# Rocklin Open Space Preserve
# City of Rocklin, California

## 2022 Annual Monitoring Report

December 2022 | 02585.00010.001

*Prepared for:*

**U.S. Army Corps of Engineers**
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# 1.0 INTRODUCTION

This report presents the results of the 2022 (November 2021 to December 2022) monitoring and reporting conducted by HELIX Environmental Planning, Inc. (HELIX) for the ±630-acre Rocklin Open Space Preserve (Preserve). The Preserve is mandated by the U. S. Army Corps of Engineers (USACE) to conserve and protect jurisdictional waters, the functions and values of existing riparian corridors, and adjacent upland habitats. The City of Rocklin (City) currently owns or manages open spaces dedicated to the preservation of wetland resources, riparian corridors, oak woodlands, and vernal pool complexes located throughout the City. The Preserve is divided into nine units, which are further divided into subsections.

The nine units and subsections that currently make up the Preserve in 2022 are:

1) Claremont with five subsections.
2) Orchard Creek with one subsection.
3) Stanford Ranch with nineteen subsections (1-8 and 11-21).
4) Sunset West with eight subsections.
5) Whitney Ranch with six subsections.
6) Brighton with one subsection
7) Garnet Creek with one subsection.
8) Parklands North with one subsection.
9) Placer Creek Corporate Center with five subsections.

This is the seventh year of monitoring for the Claremont (C), Orchard Creek (OC), Stanford Ranch (SR), Sunset West (SW), and Whitney Ranch (WR) preserve units. This is the fifth year of monitoring for the Brighton (B) preserve unit and the fourth year of monitoring for the Garnet Creek (GC), Parklands North (PN), and Placer Creek Corporate Center (PCCC) preserve units, all of which are managed under the May 2015, *City of Rocklin General Open Space Management Plan* (GOSMP) which has had minor updates in 2017 and 2019. Updates include the change of submittal date for the annual report to December 31st of each year and staggering fifth- and ten-year monitoring tasks better to accommodate survey windows, staffing, and City budget constraints. Additionally, updated plant and wildlife lists and data for species-status species with the potential to occur in the Rocklin area were included in GOSMP revisions.

Several known populations of special-status species occur within the Preserve including the following:

- Western pond turtle (*Actinemys marmorata*), a Species of Special Concern (SSC) as designated by the California Department of Fish and Wildlife (CDFW).
- Swainson's hawk (*Buteo swainsoni*), a state-listed threatened species in California that was listed in 1983 by the California Fish and Game Commission.
- Tricolored blackbird (*Agelaius tricolor*), a state-listed threatened species under the California Endangered Species Act.

- Vernal pool fairy shrimp (*Branchinecta lynchi*), a federally-listed threatened species under the federal Endangered Species Act.
- Hispid bird's-beak (*Chloropyron molle* ssp. *hispidum*), a California Rare Plant Rank 1B.1 as designated by the California Native Plant Society.
- White-tailed kite (*Elanus leucurus*), a Fully Protected species as designated by CDFW.
- Cooper's hawk (*Accipiter cooperii*), a watch-list species as designated by CDFW.
- Monarch butterfly (*Danaus plexippus*), a federal candidate for listing, listed on CDFW Terrestrial and Vernal Pool Invertebrates of Conservation Priority list and identified as a Species of Greatest Conservation Need in California's State Wildlife Action Plan.
- Great blue heron (*Ardea herodias*) and great egret (*Ardea alba*) are considered California Special Animals by CDFW.
- Oak titmouse (*Baeolophus inornatus*) is classified as a Bird of Conservation Concern by the U.S. Fish and Wildlife Service (USFWS).
- Yellow-billed magpie (*Pica nuttalli*) is classified as a Bird of Conservation Concern by USFWS.

## 1.1 SETTING AND LOCATION

The Rocklin Open Space Preserve is located in the City of Rocklin, Placer County, California. It is bound by Highway 65 to the west and Interstate 80 to the Southeast and is located within portions of Sections 1, 2, 3, 10, 11, 12, 13, 14 and 15 of Township 11 North, Range 7 East, Section 17, within the U.S. Geological Survey (USGS) *Roseville* and *Rocklin, California* 7.5-minute topographic quadrangles (38° 48' 57.282" North, Longitude 121° 15' 13.541" West, NAD 83) (Figure 1, *Site and Vicinity*).

### 1.1.1 Claremont

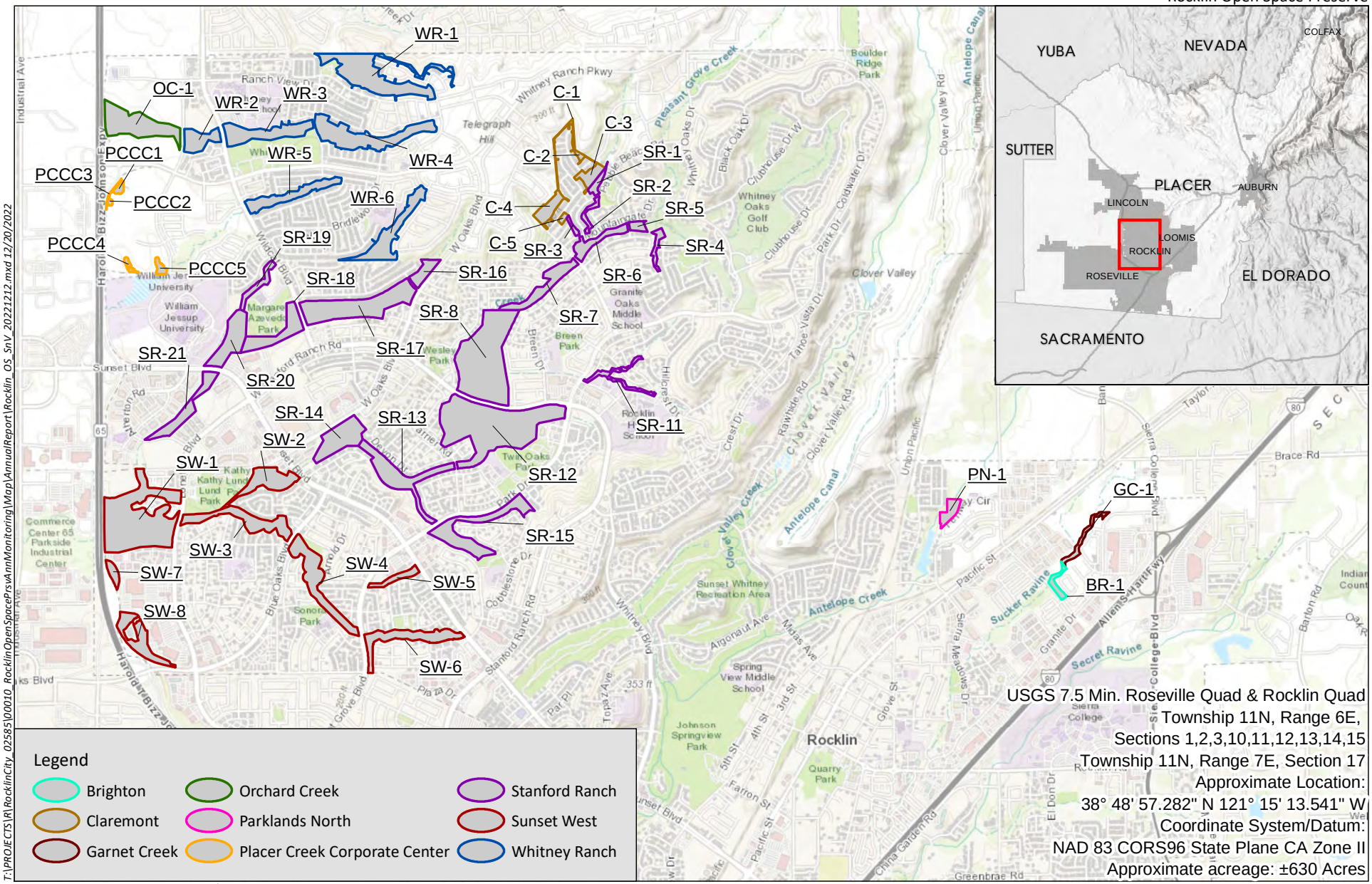
The Claremont preserve unit comprises five subsections (C 1-5) located along the perimeter of residences along Wykford Boulevard, Kali Place, and Chesterfield Way (Figure 1). The subsections of this preserve include seasonal ponds, several drainages, seasonal wetlands, annual grassland, naturally occurring and planted oaks, a cement-lined ditch, and a public park area with a preserved rock formation (Figure 2-1, *Biological Communities*).

### 1.1.2 Orchard Creek

The Orchard Creek preserve unit comprises one subsection (OC-1) located south of West Ranch View Drive, west of University Avenue, east of Highway 65, and north of Whitney Ranch Parkway (Figure 1). The preserve unit includes multiple drainages, wetland swales, annual grassland, and vernal pools (Figure 2-2, *Biological Communities*).

### 1.1.3 Stanford Ranch

The Stanford Ranch preserve unit comprises nineteen subsections (SR 1-8 and SR 11-21). The preserve subsections are located east of Highway 65, south of Whitney Ranch Parkway, west of Whitney Oaks Drive, and portions north of Sunset Boulevard and West Oaks Boulevard (Figure 1). These preserve subsections include seasonal wetlands, marsh, riparian woodlands, vernal pools, Pleasant Grove Creek, annual grassland, and oak woodlands. (Figure 2-3, *Biological Communities*).

