | invasive non-native |
| <i>Avena barbata</i>                  | slim oat             | Poaceae         | non-native          |
| <i>Baccharis pilularis</i>            | coyote brush         | Asteraceae      | non-native          |
| <i>Bellis perennis</i>                | English daisy        | Asteraceae      | non-native          |
| <i>Brassica nigra</i>                 | black mustard        | Brassicaceae    | invasive non-native |
| <i>Briza maxima</i>                   | rattlesnake grass    | Poaceae         | non-native          |
| <i>Bromus carinatus</i>               | California brome     | Poaceae         | native              |
| <i>Bromus diandrus</i>                | ripgut               | Poaceae         | non-native          |
| <i>Bromus hordeaceus</i>              | soft chess           | Poaceae         | invasive non-native |
| <i>Carex hartfordii</i>               | Monterey sedge       | Cyperaceae      | native              |
| <i>Carex obnupta</i>                  | slough sedge         | Cyperaceae      | native              |
| <i>Cerastrium fontanum</i>            | common chickweed     | Caryophyllaceae | non-native          |
| <i>Cerastrium glomeratum</i>          | sticky chickweed     | Caryophyllaceae | non-native          |
| <i>Cirsium vulgare</i>                | bullthistle          | Asteraceae      | invasive non-native |
| <i>Claytonia sibirica</i>             | candy flower         | Montiaceae      | native              |
| <i>Cortaderia sp.</i>                 | pampas grass         | Poaceae         | invasive non-native |
| <i>Crocodysmia x crocodysmiiflora</i> | monbretia            | Iridaceae       | invasive non-native |
| <i>Cytisus scoparius</i>              | Scotch broom         | Fabaceae        | invasive non-native |
| <i>Dactylus glomeratus</i>            | orchard grass        | Poaceae         | non-native          |
| <i>Daucus carota</i>                  | carrot               | Apiaceae        | non-native          |
| <i>Daucus pusillus</i>                | wild carrot          | Apiaceae        | native              |
| <i>Epilobium ciliatum</i>             | Northern willow herb | Onagraceae      | native              |
| <i>Equisetum arvense</i>              | common horsetail     | Equisetaceae    | native              |
| <i>Erigeron canadensis</i>            | horseweed            | Asteraceae      | native              |
| <i>Erodium moschatum</i>              | whitestem filaree    | Geraniaceae     | non-native          |
| <i>Eucalyptus globulus</i>            | blue gum             | Myrtaceae       | invasive non-native |
| <i>Festuca arundinacea</i>            | reed fescue          | Poaceae         | invasive non-native |
| <i>Festuca perennis</i>               | Italian rye grass    | Poaceae         | invasive non-native |
| <i>Fragaria vesca</i>                 | wild strawberry      | Rosaceae        | native              |
| <i>Gallium aparine</i>                | cleavers             | Rubiaceae       | non-native          |
| <i>Gaultheria shallon</i>             | salal                | Ericaceae       | native              |
| <i>Geranium dissectum</i>             | cutleaf geranium     | Geraniaceae     | non-native          |
| <i>Geranium molle</i>                 | dove's foot geranium | Geraniaceae     | non-native          |
| <i>Gernanium robertianum</i>          | Rpobert geranium     | Geraniaceae     | non-native          |

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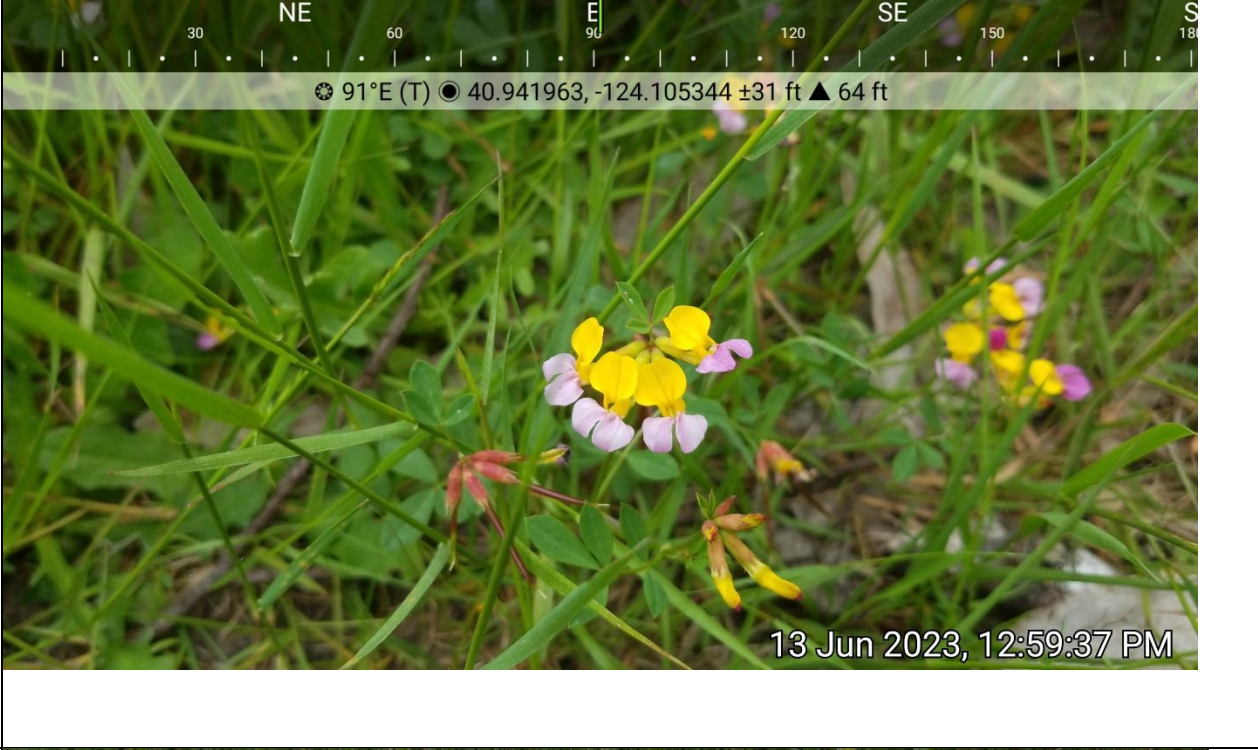
| Scientific Name                            | Common Name            | Family           | Status                   |
|--------------------------------------------|------------------------|------------------|--------------------------|
| <i>Holcus lanatus</i>                      | common velvetgrass     | Poaceae          | invasive non-native      |
| <b><i>Hosackia gracilis</i></b>            | <b>harlequin lotus</b> | <b>Fabacea</b>   | <b>native (CRPR 4.2)</b> |
| <i>Hypochaeris glabra</i>                  | smooth cats ear        | Asteraceae       | invasive non-native      |
| <i>Hypochaeris radicata</i>                | hairy cats ear         | Asteraceae       | invasive non-native      |
| <i>Ilex aquifolium</i>                     | holly                  | Aquifoliaceae    | invasive non-native      |
| <i>Juncus effusus</i> var. <i>pacifica</i> | Pacific rush           | Juncaceae        | native                   |
| <i>Juncus hesperius</i>                    | coast rush             | Juncaceae        | native                   |
| <i>Lactuca saligna</i>                     | willow lettuce         | Asteraceae       | non-native               |
| <i>Lapsana communis</i>                    | nipplewort             | Asteraceae       | non-native               |
| <i>Leucanthemum vulgare</i>                | oxe eye daisy          | Asteraceae       | invasive non-native      |
| <i>Linum bienne</i>                        | flax                   | Linaceae         | non-native               |
| <i>Lonicera involucrata</i>                | coast twinberry        | Caprifoliaceae   | native                   |
| <i>Lotus corniculatus</i>                  | bird's foot trefoil    | Fabaceae         | non-native               |
| <i>Lotus ulginosus</i>                     | marsh lotus            | Fabaceae         | non-native               |
| <i>Lupinus rivularis</i>                   | riverbank lupine       | Fabaceae         | native                   |
| <i>Medicago polymorpha</i>                 | burclover              | Fabaceae         | invasive non-native      |
| <i>Narcissus</i> spp.                      | daffodil               | Amaryllidaceae   | non-native               |
| <i>Oenanthe sarmentosa</i>                 | water parsley          | Apiaceae         | non-native               |
| <i>Oxalis articulata</i>                   | windowbox woodsorrel   | Oxalidaceae      | non-native               |
| <i>Oxalis pes-caprae</i>                   | Burmuda buttercup      | Oxalidaceae      | invasive non-native      |
| <i>Picea sitchensis</i>                    | Sitka spruce           | Pinaceae         | native                   |
| <i>Pinus radiata</i>                       | Monterey pine          | Pinaceae         | invasive non-native      |
| <i>Plantago lanceolata</i>                 | ribwort                | Plantaginaceae   | invasive non-native      |
| <i>Poa annua</i>                           | annual blue grass      | Poaceae          | non-native               |
| <i>Polystichum munitum</i>                 | Western sword fern     | Dryopteridaceae  | native                   |
| <i>Pseudotsuga menziesii</i>               | Douglas-fir            | Pinaceae         | native                   |
| <i>Pteridium aquilinum</i>                 | bracken fern           | Dennstaedtiaceae | native                   |
| <i>Ranunculus repens</i>                   | creeping buttercup     | Ranunculaceae    | invasive non-native      |
| <i>Raphanus sativus</i>                    | wild radish            | Brassicaceae     | non-native               |
| <i>Rubus armeniacus</i>                    | Himalayan blackberry   | Rosaceae         | invasive non-native      |
| <i>Rubus parviflorus</i>                   | thimbleberry           | Rosaceae         | native                   |
| <i>Rubus ursinus</i>                       | California blackberry  | Rosaceae         | native                   |
| <i>Rumex acetosella</i>                    | sheep sorrel           | Polygonaceae     | invasive non-native      |
| <i>Rumex crispus</i>                       | curley dock            | Polygonaceae     | invasive non-native      |
| <i>Salix hookeriana</i>                    | coastal willow         | Salicaceae       | native                   |
| <i>Salix sitchensis</i>                    | Sitka willow           | Salicaceae       | native                   |
| <i>Sambucus racemosa</i>                   | red elderberry         | Viburnaceae      | native                   |
| <i>Scrophularia californica</i>            | California figwort     | Scrophulariaceae | native                   |
| <i>Sonchus asper</i>                       | prickly sow thistle    | Asteraceae       | non-native               |

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| Scientific Name                    | Common Name           | Family         | Status     |
|------------------------------------|-----------------------|----------------|------------|
| <i>Stachys chamissonis</i>         | hedge nettle          | Lamiaceae      | native     |
| <i>Taraxacum officinale</i>        | common dandelion      | Asteraceae     | non-native |
| <i>Trifolium pratensis</i>         | red clover            | Fabaceae       | non-native |
| <i>Trifolium dubium</i>            | lesser trefoil        | Fabaceae       | non-native |
| <i>Trifolium repens</i>            | white clover          | Fabaceae       | non-native |
| <i>Tropaeolum majus</i>            | garden nasturtium     | Tropaeolaceae  | non-native |
| <i>Vaccinium ovatum</i>            | evergreen huckleberry | Ericaceae      | native     |
| <i>Veronica anagallis-aquatica</i> | water speedwell       | Plantaginaceae | non-native |
| <i>Vicia americana</i>             | American vetch        | Fabaceae       | native     |
| <i>Vicia sativa</i>                | spring vetch          | Fabaceae       | non-native |

# **Attachment C**

## **Site Photographs**

|                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <p><b>Photo 1:</b></p> <p><u>Description:</u></p> <p>Harlequin lotus<br/>(<i>Hosackia gracilis</i>-<br/>CRPR 4.2).</p> <p>Approximately 1,000<br/>individuals observed<br/>throughout the PSB.</p> <p><u>Location:</u></p> <p>40.941963,-<br/>124.105344</p> <p><u>Date:</u></p> <p>June 13, 2023</p>                                                                                                |   |
| <p><b>Photo 2:</b></p> <p><u>Description:</u></p> <p>Harlequin lotus<br/>(<i>Hosackia gracilis</i>-<br/>CRPR 4.2)<br/>community<br/>associated with non-<br/>native <i>A. odoratum</i><br/>and <i>H. lanatus</i>,<br/>Integrating closely<br/>with non-native <i>L.</i><br/><i>ulginosus</i>.</p> <p><u>Location:</u></p> <p>40.941691,-<br/>124.105763</p> <p><u>Date:</u></p> <p>June 13, 2023</p> |  |

|                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <p><b>Photo 3:</b></p> <p><u>Description:</u></p> <p>Coastal dune willow-<br/>Sitka willow –<br/>Douglas spiraea<br/>(<i>Salix hookeriana</i> -<br/><i>Salix sitchensis</i> -<br/><i>Spiraea douglasii</i>)<br/>Shrubland Alliance<br/>comprising<br/>approximately 3,025<br/>sqft within the PSB.</p> <p><u>Location:</u></p> <p>40.941907,-<br/>124.106137</p> <p><u>Date:</u></p> <p>May 09, 2023</p> |   |
| <p><b>Photo 4:</b></p> <p><u>Description:</u></p> <p>Coastal dune willow-<br/>Sitka willow –<br/>Douglas spiraea<br/>(<i>Salix hookeriana</i> -<br/><i>Salix sitchensis</i> -<br/><i>Spiraea douglasii</i>)<br/>Shrubland Alliance<br/>comprising<br/>approximately 3,025<br/>sqft within the PSB.</p> <p><u>Location:</u></p> <p>40.941878,-<br/>124.106091</p> <p><u>Date:</u></p> <p>May 09, 2023</p> |  |

# **Attachment D**

## **Rapid Assessment Datasheets**

## Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

## SPECIES SHEET

Database #: \_\_\_\_\_

#### IV. VEGETATION DESCRIPTION

% NonVasc cover:      Total % Vasc Veg cover: 70

**% Cover -** Conifer tree / Hardwood tree: C / 146 Regenerating Tree: 5 Shrub: 25 Herbaceous: —

**Height Class** - Conifer tree / Hardwood tree: 3 Regenerating Tree: 3 Shrub: 5 Herbaceous: 1

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

**Stratum categories:** T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

[illegible]

**Unusual species:**

# Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

|                                                                                                                                                                                                                                                                                                       |                   |                                                                       |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------|-----------------------------|
| For Office Use:                                                                                                                                                                                                                                                                                       | Final database #: | Final vegetation type:                                                | Alliance Association        |
| I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION                                                                                                                                                                                                                                                               |                   |                                                                       | circle: Relevé or <b>RA</b> |
| Database #:                                                                                                                                                                                                                                                                                           | Date: 5/9/2023    | Name of recorder: Miles H. Hult - GHD                                 |                             |
|                                                                                                                                                                                                                                                                                                       | UID:              | Other surveyors:                                                      |                             |
|                                                                                                                                                                                                                                                                                                       |                   | Location Name: Hilled Rd. McKinleyville, CA                           |                             |
| GPS name: FOX Arrow 100                                                                                                                                                                                                                                                                               |                   | For Relevé only: Bearing°, left axis at ID point of Long / Short side |                             |
| UTME                                                                                                                                                                                                                                                                                                  |                   | UTMN Zone: 11 <del>NAD83</del> GPS error: ft./ m./ PDOP 1m            |                             |
| Decimal degrees: LAT 40.941996                                                                                                                                                                                                                                                                        |                   | LONG -124.106074                                                      |                             |
| GPS within stand? <b>Yes</b> / No If No, cite from GPS to stand: distance (m) bearing° inclination°                                                                                                                                                                                                   |                   |                                                                       |                             |
| and record: Base point ID Projected UTM: UTME UTMN                                                                                                                                                                                                                                                    |                   |                                                                       |                             |
| Camera Name: Samsung Galaxy Cardinal photos at ID point: No                                                                                                                                                                                                                                           |                   |                                                                       |                             |
| Other photos: see Attached photo, North bearing from 409419326, -124.106074                                                                                                                                                                                                                           |                   |                                                                       |                             |
| Stand Size (acres): <b>0.1</b> , 1-5, >5   Plot Area (m²): 100 /   Plot Dimensions x m   RA Radius 3 m                                                                                                                                                                                                |                   |                                                                       |                             |
| Exposure, Actual°: NE NW SE SW <b>Flat</b> Variable   Steepness, Actual°: 1-5% <b>0°</b> <del>15°</del> >5-25° >25                                                                                                                                                                                    |                   |                                                                       |                             |
| Topography: Macro: top upper <b>mid</b> lower bottom   Micro: convex <b>flat</b> concave undulating                                                                                                                                                                                                   |                   |                                                                       |                             |
| Geology code: <b>MSE</b> Soil Texture code: <b>Loam</b>   <b>Upland</b> or Wetland/Riparian (circle one)                                                                                                                                                                                              |                   |                                                                       |                             |
| % Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)                                                                                                                                                                                                      |                   |                                                                       |                             |
| H2O: <b>0</b> BA Stems: 5 Litter: 5 Bedrock: 0 Boulder: 0 Stone: 0 Cobble: 0 Gravel: 0 Fines: 90 =100%                                                                                                                                                                                                |                   |                                                                       |                             |
| % Current year bioturbation Past bioturbation present? <b>Yes</b> / No   % Hoof punch 1 - Dec                                                                                                                                                                                                         |                   |                                                                       |                             |
| Fire evidence: Yes / <b>No</b> (circle one) If yes, describe in Site history section, including date of fire, if known.                                                                                                                                                                               |                   |                                                                       |                             |
| Site history, stand age, comments:                                                                                                                                                                                                                                                                    |                   |                                                                       |                             |
| <ul style="list-style-type: none"> <li>- Adjacent to wet pasture wetland (Juniperus sp., Salix, Ranunculus, etc.)</li> <li>- Some of stand growing on old spoils pile</li> <li>- Site has been actively managed for pasture land</li> <li>- Patchy, small ~ approximately 3000 sq ft total</li> </ul> |                   |                                                                       |                             |
| Disturbance code / Intensity (L,M,H): <b>04</b> / L 0.5 / H 19 / M 1 / "Other" 1                                                                                                                                                                                                                      |                   |                                                                       |                             |
| II. HABITAT DESCRIPTION                                                                                                                                                                                                                                                                               |                   |                                                                       |                             |
| Tree DBH: <b>T1</b> (<1" dbh), <b>T2</b> (1-6" dbh), <b>T3</b> (6-11" dbh), <b>T4</b> (11-24" dbh), <b>T5</b> (>24" dbh), <b>T6</b> multi-layered (T3 or T4 layer under T5, >60% cover)                                                                                                               |                   |                                                                       |                             |
| Shrub: <b>S1</b> seedling (<3 yr. old), <b>S2</b> young (<1% dead), <b>S3</b> mature (1-25% dead), <b>S4</b> decadent (>25% dead)                                                                                                                                                                     |                   |                                                                       |                             |
| Herbaceous: <b>H1</b> (<12" plant ht.), <b>H2</b> (>12" ht.)                                                                                                                                                                                                                                          |                   |                                                                       |                             |
| Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)                                                                                                                                                                                                     |                   |                                                                       |                             |
| Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)                                                                                                                                                                                                                     |                   |                                                                       |                             |
| III. INTERPRETATION OF STAND                                                                                                                                                                                                                                                                          |                   |                                                                       |                             |
| Field-assessed vegetation Alliance name: <b>Salix hookeriana - Salix sitchensis - Salix douglasii</b>                                                                                                                                                                                                 |                   |                                                                       |                             |
| Field-assessed Association name (optional): <b>Shrubland Alliance</b>                                                                                                                                                                                                                                 |                   |                                                                       |                             |
| Adjacent Alliances/direction: <b>Holcus lanatus - Anthoxanthum odoratum Herbaceous Alliance (G11)</b>                                                                                                                                                                                                 |                   |                                                                       |                             |
| Confidence in Alliance identification: L M <b>H</b> Explain: <b>met membership rules</b>                                                                                                                                                                                                              |                   |                                                                       |                             |
| Phenology (E,P,L): Herb Shrub <b>X</b> Tree <b>X</b> Other identification or mapping information:                                                                                                                                                                                                     |                   |                                                                       |                             |

# **Attachment E**

## **Database Query Results**

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Humboldt County, California



## Local office

Arcata Fish And Wildlife Office

☎ (707) 822-7201

📅 (707) 822-8411

1655 Heindon Road

Arcata, CA 95521-4573

NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

- 
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [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.