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USGS 7.5 Min. Roseville Quad & Rocklin Quad
Township 11N, Range 6E,
Sections 1,2,3,10,11,12,13,14,15
Township 11N, Range 7E, Section 17
Approximate Location:
38° 48' 57.282" N 121° 15' 13.541" W
Coordinate System/Datum:
NAD 83 CORS96 State Plane CA Zone II
Approximate acreage: ±630 Acres

Source: Aerial Imagery (DigitalGlobe, 2020)

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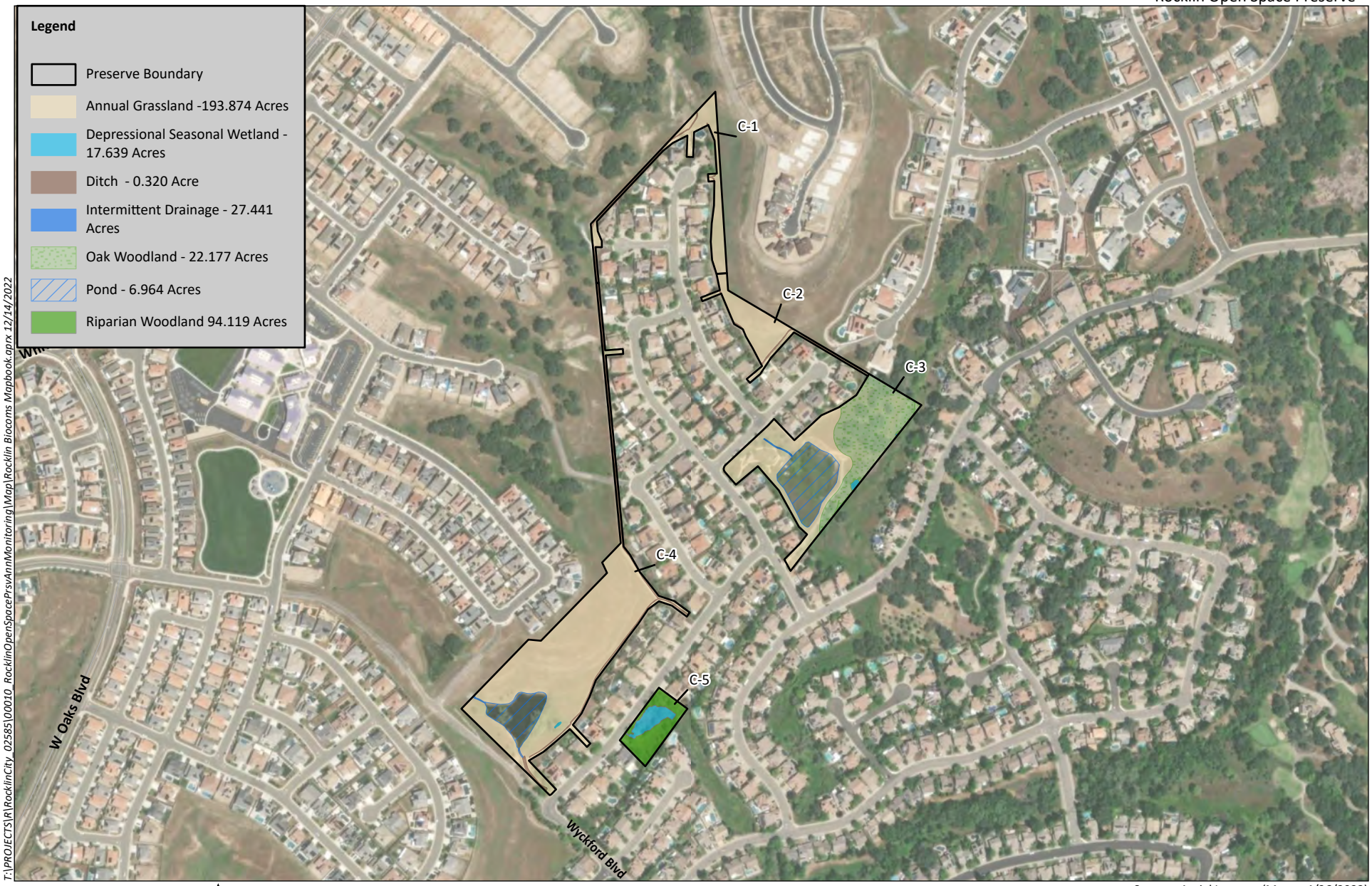
# Site and Vicinity

Figure 1




Source: Aerial Imagery (Maxar, 4/26/2022)

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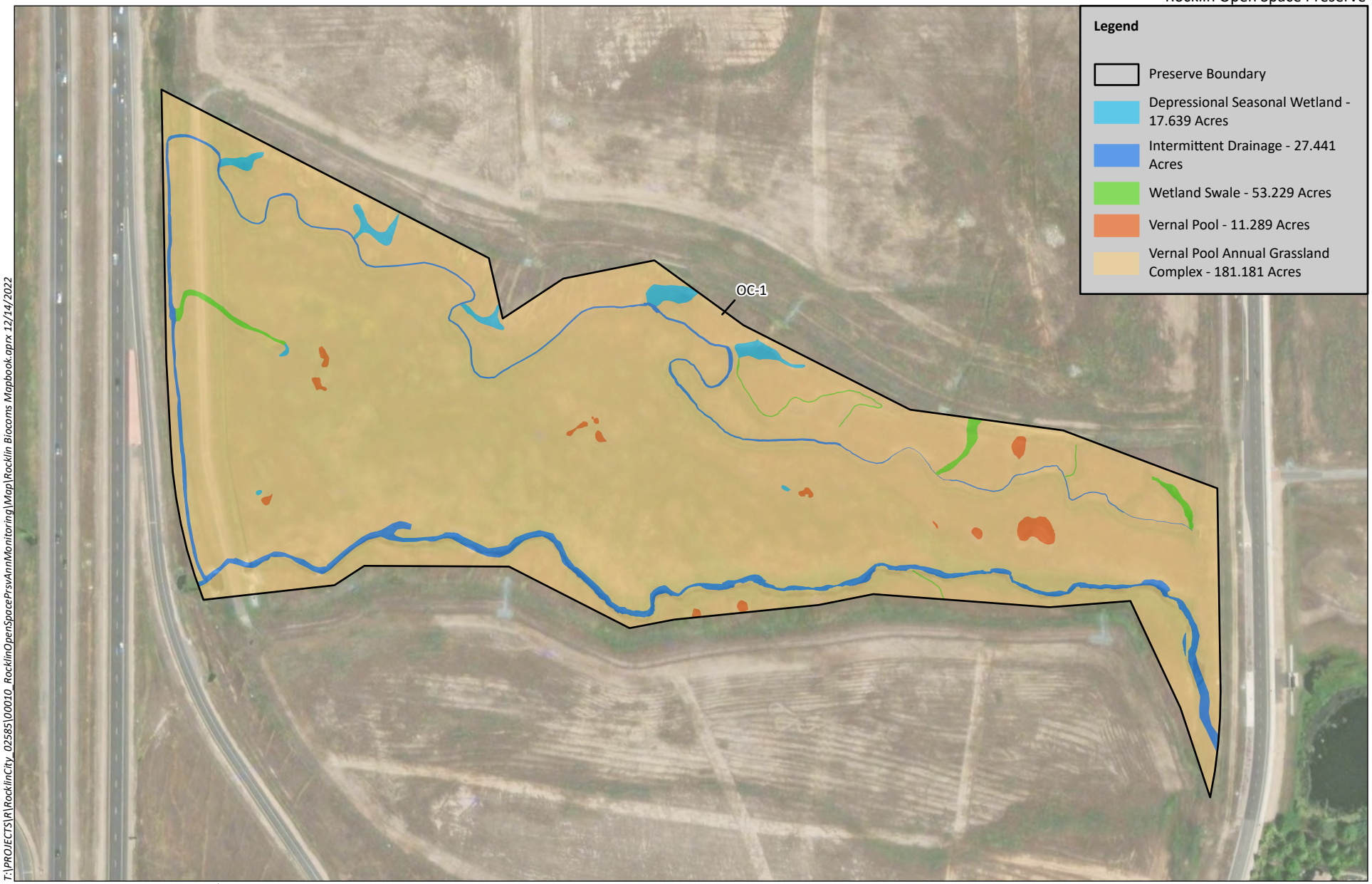
# Claremont Biological Communities

Figure 2-1

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Source: Aerial Imagery (Maxar, 4/26/2022)

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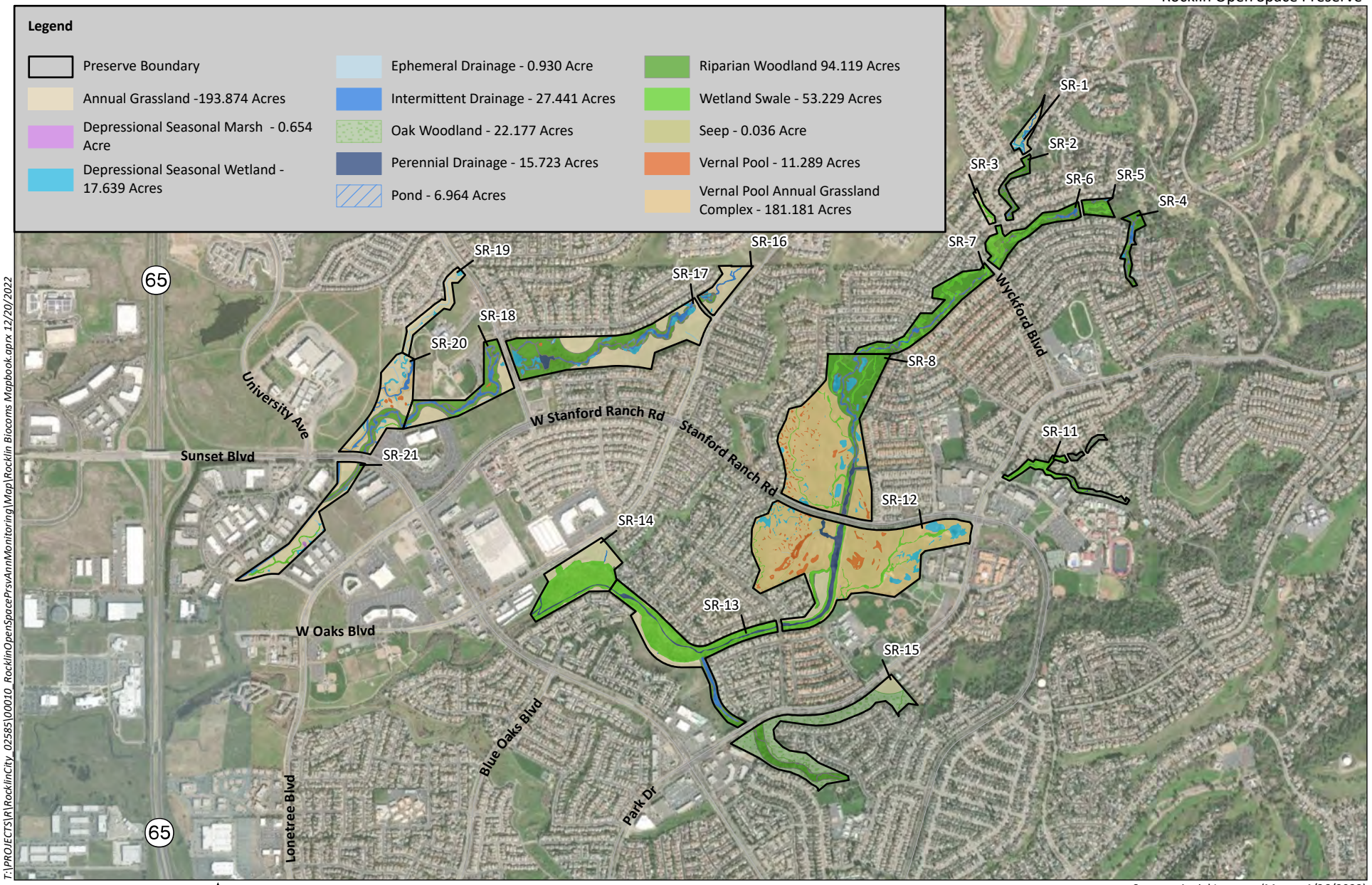
# Orchard Creek Biological Communities

Figure 2-2

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Source: Aerial Imagery (Maxar, 4/26/2022)

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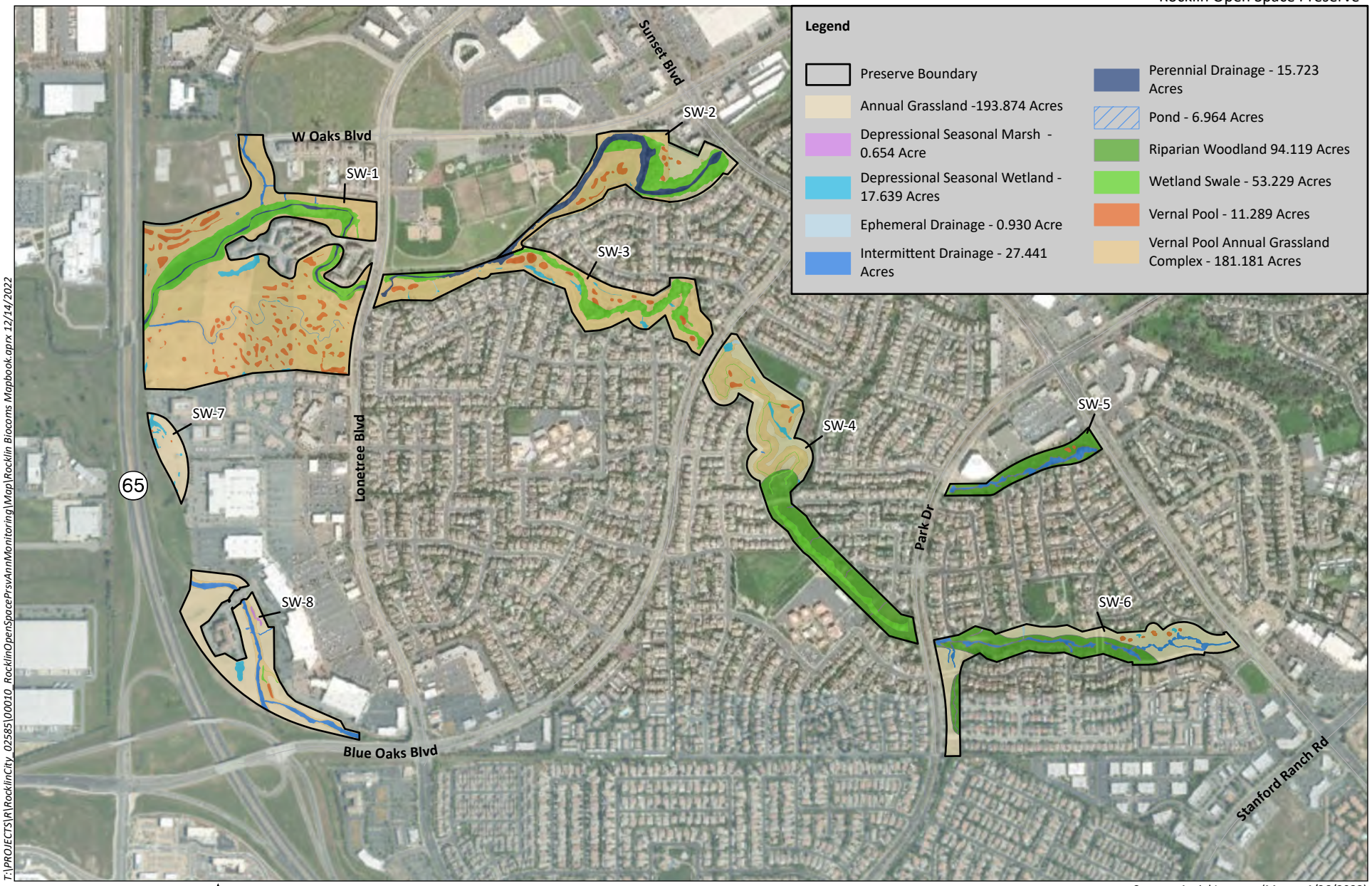
# Stanford Ranch Biological Communities

Figure 2-3

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Source: Aerial Imagery (Maxar, 4/26/2022)

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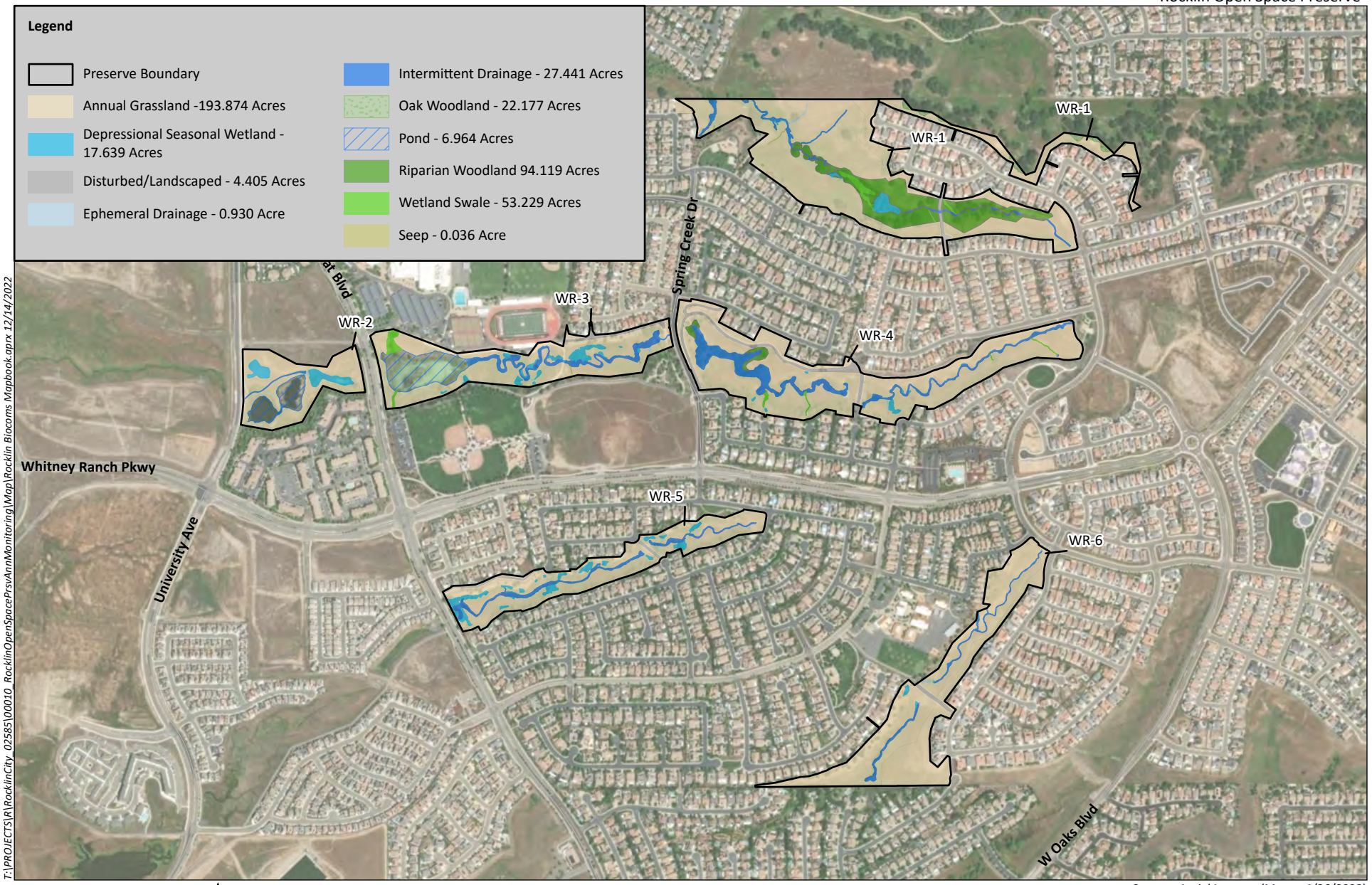
# Sunset West Biological Communities