The following species are potentially affected by activities in this location:

## Mammals

| NAME                                                                                                                                                                                                                                                                                                                                   | STATUS     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <p>Pacific Marten, Coastal Distinct Population Segment</p> <p><i>Martes caurina</i></p> <p>Wherever found</p> <p>There is <b>proposed</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/9081">https://ecos.fws.gov/ecp/species/9081</a></p> | Threatened |

## Birds

| NAME                                                                                                                                                                                                                                                                                                      | STATUS     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <p>Marbled Murrelet <i>Brachyramphus marmoratus</i></p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/4467">https://ecos.fws.gov/ecp/species/4467</a></p>                             | Threatened |
| <p>Northern Spotted Owl <i>Strix occidentalis caurina</i></p> <p>Wherever found</p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/1123">https://ecos.fws.gov/ecp/species/1123</a></p> | Threatened |
| <p>Western Snowy Plover <i>Charadrius nivosus nivosus</i></p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a></p>                       | Threatened |
| <p>Yellow-billed Cuckoo <i>Coccyzus americanus</i></p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a></p>                              | Threatened |

## Reptiles

| NAME | STATUS |
|------|--------|
|------|--------|

Green Sea Turtle *Chelonia mydas*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6199>

## Fishes

NAME

STATUS

Tidewater Goby *Eucyclogobius newberryi*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<https://ecos.fws.gov/ecp/species/57>

## Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

## Flowering Plants

NAME

STATUS

Western Lily *Lilium occidentale*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/998>

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds  
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds  
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

| NAME                                                                                                                                                                                                                                                     | BREEDING SEASON        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Allen's Hummingbird</b> <i>Selasphorus sasin</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/9637">https://ecos.fws.gov/ecp/species/9637</a> | Breeds Feb 1 to Jul 15 |

|                                                                                                                                                                                                                                                                               |                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i><br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.      | Breeds Jan 1 to Sep 30  |
| <b>Black Oystercatcher</b> <i>Haematopus bachmani</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/9591">https://ecos.fws.gov/ecp/species/9591</a>                    | Breeds Apr 15 to Oct 31 |
| <b>Black Swift</b> <i>Cypseloides niger</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br><a href="https://ecos.fws.gov/ecp/species/8878">https://ecos.fws.gov/ecp/species/8878</a>                              | Breeds Jun 15 to Sep 10 |
| <b>Black Turnstone</b> <i>Arenaria melanocephala</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                  | Breeds elsewhere        |
| <b>California Gull</b> <i>Larus californicus</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                      | Breeds Mar 1 to Jul 31  |
| <b>Cassin's Auklet</b> <i>Ptychoramphus aleuticus</i><br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br><a href="https://ecos.fws.gov/ecp/species/6967">https://ecos.fws.gov/ecp/species/6967</a> | Breeds Mar 21 to Sep 21 |
| <b>Clark's Grebe</b> <i>Aechmophorus clarkii</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                                      | Breeds Jun 1 to Aug 31  |
| <b>Evening Grosbeak</b> <i>Coccothraustes vespertinus</i><br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.                                                                                                             | Breeds May 15 to Aug 10 |

**Golden Eagle** *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

**Lesser Yellowlegs** *Tringa flavipes*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

**Marbled Godwit** *Limosa fedoa*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9481>

**Olive-sided Flycatcher** *Contopus cooperi*

Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3914>

**Rufous Hummingbird** *selasphorus rufus*

Breeds Apr 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

**Short-billed Dowitcher** *Limnodromus griseus*

Breeds Jun 1 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

**Western Grebe** *aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/6743>

**Willet** *Tringa semipalmata*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Wrentit** *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (l)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

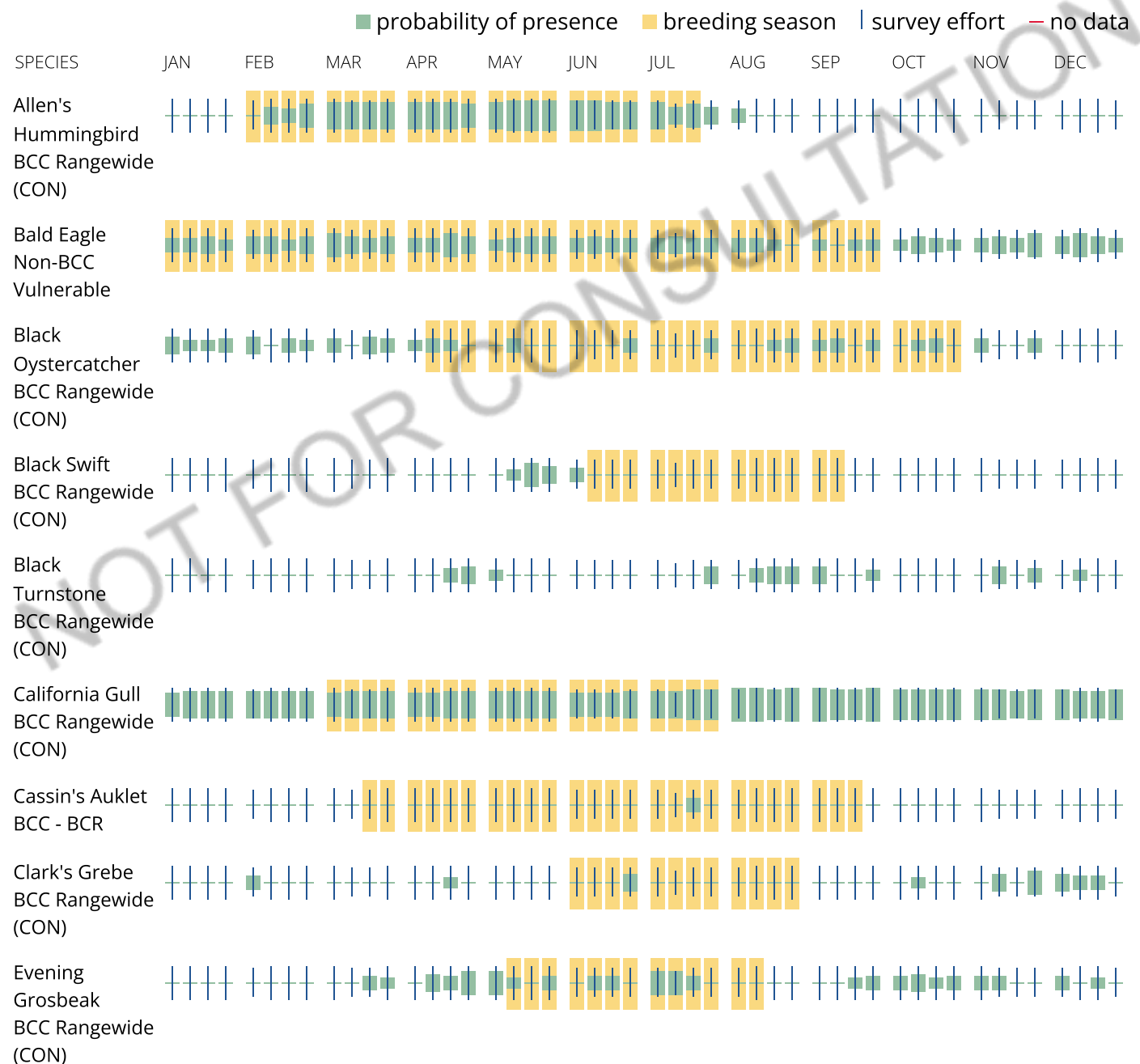
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

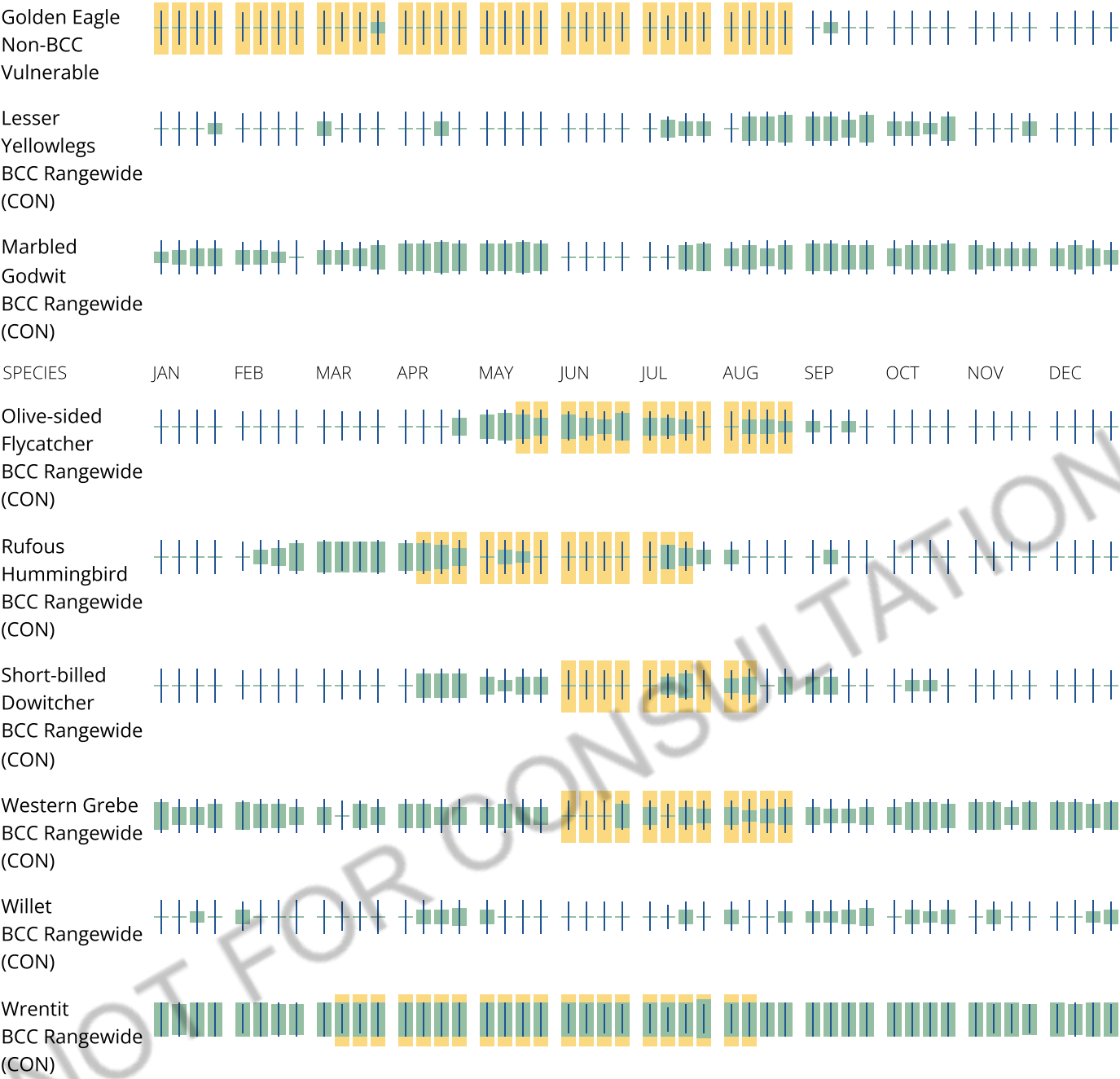
### No Data (—)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

## Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

## What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

## Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

# Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

## Fish hatcheries

There are no fish hatcheries at this location.

## Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

| Element_Type         | Scientific_Name     | Common_Name                                   | Element_Code | Federal_Status | State_Status | CDFW_Status | CA_Rare_Plant_Rank | Quad_Code | Quad_Name     | Data_Status            | Taxonomic_Sort                                              |
|----------------------|---------------------|-----------------------------------------------|--------------|----------------|--------------|-------------|--------------------|-----------|---------------|------------------------|-------------------------------------------------------------|
| Animals - Amphibians | Ascaphus truei      | Pacific tailed frog                           | AAABA01010   | None           | None         | SSC         | -                  | 4112411   | CRANNELL      | Mapped and Unprocessed | Animals - Amphibians - Ascaphidae - Ascaphus truei          |
| Animals - Amphibians | Ascaphus truei      | Pacific tailed frog                           | AAABA01010   | None           | None         | SSC         | -                  | 4112318   | PANTHER CREEK | Mapped and Unprocessed | Animals - Amphibians - Ascaphidae - Ascaphus truei          |
| Animals - Amphibians | Ascaphus truei      | Pacific tailed frog                           | AAABA01010   | None           | None         | SSC         | -                  | 4012481   | ARCATA NORTH  | Mapped and Unprocessed | Animals - Amphibians - Ascaphidae - Ascaphus truei          |
| Animals - Amphibians | Ascaphus truei      | Pacific tailed frog                           | AAABA01010   | None           | None         | SSC         | -                  | 4012388   | BLUE LAKE     | Mapped and Unprocessed | Animals - Amphibians - Ascaphidae - Ascaphus truei          |
| Animals - Amphibians | Ascaphus truei      | Pacific tailed frog                           | AAABA01010   | None           | None         | SSC         | -                  | 4012471   | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Amphibians - Ascaphidae - Ascaphus truei          |
| Animals - Amphibians | Ascaphus truei      | Pacific tailed frog                           | AAABA01010   | None           | None         | SSC         | -                  | 4012378   | KORBEL        | Mapped and Unprocessed | Animals - Amphibians - Ascaphidae - Ascaphus truei          |
| Animals - Amphibians | Plethodon elongatus | Del Norte salamander                          | AAAAD12050   | None           | None         | WL          | -                  | 4012378   | KORBEL        | Mapped and Unprocessed | Animals - Amphibians - Plethodontidae - Plethodon elongatus |
| Animals - Amphibians | Plethodon elongatus | Del Norte salamander                          | AAAAD12050   | None           | None         | WL          | -                  | 4012388   | BLUE LAKE     | Mapped and Unprocessed | Animals - Amphibians - Plethodontidae - Plethodon elongatus |
| Animals - Amphibians | Plethodon elongatus | Del Norte salamander                          | AAAAD12050   | None           | None         | WL          | -                  | 4112318   | PANTHER CREEK | Mapped and Unprocessed | Animals - Amphibians - Plethodontidae - Plethodon elongatus |
| Animals - Amphibians | Plethodon elongatus | Del Norte salamander                          | AAAAD12050   | None           | None         | WL          | -                  | 4112411   | CRANNELL      | Unprocessed            | Animals - Amphibians - Plethodontidae - Plethodon elongatus |
| Animals - Amphibians | Rana aurora         | northern red-legged frog                      | AAABH01021   | None           | None         | SSC         | -                  | 4112411   | CRANNELL      | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana aurora                |
| Animals - Amphibians | Rana aurora         | northern red-legged frog                      | AAABH01021   | None           | None         | SSC         | -                  | 4112318   | PANTHER CREEK | Mapped                 | Animals - Amphibians - Ranidae - Rana aurora                |
| Animals - Amphibians | Rana aurora         | northern red-legged frog                      | AAABH01021   | None           | None         | SSC         | -                  | 4012481   | ARCATA NORTH  | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana aurora                |
| Animals - Amphibians | Rana aurora         | northern red-legged frog                      | AAABH01021   | None           | None         | SSC         | -                  | 4012482   | TYEE CITY     | Mapped                 | Animals - Amphibians - Ranidae - Rana aurora                |
| Animals - Amphibians | Rana aurora         | northern red-legged frog                      | AAABH01021   | None           | None         | SSC         | -                  | 4012388   | BLUE LAKE     | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana aurora                |
| Animals - Amphibians | Rana aurora         | northern red-legged frog                      | AAABH01021   | None           | None         | SSC         | -                  | 4012472   | EUREKA        | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana aurora                |
| Animals - Amphibians | Rana aurora         | northern red-legged frog                      | AAABH01021   | None           | None         | SSC         | -                  | 4012471   | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana aurora                |
| Animals - Amphibians | Rana aurora         | northern red-legged frog                      | AAABH01021   | None           | None         | SSC         | -                  | 4012378   | KORBEL        | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana aurora                |
| Animals - Amphibians | Rana boylei pop. 1  | foothill yellow-legged frog - north coast DPS | AAABH01051   | None           | None         | SSC         | -                  | 4012378   | KORBEL        | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana boylei pop. 1         |
| Animals - Amphibians | Rana boylei pop. 1  | foothill yellow-legged frog - north coast DPS | AAABH01051   | None           | None         | SSC         | -                  | 4012471   | ARCATA SOUTH  | Mapped                 | Animals - Amphibians - Ranidae - Rana boylei pop. 1         |
| Animals - Amphibians | Rana boylei pop. 1  | foothill yellow-legged frog - north coast DPS | AAABH01051   | None           | None         | SSC         | -                  | 4012388   | BLUE LAKE     | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana boylei pop. 1         |
| Animals - Amphibians | Rana boylei pop. 1  | foothill yellow-legged frog - north coast DPS | AAABH01051   | None           | None         | SSC         | -                  | 4012481   | ARCATA NORTH  | Mapped and Unprocessed | Animals - Amphibians - Ranidae - Rana boylei pop. 1         |
| Animals - Amphibians | Rana boylei pop. 1  | foothill yellow-legged frog - north coast DPS | AAABH01051   | None           | None         | SSC         | -                  | 4112318   | PANTHER CREEK | Mapped                 | Animals - Amphibians - Ranidae - Rana boylei pop. 1         |
| Animals - Amphibians | Rana boylei pop. 1  | foothill yellow-legged frog - north coast DPS | AAABH01051   | None           | None         | SSC         | -                  | 4112411   | CRANNELL      | Mapped                 | Animals - Amphibians - Ranidae - Rana boylei pop. 1         |