Figure 2-4

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Source: Aerial Imagery (Maxar, 4/26/2022)

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# Whitney Ranch Biological Communities

Figure 2-5


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0 200 Feet

Source: Aerial Imagery (Maxar, 4/26/2022)

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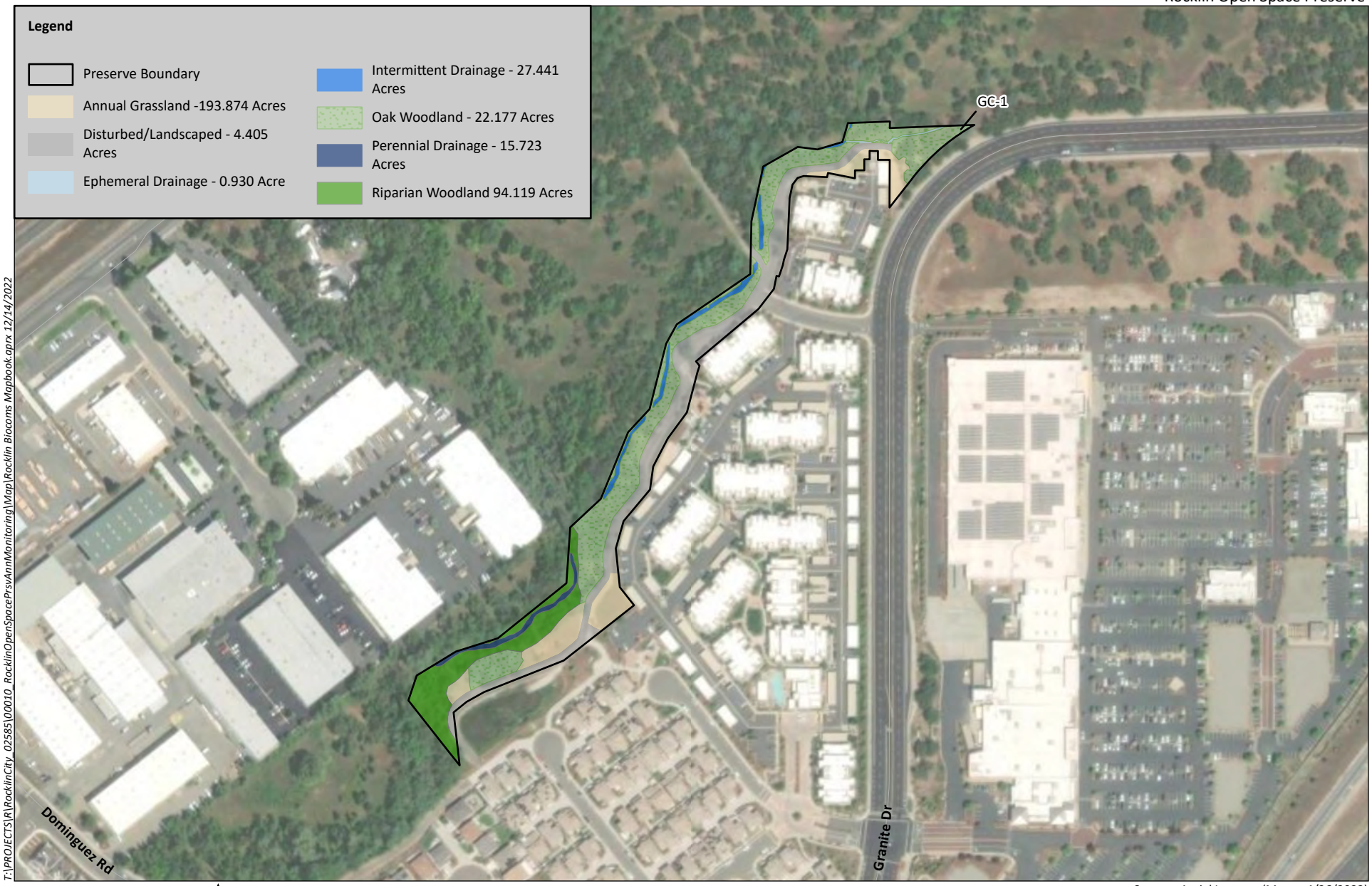
# Brighton Biological Communities

Figure 2-6

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Source: Aerial Imagery (Maxar, 4/26/2022)

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# Garnet Creek Biological Communities

Figure 2-7


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Source: Aerial Imagery (Maxar, 4/26/2022)

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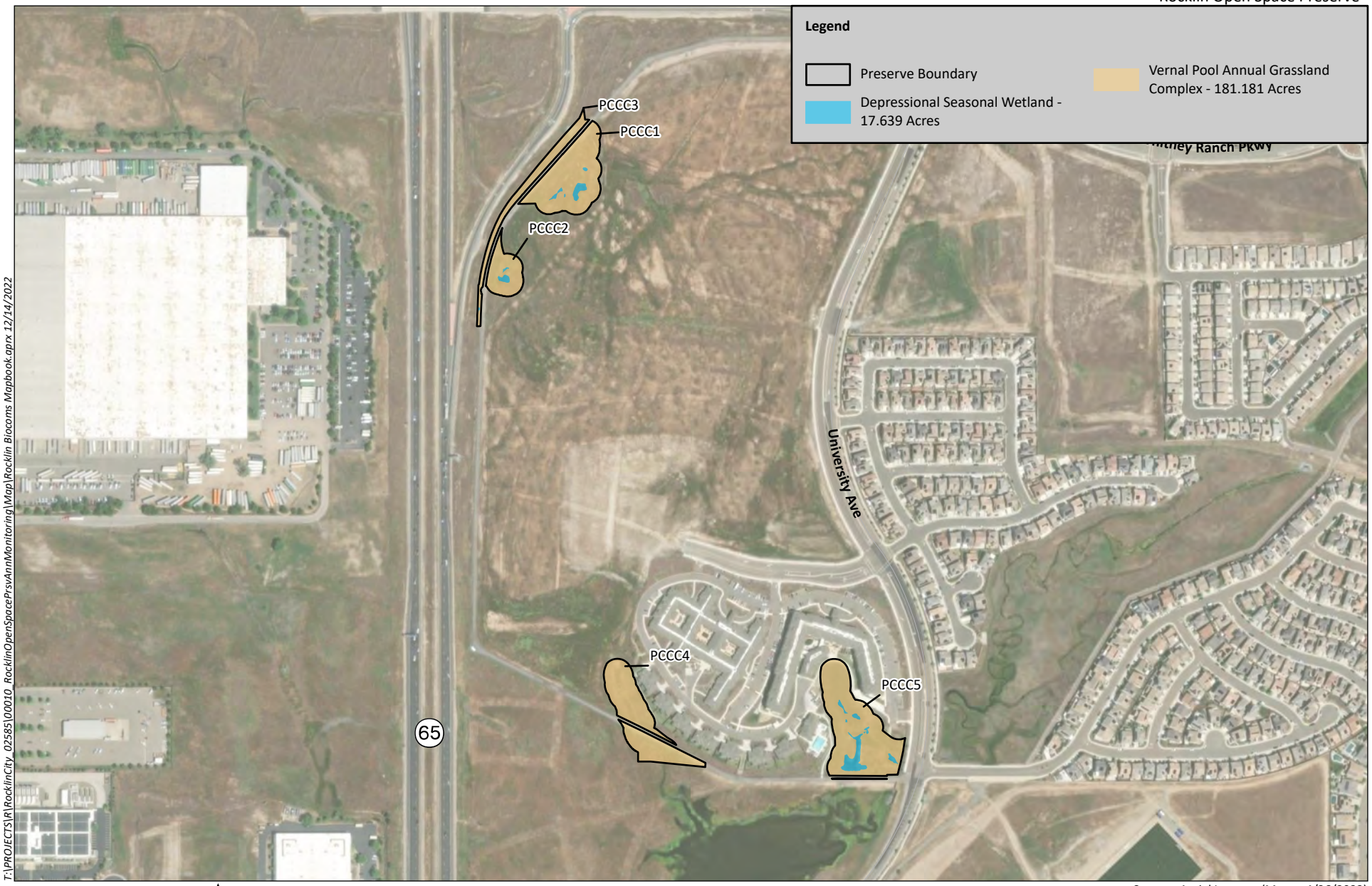
# Parklands North Biological Communities

Figure 2-8

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Source: Aerial Imagery (Maxar, 4/26/2022)

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# Placer Creek Biological Communities

Figure 2-9

### 1.1.4 Sunset West

The Sunset West preserve unit comprises eight subsections (SW 1-8). The preserve subsections are located east of Highway 65, south of West Oaks Boulevard, west of Sunset Boulevard, and north of Fairway Drive (Figure 1). These preserve subsections include several drainages, seasonal wetlands, riverine wetlands, vernal pools, Pleasant Grove Creek, annual grassland, and oak woodlands. (Figure 2-4, *Biological Communities*).

### 1.1.5 Whitney Ranch

The Whitney Ranch preserve unit comprises six subsections (WR 1-6). The preserve subsections are located east of Highway 65, south of Twelve Bridges Drive, west of Old Ranch House Road, and north of West Stanford Ranch Road (Figure 1). These preserve subsections include several drainages, seasonal wetlands, vernal pools, annual grassland, ponds, riparian corridors, and oak woodland (Figure 2-5, *Biological Communities*).

### 1.1.6 Brighton

The Brighton preserve unit, comprised of one subsection (B -1), is located west of Granite Drive, south of Pacific Street, and north and east of Dominguez Road (Figure 1). This preserve unit is located southwest of the Rocklin Open Space Garnet Creek preserve unit, extending along the same waterway**.** The preserve unit includes dense riparian woodland along Secret Ravine, oak woodland, and seasonal wetlands adjacent to developed and landscaped areas (Figure 2-6, *Biological Communities*).

### 1.1.7 Garnet Creek

The Garnet Creek preserve unit, comprised of one subsection (GR-1), is located west of Granite Drive, south and east of Pacific Street, and north of Dominguez Road (Figure 1). This Preserve is located northeast of the Brighton preserve unit. The preserve unit includes dense riparian woodland along Secret Ravine, oak woodland, and annual grassland (Figure 2-7, *Biological Communities*).

### 1.1.8 Parklands North

The Parklands North preserve unit, comprised of one subsection (PN-1), is located east of Aitkin Dairy Road, south of Fenway Circle, west of Delmar Avenue, and north of Pacific Street (Figure 1). The preserve unit includes dense riparian woodland along Antelope Creek and oak woodland. A clump of elderberry (*Sambucus* sp.) shrubs is fenced with signage in the central-eastern portion of the preserve unit (Figure 2-8, *Biological Communities*).

### 1.1.9 Placer Creek Corporate Center

The Placer Creek Corporate Center preserve unit is comprised of five subsections (PCCC 1-5), and are located east of Highway 65, south of Whitney Ranch Parkway, west of University Avenue, and north of Sunset Boulevard (Figure 1). These preserve subsections include seasonal wetlands, annual grassland, and vernal pools (Figure 2-9, *Biological Communities*).

## 1.2 GENERAL OPEN SPACE MANAGEMENT PLAN

The City adopted the GOSMP in May 2015 to facilitate the management of the City's open space holdings. The GOSMP was adopted following approval by the USACE, regulatory number (SPK-2014-01022). The GOSMP allows combined management of numerous open spaces. The GOSMP replaces the previous project-specific management plans for five of the nine preserve units, including the following:

- *Orchard Creek Open Space Preserve Operations and Management Plan*;
- *Whitney Ranch (Sunset Ranchos Phase 1) Open Space Conservation Easement Operations and Management Plan*;
- *Use Plan Addendum to the Operations and Management Plan/Conservation Easement for the Stanford Ranch Open Space Preserve;*
- *Operations and Management Plan for the Claremont (Parcel Sub-sections K) Open Space Preserve*; and
- *General Open Space Management Plan, New Open Space Preserve Package Submittal, Brighton Subdivision*.

Garnet Creek, Parklands North, and Placer Creek Corporate Center did not have their own Open Space Management Plans but were rather incorporated into the 2015 GOSMP. Table 1 indicates when the various open spaces were appended to the 2015 GOSMP. Minor updates to the 2015 GOSMP took place in 2017 and 2019 via email and verbal correspondence with USACE. Updates included changing the submittal date for the annual report to December 31st of each year and staggering five- and ten-year monitoring tasks to better accommodate survey windows, staffing, and annual City budget constraints. Furthermore, the updates included updated database queries for special-status species with the potential to occur in the Rocklin areas.

**Table 1**
**SURVEY SEASON PRESERVE UNIT WAS APPENDED TO THE 2015 GOSMP**

| 2015-2016 | 2017-2018 | 2018-2019 |
|---|---|---|
| Claremont | Brighton | Garnet Creek |
| Orchard Creek | | Parklands North |
| Stanford Ranch | | Placer Creek |
| Sunset West | | |
| Whitney Ranch | | |

# 2.0 SITE CONDITIONS

## 2.1 BIOLOGICAL COMMUNITIES

Biological communities within the Preserve were mapped or verified during the first year of the preserve unit being appended to GOSMP (see Table 1). Annual grassland, vernal pool complexes, and oak woodland habitats are the dominant biological communities within the Preserve (Figures 2-1 through 2-9). A description of these biological communities along with associated common plant and wildlife species observed or expected to occur within the Preserve are included below. Refer to Appendix A and B for additional plants and wildlife observed within the Preserve.

Table 2 summarizes the Preserve's current biological/habitat types and acreages per preserve unit.

**Table 2**
**PRESERVE UNITS BY ACREAGE AND HABITAT TYPES**

| Preserve Unit | Acreage | Habitat Types |
|---|---|---|
| Claremont | ±14.8 acres | Annual grassland, depressional seasonal wetlands, ditch, intermittent drainage, oak woodland, pond, and riparian woodland. native and planted oaks, and preserved rock formation. |
| Orchard Creek | ±23.6 acres | Depressional seasonal wetland, intermittent drainage, wetland swale, vernal pool annual grassland complex, and vernal pool. |
| Stanford Ranch | ±308.7 acres | Annual grassland, depressional seasonal marsh, depressional seasonal wetlands, ephemeral drainages, intermittent drainages, oak woodlands, perennial drainages, ponds, riparian woodlands, wetlands swales, seeps, vernal pool annual grassland .and Pleasant Grove Creek. |
| Sunset West | ±146.1 acres | Annual grassland, depressional seasonal marsh, depressional seasonal wetlands, ephemeral drainages, intermittent drainages, perennial drainages, ponds, riparian woodlands, wetlands swales, vernal pool annual grassland complex, vernal pools, and Pleasant Grove Creek |
| Whitney Ranch | ±119.9 acres | Annual grassland, depressional seasonal wetlands, disturbed landscaped, ephemeral drainages, intermittent drainage, oak woodlands, pond, riparian woodland, wetlands swale, and seeps. |
| Brighton | ±3.0 acres | Annual grassland, depressional seasonal marsh, depressional seasonal wetlands, disturbed landscaped, ephemeral drainages, intermittent drainage, perennial drainage, riparian woodland, and wetland swales. |
| Garnet Creek | ±4.1 acres | Annual grassland, disturbed landscaped, ephemeral drainage, intermittent drainage, oak woodland, perennial drainage, and riparian woodland. |
| Parklands North | ±4.7 acres | Oak woodland, perennial drainage, and riparian woodland, |
| Placer Creek Corporate Center | ±5.0 acres | Depressional seasonal wetlands and vernal pool annual grassland complex. |

## 2.1.1 Upland Communities

### 2.1.1.1 Annual Grassland

Annual grassland is a common biological community in California and is the dominant biological community within the Preserve within Claremont, Orchard Creek, Stanford Ranch, Sunset West, Whitney Ranch, and Placer Creek Corporate Center preserve units. Annual grassland is an annual herbaceous plant community that is generally characterized by non-native herbaceous species, naturalized herbaceous annual forbs, and naturalized and native grasses. Composition of plants can vary depending on the geographic setting, land use factors, rainfall, temperature, grazing, and other local

factors. Common plant species observed within the Preserve in this habitat include: include wild oat (*Avena fatua*), Italian ryegrass (*Festuca perennis*), medusa head (*Elymus caput-medusae*), ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), Fitch's tarweed (*Hemizonia fitchii*), prickly lettuce (*Lactuca serriola*), rose clover (*Trifolium hirtum*), vetch (*Vicia* sp.), yellow star-thistle (*Centaurea solstitialis*), black mustard (*Brassica nigra*), bull thistle (*Cirsium vulgare*), miner's lettuce (*Claytonia perfoliata*), wild radish (*Raphanus sativus*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), common mallow (*Malva neglecta*), summer mustard (*Hirschfeldia incana*), and numerous other grasses and forbs.