|                      |                          |                             |            |            |            |     |   |         |               |                        |                                                                   |
|----------------------|--------------------------|-----------------------------|------------|------------|------------|-----|---|---------|---------------|------------------------|-------------------------------------------------------------------|
| Animals - Amphibians | Rhyacotriton variegatus  | southern torrent salamander | AAAAJ01020 | None       | None       | SSC | - | 4112411 | CRANNELL      | Mapped and Unprocessed | Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus |
| Animals - Amphibians | Rhyacotriton variegatus  | southern torrent salamander | AAAAJ01020 | None       | None       | SSC | - | 4112318 | PANTHER CREEK | Mapped and Unprocessed | Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus |
| Animals - Amphibians | Rhyacotriton variegatus  | southern torrent salamander | AAAAJ01020 | None       | None       | SSC | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus |
| Animals - Amphibians | Rhyacotriton variegatus  | southern torrent salamander | AAAAJ01020 | None       | None       | SSC | - | 4012388 | BLUE LAKE     | Mapped and Unprocessed | Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus |
| Animals - Amphibians | Rhyacotriton variegatus  | southern torrent salamander | AAAAJ01020 | None       | None       | SSC | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus |
| Animals - Amphibians | Rhyacotriton variegatus  | southern torrent salamander | AAAAJ01020 | None       | None       | SSC | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus |
| Animals - Birds      | Accipiter cooperii       | Coopers hawk                | ABNKC12040 | None       | None       | WL  | - | 4012378 | KORBEL        | Mapped                 | Animals - Birds - Accipitridae - Accipiter cooperii               |
| Animals - Birds      | Accipiter cooperii       | Coopers hawk                | ABNKC12040 | None       | None       | WL  | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Birds - Accipitridae - Accipiter cooperii               |
| Animals - Birds      | Accipiter cooperii       | Coopers hawk                | ABNKC12040 | None       | None       | WL  | - | 4012472 | EUREKA        | Unprocessed            | Animals - Birds - Accipitridae - Accipiter cooperii               |
| Animals - Birds      | Accipiter cooperii       | Coopers hawk                | ABNKC12040 | None       | None       | WL  | - | 4012482 | TYEE CITY     | Unprocessed            | Animals - Birds - Accipitridae - Accipiter cooperii               |
| Animals - Birds      | Accipiter striatus       | sharp-shinned hawk          | ABNKC12020 | None       | None       | WL  | - | 4012481 | ARCATA NORTH  | Unprocessed            | Animals - Birds - Accipitridae - Accipiter striatus               |
| Animals - Birds      | Circus hudsonius         | northern harrier            | ABNKC11011 | None       | None       | SSC | - | 4012481 | ARCATA NORTH  | Unprocessed            | Animals - Birds - Accipitridae - Circus hudsonius                 |
| Animals - Birds      | Circus hudsonius         | northern harrier            | ABNKC11011 | None       | None       | SSC | - | 4012482 | TYEE CITY     | Unprocessed            | Animals - Birds - Accipitridae - Circus hudsonius                 |
| Animals - Birds      | Circus hudsonius         | northern harrier            | ABNKC11011 | None       | None       | SSC | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Birds - Accipitridae - Circus hudsonius                 |
| Animals - Birds      | Circus hudsonius         | northern harrier            | ABNKC11011 | None       | None       | SSC | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Birds - Accipitridae - Circus hudsonius                 |
| Animals - Birds      | Elanus leucurus          | white-tailed kite           | ABNKC06010 | None       | None       | FP  | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Birds - Accipitridae - Elanus leucurus                  |
| Animals - Birds      | Elanus leucurus          | white-tailed kite           | ABNKC06010 | None       | None       | FP  | - | 4012472 | EUREKA        | Mapped                 | Animals - Birds - Accipitridae - Elanus leucurus                  |
| Animals - Birds      | Elanus leucurus          | white-tailed kite           | ABNKC06010 | None       | None       | FP  | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Birds - Accipitridae - Elanus leucurus                  |
| Animals - Birds      | Haliaeetus leucocephalus | bald eagle                  | ABNKC10010 | Delisted   | Endangered | FP  | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Birds - Accipitridae - Haliaeetus leucocephalus         |
| Animals - Birds      | Haliaeetus leucocephalus | bald eagle                  | ABNKC10010 | Delisted   | Endangered | FP  | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Birds - Accipitridae - Haliaeetus leucocephalus         |
| Animals - Birds      | Brachyramphus marmoratus | marbled murrelet            | ABNNN06010 | Threatened | Endangered | -   | - | 4012472 | EUREKA        | Unprocessed            | Animals - Birds - Alcidae - Brachyramphus marmoratus              |
| Animals - Birds      | Cerorhinca monocerata    | rhinoceros auklet           | ABNNN11010 | None       | None       | WL  | - | 4112411 | CRANNELL      | Mapped                 | Animals - Birds - Alcidae - Cerorhinca monocerata                 |
| Animals - Birds      | Fratercula cirrhata      | tufted puffin               | ABNNN12010 | None       | None       | SSC | - | 4112411 | CRANNELL      | Mapped                 | Animals - Birds - Alcidae - Fratercula cirrhata                   |
| Animals - Birds      | Chaetura vauxi           | Vauxs swift                 | ABNUA03020 | None       | None       | SSC | - | 4012472 | EUREKA        | Unprocessed            | Animals - Birds - Apodidae - Chaetura vauxi                       |
| Animals - Birds      | Ardea alba               | great egret                 | ABNGA04040 | None       | None       | -   | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Birds - Ardeidae - Ardea alba                           |
| Animals - Birds      | Ardea herodias           | great blue heron            | ABNGA04010 | None       | None       | -   | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Birds - Ardeidae - Ardea herodias                       |
| Animals - Birds      | Ardea herodias           | great blue heron            | ABNGA04010 | None       | None       | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Birds - Ardeidae - Ardea herodias                       |
| Animals - Birds      | Ardea herodias           | great blue heron            | ABNGA04010 | None       | None       | -   | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Birds - Ardeidae - Ardea herodias                       |
| Animals - Birds      | Ardea herodias           | great blue heron            | ABNGA04010 | None       | None       | -   | - | 4012482 | TYEE CITY     | Unprocessed            | Animals - Birds - Ardeidae - Ardea herodias                       |

|                 |                            |                           |            |            |            |     |   |         |              |                        |                                                             |
|-----------------|----------------------------|---------------------------|------------|------------|------------|-----|---|---------|--------------|------------------------|-------------------------------------------------------------|
|                 |                            |                           |            |            |            |     |   |         |              |                        | herodias                                                    |
| Animals - Birds | Ardea herodias             | great blue heron          | ABNGA04010 | None       | None       | -   | - | 4012378 | KORBEL       | Unprocessed            | Animals - Birds - Ardeidae - Ardea herodias                 |
| Animals - Birds | Botaurus lentiginosus      | American bittern          | ABNGA01020 | None       | None       | -   | - | 4012481 | ARCATA NORTH | Unprocessed            | Animals - Birds - Ardeidae - Botaurus lentiginosus          |
| Animals - Birds | Botaurus lentiginosus      | American bittern          | ABNGA01020 | None       | None       | -   | - | 4012471 | ARCATA SOUTH | Unprocessed            | Animals - Birds - Ardeidae - Botaurus lentiginosus          |
| Animals - Birds | Egretta thula              | snowy egret               | ABNGA06030 | None       | None       | -   | - | 4012472 | EUREKA       | Mapped and Unprocessed | Animals - Birds - Ardeidae - Egretta thula                  |
| Animals - Birds | Egretta thula              | snowy egret               | ABNGA06030 | None       | None       | -   | - | 4012482 | TYEE CITY    | Unprocessed            | Animals - Birds - Ardeidae - Egretta thula                  |
| Animals - Birds | Nycticorax nycticorax      | black-crowned night heron | ABNGA11010 | None       | None       | -   | - | 4012482 | TYEE CITY    | Unprocessed            | Animals - Birds - Ardeidae - Nycticorax nycticorax          |
| Animals - Birds | Nycticorax nycticorax      | black-crowned night heron | ABNGA11010 | None       | None       | -   | - | 4012472 | EUREKA       | Mapped and Unprocessed | Animals - Birds - Ardeidae - Nycticorax nycticorax          |
| Animals - Birds | Nycticorax nycticorax      | black-crowned night heron | ABNGA11010 | None       | None       | -   | - | 4012388 | BLUE LAKE    | Mapped and Unprocessed | Animals - Birds - Ardeidae - Nycticorax nycticorax          |
| Animals - Birds | Nycticorax nycticorax      | black-crowned night heron | ABNGA11010 | None       | None       | -   | - | 4012471 | ARCATA SOUTH | Mapped                 | Animals - Birds - Ardeidae - Nycticorax nycticorax          |
| Animals - Birds | Nycticorax nycticorax      | black-crowned night heron | ABNGA11010 | None       | None       | -   | - | 4012378 | KORBEL       | Unprocessed            | Animals - Birds - Ardeidae - Nycticorax nycticorax          |
| Animals - Birds | Charadrius montanus        | mountain plover           | ABNNB03100 | None       | None       | SSC | - | 4012471 | ARCATA SOUTH | Mapped                 | Animals - Birds - Charadriidae - Charadrius montanus        |
| Animals - Birds | Charadrius montanus        | mountain plover           | ABNNB03100 | None       | None       | SSC | - | 4012472 | EUREKA       | Mapped and Unprocessed | Animals - Birds - Charadriidae - Charadrius montanus        |
| Animals - Birds | Charadrius montanus        | mountain plover           | ABNNB03100 | None       | None       | SSC | - | 4012482 | TYEE CITY    | Unprocessed            | Animals - Birds - Charadriidae - Charadrius montanus        |
| Animals - Birds | Charadrius montanus        | mountain plover           | ABNNB03100 | None       | None       | SSC | - | 4012481 | ARCATA NORTH | Unprocessed            | Animals - Birds - Charadriidae - Charadrius montanus        |
| Animals - Birds | Charadrius montanus        | mountain plover           | ABNNB03100 | None       | None       | SSC | - | 4112411 | CRANNELL     | Unprocessed            | Animals - Birds - Charadriidae - Charadrius montanus        |
| Animals - Birds | Charadrius nivosus nivosus | western snowy plover      | ABNNB03031 | Threatened | None       | SSC | - | 4112411 | CRANNELL     | Unprocessed            | Animals - Birds - Charadriidae - Charadrius nivosus nivosus |
| Animals - Birds | Charadrius nivosus nivosus | western snowy plover      | ABNNB03031 | Threatened | None       | SSC | - | 4012481 | ARCATA NORTH | Mapped and Unprocessed | Animals - Birds - Charadriidae - Charadrius nivosus nivosus |
| Animals - Birds | Charadrius nivosus nivosus | western snowy plover      | ABNNB03031 | Threatened | None       | SSC | - | 4012482 | TYEE CITY    | Mapped and Unprocessed | Animals - Birds - Charadriidae - Charadrius nivosus nivosus |
| Animals - Birds | Charadrius nivosus nivosus | western snowy plover      | ABNNB03031 | Threatened | None       | SSC | - | 4012472 | EUREKA       | Mapped and Unprocessed | Animals - Birds - Charadriidae - Charadrius nivosus nivosus |
| Animals - Birds | Falco columbarius          | merlin                    | ABNKD06030 | None       | None       | WL  | - | 4012472 | EUREKA       | Unprocessed            | Animals - Birds - Falconidae - Falco columbarius            |
| Animals - Birds | Falco peregrinus anatum    | American peregrine falcon | ABNKD06071 | Delisted   | Delisted   | FP  | - | 4012472 | EUREKA       | Mapped and Unprocessed | Animals - Birds - Falconidae - Falco peregrinus anatum      |
| Animals - Birds | Falco peregrinus anatum    | American peregrine falcon | ABNKD06071 | Delisted   | Delisted   | FP  | - | 4012481 | ARCATA NORTH | Mapped                 | Animals - Birds - Falconidae - Falco peregrinus anatum      |
| Animals - Birds | Falco peregrinus anatum    | American peregrine falcon | ABNKD06071 | Delisted   | Delisted   | FP  | - | 4112411 | CRANNELL     | Unprocessed            | Animals - Birds - Falconidae - Falco peregrinus anatum      |
| Animals - Birds | Falco peregrinus anatum    | American peregrine falcon | ABNKD06071 | Delisted   | Delisted   | FP  | - | 4012471 | ARCATA SOUTH | Mapped and Unprocessed | Animals - Birds - Falconidae - Falco peregrinus anatum      |
| Animals - Birds | Riparia riparia            | bank swallow              | ABPAU08010 | None       | Threatened | -   | - | 4012378 | KORBEL       | Mapped                 | Animals - Birds - Hirundinidae - Riparia riparia            |
| Animals - Birds | Riparia riparia            | bank swallow              | ABPAU08010 | None       | Threatened | -   | - | 4112411 | CRANNELL     | Mapped                 | Animals - Birds - Hirundinidae - Riparia riparia            |
| Animals - Birds | Riparia riparia            | bank swallow              | ABPAU08010 | None       | Threatened | -   | - | 4012481 | ARCATA NORTH | Mapped and Unprocessed | Animals - Birds - Hirundinidae - Riparia riparia            |

|                 |                                     |                          |            |          |            |     |   |         |              |                        |                                                                       |
|-----------------|-------------------------------------|--------------------------|------------|----------|------------|-----|---|---------|--------------|------------------------|-----------------------------------------------------------------------|
| Animals - Birds | Riparia riparia                     | bank swallow             | ABPAU08010 | None     | Threatened | -   | - | 4012472 | EUREKA       | Mapped                 | Animals - Birds - Hirundinidae - Riparia riparia                      |
| Animals - Birds | Hydrobates furcatus                 | fork-tailed storm-petrel | ABNDC04010 | None     | None       | SSC | - | 4112411 | CRANNELL     | Mapped and Unprocessed | Animals - Birds - Hydrobatidae - Hydrobates furcatus                  |
| Animals - Birds | Icteria virens                      | yellow-breasted chat     | ABPBX24010 | None     | None       | SSC | - | 4012378 | KORBEL       | Unprocessed            | Animals - Birds - Icteridae - Icteria virens                          |
| Animals - Birds | Pandion haliaetus                   | osprey                   | ABNKC01010 | None     | None       | WL  | - | 4012378 | KORBEL       | Mapped and Unprocessed | Animals - Birds - Pandionidae - Pandion haliaetus                     |
| Animals - Birds | Pandion haliaetus                   | osprey                   | ABNKC01010 | None     | None       | WL  | - | 4112411 | CRANNELL     | Mapped                 | Animals - Birds - Pandionidae - Pandion haliaetus                     |
| Animals - Birds | Pandion haliaetus                   | osprey                   | ABNKC01010 | None     | None       | WL  | - | 4012481 | ARCATA NORTH | Mapped and Unprocessed | Animals - Birds - Pandionidae - Pandion haliaetus                     |
| Animals - Birds | Pandion haliaetus                   | osprey                   | ABNKC01010 | None     | None       | WL  | - | 4012482 | TYEE CITY    | Unprocessed            | Animals - Birds - Pandionidae - Pandion haliaetus                     |
| Animals - Birds | Pandion haliaetus                   | osprey                   | ABNKC01010 | None     | None       | WL  | - | 4012471 | ARCATA SOUTH | Mapped and Unprocessed | Animals - Birds - Pandionidae - Pandion haliaetus                     |
| Animals - Birds | Pandion haliaetus                   | osprey                   | ABNKC01010 | None     | None       | WL  | - | 4012472 | EUREKA       | Mapped and Unprocessed | Animals - Birds - Pandionidae - Pandion haliaetus                     |
| Animals - Birds | Pandion haliaetus                   | osprey                   | ABNKC01010 | None     | None       | WL  | - | 4012388 | BLUE LAKE    | Unprocessed            | Animals - Birds - Pandionidae - Pandion haliaetus                     |
| Animals - Birds | Poecile atricapillus                | black-capped chickadee   | ABPAW01010 | None     | None       | WL  | - | 4012472 | EUREKA       | Unprocessed            | Animals - Birds - Paridae - Poecile atricapillus                      |
| Animals - Birds | Poecile atricapillus                | black-capped chickadee   | ABPAW01010 | None     | None       | WL  | - | 4012481 | ARCATA NORTH | Unprocessed            | Animals - Birds - Paridae - Poecile atricapillus                      |
| Animals - Birds | Poecile atricapillus                | black-capped chickadee   | ABPAW01010 | None     | None       | WL  | - | 4012378 | KORBEL       | Unprocessed            | Animals - Birds - Paridae - Poecile atricapillus                      |
| Animals - Birds | Passerculus sandwichensis alaudinus | Bryants savannah sparrow | ABPBX99011 | None     | None       | SSC | - | 4012471 | ARCATA SOUTH | Unprocessed            | Animals - Birds - Passerellidae - Passerculus sandwichensis alaudinus |
| Animals - Birds | Passerculus sandwichensis alaudinus | Bryants savannah sparrow | ABPBX99011 | None     | None       | SSC | - | 4012481 | ARCATA NORTH | Unprocessed            | Animals - Birds - Passerellidae - Passerculus sandwichensis alaudinus |
| Animals - Birds | Passerculus sandwichensis alaudinus | Bryants savannah sparrow | ABPBX99011 | None     | None       | SSC | - | 4012472 | EUREKA       | Unprocessed            | Animals - Birds - Passerellidae - Passerculus sandwichensis alaudinus |
| Animals - Birds | Pelecanus occidentalis californicus | California brown pelican | ABNFC01021 | Delisted | Delisted   | FP  | - | 4012471 | ARCATA SOUTH | Unprocessed            | Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus   |
| Animals - Birds | Pelecanus occidentalis californicus | California brown pelican | ABNFC01021 | Delisted | Delisted   | FP  | - | 4012472 | EUREKA       | Unprocessed            | Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus   |
| Animals - Birds | Pelecanus occidentalis californicus | California brown pelican | ABNFC01021 | Delisted | Delisted   | FP  | - | 4012482 | TYEE CITY    | Unprocessed            | Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus   |
| Animals - Birds | Pelecanus occidentalis californicus | California brown pelican | ABNFC01021 | Delisted | Delisted   | FP  | - | 4112411 | CRANNELL     | Unprocessed            | Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus   |
| Animals - Birds | Nannopterum auritum                 | double-crested cormorant | ABNFD01020 | None     | None       | WL  | - | 4112411 | CRANNELL     | Mapped and Unprocessed | Animals - Birds - Phalacrocoracidae - Nannopterum auritum             |
| Animals - Birds | Nannopterum auritum                 | double-crested cormorant | ABNFD01020 | None     | None       | WL  | - | 4012472 | EUREKA       | Unprocessed            | Animals - Birds - Phalacrocoracidae - Nannopterum auritum             |
| Animals - Birds | Nannopterum auritum                 | double-crested cormorant | ABNFD01020 | None     | None       | WL  | - | 4012471 | ARCATA SOUTH | Mapped                 | Animals - Birds - Phalacrocoracidae - Nannopterum auritum             |
| Animals - Birds | Nannopterum auritum                 | double-crested cormorant | ABNFD01020 | None     | None       | WL  | - | 4012378 | KORBEL       | Unprocessed            | Animals - Birds - Phalacrocoracidae - Nannopterum auritum             |
| Animals - Birds | Sphyrapicus ruber                   | red-breasted sapsucker   | ABNYF05020 | None     | None       | -   | - | 4012472 | EUREKA       | Unprocessed            | Animals - Birds - Picidae - Sphyrapicus ruber                         |
| Animals - Birds | Coturnicops noveboracensis          | yellow rail              | ABNME01010 | None     | None       | SSC | - | 4012472 | EUREKA       | Mapped and Unprocessed | Animals - Birds - Rallidae - Coturnicops noveboracensis               |
| Animals - Birds | Coturnicops noveboracensis          | yellow rail              | ABNME01010 | None     | None       | SSC | - | 4012471 | ARCATA SOUTH | Mapped and Unprocessed | Animals - Birds - Rallidae - Coturnicops noveboracensis               |