Common wildlife species observed within the Preserve in this habitat include: California vole (*Microtus californicus*), black-tailed jackrabbit (*Lepus californicus*), deer mouse (*Peromyscus maniculatus*), and pocket gopher (*Thomomys bottae*). Although annual grasslands are typically dominated by non-native herbaceous species, they often provide important habitat for native wildlife. Reptiles and amphibians utilize burrows and other types of cover within grasslands, and many native bird species nest and forage within this community. Wildlife species observed within annual grasslands in the Preserve include black-tailed jackrabbit, California ground squirrel (*Otospermophilus beecheyi*), western meadowlark (*Sturnella neglecta*), California kingsnake (*Lampropeltis californiae*), California quail (*Callipepla californica*) as well as the special-status white-tailed kite and Swainson's hawk which use the grasslands for foraging.

#### 2.1.1.2 Vernal Pool Annual Grassland Complex

Vernal pool annual grassland complexes are present within several areas of the Preserve including Orchard Creek, Stanford Ranch, Sunset West, and Placer Creek Corporate Center preserve units. Vernal pools are shallow, seasonally inundated depressions that form in soils with a subsurface layer that restricts the downward flow of water causing them to pond for extended and variable periods of time. Subsurface layers can include claypans, hardpans, mudflows, or bedrock (Rains et al. 2008). Depending on common factors such as daily average temperatures, and the amount and frequency of seasonal precipitation, vernal pools may pond for days, weeks, or even months. Because of the specific hydrological regime of vernal pools, they often support unique, rare, and highly specialized plant and wildlife species.

Vernal pool branchiopods carry out their entire lifecycle in vernal pool wetlands, but the wetlands depend on the surrounding upland areas and together constitute the vernal pool complex. Because vernal pools are located within grassland communities, the description of the annual grassland community applies here. Plant species found within vernal pools are discussed later in this report.

#### 2.1.1.3 Existing Developed Land

Existing developed land is located within portions of the Preserve. Developed land within the Preserve includes portions of gravel roads, access drainages, landscaping, PG&E, PUE, and other utilities, private, roadways, telephone, water, emergency, environmental, and flood plain easements. These areas are largely unvegetated, although the roads support a sparse cover of disturbance-tolerant plant species such as vinegarweed (*Trichostema lanceolatum*) and turkey mullein (*Croton setiger*).

Developed areas typically provide minimal habitat for wildlife. Species that utilize these areas are generally common and adapted to disturbance. Wildlife species observed in developed areas of the Preserve include western fence lizard (*Sceloporus occidentalis*) and killdeer (*Charadrius vociferous*); the latter is one of very few bird species that may nest in these portions of the Preserve.

## 2.1.2 Preserved Sensitive Habitats

### 2.1.2.1 Preserved Aquatic Habitats

The Preserve includes the following aquatic resources: depressional seasonal wetlands, seasonal marshes, seeps, vernal pools, seasonal wetlands, wetland swales, ephemeral drainages, intermittent drainages, perennial drainages, ditches, and ponds (Figure 3, *Aquatic Resources*). These habitats accommodate several common species of wildlife and are potentially suitable habitat for special-status species including the western pond turtle which has been documented within the Preserve. A description of these aquatic features, including associated plant and wildlife species observed or expected to occur on the Preserve is included below.

### 2.1.2.2 Depressional Seasonal Wetlands

Depressional seasonal wetlands within the Preserve occur as depressions within the topography with a hydrologic regime dominated by saturation and capable of supporting hydrophytic plant species and hydric soils. Dominant vegetation observed within the depressional seasonal wetlands includes: spikerush (*Eleocharis acicularis*), Italian ryegrass, rabbitfoot grass (*Polypogon monspeliensis*), and Mediterranean barley.

### 2.1.2.3 Seasonal Marsh

Depressional seasonal marshes are typically perennial systems within or adjacent to riparian areas. They support wetland species such as cattail (*Typha* sp.), bulrush (*Schoenoplectus* sp.), tail flatsedge (*Cyperus eragrostis*), soft rush (*Juncus effusus*), annual rabbitfoot grass, curly dock (*Rumex crispus*), and willows (*Salix* sp.).

### 2.1.2.4 Seeps

Seeps are typically located along slopes leading down to floodplains and are characterized by the presence of slow-moving groundwater that is unable to permeate the underlying clay or bedrock and is being discharged to the surface. Common plant species observed include rabbitfoot grass, curly dock, and monkey flower (*Erythranthe guttata*).

### 2.1.2.5 Vernal Pools

Vernal pools throughout the Preserve range from well-defined basins with distinct boundaries to those with indistinct boundaries that may have been affected by historic land practices such as agriculture. Additionally, vernal pools have been constructed as mitigation in several preserve units.

Vernal pools have three distinct phases: the wet phase, the flowering phase, and the dry phase. During the wet phase or rainy season, which typically occurs between November and March (April), pools fill with water creating habitats for a unique array of plants and animals. Wildlife species observed in the pools include water fleas (Cladocera), copepods (Copepoda), seed shrimp (Ostracoda), flatworms (Turbellaria), diving water beetles (Dytiscidae), midges (Chironomidae), crawling water beetles (Haliplidae), Sierran treefrog (*Pseudacris sierra*), as well as federally-listed vernal pool fairy shrimp (and the non-listed California linderiella (*Linderiella occidentalis*). On occasion, waterfowl or wading bird species may forage and/or rest within vernal pools during the wet season. When inundated or saturated, vernal pools may provide habitat for additional special-status wildlife species that to date

have not been observed within the Preserve including western spadefoot toad and vernal pool tadpole shrimp.

Typically, around March the vernal pools start to dry up and herbaceous vegetation starts to emerge. Dominant vegetation observed within the vernal pools within these complexes includes coyote thistle (*Eryngium vaseyi*), woolly marbles (*Psilocarphus brevissimus*), Fremont's goldfields (*Lasthenia fremontii*), popcorn flower (*Plagiobothrys stipitatus*), spikerush (*Eleocharis macrostachya*), vernal pool buttercup (*Ranunculus bonariensis*), hawkbit (*Leontodon saxatilis*), and navarretia (*Navarretia leucocephala*).

#### 2.1.2.6 Wetland Swales

Wetland swales are defined by a hydrologic regime dominated by unidirectional flow of water. Wetland swales typically occur in topographic folds or swales and represent natural drainages that convey sufficient water to support wetland vegetation. Wetland swales typically convey water during and shortly after storm events. Dominant vegetation within the wetland swales in the Preserve includes ryegrass, spikerush, and Mediterranean barley.

#### 2.1.2.7 Ephemeral Drainages

Ephemeral drainages are features that do not meet the three-parameter criteria for vegetation, hydrology and soils, but do convey water and exhibit an ordinary high-water mark (OHWM). Ephemeral drainages are primarily fed by stormwater runoff. These features convey flows during and immediately after storm events but may stop flowing or begin to dry if the interval between storm events is long enough. These features exhibit a defined bed and bank and show signs of scouring as a result of rapid flow events. Within ephemeral drainages, topographic depressions in the bed of the feature may exhibit vegetation patterns commonly associated with vernal pools or depressional seasonal wetlands. Dominant vegetation within the bed and along the banks of the ephemeral drainages include upland species including common vetch, filaree, slender oat, wild oat, medusa head, and soft chess.

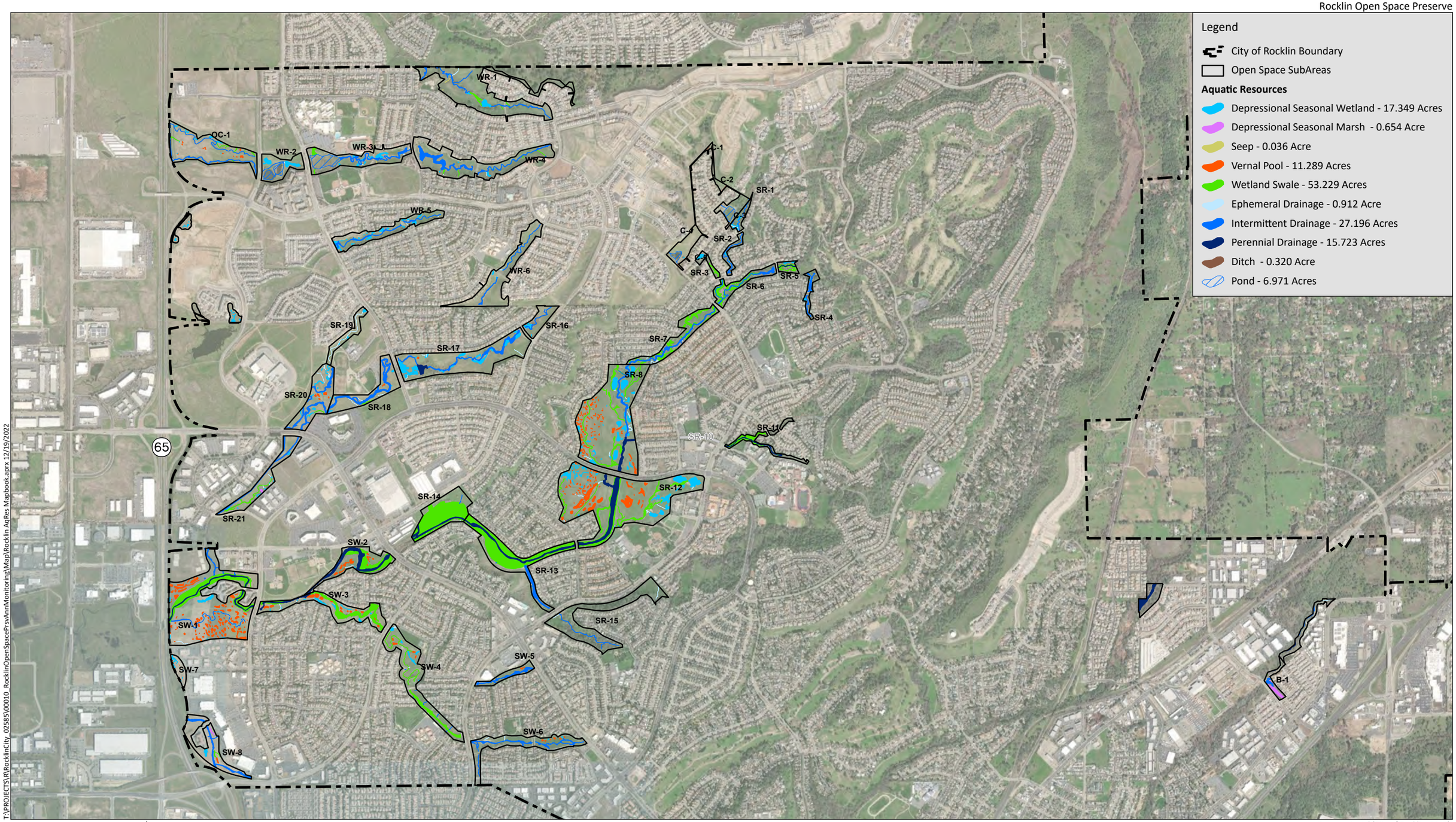
#### 2.1.2.8 Intermittent Drainages

Intermittent drainages are features that do not meet the three-parameter criteria for vegetation, hydrology, and soils but do convey water and exhibit an OHWM. Water flows within intermittent drainages are fed primarily by a seasonally perched groundwater table and supplemented by precipitation and storm water runoff. After the initial onset of rains these features have persistent flows throughout and past the end of the rainy season. These features exhibit a defined bed and bank and show signs of scouring as a result of rapid flow events. The bed of the intermittent drainage consists of sand with interspersed rocks. Hydrophytic vegetation occurs in association with intermittent drainages. Vegetation observed includes sedges, American water fern (*Azolla filiculoides*), and stinkwort (*Dittrichia graveolens*) along the upland edges of the drainages.

#### 2.1.2.9 Perennial Drainages

The perennial drainages located throughout Preserve typically have water year-round during a typical rainfall year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow. Vegetation observed within perennial drainage include cattails, bulrush, and willows along the some of the banks.

Rocklin Open Space Preserve




Legend

- City of Rocklin Boundary
- Open Space SubAreas

**Aquatic Resources**

- Depressional Seasonal Wetland - 17.349 Acres
- Depressional Seasonal Marsh - 0.654 Acre
- Seep - 0.036 Acre
- Vernal Pool - 11.289 Acres
- Wetland Swale - 53.229 Acres
- Ephemeral Drainage - 0.912 Acre
- Intermittent Drainage - 27.196 Acres
- Perennial Drainage - 15.723 Acres
- Ditch - 0.320 Acre
- Pond - 6.971 Acres

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0 2,000 Feet

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Source: Aerial (City of Rocklin, 2018).

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# Aquatic Resources

Figure 3

#### 2.1.2.10 Ditch

Ditches are man-made water conveyance structures with well-defined limits, usually very steep banks typically used for drainage alongside a road or the edge of a field. Dominant vegetation along the banks of the ditches is comprised of upland vegetation including soft chess, ripgut brome, and medusa head.

#### 2.1.2.11 Pond

Ponds within the Preserve are typically manmade and were formed from impoundments of natural drainages. Dominant vegetation along the edges of the ponds include ryegrass, Himalayan blackberry (*Rubus armeniacus*), and willows.

### 2.1.3 Woodland Habitats

#### 2.1.3.1 Riparian Woodland

Riparian woodland in the Preserve contain plants such as: interior live oak (*Quercus wislizeni*), valley oak (*Quercus lobata*), blue oak (*Quercus douglasii),* black willow (*Salix gooddingii*), Himalayan blackberry, wild rose (*Rosa californica*), wild grape (*Vitis californica*), button willow (*Cephalanthus occidentalis*), as well as cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), California black walnut (*Juglans hindsii*), fig (*Ficus carica*), mulberry (*Morus sp.*), poison hemlock (*Conium maculatum*), and poison oak (*Toxicodendron diversilobum*).

The riparian woodland community supports commonly occurring wildlife species including black-tailed deer (*Odocoileus hemionus*), red-shouldered hawk (*Buteo lineatus*), spotted towhee (*Pipilo maculatus*), and striped skunk (*Mephitis mephitis*). Riparian woodland generally features structurally complex tree canopies in close proximity to water or otherwise mesic soils and provides high-quality habitat for a wide variety of wildlife including terrestrial invertebrates, mammals, many types of birds, and reptiles. Wildlife species observed in riparian woodland in the Preserve include acorn woodpecker (*Melanerpes formicivorus*), wild turkey (*Meleagris gallopavo*), American robin (*Turdus migratorius*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), and western scrub jay (*Aphelocoma californica*).

#### 2.1.3.2 Oak Woodland

The oak woodland occurs within subsections of the Preserve including portions of Claremont, Stanford Ranch, Sunset West, Whitney Ranch, Brighton, Garnet Creek, and Parklands North preserve units. The oak woodland contains oak species as described in the riparian woodland above. Dominant vegetation includes interior live oak, valley oak, blue oak, black oak, and oracle oaks (*Quercus* x *morehus*).

Oak woodland supports commonly occurring wildlife including acorn woodpecker, western scrub-jay, and California ground squirrel (*Otospermophilus beecheyi*).

### 2.1.4 Other Sensitive Habitats

#### 2.1.4.1 Alkali Sink

An alkali sink is located within the western portions Stanford Ranch (SR-12) preserve subsection. This salty basin landform collects rainwater that drains to the basin and collects in areas where it cannot

penetrate the soil due to a layer of clay. When the water evaporates, it leaves behind increasing amounts of salts in the soil. Plants that tolerate the extreme salt concentrations are known as halophytes. The ecology of alkali sink communities have a characteristically undulating surface composed of low "sinks" devoid of perennial vegetation where water ponds, surrounded by higher, often sandy micro-uplands which support perennial grasses and shrubs. This community including grasses adapted for shallow groundwater, shrubs adapted for deeper grounder water.

# 3.0 MONITORING REQUIREMENTS AND METHODOLOGY

Available information on the region's natural resources and the most current biological information relevant to the Preserve was reviewed by HELIX biologists for this year's monitoring period. Geographic boundaries were reviewed by HELIX's geographic information systems (GIS) specialist, and updates were made to the Preserve boundaries to align with the current City Preserve boundaries. Two previously surveyed preserve subsections noted as part of the Preserve are no longer recognized by the City as part of the Preserve system and include SR-9 and SR-10. Additional adjustments include the expansion of the existing preserve subsection located within the Whitney Ranch and Garnet Creek units.

Site-specific published information reviewed for this report includes:

- California Department of Fish and Wildlife (CDFW). 2022. California Natural Diversity Data Base (For: *Sheridan*, *Lincoln*, *Gold Hill*, *Pleasant Grove*, *Roseville*, *Rocklin*, *Rio Linda*, *Citrus Heights*, and *Folsom* USGS 7.5-minute series quadrangles), Sacramento, CA.
- California Native Plant Society (CNPS). 2022. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.45) For: *Sheridan*, *Lincoln*, *Gold Hill*, *Pleasant Grove*, *Roseville*, *Rocklin*, *Rio Linda*, *Citrus Heights*, and *Folsom* quadrangles.
- U.S. Fish and Wildlife Service (USFWS). 2022. *Information for Planning and Consultation* (IPaC) *Antonio Mountain Ranch, Placer County, California.*
- Calflora 2020, 2021. *Information on California Plants for Education, Research and Conservation*.

Each task completed for this year's Annual Report was performed by HELIX biologists and botanists with experience and knowledge of the habitats, plants, wildlife, and ecosystems of the area. Biologists and botanists conducting this year's tasks also performed previous years' monitoring tasks and are familiar with the Preserve. Task specific methods for the 2022 monitoring season are described below.

## 3.1 VERNAL POOL MONITORING AND WESTERN SPADEFOOT TOAD SURVEY

The GOSMP requires 20% of the vernal pools (65 total) within the Preserve be sampled twice per year for the presence of listed vernal pool branchiopods. Sampled vernal pools were randomly selected using Structured Query Language (SQL) in ArcGIS. Figure 4, *Surveyed Vernal Pools* identifies vernal pools sampled during this monitoring year. Vernal pools were monitored on November 16, 2021, and February 8 and 9, 2022.

Surveys were conducted by permitted HELIX biologist Marisa Brilts (Permit No. TE-778195-14.2). The surveys were conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) 2015 *Survey Guidelines for the Listed Large Branchiopods*, with the exception that only wet season sampling was completed, and each pool was sampled twice. The vernal pools were sampled by pulling a D-frame, 150-micron aquatic dip net through the water column. The dip net was undulated up and down through the water column to ensure a representative sample was obtained from each of the pools. A minimum of three, five-foot passes were made with the dip net in each sampled pool. No voucher specimens were collected.