|                 |                              |                               |            |            |            |     |   |         |               |                        |                                                               |
|-----------------|------------------------------|-------------------------------|------------|------------|------------|-----|---|---------|---------------|------------------------|---------------------------------------------------------------|
| Animals - Birds | Rallus obsoletus obsoletus   | California Ridgways rail      | ABNME05011 | Endangered | Endangered | FP  | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Birds - Rallidae - Rallus obsoletus obsoletus       |
| Animals - Birds | Rallus obsoletus obsoletus   | California Ridgways rail      | ABNME05011 | Endangered | Endangered | FP  | - | 4012482 | TYEE CITY     | Mapped                 | Animals - Birds - Rallidae - Rallus obsoletus obsoletus       |
| Animals - Birds | Numenius americanus          | long-billed curlew            | ABNNF07070 | None       | None       | WL  | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Birds - Scolopacidae - Numenius americanus          |
| Animals - Birds | Asio flammeus                | short-eared owl               | ABNSB13040 | None       | None       | SSC | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Birds - Strigidae - Asio flammeus                   |
| Animals - Birds | Asio flammeus                | short-eared owl               | ABNSB13040 | None       | None       | SSC | - | 4012481 | ARCATA NORTH  | Unprocessed            | Animals - Birds - Strigidae - Asio flammeus                   |
| Animals - Birds | Asio flammeus                | short-eared owl               | ABNSB13040 | None       | None       | SSC | - | 4012472 | EUREKA        | Unprocessed            | Animals - Birds - Strigidae - Asio flammeus                   |
| Animals - Birds | Asio otus                    | long-eared owl                | ABNSB13010 | None       | None       | SSC | - | 4012388 | BLUE LAKE     | Unprocessed            | Animals - Birds - Strigidae - Asio otus                       |
| Animals - Birds | Strix occidentalis caurina   | Northern Spotted Owl          | ABNSB12011 | Threatened | Threatened | -   | - | 4012378 | KORBEL        | Mapped                 | Animals - Birds - Strigidae - Strix occidentalis caurina      |
| Animals - Birds | Strix occidentalis caurina   | Northern Spotted Owl          | ABNSB12011 | Threatened | Threatened | -   | - | 4012388 | BLUE LAKE     | Mapped                 | Animals - Birds - Strigidae - Strix occidentalis caurina      |
| Animals - Birds | Strix occidentalis caurina   | Northern Spotted Owl          | ABNSB12011 | Threatened | Threatened | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Birds - Strigidae - Strix occidentalis caurina      |
| Animals - Birds | Strix occidentalis caurina   | Northern Spotted Owl          | ABNSB12011 | Threatened | Threatened | -   | - | 4012472 | EUREKA        | Mapped                 | Animals - Birds - Strigidae - Strix occidentalis caurina      |
| Animals - Birds | Strix occidentalis caurina   | Northern Spotted Owl          | ABNSB12011 | Threatened | Threatened | -   | - | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Birds - Strigidae - Strix occidentalis caurina      |
| Animals - Birds | Strix occidentalis caurina   | Northern Spotted Owl          | ABNSB12011 | Threatened | Threatened | -   | - | 4112318 | PANTHER CREEK | Mapped                 | Animals - Birds - Strigidae - Strix occidentalis caurina      |
| Animals - Birds | Strix occidentalis caurina   | Northern Spotted Owl          | ABNSB12011 | Threatened | Threatened | -   | - | 4112411 | CRANNELL      | Mapped                 | Animals - Birds - Strigidae - Strix occidentalis caurina      |
| Animals - Birds | Contopus cooperi             | olive-sided flycatcher        | ABPAE32010 | None       | None       | SSC | - | 4012481 | ARCATA NORTH  | Unprocessed            | Animals - Birds - Tyrannidae - Contopus cooperi               |
| Animals - Birds | Empidonax traillii           | willow flycatcher             | ABPAE33040 | None       | Endangered | -   | - | 4012378 | KORBEL        | Unprocessed            | Animals - Birds - Tyrannidae - Empidonax traillii             |
| Animals - Fish  | Acipenser medirostris pop. 1 | green sturgeon - southern DPS | AFCAA01031 | Threatened | None       | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Fish - Acipenseridae - Acipenser medirostris pop. 1 |
| Animals - Fish  | Acipenser medirostris pop. 1 | green sturgeon - southern DPS | AFCAA01031 | Threatened | None       | -   | - | 4012472 | EUREKA        | Mapped                 | Animals - Fish - Acipenseridae - Acipenser medirostris pop. 1 |
| Animals - Fish  | Acipenser medirostris pop. 2 | green sturgeon - northern DPS | AFCAA01032 | None       | None       | SSC | - | 4012472 | EUREKA        | Unprocessed            | Animals - Fish - Acipenseridae - Acipenser medirostris pop. 2 |
| Animals - Fish  | Acipenser medirostris pop. 2 | green sturgeon - northern DPS | AFCAA01032 | None       | None       | SSC | - | 4012378 | KORBEL        | Unprocessed            | Animals - Fish - Acipenseridae - Acipenser medirostris pop. 2 |
| Animals - Fish  | Acipenser transmontanus      | white sturgeon                | AFCAA01050 | None       | None       | SSC | - | 4012472 | EUREKA        | Unprocessed            | Animals - Fish - Acipenseridae - Acipenser transmontanus      |
| Animals - Fish  | Eucyclogobius newberryi      | tidewater goby                | AFCQN04010 | Endangered | None       | -   | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Fish - Gobiidae - Eucyclogobius newberryi           |
| Animals - Fish  | Eucyclogobius newberryi      | tidewater goby                | AFCQN04010 | Endangered | None       | -   | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Fish - Gobiidae - Eucyclogobius newberryi           |
| Animals - Fish  | Spirinchus thaleichthys      | longfin smelt                 | AFCHB03010 | Candidate  | Threatened | -   | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Fish - Osmeridae - Spirinchus thaleichthys          |
| Animals - Fish  | Spirinchus thaleichthys      | longfin smelt                 | AFCHB03010 | Candidate  | Threatened | -   | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Fish - Osmeridae - Spirinchus thaleichthys          |
| Animals - Fish  | Spirinchus thaleichthys      | longfin smelt                 | AFCHB03010 | Candidate  | Threatened | -   | - | 4012482 | TYEE CITY     | Unprocessed            | Animals - Fish - Osmeridae - Spirinchus thaleichthys          |
| Animals - Fish  | Thaleichthys pacificus       | eulachon                      | AFCHB04010 | Threatened | None       | -   | - | 4012482 | TYEE CITY     | Mapped                 | Animals - Fish - Osmeridae - Thaleichthys pacificus           |

|                |                              |                       |            |            |      |     |   |         |               |                        |                                                            |
|----------------|------------------------------|-----------------------|------------|------------|------|-----|---|---------|---------------|------------------------|------------------------------------------------------------|
| Animals - Fish | Thaleichthys pacificus       | eulachon              | AFCHB04010 | Threatened | None | -   | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Fish - Osmeridae - Thaleichthys pacificus        |
| Animals - Fish | Thaleichthys pacificus       | eulachon              | AFCHB04010 | Threatened | None | -   | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Fish - Osmeridae - Thaleichthys pacificus        |
| Animals - Fish | Thaleichthys pacificus       | eulachon              | AFCHB04010 | Threatened | None | -   | - | 4012472 | EUREKA        | Mapped                 | Animals - Fish - Osmeridae - Thaleichthys pacificus        |
| Animals - Fish | Thaleichthys pacificus       | eulachon              | AFCHB04010 | Threatened | None | -   | - | 4012388 | BLUE LAKE     | Mapped                 | Animals - Fish - Osmeridae - Thaleichthys pacificus        |
| Animals - Fish | Thaleichthys pacificus       | eulachon              | AFCHB04010 | Threatened | None | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Fish - Osmeridae - Thaleichthys pacificus        |
| Animals - Fish | Thaleichthys pacificus       | eulachon              | AFCHB04010 | Threatened | None | -   | - | 4012378 | KORBEL        | Mapped                 | Animals - Fish - Osmeridae - Thaleichthys pacificus        |
| Animals - Fish | Entosphenus tridentatus      | Pacific lamprey       | AFBAA02100 | None       | None | SSC | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Fish - Petromyzontidae - Entosphenus tridentatus |
| Animals - Fish | Entosphenus tridentatus      | Pacific lamprey       | AFBAA02100 | None       | None | SSC | - | 4012378 | KORBEL        | Unprocessed            | Animals - Fish - Petromyzontidae - Entosphenus tridentatus |
| Animals - Fish | Entosphenus tridentatus      | Pacific lamprey       | AFBAA02100 | None       | None | SSC | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Fish - Petromyzontidae - Entosphenus tridentatus |
| Animals - Fish | Entosphenus tridentatus      | Pacific lamprey       | AFBAA02100 | None       | None | SSC | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Fish - Petromyzontidae - Entosphenus tridentatus |
| Animals - Fish | Entosphenus tridentatus      | Pacific lamprey       | AFBAA02100 | None       | None | SSC | - | 4112318 | PANTHER CREEK | Unprocessed            | Animals - Fish - Petromyzontidae - Entosphenus tridentatus |
| Animals - Fish | Entosphenus tridentatus      | Pacific lamprey       | AFBAA02100 | None       | None | SSC | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Fish - Petromyzontidae - Entosphenus tridentatus |
| Animals - Fish | Lampetra richardsoni         | western brook lamprey | AFBAA02180 | None       | None | SSC | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Fish - Petromyzontidae - Lampetra richardsoni    |
| Animals - Fish | Lampetra richardsoni         | western brook lamprey | AFBAA02180 | None       | None | SSC | - | 4112318 | PANTHER CREEK | Unprocessed            | Animals - Fish - Petromyzontidae - Lampetra richardsoni    |
| Animals - Fish | Lampetra richardsoni         | western brook lamprey | AFBAA02180 | None       | None | SSC | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Fish - Petromyzontidae - Lampetra richardsoni    |
| Animals - Fish | Lampetra richardsoni         | western brook lamprey | AFBAA02180 | None       | None | SSC | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Fish - Petromyzontidae - Lampetra richardsoni    |
| Animals - Fish | Lampetra richardsoni         | western brook lamprey | AFBAA02180 | None       | None | SSC | - | 4012378 | KORBEL        | Unprocessed            | Animals - Fish - Petromyzontidae - Lampetra richardsoni    |
| Animals - Fish | Lampetra richardsoni         | western brook lamprey | AFBAA02180 | None       | None | SSC | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Fish - Petromyzontidae - Lampetra richardsoni    |
| Animals - Fish | Oncorhynchus clarkii clarkii | coast cutthroat trout | AFCHA0208A | None       | None | SSC | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii |
| Animals - Fish | Oncorhynchus clarkii clarkii | coast cutthroat trout | AFCHA0208A | None       | None | SSC | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii |
| Animals - Fish | Oncorhynchus clarkii clarkii | coast cutthroat trout | AFCHA0208A | None       | None | SSC | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii |
| Animals - Fish | Oncorhynchus clarkii clarkii | coast cutthroat trout | AFCHA0208A | None       | None | SSC | - | 4012388 | BLUE LAKE     | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii |
| Animals - Fish | Oncorhynchus clarkii clarkii | coast cutthroat trout | AFCHA0208A | None       | None | SSC | - | 4112411 | CRANNELL      | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii |
| Animals - Fish | Oncorhynchus clarkii clarkii | coast cutthroat trout | AFCHA0208A | None       | None | SSC | - | 4112318 | PANTHER CREEK | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii |
| Animals - Fish | Oncorhynchus clarkii clarkii | coast cutthroat trout | AFCHA0208A | None       | None | SSC | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii |
| Animals - Fish | Oncorhynchus gorboscha       | pink salmon           | AFCHA02010 | None       | None | -   | - | 4012481 | ARCATA NORTH  | Unprocessed            | Animals - Fish - Salmonidae -                              |

|                |                                     |                                                         |            |            |            |     |   |         |               |                        |                                                                   |
|----------------|-------------------------------------|---------------------------------------------------------|------------|------------|------------|-----|---|---------|---------------|------------------------|-------------------------------------------------------------------|
|                |                                     |                                                         |            |            |            |     |   |         |               |                        | Oncorhynchus gorbusha                                             |
| Animals - Fish | Oncorhynchus keta                   | chum salmon                                             | AFCHA02020 | None       | None       | -   | - | 4012481 | ARCATA NORTH  | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus keta                   |
| Animals - Fish | Oncorhynchus kisutch pop. 2         | coho salmon - southern Oregon / northern California ESU | AFCHA02032 | Threatened | Threatened | -   | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2         |
| Animals - Fish | Oncorhynchus kisutch pop. 2         | coho salmon - southern Oregon / northern California ESU | AFCHA02032 | Threatened | Threatened | -   | - | 4112318 | PANTHER CREEK | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2         |
| Animals - Fish | Oncorhynchus kisutch pop. 2         | coho salmon - southern Oregon / northern California ESU | AFCHA02032 | Threatened | Threatened | -   | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2         |
| Animals - Fish | Oncorhynchus kisutch pop. 2         | coho salmon - southern Oregon / northern California ESU | AFCHA02032 | Threatened | Threatened | -   | - | 4012388 | BLUE LAKE     | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2         |
| Animals - Fish | Oncorhynchus kisutch pop. 2         | coho salmon - southern Oregon / northern California ESU | AFCHA02032 | Threatened | Threatened | -   | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2         |
| Animals - Fish | Oncorhynchus kisutch pop. 2         | coho salmon - southern Oregon / northern California ESU | AFCHA02032 | Threatened | Threatened | -   | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2         |
| Animals - Fish | Oncorhynchus kisutch pop. 2         | coho salmon - southern Oregon / northern California ESU | AFCHA02032 | Threatened | Threatened | -   | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2         |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 1  | steelhead - Klamath Mountains Province DPS              | AFCHA0209D | None       | None       | SSC | - | 4112318 | PANTHER CREEK | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 1  |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 48 | steelhead - northern California DPS summer-run          | AFCHA0213P | Threatened | Endangered | -   | - | 4112318 | PANTHER CREEK | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 48 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 48 | steelhead - northern California DPS summer-run          | AFCHA0213P | Threatened | Endangered | -   | - | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 48 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 48 | steelhead - northern California DPS summer-run          | AFCHA0213P | Threatened | Endangered | -   | - | 4012482 | TYEE CITY     | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 48 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 48 | steelhead - northern California DPS summer-run          | AFCHA0213P | Threatened | Endangered | -   | - | 4012388 | BLUE LAKE     | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 48 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 48 | steelhead - northern California DPS summer-run          | AFCHA0213P | Threatened | Endangered | -   | - | 4012378 | KORBEL        | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 48 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 49 | steelhead - northern California DPS winter-run          | AFCHA0213Q | Threatened | None       | -   | - | 4012378 | KORBEL        | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 49 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 49 | steelhead - northern California DPS winter-run          | AFCHA0213Q | Threatened | None       | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 49 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 49 | steelhead - northern California DPS winter-run          | AFCHA0213Q | Threatened | None       | -   | - | 4012388 | BLUE LAKE     | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 49 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 49 | steelhead - northern California DPS winter-run          | AFCHA0213Q | Threatened | None       | -   | - | 4012472 | EUREKA        | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 49 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 49 | steelhead - northern California DPS winter-run          | AFCHA0213Q | Threatened | None       | -   | - | 4012482 | TYEE CITY     | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 49 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 49 | steelhead - northern California DPS winter-run          | AFCHA0213Q | Threatened | None       | -   | - | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 49 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 49 | steelhead - northern California DPS winter-run          | AFCHA0213Q | Threatened | None       | -   | - | 4112318 | PANTHER CREEK | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 49 |
| Animals - Fish | Oncorhynchus mykiss irideus pop. 49 | steelhead - northern California DPS winter-run          | AFCHA0213Q | Threatened | None       | -   | - | 4112411 | CRANNELL      | Mapped                 | Animals - Fish - Salmonidae - Oncorhynchus                        |

|                   |                                  |                                                       |            |            |                      |     |   |         |               |                        |                                                                |
|-------------------|----------------------------------|-------------------------------------------------------|------------|------------|----------------------|-----|---|---------|---------------|------------------------|----------------------------------------------------------------|
|                   |                                  |                                                       |            |            |                      |     |   |         |               |                        | mykiss irideus pop. 49                                         |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 17 | chinook salmon - California coastal ESU               | AFCHA0205S | Threatened | None                 | -   | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 17 | chinook salmon - California coastal ESU               | AFCHA0205S | Threatened | None                 | -   | - | 4112318 | PANTHER CREEK | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 17 | chinook salmon - California coastal ESU               | AFCHA0205S | Threatened | None                 | -   | - | 4012481 | ARCATA NORTH  | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 17 | chinook salmon - California coastal ESU               | AFCHA0205S | Threatened | None                 | -   | - | 4012472 | EUREKA        | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 17 | chinook salmon - California coastal ESU               | AFCHA0205S | Threatened | None                 | -   | - | 4012388 | BLUE LAKE     | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 17 | chinook salmon - California coastal ESU               | AFCHA0205S | Threatened | None                 | -   | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 17 | chinook salmon - California coastal ESU               | AFCHA0205S | Threatened | None                 | -   | - | 4012378 | KORBEL        | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 30 | chinook salmon - upper Klamath and Trinity Rivers ESU | AFCHA02056 | Candidate  | Threatened           | SSC | - | 4012378 | KORBEL        | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 30 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 30 | chinook salmon - upper Klamath and Trinity Rivers ESU | AFCHA02056 | Candidate  | Threatened           | SSC | - | 4112318 | PANTHER CREEK | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 30 |
| Animals - Fish    | Oncorhynchus tshawytscha pop. 30 | chinook salmon - upper Klamath and Trinity Rivers ESU | AFCHA02056 | Candidate  | Threatened           | SSC | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 30 |
| Animals - Insects | Bombus caliginosus               | obscure bumble bee                                    | IIHYM24380 | None       | None                 | -   | - | 4112411 | CRANNELL      | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus caliginosus                |
| Animals - Insects | Bombus caliginosus               | obscure bumble bee                                    | IIHYM24380 | None       | None                 | -   | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus caliginosus                |
| Animals - Insects | Bombus caliginosus               | obscure bumble bee                                    | IIHYM24380 | None       | None                 | -   | - | 4012482 | TYEE CITY     | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus caliginosus                |
| Animals - Insects | Bombus caliginosus               | obscure bumble bee                                    | IIHYM24380 | None       | None                 | -   | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus caliginosus                |
| Animals - Insects | Bombus caliginosus               | obscure bumble bee                                    | IIHYM24380 | None       | None                 | -   | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus caliginosus                |
| Animals - Insects | Bombus caliginosus               | obscure bumble bee                                    | IIHYM24380 | None       | None                 | -   | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus caliginosus                |
| Animals - Insects | Bombus crotchii                  | Crotch bumble bee                                     | IIHYM24480 | None       | Candidate Endangered | -   | - | 4012482 | TYEE CITY     | Mapped                 | Animals - Insects - Apidae - Bombus crotchii                   |
| Animals - Insects | Bombus crotchii                  | Crotch bumble bee                                     | IIHYM24480 | None       | Candidate Endangered | -   | - | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Insects - Apidae - Bombus crotchii                   |
| Animals - Insects | Bombus occidentalis              | western bumble bee                                    | IIHYM24252 | None       | Candidate Endangered | -   | - | 4012482 | TYEE CITY     | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus occidentalis               |
| Animals - Insects | Bombus occidentalis              | western bumble bee                                    | IIHYM24252 | None       | Candidate Endangered | -   | - | 4112411 | CRANNELL      | Mapped                 | Animals - Insects - Apidae - Bombus occidentalis               |
| Animals - Insects | Bombus occidentalis              | western bumble bee                                    | IIHYM24252 | None       | Candidate Endangered | -   | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus occidentalis               |
| Animals - Insects | Bombus occidentalis              | western bumble bee                                    | IIHYM24252 | None       | Candidate Endangered | -   | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus occidentalis               |
| Animals - Insects | Bombus occidentalis              | western bumble bee                                    | IIHYM24252 | None       | Candidate Endangered | -   | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus occidentalis               |
| Animals - Insects | Bombus occidentalis              | western bumble bee                                    | IIHYM24252 | None       | Candidate Endangered | -   | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Insects - Apidae - Bombus occidentalis               |
| Animals - Insects | Cicindela hirticollis gravida    | sandy beach tiger beetle                              | IICOL02101 | None       | None                 | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Insects - Carabidae - Cicindela hirticollis gravida  |
| Animals - Insects | Cicindela hirticollis gravida    | sandy beach tiger beetle                              | IICOL02101 | None       | None                 | -   | - | 4012472 | EUREKA        | Mapped                 | Animals - Insects - Carabidae - Cicindela hirticollis gravida  |

|                   |                             |                             |            |      |      |     |   |         |               |                        |                                                                |
|-------------------|-----------------------------|-----------------------------|------------|------|------|-----|---|---------|---------------|------------------------|----------------------------------------------------------------|
| Animals - Insects | Scaphinotus behrensi        | Behrens snail-eating beetle | IICOL4L070 | None | None | -   | - | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Insects - Carabidae - Scaphinotus behrensi           |
| Animals - Insects | Scaphinotus behrensi        | Behrens snail-eating beetle | IICOL4L070 | None | None | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Insects - Carabidae - Scaphinotus behrensi           |
| Animals - Mammals | Apodontia rufa humboldtiana | Humboldt mountain beaver    | AMAF01017  | None | None | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Mammals - Apodontiidae - Apodontia rufa humboldtiana |
| Animals - Mammals | Apodontia rufa humboldtiana | Humboldt mountain beaver    | AMAF01017  | None | None | -   | - | 4012378 | KORBEL        | Mapped                 | Animals - Mammals - Apodontiidae - Apodontia rufa humboldtiana |
| Animals - Mammals | Apodontia rufa humboldtiana | Humboldt mountain beaver    | AMAF01017  | None | None | -   | - | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Mammals - Apodontiidae - Apodontia rufa humboldtiana |
| Animals - Mammals | Apodontia rufa humboldtiana | Humboldt mountain beaver    | AMAF01017  | None | None | -   | - | 4112411 | CRANNELL      | Mapped                 | Animals - Mammals - Apodontiidae - Apodontia rufa humboldtiana |
| Animals - Mammals | Apodontia rufa humboldtiana | Humboldt mountain beaver    | AMAF01017  | None | None | -   | - | 4012472 | EUREKA        | Mapped                 | Animals - Mammals - Apodontiidae - Apodontia rufa humboldtiana |
| Animals - Mammals | Apodontia rufa humboldtiana | Humboldt mountain beaver    | AMAF01017  | None | None | -   | - | 4012388 | BLUE LAKE     | Mapped                 | Animals - Mammals - Apodontiidae - Apodontia rufa humboldtiana |
| Animals - Mammals | Arborimus albipes           | white-footed vole           | AMAFF23010 | None | None | SSC | - | 4012482 | TYEE CITY     | Mapped                 | Animals - Mammals - Cricetidae - Arborimus albipes             |
| Animals - Mammals | Arborimus albipes           | white-footed vole           | AMAFF23010 | None | None | SSC | - | 4012378 | KORBEL        | Mapped                 | Animals - Mammals - Cricetidae - Arborimus albipes             |
| Animals - Mammals | Arborimus pomo              | Sonoma tree vole            | AMAFF23030 | None | None | SSC | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Mammals - Cricetidae - Arborimus pomo                |
| Animals - Mammals | Arborimus pomo              | Sonoma tree vole            | AMAFF23030 | None | None | SSC | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Mammals - Cricetidae - Arborimus pomo                |
| Animals - Mammals | Arborimus pomo              | Sonoma tree vole            | AMAFF23030 | None | None | SSC | - | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Mammals - Cricetidae - Arborimus pomo                |
| Animals - Mammals | Arborimus pomo              | Sonoma tree vole            | AMAFF23030 | None | None | SSC | - | 4112411 | CRANNELL      | Mapped and Unprocessed | Animals - Mammals - Cricetidae - Arborimus pomo                |
| Animals - Mammals | Arborimus pomo              | Sonoma tree vole            | AMAFF23030 | None | None | SSC | - | 4112318 | PANTHER CREEK | Unprocessed            | Animals - Mammals - Cricetidae - Arborimus pomo                |
| Animals - Mammals | Arborimus pomo              | Sonoma tree vole            | AMAFF23030 | None | None | SSC | - | 4012388 | BLUE LAKE     | Mapped and Unprocessed | Animals - Mammals - Cricetidae - Arborimus pomo                |
| Animals - Mammals | Erethizon dorsatum          | North American porcupine    | AMAFJ01010 | None | None | -   | - | 4012388 | BLUE LAKE     | Unprocessed            | Animals - Mammals - Erethizontidae - Erethizon dorsatum        |
| Animals - Mammals | Erethizon dorsatum          | North American porcupine    | AMAFJ01010 | None | None | -   | - | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Mammals - Erethizontidae - Erethizon dorsatum        |
| Animals - Mammals | Erethizon dorsatum          | North American porcupine    | AMAFJ01010 | None | None | -   | - | 4112411 | CRANNELL      | Mapped                 | Animals - Mammals - Erethizontidae - Erethizon dorsatum        |
| Animals - Mammals | Erethizon dorsatum          | North American porcupine    | AMAFJ01010 | None | None | -   | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Mammals - Erethizontidae - Erethizon dorsatum        |
| Animals - Mammals | Erethizon dorsatum          | North American porcupine    | AMAFJ01010 | None | None | -   | - | 4012482 | TYEE CITY     | Unprocessed            | Animals - Mammals - Erethizontidae - Erethizon dorsatum        |
| Animals - Mammals | Erethizon dorsatum          | North American porcupine    | AMAFJ01010 | None | None | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Mammals - Erethizontidae - Erethizon dorsatum        |
| Animals - Mammals | Erethizon dorsatum          | North American porcupine    | AMAFJ01010 | None | None | -   | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Mammals - Erethizontidae - Erethizon dorsatum        |

|                    |                              |                          |            |            |            |     |   |         |               |                        |                                                                  |
|--------------------|------------------------------|--------------------------|------------|------------|------------|-----|---|---------|---------------|------------------------|------------------------------------------------------------------|
|                    |                              |                          |            |            |            |     |   |         |               |                        | Erethizon dorsatum                                               |
| Animals - Mammals  | Enhydra lutris nereis        | southern sea otter       | AMAJF09012 | Threatened | None       | FP  | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Mammals - Mustelidae - Enhydra lutris nereis           |
| Animals - Mammals  | Enhydra lutris nereis        | southern sea otter       | AMAJF09012 | Threatened | None       | FP  | - | 4012472 | EUREKA        | Unprocessed            | Animals - Mammals - Mustelidae - Enhydra lutris nereis           |
| Animals - Mammals  | Martes caurina humboldtensis | Humboldt marten          | AMAJF01012 | Threatened | Endangered | SSC | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Mammals - Mustelidae - Martes caurina humboldtensis    |
| Animals - Mammals  | Martes caurina humboldtensis | Humboldt marten          | AMAJF01012 | Threatened | Endangered | SSC | - | 4112318 | PANTHER CREEK | Unprocessed            | Animals - Mammals - Mustelidae - Martes caurina humboldtensis    |
| Animals - Mammals  | Pekania pennanti             | Fisher                   | AMAJF01020 | None       | None       | SSC | - | 4112318 | PANTHER CREEK | Mapped and Unprocessed | Animals - Mammals - Mustelidae - Pekania pennanti                |
| Animals - Mammals  | Pekania pennanti             | Fisher                   | AMAJF01020 | None       | None       | SSC | - | 4112411 | CRANNELL      | Unprocessed            | Animals - Mammals - Mustelidae - Pekania pennanti                |
| Animals - Mammals  | Pekania pennanti             | Fisher                   | AMAJF01020 | None       | None       | SSC | - | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Animals - Mammals - Mustelidae - Pekania pennanti                |
| Animals - Mammals  | Pekania pennanti             | Fisher                   | AMAJF01020 | None       | None       | SSC | - | 4012388 | BLUE LAKE     | Mapped and Unprocessed | Animals - Mammals - Mustelidae - Pekania pennanti                |
| Animals - Mammals  | Pekania pennanti             | Fisher                   | AMAJF01020 | None       | None       | SSC | - | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Mammals - Mustelidae - Pekania pennanti                |
| Animals - Mammals  | Pekania pennanti             | Fisher                   | AMAJF01020 | None       | None       | SSC | - | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Mammals - Mustelidae - Pekania pennanti                |
| Animals - Mammals  | Corynorhinus townsendii      | Townsend's big-eared bat | AMACC08010 | None       | None       | SSC | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Mammals - Vespertilionidae - Corynorhinus townsendii   |
| Animals - Mammals  | Corynorhinus townsendii      | Townsend's big-eared bat | AMACC08010 | None       | None       | SSC | - | 4012378 | KORBEL        | Mapped                 | Animals - Mammals - Vespertilionidae - Corynorhinus townsendii   |
| Animals - Mammals  | Lasionycteris noctivagans    | silver-haired bat        | AMACC02010 | None       | None       | -   | - | 4012472 | EUREKA        | Unprocessed            | Animals - Mammals - Vespertilionidae - Lasionycteris noctivagans |
| Animals - Mammals  | Lasiurus cinereus            | hoary bat                | AMACC05032 | None       | None       | -   | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Mammals - Vespertilionidae - Lasiurus cinereus         |
| Animals - Mammals  | Myotis evotis                | long-eared myotis        | AMACC01070 | None       | None       | -   | - | 4012471 | ARCATA SOUTH  | Mapped                 | Animals - Mammals - Vespertilionidae - Myotis evotis             |
| Animals - Mammals  | Myotis evotis                | long-eared myotis        | AMACC01070 | None       | None       | -   | - | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Mammals - Vespertilionidae - Myotis evotis             |
| Animals - Mammals  | Myotis evotis                | long-eared myotis        | AMACC01070 | None       | None       | -   | - | 4112411 | CRANNELL      | Mapped                 | Animals - Mammals - Vespertilionidae - Myotis evotis             |
| Animals - Mammals  | Myotis yumanensis            | Yuma myotis              | AMACC01020 | None       | None       | -   | - | 4012472 | EUREKA        | Unprocessed            | Animals - Mammals - Vespertilionidae - Myotis yumanensis         |
| Animals - Mollusks | Littorina subrotundata       | Newcombs littorine snail | IMGASR3010 | None       | None       | -   | - | 4012472 | EUREKA        | Unprocessed            | Animals - Mollusks - Littorinidae - Littorina subrotundata       |
| Animals - Mollusks | Littorina subrotundata       | Newcombs littorine snail | IMGASR3010 | None       | None       | -   | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Mollusks - Littorinidae - Littorina subrotundata       |
| Animals - Mollusks | Margaritifera falcata        | western pearlshell       | IMBIV27020 | None       | None       | -   | - | 4012471 | ARCATA SOUTH  | Unprocessed            | Animals - Mollusks - Margaritiferidae - Margaritifera falcata    |
| Animals - Mollusks | Margaritifera falcata        | western pearlshell       | IMBIV27020 | None       | None       | -   | - | 4012388 | BLUE LAKE     | Mapped                 | Animals - Mollusks - Margaritiferidae - Margaritifera falcata    |

|                         |                             |                             |            |      |      |     |      |         |               |                        |                                                               |
|-------------------------|-----------------------------|-----------------------------|------------|------|------|-----|------|---------|---------------|------------------------|---------------------------------------------------------------|
| Animals - Mollusks      | Margaritifera falcata       | western pearlshell          | IMBIV27020 | None | None | -   | -    | 4112411 | CRANNELL      | Mapped                 | Animals - Mollusks - Margaritiferidae - Margaritifera falcata |
| Animals - Mollusks      | Margaritifera falcata       | western pearlshell          | IMBIV27020 | None | None | -   | -    | 4112318 | PANTHER CREEK | Mapped                 | Animals - Mollusks - Margaritiferidae - Margaritifera falcata |
| Animals - Mollusks      | Margaritifera falcata       | western pearlshell          | IMBIV27020 | None | None | -   | -    | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Mollusks - Margaritiferidae - Margaritifera falcata |
| Animals - Mollusks      | Anodonta californiensis     | California floater          | IMBIV04220 | None | None | -   | -    | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Mollusks - Unionidae - Anodonta californiensis      |
| Animals - Reptiles      | Emys marmorata              | western pond turtle         | ARAAD02030 | None | None | SSC | -    | 4012472 | EUREKA        | Mapped and Unprocessed | Animals - Reptiles - Emydidae - Emys marmorata                |
| Animals - Reptiles      | Emys marmorata              | western pond turtle         | ARAAD02030 | None | None | SSC | -    | 4012388 | BLUE LAKE     | Mapped                 | Animals - Reptiles - Emydidae - Emys marmorata                |
| Animals - Reptiles      | Emys marmorata              | western pond turtle         | ARAAD02030 | None | None | SSC | -    | 4012481 | ARCATA NORTH  | Mapped                 | Animals - Reptiles - Emydidae - Emys marmorata                |
| Animals - Reptiles      | Emys marmorata              | western pond turtle         | ARAAD02030 | None | None | SSC | -    | 4112411 | CRANNELL      | Mapped                 | Animals - Reptiles - Emydidae - Emys marmorata                |
| Animals - Reptiles      | Emys marmorata              | western pond turtle         | ARAAD02030 | None | None | SSC | -    | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Animals - Reptiles - Emydidae - Emys marmorata                |
| Animals - Reptiles      | Emys marmorata              | western pond turtle         | ARAAD02030 | None | None | SSC | -    | 4012378 | KORBEL        | Mapped and Unprocessed | Animals - Reptiles - Emydidae - Emys marmorata                |
| Community - Terrestrial | Northern Coastal Salt Marsh | Northern Coastal Salt Marsh | CTT52110CA | None | None | -   | -    | 4012471 | ARCATA SOUTH  | Mapped                 | Community - Terrestrial - Northern Coastal Salt Marsh         |
| Community - Terrestrial | Northern Coastal Salt Marsh | Northern Coastal Salt Marsh | CTT52110CA | None | None | -   | -    | 4012482 | TYEE CITY     | Mapped                 | Community - Terrestrial - Northern Coastal Salt Marsh         |
| Community - Terrestrial | Northern Coastal Salt Marsh | Northern Coastal Salt Marsh | CTT52110CA | None | None | -   | -    | 4012472 | EUREKA        | Mapped                 | Community - Terrestrial - Northern Coastal Salt Marsh         |
| Community - Terrestrial | Northern Foredune Grassland | Northern Foredune Grassland | CTT21211CA | None | None | -   | -    | 4012482 | TYEE CITY     | Mapped                 | Community - Terrestrial - Northern Foredune Grassland         |
| Plants - Bryophytes     | Trichodon cylindricus       | cylindrical trichodon       | NBMUS7N020 | None | None | -   | 2B.2 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Bryophytes - Ditrichaceae - Trichodon cylindricus    |
| Plants - Bryophytes     | Fissidens pauperculus       | minute pocket moss          | NBMUS2W0U0 | None | None | -   | 1B.2 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Bryophytes - Fissidentaceae - Fissidens pauperculus  |
| Plants - Bryophytes     | Fissidens pauperculus       | minute pocket moss          | NBMUS2W0U0 | None | None | -   | 1B.2 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Bryophytes - Fissidentaceae - Fissidens pauperculus  |
| Plants - Lichens        | Sulcaria spirallifera       | twisted horsehair lichen    | NLT0042560 | None | None | -   | 1B.2 | 4012482 | TYEE CITY     | Mapped                 | Plants - Lichens - Alectoriaceae - Sulcaria spirallifera      |
| Plants - Lichens        | Sulcaria spirallifera       | twisted horsehair lichen    | NLT0042560 | None | None | -   | 1B.2 | 4112411 | CRANNELL      | Mapped                 | Plants - Lichens - Alectoriaceae - Sulcaria spirallifera      |
| Plants - Lichens        | Sulcaria spirallifera       | twisted horsehair lichen    | NLT0042560 | None | None | -   | 1B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Lichens - Alectoriaceae - Sulcaria spirallifera      |
| Plants - Lichens        | Usnea longissima            | Methuselahs beard lichen    | NLLEC5P420 | None | None | -   | 4.2  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Lichens - Parmeliaceae - Usnea longissima            |
| Plants - Lichens        | Usnea longissima            | Methuselahs beard lichen    | NLLEC5P420 | None | None | -   | 4.2  | 4112318 | PANTHER CREEK | Unprocessed            | Plants - Lichens - Parmeliaceae - Usnea longissima            |
| Plants - Lichens        | Usnea longissima            | Methuselahs beard lichen    | NLLEC5P420 | None | None | -   | 4.2  | 4112411 | CRANNELL      | Unprocessed            | Plants - Lichens - Parmeliaceae - Usnea longissima            |
| Plants - Lichens        | Usnea longissima            | Methuselahs beard lichen    | NLLEC5P420 | None | None | -   | 4.2  | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Lichens - Parmeliaceae - Usnea longissima            |
| Plants - Lichens        | Usnea longissima            | Methuselahs beard lichen    | NLLEC5P420 | None | None | -   | 4.2  | 4012378 | KORBEL        | Mapped and Unprocessed | Plants - Lichens - Parmeliaceae - Usnea longissima            |
| Plants - Vascular       | Angelica lucida             | sea-watch                   | PDAPI070G0 | None | None | -   | 4.2  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Apiaceae - Angelica lucida                |
| Plants - Vascular       | Angelica lucida             | sea-watch                   | PDAPI070G0 | None | None | -   | 4.2  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular - Apiaceae - Angelica lucida                |
| Plants - Vascular       | Angelica lucida             | sea-watch                   | PDAPI070G0 | None | None | -   | 4.2  | 4012482 | TYEE CITY     | Unprocessed            | Plants - Vascular - Apiaceae -                                |

|                   |                                          |                          |            |            |            |   |      |         |               |                        |                                                                                      |
|-------------------|------------------------------------------|--------------------------|------------|------------|------------|---|------|---------|---------------|------------------------|--------------------------------------------------------------------------------------|
|                   |                                          |                          |            |            |            |   |      |         |               |                        | Angelica lucida                                                                      |
| Plants - Vascular | Angelica lucida                          | sea-watch                | PDAP1070G0 | None       | None       | - | 4.2  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular -<br>Apiaceae -<br>Angelica lucida                                 |
| Plants - Vascular | Angelica lucida                          | sea-watch                | PDAP1070G0 | None       | None       | - | 4.2  | 4012472 | EUREKA        | Unprocessed            | Plants - Vascular -<br>Apiaceae -<br>Angelica lucida                                 |
| Plants - Vascular | Glehnia littoralis ssp. leiocarpa        | American glehnia         | PDAP113011 | None       | None       | - | 4.2  | 4012472 | EUREKA        | Unprocessed            | Plants - Vascular -<br>Apiaceae -<br>Glehnia littoralis ssp. leiocarpa               |
| Plants - Vascular | Glehnia littoralis ssp. leiocarpa        | American glehnia         | PDAP113011 | None       | None       | - | 4.2  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular -<br>Apiaceae -<br>Glehnia littoralis ssp. leiocarpa               |
| Plants - Vascular | Glehnia littoralis ssp. leiocarpa        | American glehnia         | PDAP113011 | None       | None       | - | 4.2  | 4012482 | TYEE CITY     | Unprocessed            | Plants - Vascular -<br>Apiaceae -<br>Glehnia littoralis ssp. leiocarpa               |
| Plants - Vascular | Glehnia littoralis ssp. leiocarpa        | American glehnia         | PDAP113011 | None       | None       | - | 4.2  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular -<br>Apiaceae -<br>Glehnia littoralis ssp. leiocarpa               |
| Plants - Vascular | Hemizonia congesta ssp. tracyi           | Tracys tarplant          | PDAST4R067 | None       | None       | - | 4.3  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular -<br>Asteraceae -<br>Hemizonia congesta ssp. tracyi                |
| Plants - Vascular | Hesperrevax sparsiflora var. brevifolia  | short-leaved evax        | PDASTE5011 | None       | None       | - | 1B.2 | 4012472 | EUREKA        | Mapped and Unprocessed | Plants - Vascular -<br>Asteraceae -<br>Hesperrevax sparsiflora var. brevifolia       |
| Plants - Vascular | Lasthenia californica ssp. macrantha     | perennial goldfields     | PDAST5L0C5 | None       | None       | - | 1B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular -<br>Asteraceae -<br>Lasthenia californica ssp. macrantha          |
| Plants - Vascular | Layia carnosa                            | beach layia              | PDAST5N010 | Threatened | Endangered | - | 1B.1 | 4012472 | EUREKA        | Mapped and Unprocessed | Plants - Vascular -<br>Asteraceae -<br>Layia carnosa                                 |
| Plants - Vascular | Layia carnosa                            | beach layia              | PDAST5N010 | Threatened | Endangered | - | 1B.1 | 4112411 | CRANNELL      | Mapped                 | Plants - Vascular -<br>Asteraceae -<br>Layia carnosa                                 |
| Plants - Vascular | Layia carnosa                            | beach layia              | PDAST5N010 | Threatened | Endangered | - | 1B.1 | 4012482 | TYEE CITY     | Mapped and Unprocessed | Plants - Vascular -<br>Asteraceae -<br>Layia carnosa                                 |
| Plants - Vascular | Packera bolanderi var. bolanderi         | seacoast ragwort         | PDAST8H0H1 | None       | None       | - | 2B.2 | 4112411 | CRANNELL      | Mapped and Unprocessed | Plants - Vascular -<br>Asteraceae -<br>Packera bolanderi var. bolanderi              |
| Plants - Vascular | Packera bolanderi var. bolanderi         | seacoast ragwort         | PDAST8H0H1 | None       | None       | - | 2B.2 | 4112318 | PANTHER CREEK | Mapped                 | Plants - Vascular -<br>Asteraceae -<br>Packera bolanderi var. bolanderi              |
| Plants - Vascular | Cardamine angulata                       | seaside bittercress      | PDBRA0K010 | None       | None       | - | 2B.1 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular -<br>Brassicaceae -<br>Cardamine angulata                          |
| Plants - Vascular | Erysimum menziesii                       | Menzies wallflower       | PDBRA160R0 | Endangered | Endangered | - | 1B.1 | 4012482 | TYEE CITY     | Mapped and Unprocessed | Plants - Vascular -<br>Brassicaceae -<br>Erysimum menziesii                          |
| Plants - Vascular | Erysimum menziesii                       | Menzies wallflower       | PDBRA160R0 | Endangered | Endangered | - | 1B.1 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular -<br>Brassicaceae -<br>Erysimum menziesii                          |
| Plants - Vascular | Silene scouleri ssp. scouleri            | Scoulers catchfly        | PDCAR0U1MC | None       | None       | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular -<br>Caryophyllaceae -<br>Silene scouleri ssp. scouleri            |
| Plants - Vascular | Spergularia canadensis var. occidentalis | western sand-spurrey     | PDCAR0W032 | None       | None       | - | 2B.1 | 4012472 | EUREKA        | Mapped and Unprocessed | Plants - Vascular -<br>Caryophyllaceae -<br>Spergularia canadensis var. occidentalis |
| Plants - Vascular | Spergularia canadensis var. occidentalis | western sand-spurrey     | PDCAR0W032 | None       | None       | - | 2B.1 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular -<br>Caryophyllaceae -<br>Spergularia canadensis var. occidentalis |
| Plants - Vascular | Carex arcta                              | northern clustered sedge | PMCYP030X0 | None       | None       | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular -<br>Cyperaceae -<br>Carex arcta                                   |
| Plants - Vascular | Carex arcta                              | northern clustered sedge | PMCYP030X0 | None       | None       | - | 2B.2 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular -<br>Cyperaceae -<br>Carex arcta                                   |
| Plants - Vascular | Carex leptalea                           | bristle-stalked sedge    | PMCYP037E0 | None       | None       | - | 2B.2 | 4112411 | CRANNELL      | Mapped and Unprocessed | Plants - Vascular -<br>Cyperaceae -<br>Carex leptalea                                |
| Plants - Vascular | Carex lyngbyei                           | Lyngbyes sedge           | PMCYP037Y0 | None       | None       | - | 2B.2 | 4112411 | CRANNELL      | Mapped                 | Plants - Vascular -<br>Cyperaceae -<br>Carex lyngbyei                                |
| Plants - Vascular | Carex lyngbyei                           | Lyngbyes sedge           | PMCYP037Y0 | None       | None       | - | 2B.2 | 4012482 | TYEE CITY     | Mapped                 | Plants - Vascular -<br>Cyperaceae -<br>Carex lyngbyei                                |
| Plants - Vascular | Carex lyngbyei                           | Lyngbyes sedge           | PMCYP037Y0 | None       | None       | - | 2B.2 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular -<br>Cyperaceae -<br>Carex lyngbyei                                |
| Plants - Vascular | Carex lyngbyei                           | Lyngbyes sedge           | PMCYP037Y0 | None       | None       | - | 2B.2 | 4012472 | EUREKA        | Mapped and Unprocessed | Plants - Vascular -<br>Cyperaceae -<br>Carex lyngbyei                                |

|                   |                                             |                          |            |      |      |   |      |         |               |                        |                                                                            |
|-------------------|---------------------------------------------|--------------------------|------------|------|------|---|------|---------|---------------|------------------------|----------------------------------------------------------------------------|
| Plants - Vascular | Carex lyngbyei                              | Lyngbyes sedge           | PMCYP037Y0 | None | None | - | 2B.2 | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Plants - Vascular - Cyperaceae - Carex lyngbyei                            |
| Plants - Vascular | Carex praticola                             | northern meadow sedge    | PMCYP03B20 | None | None | - | 2B.2 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular - Cyperaceae - Carex praticola                           |
| Plants - Vascular | Carex praticola                             | northern meadow sedge    | PMCYP03B20 | None | None | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Cyperaceae - Carex praticola                           |
| Plants - Vascular | Eleocharis parvula                          | small spikerush          | PMCYP091G0 | None | None | - | 4.3  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Cyperaceae - Eleocharis parvula                        |
| Plants - Vascular | Astragalus pycnostachyus var. pycnostachyus | coastal marsh milk-vetch | PDFAB0F7B2 | None | None | - | 1B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Fabaceae - Astragalus pycnostachyus var. pycnostachyus |
| Plants - Vascular | Astragalus rattanii var. rattanii           | Rattans milk-vetch       | PDFAB0F7E2 | None | None | - | 4.3  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular - Fabaceae - Astragalus rattanii var. rattanii           |
| Plants - Vascular | Hosackia gracilis                           | harlequin lotus          | PDFAB2A0D0 | None | None | - | 4.2  | 4012472 | EUREKA        | Unprocessed            | Plants - Vascular - Fabaceae - Hosackia gracilis                           |
| Plants - Vascular | Hosackia gracilis                           | harlequin lotus          | PDFAB2A0D0 | None | None | - | 4.2  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Fabaceae - Hosackia gracilis                           |
| Plants - Vascular | Hosackia gracilis                           | harlequin lotus          | PDFAB2A0D0 | None | None | - | 4.2  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Fabaceae - Hosackia gracilis                           |
| Plants - Vascular | Lathyrus glandulosus                        | sticky pea               | PDFAB251A0 | None | None | - | 4.3  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Fabaceae - Lathyrus glandulosus                        |
| Plants - Vascular | Lathyrus glandulosus                        | sticky pea               | PDFAB251A0 | None | None | - | 4.3  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Fabaceae - Lathyrus glandulosus                        |
| Plants - Vascular | Lathyrus glandulosus                        | sticky pea               | PDFAB251A0 | None | None | - | 4.3  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular - Fabaceae - Lathyrus glandulosus                        |
| Plants - Vascular | Lathyrus glandulosus                        | sticky pea               | PDFAB251A0 | None | None | - | 4.3  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Fabaceae - Lathyrus glandulosus                        |
| Plants - Vascular | Lathyrus japonicus                          | seaside pea              | PDFAB250C0 | None | None | - | 2B.1 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular - Fabaceae - Lathyrus japonicus                          |
| Plants - Vascular | Lathyrus japonicus                          | seaside pea              | PDFAB250C0 | None | None | - | 2B.1 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Fabaceae - Lathyrus japonicus                          |
| Plants - Vascular | Lathyrus japonicus                          | seaside pea              | PDFAB250C0 | None | None | - | 2B.1 | 4112411 | CRANNELL      | Mapped                 | Plants - Vascular - Fabaceae - Lathyrus japonicus                          |
| Plants - Vascular | Lathyrus japonicus                          | seaside pea              | PDFAB250C0 | None | None | - | 2B.1 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular - Fabaceae - Lathyrus japonicus                          |
| Plants - Vascular | Lathyrus palustris                          | marsh pea                | PDFAB250P0 | None | None | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Fabaceae - Lathyrus palustris                          |
| Plants - Vascular | Ribes laxiflorum                            | trailing black currant   | PDGRO020V0 | None | None | - | 4.3  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular - Grossulariaceae - Ribes laxiflorum                     |
| Plants - Vascular | Ribes laxiflorum                            | trailing black currant   | PDGRO020V0 | None | None | - | 4.3  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Grossulariaceae - Ribes laxiflorum                     |
| Plants - Vascular | Ribes laxiflorum                            | trailing black currant   | PDGRO020V0 | None | None | - | 4.3  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular - Grossulariaceae - Ribes laxiflorum                     |
| Plants - Vascular | Ribes laxiflorum                            | trailing black currant   | PDGRO020V0 | None | None | - | 4.3  | 4112318 | PANTHER CREEK | Unprocessed            | Plants - Vascular - Grossulariaceae - Ribes laxiflorum                     |
| Plants - Vascular | Ribes laxiflorum                            | trailing black currant   | PDGRO020V0 | None | None | - | 4.3  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Grossulariaceae - Ribes laxiflorum                     |
| Plants - Vascular | Ribes laxiflorum                            | trailing black currant   | PDGRO020V0 | None | None | - | 4.3  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Grossulariaceae - Ribes laxiflorum                     |
| Plants - Vascular | Erythronium oregonum                        | giant fawn lily          | PMLIL0U0C0 | None | None | - | 2B.2 | 4112318 | PANTHER CREEK | Mapped                 | Plants - Vascular - Liliaceae - Erythronium oregonum                       |
| Plants - Vascular | Erythronium oregonum                        | giant fawn lily          | PMLIL0U0C0 | None | None | - | 2B.2 | 4012388 | BLUE LAKE     | Mapped                 | Plants - Vascular - Liliaceae - Erythronium oregonum                       |
| Plants - Vascular | Erythronium revolutum                       | coast fawn lily          | PMLIL0U0F0 | None | None | - | 2B.2 | 4012388 | BLUE LAKE     | Mapped and Unprocessed | Plants - Vascular - Liliaceae - Erythronium revolutum                      |
| Plants - Vascular | Erythronium revolutum                       | coast fawn lily          | PMLIL0U0F0 | None | None | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Liliaceae - Erythronium revolutum                      |
| Plants - Vascular | Erythronium revolutum                       | coast fawn lily          | PMLIL0U0F0 | None | None | - | 2B.2 | 4012378 | KORBEL        | Mapped and Unprocessed | Plants - Vascular - Liliaceae -                                            |

|                   |                                 |                           |            |            |            |   |      |         |               |                        |                                                                 |
|-------------------|---------------------------------|---------------------------|------------|------------|------------|---|------|---------|---------------|------------------------|-----------------------------------------------------------------|
|                   |                                 |                           |            |            |            |   |      |         |               |                        | Erythronium revolutum                                           |
| Plants - Vascular | Fritillaria purdyi              | Purdys fritillary         | PMLIL0V0H0 | None       | None       | - | 4.3  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Liliaceae - Fritillaria purdyi              |
| Plants - Vascular | Lilium kelloggii                | Kelloggs lily             | PMLIL1A0A0 | None       | None       | - | 4.3  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Liliaceae - Lilium kelloggii                |
| Plants - Vascular | Lilium kelloggii                | Kelloggs lily             | PMLIL1A0A0 | None       | None       | - | 4.3  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Liliaceae - Lilium kelloggii                |
| Plants - Vascular | Lilium occidentale              | western lily              | PMLIL1A0G0 | Endangered | Endangered | - | 1B.1 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular - Liliaceae - Lilium occidentale              |
| Plants - Vascular | Lilium occidentale              | western lily              | PMLIL1A0G0 | Endangered | Endangered | - | 1B.1 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Liliaceae - Lilium occidentale              |
| Plants - Vascular | Lilium occidentale              | western lily              | PMLIL1A0G0 | Endangered | Endangered | - | 1B.1 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular - Liliaceae - Lilium occidentale              |
| Plants - Vascular | Lycopodium clavatum             | running-pine              | PPLYC01080 | None       | None       | - | 4.1  | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Plants - Vascular - Lycopodiaceae - Lycopodium clavatum         |
| Plants - Vascular | Lycopodium clavatum             | running-pine              | PPLYC01080 | None       | None       | - | 4.1  | 4012388 | BLUE LAKE     | Mapped and Unprocessed | Plants - Vascular - Lycopodiaceae - Lycopodium clavatum         |
| Plants - Vascular | Lycopodium clavatum             | running-pine              | PPLYC01080 | None       | None       | - | 4.1  | 4012472 | EUREKA        | Unprocessed            | Plants - Vascular - Lycopodiaceae - Lycopodium clavatum         |
| Plants - Vascular | Lycopodium clavatum             | running-pine              | PPLYC01080 | None       | None       | - | 4.1  | 4112318 | PANTHER CREEK | Mapped and Unprocessed | Plants - Vascular - Lycopodiaceae - Lycopodium clavatum         |
| Plants - Vascular | Lycopodium clavatum             | running-pine              | PPLYC01080 | None       | None       | - | 4.1  | 4112411 | CRANNELL      | Mapped and Unprocessed | Plants - Vascular - Lycopodiaceae - Lycopodium clavatum         |
| Plants - Vascular | Lycopodium clavatum             | running-pine              | PPLYC01080 | None       | None       | - | 4.1  | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Plants - Vascular - Lycopodiaceae - Lycopodium clavatum         |
| Plants - Vascular | Lycopodium clavatum             | running-pine              | PPLYC01080 | None       | None       | - | 4.1  | 4012378 | KORBEL        | Mapped and Unprocessed | Plants - Vascular - Lycopodiaceae - Lycopodium clavatum         |
| Plants - Vascular | Iliamna latibracteata           | California globe mallow   | PDMAL0K040 | None       | None       | - | 1B.2 | 4012378 | KORBEL        | Mapped                 | Plants - Vascular - Malvaceae - Iliamna latibracteata           |
| Plants - Vascular | Iliamna latibracteata           | California globe mallow   | PDMAL0K040 | None       | None       | - | 1B.2 | 4012388 | BLUE LAKE     | Mapped                 | Plants - Vascular - Malvaceae - Iliamna latibracteata           |
| Plants - Vascular | Sidalcea malachroides           | maple-leaved checkerbloom | PDMAL110E0 | None       | None       | - | 4.2  | 4012388 | BLUE LAKE     | Mapped and Unprocessed | Plants - Vascular - Malvaceae - Sidalcea malachroides           |
| Plants - Vascular | Sidalcea malachroides           | maple-leaved checkerbloom | PDMAL110E0 | None       | None       | - | 4.2  | 4012481 | ARCATA NORTH  | Mapped and Unprocessed | Plants - Vascular - Malvaceae - Sidalcea malachroides           |
| Plants - Vascular | Sidalcea malachroides           | maple-leaved checkerbloom | PDMAL110E0 | None       | None       | - | 4.2  | 4012472 | EUREKA        | Mapped and Unprocessed | Plants - Vascular - Malvaceae - Sidalcea malachroides           |
| Plants - Vascular | Sidalcea malachroides           | maple-leaved checkerbloom | PDMAL110E0 | None       | None       | - | 4.2  | 4012378 | KORBEL        | Mapped and Unprocessed | Plants - Vascular - Malvaceae - Sidalcea malachroides           |
| Plants - Vascular | Sidalcea malachroides           | maple-leaved checkerbloom | PDMAL110E0 | None       | None       | - | 4.2  | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Plants - Vascular - Malvaceae - Sidalcea malachroides           |
| Plants - Vascular | Sidalcea malviflora ssp. patula | Siskiyou checkerbloom     | PDMAL110F9 | None       | None       | - | 1B.2 | 4012378 | KORBEL        | Mapped and Unprocessed | Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula |
| Plants - Vascular | Sidalcea malviflora ssp. patula | Siskiyou checkerbloom     | PDMAL110F9 | None       | None       | - | 1B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula |
| Plants - Vascular | Sidalcea malviflora ssp. patula | Siskiyou checkerbloom     | PDMAL110F9 | None       | None       | - | 1B.2 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula |
| Plants - Vascular | Sidalcea oregana ssp. eximia    | coast checkerbloom        | PDMAL110K9 | None       | None       | - | 1B.2 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular - Malvaceae - Sidalcea oregana ssp. eximia    |
| Plants - Vascular | Sidalcea oregana ssp. eximia    | coast checkerbloom        | PDMAL110K9 | None       | None       | - | 1B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Malvaceae - Sidalcea oregana ssp. eximia    |
| Plants - Vascular | Monotropa uniflora              | ghost-pipe                | PDMON03030 | None       | None       | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Monotropaceae -                             |

|                   |                                        |                            |            |      |      |   |      |         |               |                        |                                                                            |
|-------------------|----------------------------------------|----------------------------|------------|------|------|---|------|---------|---------------|------------------------|----------------------------------------------------------------------------|
|                   |                                        |                            |            |      |      |   |      |         |               |                        | Monotropa uniflora                                                         |
| Plants - Vascular | Monotropa uniflora                     | ghost-pipe                 | PDMON03030 | None | None | - | 2B.2 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular - Monotropaceae - Monotropa uniflora                     |
| Plants - Vascular | Pityopus californicus                  | California pinefoot        | PDMON05010 | None | None | - | 4.2  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Monotropaceae - Pityopus californicus                  |
| Plants - Vascular | Pityopus californicus                  | California pinefoot        | PDMON05010 | None | None | - | 4.2  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular - Monotropaceae - Pityopus californicus                  |
| Plants - Vascular | Pityopus californicus                  | California pinefoot        | PDMON05010 | None | None | - | 4.2  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Monotropaceae - Pityopus californicus                  |
| Plants - Vascular | Pityopus californicus                  | California pinefoot        | PDMON05010 | None | None | - | 4.2  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular - Monotropaceae - Pityopus californicus                  |
| Plants - Vascular | Pityopus californicus                  | California pinefoot        | PDMON05010 | None | None | - | 4.2  | 4112318 | PANTHER CREEK | Unprocessed            | Plants - Vascular - Monotropaceae - Pityopus californicus                  |
| Plants - Vascular | Montia howellii                        | Howells montia             | PDPOR05070 | None | None | - | 2B.2 | 4112318 | PANTHER CREEK | Mapped                 | Plants - Vascular - Montiaceae - Montia howellii                           |
| Plants - Vascular | Montia howellii                        | Howells montia             | PDPOR05070 | None | None | - | 2B.2 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular - Montiaceae - Montia howellii                           |
| Plants - Vascular | Montia howellii                        | Howells montia             | PDPOR05070 | None | None | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Montiaceae - Montia howellii                           |
| Plants - Vascular | Montia howellii                        | Howells montia             | PDPOR05070 | None | None | - | 2B.2 | 4012378 | KORBEL        | Mapped and Unprocessed | Plants - Vascular - Montiaceae - Montia howellii                           |
| Plants - Vascular | Montia howellii                        | Howells montia             | PDPOR05070 | None | None | - | 2B.2 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular - Montiaceae - Montia howellii                           |
| Plants - Vascular | Abronia umbellata var. breviflora      | pink sand-verbena          | PDNYC010N4 | None | None | - | 1B.1 | 4012472 | EUREKA        | Mapped and Unprocessed | Plants - Vascular - Nyctaginaceae - Abronia umbellata var. breviflora      |
| Plants - Vascular | Abronia umbellata var. breviflora      | pink sand-verbena          | PDNYC010N4 | None | None | - | 1B.1 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular - Nyctaginaceae - Abronia umbellata var. breviflora      |
| Plants - Vascular | Abronia umbellata var. breviflora      | pink sand-verbena          | PDNYC010N4 | None | None | - | 1B.1 | 4112411 | CRANNELL      | Mapped                 | Plants - Vascular - Nyctaginaceae - Abronia umbellata var. breviflora      |
| Plants - Vascular | Abronia umbellata var. breviflora      | pink sand-verbena          | PDNYC010N4 | None | None | - | 1B.1 | 4012482 | TYEE CITY     | Mapped                 | Plants - Vascular - Nyctaginaceae - Abronia umbellata var. breviflora      |
| Plants - Vascular | Epilobium septentrionale               | Humboldt County fuchsia    | PDONA06110 | None | None | - | 4.3  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Onagraceae - Epilobium septentrionale                  |
| Plants - Vascular | Oenothera wolffii                      | Wolfs evening-primrose     | PDONA0C1K0 | None | None | - | 1B.1 | 4112411 | CRANNELL      | Mapped                 | Plants - Vascular - Onagraceae - Oenothera wolffii                         |
| Plants - Vascular | Oenothera wolffii                      | Wolfs evening-primrose     | PDONA0C1K0 | None | None | - | 1B.1 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular - Onagraceae - Oenothera wolffii                         |
| Plants - Vascular | Oenothera wolffii                      | Wolfs evening-primrose     | PDONA0C1K0 | None | None | - | 1B.1 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Onagraceae - Oenothera wolffii                         |
| Plants - Vascular | Listera cordata                        | heart-leaved twayblade     | PMORC1N060 | None | None | - | 4.2  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular - Orchidaceae - Listera cordata                          |
| Plants - Vascular | Listera cordata                        | heart-leaved twayblade     | PMORC1N060 | None | None | - | 4.2  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Orchidaceae - Listera cordata                          |
| Plants - Vascular | Listera cordata                        | heart-leaved twayblade     | PMORC1N060 | None | None | - | 4.2  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular - Orchidaceae - Listera cordata                          |
| Plants - Vascular | Listera cordata                        | heart-leaved twayblade     | PMORC1N060 | None | None | - | 4.2  | 4112318 | PANTHER CREEK | Unprocessed            | Plants - Vascular - Orchidaceae - Listera cordata                          |
| Plants - Vascular | Listera cordata                        | heart-leaved twayblade     | PMORC1N060 | None | None | - | 4.2  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Orchidaceae - Listera cordata                          |
| Plants - Vascular | Listera cordata                        | heart-leaved twayblade     | PMORC1N060 | None | None | - | 4.2  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Orchidaceae - Listera cordata                          |
| Plants - Vascular | Piperia candida                        | white-flowered rein orchid | PMORC1X050 | None | None | - | 1B.2 | 4112411 | CRANNELL      | Mapped                 | Plants - Vascular - Orchidaceae - Piperia candida                          |
| Plants - Vascular | Castilleja ambigua var. humboldtiensis | Humboldt Bay owls-clover   | PDSCR0D402 | None | None | - | 1B.2 | 4012482 | TYEE CITY     | Mapped                 | Plants - Vascular - Orobanchaceae - Castilleja ambigua var. humboldtiensis |
| Plants - Vascular | Castilleja ambigua var. humboldtiensis | Humboldt Bay owls-clover   | PDSCR0D402 | None | None | - | 1B.2 | 4012481 | ARCATA NORTH  | Mapped                 | Plants - Vascular - Orobanchaceae - Castilleja ambigua var. humboldtiensis |

|                   |                                       |                              |            |      |      |   |      |         |               |                        |                                                                           |
|-------------------|---------------------------------------|------------------------------|------------|------|------|---|------|---------|---------------|------------------------|---------------------------------------------------------------------------|
| Plants - Vascular | Castilleja ambigua var. humboldtensis | Humboldt Bay owls-clover     | PDSCR0D402 | None | None | - | 1B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Orobanchaceae - Castilleja ambigua var. humboldtensis |
| Plants - Vascular | Castilleja ambigua var. humboldtensis | Humboldt Bay owls-clover     | PDSCR0D402 | None | None | - | 1B.2 | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Plants - Vascular - Orobanchaceae - Castilleja ambigua var. humboldtensis |
| Plants - Vascular | Castilleja litoralis                  | Oregon coast paintbrush      | PDSCR0D012 | None | None | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Orobanchaceae - Castilleja litoralis                  |
| Plants - Vascular | Castilleja litoralis                  | Oregon coast paintbrush      | PDSCR0D012 | None | None | - | 2B.2 | 4112411 | CRANNELL      | Mapped                 | Plants - Vascular - Orobanchaceae - Castilleja litoralis                  |
| Plants - Vascular | Chloropyron maritimum ssp. palustre   | Point Reyes salty birds-beak | PDSCR0J0C3 | None | None | - | 1B.2 | 4012482 | TYEE CITY     | Mapped                 | Plants - Vascular - Orobanchaceae - Chloropyron maritimum ssp. palustre   |
| Plants - Vascular | Chloropyron maritimum ssp. palustre   | Point Reyes salty birds-beak | PDSCR0J0C3 | None | None | - | 1B.2 | 4012472 | EUREKA        | Mapped and Unprocessed | Plants - Vascular - Orobanchaceae - Chloropyron maritimum ssp. palustre   |
| Plants - Vascular | Chloropyron maritimum ssp. palustre   | Point Reyes salty birds-beak | PDSCR0J0C3 | None | None | - | 1B.2 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular - Orobanchaceae - Chloropyron maritimum ssp. palustre   |
| Plants - Vascular | Collinsia corymbosa                   | round-headed collinsia       | PDSCR0H060 | None | None | - | 1B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Plantaginaceae - Collinsia corymbosa                  |
| Plants - Vascular | Calamagrostis bolanderi               | Bolanders reed grass         | PMPOA17010 | None | None | - | 4.2  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular - Poaceae - Calamagrostis bolanderi                     |
| Plants - Vascular | Pleuropogon refractus                 | nodding semaphore grass      | PMPOA4Y080 | None | None | - | 4.2  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular - Poaceae - Pleuropogon refractus                       |
| Plants - Vascular | Pleuropogon refractus                 | nodding semaphore grass      | PMPOA4Y080 | None | None | - | 4.2  | 4112318 | PANTHER CREEK | Unprocessed            | Plants - Vascular - Poaceae - Pleuropogon refractus                       |
| Plants - Vascular | Pleuropogon refractus                 | nodding semaphore grass      | PMPOA4Y080 | None | None | - | 4.2  | 4012472 | EUREKA        | Unprocessed            | Plants - Vascular - Poaceae - Pleuropogon refractus                       |
| Plants - Vascular | Pleuropogon refractus                 | nodding semaphore grass      | PMPOA4Y080 | None | None | - | 4.2  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular - Poaceae - Pleuropogon refractus                       |
| Plants - Vascular | Pleuropogon refractus                 | nodding semaphore grass      | PMPOA4Y080 | None | None | - | 4.2  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Poaceae - Pleuropogon refractus                       |
| Plants - Vascular | Pleuropogon refractus                 | nodding semaphore grass      | PMPOA4Y080 | None | None | - | 4.2  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Poaceae - Pleuropogon refractus                       |
| Plants - Vascular | Pleuropogon refractus                 | nodding semaphore grass      | PMPOA4Y080 | None | None | - | 4.2  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Poaceae - Pleuropogon refractus                       |
| Plants - Vascular | Gilia capitata ssp. pacifica          | Pacific gilia                | PDPLM040B6 | None | None | - | 1B.2 | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Polemoniaceae - Gilia capitata ssp. pacifica          |
| Plants - Vascular | Gilia capitata ssp. pacifica          | Pacific gilia                | PDPLM040B6 | None | None | - | 1B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Polemoniaceae - Gilia capitata ssp. pacifica          |
| Plants - Vascular | Gilia capitata ssp. pacifica          | Pacific gilia                | PDPLM040B6 | None | None | - | 1B.2 | 4112411 | CRANNELL      | Mapped                 | Plants - Vascular - Polemoniaceae - Gilia capitata ssp. pacifica          |
| Plants - Vascular | Gilia millefoliata                    | dark-eyed gilia              | PDPLM04130 | None | None | - | 1B.2 | 4112411 | CRANNELL      | Mapped and Unprocessed | Plants - Vascular - Polemoniaceae - Gilia millefoliata                    |
| Plants - Vascular | Gilia millefoliata                    | dark-eyed gilia              | PDPLM04130 | None | None | - | 1B.2 | 4012482 | TYEE CITY     | Mapped                 | Plants - Vascular - Polemoniaceae - Gilia millefoliata                    |
| Plants - Vascular | Gilia millefoliata                    | dark-eyed gilia              | PDPLM04130 | None | None | - | 1B.2 | 4012472 | EUREKA        | Mapped and Unprocessed | Plants - Vascular - Polemoniaceae - Gilia millefoliata                    |
| Plants - Vascular | Coptis laciniata                      | Oregon goldthread            | PDRAN0A020 | None | None | - | 4.2  | 4012388 | BLUE LAKE     | Mapped and Unprocessed | Plants - Vascular - Ranunculaceae - Coptis laciniata                      |
| Plants - Vascular | Coptis laciniata                      | Oregon goldthread            | PDRAN0A020 | None | None | - | 4.2  | 4112318 | PANTHER CREEK | Unprocessed            | Plants - Vascular - Ranunculaceae - Coptis laciniata                      |
| Plants - Vascular | Coptis laciniata                      | Oregon goldthread            | PDRAN0A020 | None | None | - | 4.2  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Ranunculaceae - Coptis laciniata                      |
| Plants - Vascular | Chrysosplenium glechomifolium         | Pacific golden saxifrage     | PDSAX07020 | None | None | - | 4.3  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Saxifragaceae - Chrysosplenium glechomifolium         |

|                   |                                     |                          |            |      |      |   |      |         |               |                        |                                                                         |
|-------------------|-------------------------------------|--------------------------|------------|------|------|---|------|---------|---------------|------------------------|-------------------------------------------------------------------------|
| Plants - Vascular | Chrysosplenium glechomifolium       | Pacific golden saxifrage | PDSAX07020 | None | None | - | 4.3  | 4012471 | ARCATA SOUTH  | Unprocessed            | Plants - Vascular - Saxifragaceae - Chrysosplenium glechomifolium       |
| Plants - Vascular | Chrysosplenium glechomifolium       | Pacific golden saxifrage | PDSAX07020 | None | None | - | 4.3  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular - Saxifragaceae - Chrysosplenium glechomifolium       |
| Plants - Vascular | Chrysosplenium glechomifolium       | Pacific golden saxifrage | PDSAX07020 | None | None | - | 4.3  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Saxifragaceae - Chrysosplenium glechomifolium       |
| Plants - Vascular | Chrysosplenium glechomifolium       | Pacific golden saxifrage | PDSAX07020 | None | None | - | 4.3  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular - Saxifragaceae - Chrysosplenium glechomifolium       |
| Plants - Vascular | Chrysosplenium glechomifolium       | Pacific golden saxifrage | PDSAX07020 | None | None | - | 4.3  | 4012472 | EUREKA        | Unprocessed            | Plants - Vascular - Saxifragaceae - Chrysosplenium glechomifolium       |
| Plants - Vascular | Mitellastra caulescens              | leafy-stemmed mitrewort  | PDSAX0N020 | None | None | - | 4.2  | 4012481 | ARCATA NORTH  | Unprocessed            | Plants - Vascular - Saxifragaceae - Mitellastra caulescens              |
| Plants - Vascular | Mitellastra caulescens              | leafy-stemmed mitrewort  | PDSAX0N020 | None | None | - | 4.2  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Saxifragaceae - Mitellastra caulescens              |
| Plants - Vascular | Mitellastra caulescens              | leafy-stemmed mitrewort  | PDSAX0N020 | None | None | - | 4.2  | 4112411 | CRANNELL      | Unprocessed            | Plants - Vascular - Saxifragaceae - Mitellastra caulescens              |
| Plants - Vascular | Mitellastra caulescens              | leafy-stemmed mitrewort  | PDSAX0N020 | None | None | - | 4.2  | 4112318 | PANTHER CREEK | Unprocessed            | Plants - Vascular - Saxifragaceae - Mitellastra caulescens              |
| Plants - Vascular | Mitellastra caulescens              | leafy-stemmed mitrewort  | PDSAX0N020 | None | None | - | 4.2  | 4012471 | ARCATA SOUTH  | Mapped and Unprocessed | Plants - Vascular - Saxifragaceae - Mitellastra caulescens              |
| Plants - Vascular | Mitellastra caulescens              | leafy-stemmed mitrewort  | PDSAX0N020 | None | None | - | 4.2  | 4012378 | KORBEL        | Mapped and Unprocessed | Plants - Vascular - Saxifragaceae - Mitellastra caulescens              |
| Plants - Vascular | Tiarella trifoliata var. trifoliata | trifoliate laceflower    | PDSAX10031 | None | None | - | 3.2  | 4012378 | KORBEL        | Unprocessed            | Plants - Vascular - Saxifragaceae - Tiarella trifoliata var. trifoliata |
| Plants - Vascular | Tiarella trifoliata var. trifoliata | trifoliate laceflower    | PDSAX10031 | None | None | - | 3.2  | 4012388 | BLUE LAKE     | Unprocessed            | Plants - Vascular - Saxifragaceae - Tiarella trifoliata var. trifoliata |
| Plants - Vascular | Viola palustris                     | alpine marsh violet      | PDVIO041G0 | None | None | - | 2B.2 | 4012472 | EUREKA        | Mapped                 | Plants - Vascular - Violaceae - Viola palustris                         |
| Plants - Vascular | Viola palustris                     | alpine marsh violet      | PDVIO041G0 | None | None | - | 2B.2 | 4012471 | ARCATA SOUTH  | Mapped                 | Plants - Vascular - Violaceae - Viola palustris                         |



Search Results

58 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [4112411:4112318:4012472:4012471:4012378:4012481:4012482:4012388]

| ▲ SCIENTIFIC NAME                                                           | COMMON NAME              | FAMILY        | LIFEFORM                   | BLOOMING PERIOD | FED LIST | STATE LIST | STATE RANK | CA RARE PLANT RANK | GENERAL HABITATS                                                                                                                                                                  | MICROHABITATS         | LOWEST ELEVATION (FT) | HIGHEST ELEVATION (FT) |
|-----------------------------------------------------------------------------|--------------------------|---------------|----------------------------|-----------------|----------|------------|------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|------------------------|
| <a href="#">Abronia umbellata</a> var. <a href="#">breviflora</a>           | pink sand-verbena        | Nyctaginaceae | annual herb                | Jun-Oct         | None     | None       | S2         | 1B.1               | Coastal dunes                                                                                                                                                                     |                       | 0                     | 35                     |
| <a href="#">Angelica lucida</a>                                             | sea-watch                | Apiaceae      | perennial herb             | Apr-Sep         | None     | None       | S3         | 4.2                | Coastal bluff scrub, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt)                                                                                              |                       | 0                     | 490                    |
| <a href="#">Astragalus pycnostachyus</a> var. <a href="#">pycnostachyus</a> | coastal marsh milk-vetch | Fabaceae      | perennial herb             | (Apr)Jun-Oct    | None     | None       | S2         | 1B.2               | Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides)                                                                                              |                       | 0                     | 180                    |
| <a href="#">Astragalus rattanii</a> var. <a href="#">rattanii</a>           | Rattan's milk-vetch      | Fabaceae      | perennial herb             | Apr-Jul         | None     | None       | S4         | 4.3                | Chaparral, Cismontane woodland, Lower montane coniferous forest                                                                                                                   | Gravelly, Streambanks | 100                   | 2705                   |
| <a href="#">Calamagrostis bolanderi</a>                                     | Bolander's reed grass    | Poaceae       | perennial rhizomatous herb | May-Aug         | None     | None       | S4         | 4.2                | Bogs and fens, Broadleafed upland forest, Closed-cone coniferous forest, Coastal scrub, Marshes and swamps (freshwater), Meadows and seeps (mesic), North Coast coniferous forest | Mesic                 | 0                     | 1495                   |

|                                                                        |                               |                |                                |                       |      |      |     |      |                                                                |                                                       |     |       |
|------------------------------------------------------------------------|-------------------------------|----------------|--------------------------------|-----------------------|------|------|-----|------|----------------------------------------------------------------|-------------------------------------------------------|-----|-------|
| <a href="#">Cardamine angulata</a>                                     | seaside bittercress           | Brassicaceae   | perennial herb                 | (Jan)Mar-Jul          | None | None | S3  | 2B.2 | Lower montane coniferous forest, North Coast coniferous forest | Streambanks                                           | 50  | 3000  |
| <a href="#">Carex arcta</a>                                            | northern clustered sedge      | Cyperaceae     | perennial herb                 | Jun-Sep               | None | None | S1  | 2B.2 | Bogs and fens, North Coast coniferous forest (mesic)           |                                                       | 195 | 4595  |
| <a href="#">Carex leptalea</a>                                         | bristle-stalked sedge         | Cyperaceae     | perennial rhizomatous herb     | Mar-Jul               | None | None | S1  | 2B.2 | Bogs and fens, Marshes and swamps, Meadows and seeps (mesic)   |                                                       | 0   | 2295  |
| <a href="#">Carex lyngbyei</a>                                         | Lyngbye's sedge               | Cyperaceae     | perennial rhizomatous herb     | Apr-Aug               | None | None | S3  | 2B.2 | Marshes and swamps (brackish, freshwater)                      |                                                       | 0   | 35    |
| <a href="#">Carex praticola</a>                                        | northern meadow sedge         | Cyperaceae     | perennial herb                 | May-Jul               | None | None | S2  | 2B.2 | Meadows and seeps (mesic)                                      |                                                       | 0   | 10500 |
| <a href="#">Castilleja ambigua</a> var. <a href="#">humboldtiensis</a> | Humboldt Bay owl's-clover     | Orobanchaceae  | annual herb (hemiparasitic)    | Apr-Aug               | None | None | S2  | 1B.2 | Marshes and swamps (coastal salt)                              |                                                       | 0   | 10    |
| <a href="#">Castilleja litoralis</a>                                   | Oregon coast paintbrush       | Orobanchaceae  | perennial herb (hemiparasitic) | Jun                   | None | None | S3  | 2B.2 | Coastal bluff scrub, Coastal dunes, Coastal scrub              | Sandy                                                 | 50  | 330   |
| <a href="#">Chloropyron maritimum</a> ssp. <a href="#">palustre</a>    | Point Reyes salty bird's-beak | Orobanchaceae  | annual herb (hemiparasitic)    | Jun-Oct               | None | None | S2  | 1B.2 | Marshes and swamps (coastal salt)                              |                                                       | 0   | 35    |
| <a href="#">Chrysosplenium glechomifolium</a>                          | Pacific golden saxifrage      | Saxifragaceae  | perennial herb                 | Feb-Jun               | None | None | S3  | 4.3  | North Coast coniferous forest, Riparian forest                 | Roadsides (sometimes), Seeps (sometimes), Streambanks | 35  | 1770  |
| <a href="#">Collinsia corymbosa</a>                                    | round-headed collinsia        | Plantaginaceae | annual herb                    | Apr-Jun               | None | None | S1  | 1B.2 | Coastal dunes                                                  |                                                       | 0   | 65    |
| <a href="#">Coptis laciniata</a>                                       | Oregon goldthread             | Ranunculaceae  | perennial rhizomatous herb     | (Feb)Mar-May(Sep-Nov) | None | None | S3? | 4.2  | Meadows and seeps, North Coast coniferous forest (streambanks) | Mesic                                                 | 0   | 3280  |
| <a href="#">Eleocharis parvula</a>                                     | small spikerush               | Cyperaceae     | perennial herb                 | (Apr)Jun-Aug(Sep)     | None | None | S3  | 4.3  | Marshes and swamps                                             |                                                       | 5   | 9910  |

|                                                        |                         |                |                            |                  |      |      |      |      |                                                                                           |                                         |     |      |
|--------------------------------------------------------|-------------------------|----------------|----------------------------|------------------|------|------|------|------|-------------------------------------------------------------------------------------------|-----------------------------------------|-----|------|
| <a href="#">Epilobium septentrionale</a>               | Humboldt County fuchsia | Onagraceae     | perennial herb             | Jul-Sep          | None | None | S4   | 4.3  | Broadleafed upland forest, North Coast coniferous forest                                  | Rocky (sometimes), Sandy (sometimes)    | 150 | 5905 |
| <a href="#">Erysimum menziesii</a>                     | Menzies' wallflower     | Brassicaceae   | perennial herb             | Mar-Sep          | FE   | CE   | S1   | 1B.1 | Coastal dunes                                                                             |                                         | 0   | 115  |
| <a href="#">Erythronium oregonum</a>                   | giant fawn lily         | Liliaceae      | perennial herb             | Mar-Jun(Jul)     | None | None | S2   | 2B.2 | Cismontane woodland, Meadows and seeps                                                    | Openings, Rocky, Serpentine (sometimes) | 330 | 3775 |
| <a href="#">Erythronium revolutum</a>                  | coast fawn lily         | Liliaceae      | perennial bulbiferous herb | Mar-Jul(Aug)     | None | None | S3   | 2B.2 | Bogs and fens, Broadleafed upland forest, North Coast coniferous forest                   | Mesic, Streambanks                      | 0   | 5250 |
| <a href="#">Fissidens pauperculus</a>                  | minute pocket moss      | Fissidentaceae | moss                       |                  | None | None | S2   | 1B.2 | North Coast coniferous forest (damp coastal soil)                                         |                                         | 35  | 3360 |
| <a href="#">Fritillaria purdyi</a>                     | Purdy's fritillary      | Liliaceae      | perennial bulbiferous herb | Mar-Jun          | None | None | S4   | 4.3  | Chaparral, Cismontane woodland, Lower montane coniferous forest                           | Serpentine (usually)                    | 575 | 7400 |
| <a href="#">Gilia capitata ssp. pacifica</a>           | Pacific gilia           | Polemoniaceae  | annual herb                | Apr-Aug          | None | None | S2   | 1B.2 | Chaparral (openings), Coastal bluff scrub, Coastal prairie, Valley and foothill grassland |                                         | 15  | 5465 |
| <a href="#">Gilia millefoliata</a>                     | dark-eyed gilia         | Polemoniaceae  | annual herb                | Apr-Jul          | None | None | S2   | 1B.2 | Coastal dunes                                                                             |                                         | 5   | 100  |
| <a href="#">Glehnia littoralis ssp. leiocarpa</a>      | American glehnia        | Apiaceae       | perennial herb             | May-Aug          | None | None | S2S3 | 4.2  | Coastal dunes                                                                             |                                         | 0   | 65   |
| <a href="#">Hemizonia congesta ssp. tracyi</a>         | Tracy's tarplant        | Asteraceae     | annual herb                | (Mar-Apr)May-Oct | None | None | S4   | 4.3  | Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest           | Openings, Serpentine (sometimes)        | 395 | 3935 |
| <a href="#">Hesperevax sparsiflora var. brevifolia</a> | short-leaved evax       | Asteraceae     | annual herb                | Mar-Jun          | None | None | S3   | 1B.2 | Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie                               |                                         | 0   | 705  |

|                                                      |                         |            |                            |         |      |      |    |      |                                                                                                                                                                                                                                         |                      |     |      |
|------------------------------------------------------|-------------------------|------------|----------------------------|---------|------|------|----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----|------|
| <a href="#">Hosackia gracilis</a>                    | harlequin lotus         | Fabaceae   | perennial rhizomatous herb | Mar-Jul | None | None | S3 | 4.2  | Broadleafed upland forest, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Valley and foothill grassland | Roadsides            | 0   | 2295 |
| <a href="#">Iliamna latibracteata</a>                | California globe mallow | Malvaceae  | perennial herb             | Jun-Aug | None | None | S2 | 1B.2 | Chaparral (montane), Lower montane coniferous forest, North Coast coniferous forest (mesic), Riparian scrub (streambanks)                                                                                                               | Burned areas (often) | 195 | 6560 |
| <a href="#">Lasthenia californica ssp. macrantha</a> | perennial goldfields    | Asteraceae | perennial herb             | Jan-Nov | None | None | S2 | 1B.2 | Coastal bluff scrub, Coastal dunes, Coastal scrub                                                                                                                                                                                       |                      | 15  | 1705 |
| <a href="#">Lathyrus glandulosus</a>                 | sticky pea              | Fabaceae   | perennial rhizomatous herb | Apr-Jun | None | None | S3 | 4.3  | Cismontane woodland                                                                                                                                                                                                                     |                      | 985 | 2625 |
| <a href="#">Lathyrus japonicus</a>                   | seaside pea             | Fabaceae   | perennial rhizomatous herb | May-Aug | None | None | S2 | 2B.1 | Coastal dunes                                                                                                                                                                                                                           |                      | 5   | 100  |
| <a href="#">Lathyrus palustris</a>                   | marsh pea               | Fabaceae   | perennial herb             | Mar-Aug | None | None | S2 | 2B.2 | Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest                                                                                                       | Mesic                | 5   | 330  |

|                                         |                         |               |                                  |              |      |      |    |      |                                                                                                                                               |                                    |     |      |
|-----------------------------------------|-------------------------|---------------|----------------------------------|--------------|------|------|----|------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----|------|
| <a href="#">Layia carnosae</a>          | beach layia             | Asteraceae    | annual herb                      | Mar-Jul      | FT   | CE   | S2 | 1B.1 | Coastal dunes, Coastal scrub (sandy)                                                                                                          |                                    | 0   | 195  |
| <a href="#">Lilium kelloggii</a>        | Kellogg's lily          | Liliaceae     | perennial bulbiferous herb       | (Feb)May-Aug | None | None | S3 | 4.3  | Lower montane coniferous forest, North Coast coniferous forest                                                                                | Openings, Roadsides                | 10  | 4265 |
| <a href="#">Lilium occidentale</a>      | western lily            | Liliaceae     | perennial bulbiferous herb       | Jun-Jul      | FE   | CE   | S1 | 1B.1 | Bogs and fens, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest (openings) |                                    | 5   | 605  |
| <a href="#">Listera cordata</a>         | heart-leaved twayblade  | Orchidaceae   | perennial herb                   | Feb-Jul      | None | None | S4 | 4.2  | Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest                                                                 |                                    | 15  | 4495 |
| <a href="#">Lycopodium clavatum</a>     | running-pine            | Lycopodiaceae | perennial rhizomatous herb       | Jun-Aug(Sep) | None | None | S3 | 4.1  | Lower montane coniferous forest (mesic), Marshes and swamps, North Coast coniferous forest (mesic)                                            | Edges (often), Openings, Roadsides | 150 | 4020 |
| <a href="#">Mitellastrae caulescens</a> | leafy-stemmed mitrewort | Saxifragaceae | perennial rhizomatous herb       | (Mar)Apr-Oct | None | None | S4 | 4.2  | Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest                                  | Mesic, Roadsides (sometimes)       | 15  | 5580 |
| <a href="#">Monotropae uniflora</a>     | ghost-pipe              | Ericaceae     | perennial herb (achlorophyllous) | Jun-Aug(Sep) | None | None | S2 | 2B.2 | Broadleafed upland forest, North Coast coniferous forest                                                                                      |                                    | 35  | 1805 |

|                                                                  |                            |                 |                                  |                       |      |      |      |      |                                                                                                                            |                                       |     |      |
|------------------------------------------------------------------|----------------------------|-----------------|----------------------------------|-----------------------|------|------|------|------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----|------|
| <a href="#">Montia howellii</a>                                  | Howell's montia            | Montiaceae      | annual herb                      | (Feb)Mar-May          | None | None | S2   | 2B.2 | Meadows and seeps, North Coast coniferous forest, Vernal pools                                                             | Roadsides (sometimes), Vernally Mesic | 0   | 2740 |
| <a href="#">Oenothera wolffi</a>                                 | Wolf's evening-primrose    | Onagraceae      | perennial herb                   | May-Oct               | None | None | S1   | 1B.1 | Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest                                       | Mesic (usually), Sandy                | 10  | 2625 |
| <a href="#">Packera bolanderi</a> var. <a href="#">bolanderi</a> | seacoast ragwort           | Asteraceae      | perennial rhizomatous herb       | (Jan-Apr)May-Jul(Aug) | None | None | S2S3 | 2B.2 | Coastal scrub, North Coast coniferous forest                                                                               | Roadsides (sometimes)                 | 100 | 2135 |
| <a href="#">Piperia candida</a>                                  | white-flowered rein orchid | Orchidaceae     | perennial herb                   | (Mar-Apr)May-Sep      | None | None | S3   | 1B.2 | Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest                                  | Serpentine (sometimes)                | 100 | 4300 |
| <a href="#">Pityopus californicus</a>                            | California pinefoot        | Ericaceae       | perennial herb (achlorophyllous) | (Mar-Apr)May-Aug      | None | None | S4   | 4.2  | Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest | Mesic                                 | 50  | 7300 |
| <a href="#">Pleuropogon refractus</a>                            | nodding semaphore grass    | Poaceae         | perennial rhizomatous herb       | (Feb-Mar)Apr-Aug      | None | None | S4   | 4.2  | Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest                         | Mesic                                 | 0   | 5250 |
| <a href="#">Ribes laxiflorum</a>                                 | trailing black currant     | Grossulariaceae | perennial deciduous shrub        | Mar-Jul(Aug)          | None | None | S3   | 4.3  | North Coast coniferous forest                                                                                              | Roadsides (sometimes)                 | 15  | 4575 |

|                                                          |                           |                 |                              |                       |      |      |      |      |                                                                                                             |                         |     |      |
|----------------------------------------------------------|---------------------------|-----------------|------------------------------|-----------------------|------|------|------|------|-------------------------------------------------------------------------------------------------------------|-------------------------|-----|------|
| <a href="#">Sidalcea malachroides</a>                    | maple-leaved checkerbloom | Malvaceae       | perennial herb               | (Mar)Apr-Aug          | None | None | S3   | 4.2  | Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland | Disturbed areas (often) | 0   | 2395 |
| <a href="#">Sidalcea malviflora ssp. patula</a>          | Siskiyou checkerbloom     | Malvaceae       | perennial rhizomatous herb   | (Mar)May-Aug          | None | None | S2   | 1B.2 | Coastal bluff scrub, Coastal prairie, North Coast coniferous forest                                         | Roadsides (often)       | 50  | 4035 |
| <a href="#">Sidalcea oregana ssp. eximia</a>             | coast checkerbloom        | Malvaceae       | perennial herb               | Jun-Aug               | None | None | S1   | 1B.2 | Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest                           |                         | 15  | 4395 |
| <a href="#">Silene scouleri ssp. scouleri</a>            | Scouler's catchfly        | Caryophyllaceae | perennial herb               | (Mar-May)Jun-Aug(Sep) | None | None | S2S3 | 2B.2 | Coastal bluff scrub, Coastal prairie, Valley and foothill grassland                                         |                         | 0   | 1970 |
| <a href="#">Spergularia canadensis var. occidentalis</a> | western sand-spurrey      | Caryophyllaceae | annual herb                  | Jun-Aug               | None | None | S1   | 2B.1 | Marshes and swamps (coastal salt)                                                                           |                         | 0   | 10   |
| <a href="#">Sulcaria spiralifera</a>                     | twisted horsehair lichen  | Parmeliaceae    | fruticose lichen (epiphytic) |                       | None | None | S2   | 1B.2 | Coastal dunes (SLO Co.), North Coast coniferous forest (immediate coast)                                    |                         | 0   | 295  |
| <a href="#">Tiarella trifoliata var. trifoliata</a>      | trifoliate laceflower     | Saxifragaceae   | perennial rhizomatous herb   | (May)Jun-Aug          | None | None | S2S3 | 3.2  | Lower montane coniferous forest, North Coast coniferous forest                                              | Edges, Streambanks      | 560 | 4920 |
| <a href="#">Trichodon cylindricus</a>                    | cylindrical trichodon     | Ditrichaceae    | moss                         |                       | None | None | S2   | 2B.2 | Broadleafed upland forest, Meadows and seeps, Upper montane coniferous forest                               | Roadsides, Sandy        | 165 | 6570 |

|                                  |                           |              |                              |         |      |      |      |      |                                                          |     |      |
|----------------------------------|---------------------------|--------------|------------------------------|---------|------|------|------|------|----------------------------------------------------------|-----|------|
| <a href="#">Usnea longissima</a> | Methuselah's beard lichen | Parmeliaceae | fruticose lichen (epiphytic) |         | None | None | S4   | 4.2  | Broadleafed upland forest, North Coast coniferous forest | 165 | 4790 |
| <a href="#">Viola palustris</a>  | alpine marsh violet       | Violaceae    | perennial rhizomatous herb   | Mar-Aug | None | None | S1S2 | 2B.2 | Bogs and fens (coastal), Coastal scrub (mesic)           | 0   | 490  |

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