The estimated number (e.g., 10s, 100s, 1,000s, etc.) of listed branchiopods along with the presence of common invertebrates, insects, and other wildlife species within each wetland was noted. Other data collected during sampling included the wetland number, water depth, estimated maximum depth, percent of inundation, water temperature, and general habitat and weather conditions.

Spadefoot toad surveys were conducted in tandem with the invertebrate surveys. The same vernal pools selected for the invertebrate surveys were surveyed for western spadefoot toad. Upland areas were surveyed by walking approximately five-foot wide transects. Particular attention was paid to underground small mammal burrows, and clumps of vegetation that may provide refugia for western spadefoot. Aquatic sampling included the search for evidence of western spadefoot egg masses and/or tadpoles. Inundated pools were sampled by pulling a D-frame, 150-micron aquatic dip net through the water column. The dip net was undulated up and down through the water column to ensure a representative sample from each of the features.

## 3.2 VERNAL POOL FLORISTIC MONITORING

As outlined in the GOSMP, 20% of the vernal pools within the Preserve are to be floristically surveyed each year during peak floristic conditions. The same group of randomly selected vernal pools monitored during the invertebrate survey (Figure 4) was monitored, minus one (64 total). An error occurred in data submittal within the Survey123 application, the error removed a single vernal pool from the floristic monitoring. This error was not realized until much later in the season when the vernal pool no longer contained vernal pool species and sampling could not be completed. Floristic surveys were conducted on March 23-25, April 1, and 7, 2022.

A whole pool survey methodology was employed to assess vegetation characteristics within the features, and percent cover scores were determined based on the Braun-Blanquet scale from 0 to 5 (Table 3). Plant species with greater than 25% vegetative cover were considered dominant. If no plant species was greater than 25% relative cover in a pool, the plants with at least 10% relative cover were regarded as the dominant plant species. To pass as a functioning vernal pool, each pool must be dominated by hydrophytic vegetation according to the methods provided in the 1987 U.S. *Army Corps of Engineers Wetland Delineation Manual* (Environmental Laboratories 1987) or have a prevalence score of 3 or less based on the Prevalence Index found in the *Food Securities Act Manual*. Status indicator ratings for the plant species are based on ecological descriptions to determine the indicator status of each species (Table 4).

**Table 3**
**BRAUN-BLANQUET SCALE**

| Scale | Relative Cover Range |
|---|---|
| 0 | <1% |
| 1 | 1-5% |
| 2 | 6-25% |
| 3 | 26-50% |
| 4 | 51-75% |
| 5 | >75% |

**Table 4**
**INDICATOR RATINGS**

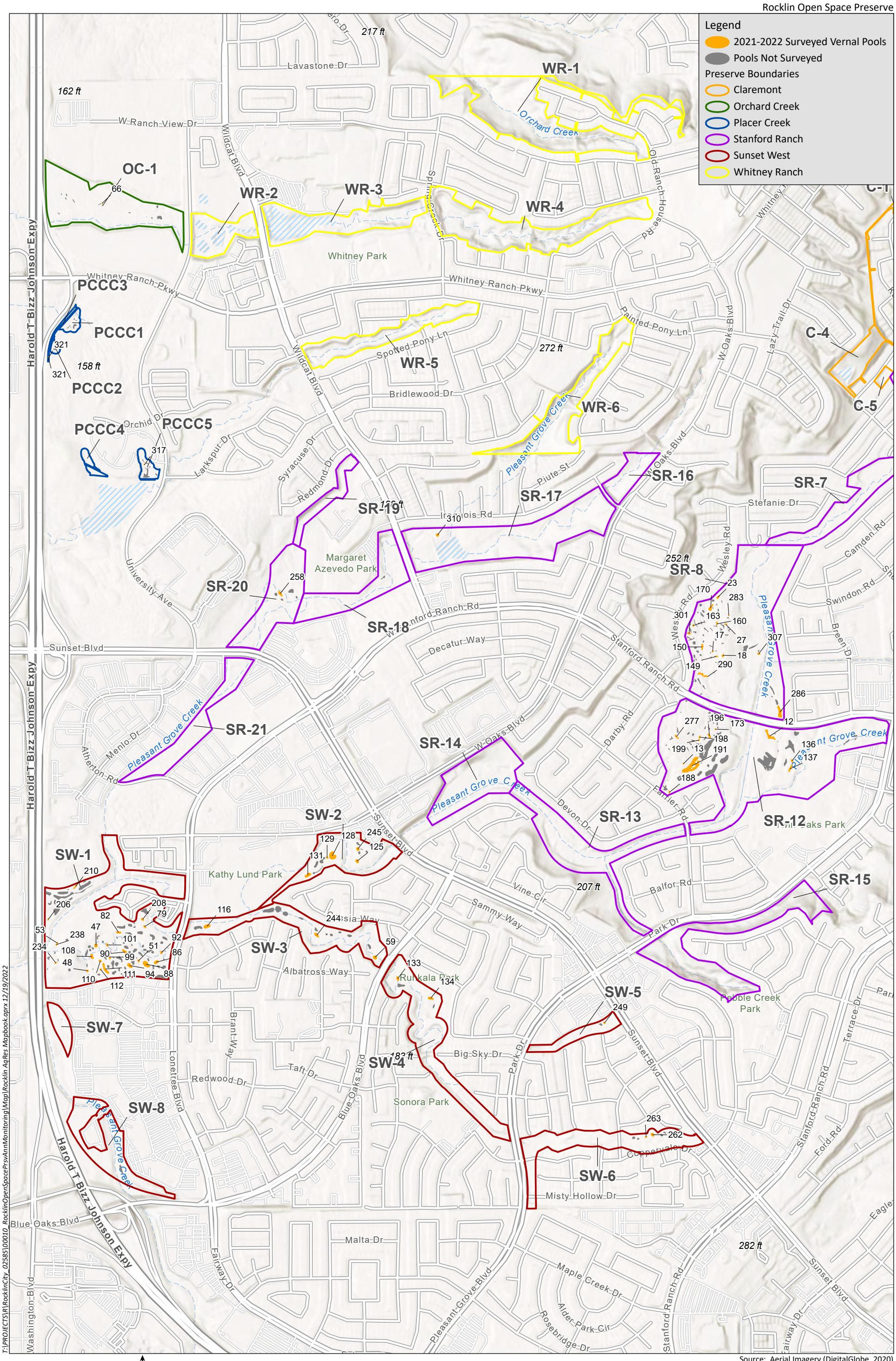
| Indicator Status | Ecological Description |
|---|---|
| Obligate (OBL) | Almost always a hydrophyte, rarely in uplands |
| Facultative Wetland (FACW) | Usually a hydrophyte but occasionally found in uplands |
| Facultative (FAC) | Commonly occurs as either a hydrophyte or non-hydrophyte |
| Facultative Upland (FACU) | Occasionally a hydrophyte but usually occurs in uplands |
| Upland (UPL) | Rarely a hydrophyte, almost always in uplands |

## 3.3 SPECIAL-STATUS PLANT SURVEYS

Although the GOSMP identifies six special-status plant species with the potential to occur in the Preserve, five are not known from the Rocklin area due to improper soils, habitat, or elevation ranges and include: Stebbin's morning-glory (*Calystegia stebbinsii*), Pine Hill ceanothus (*Ceanothus roderickii*), El Dorado bedstraw (*Galium californicum* ssp*. sierrae*), Tahoe yellow-cress (*Rorippa subumbellata*) and Layne's butterweed (ragwort; [*Packera layneae*]). The sixth species referenced in the GOSMP, Sacramento Orcutt grass (*Orcuttia viscidia*), has the potential to occur within the Preserve. Prior to the start of the survey season, queries for special-status plants with the potential to occur in the region were conducted. All references reviewed for this assessment are listed in the References section including the California Natural Diversity Database (CNDDB). The CNDDB is an inventory of the status and location of rare plants and animals in California. Additionally, the CNPS occurrence database was queried. CNPS maintains records of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-ranked plants receive consideration under the California Environmental Quality Act (CEQA) review. The CNPS ranks are defined below:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

Rocklin Open Space Preserve

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Source: Aerial Imagery (DigitalGlobe, 2020)

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# Sampled Vernal Pools

Figure 4

Upon review of the above-referenced databases, numerous special-status plant species have the potential to occur within the region including: Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii)*, big-scale balsamroot (*Balsamorhiza macrolepis*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*), dwarf downingia (*Downingia pusilla*), hispid salty bird's-beak (*Chloropyron molle* ssp*. hispidum*), legenere (*Legenere limosa*), pincushion navarretia *(Navarretia myersii* ssp. *myersii)*, Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), Sacramento Orcutt grass (*Orcuttia viscida*), Sanford's arrowhead *(Sagittaria sanfordii*), stinkbells (*Fritillaria agrestis*), and valley brodiaea (*Brodiaea rosea* ssp. *vallicola*). To ensure surveys were conducted in appropriate habitat types, HELIX biologists referenced Table 5, which indicates the typical bloom period and habitat each species is likely to occur in.

Surveys for special-status plant species were conducted concurrently with floristic surveys conducted on March 23-25, April 1, and 7, 2022, as well as during biological and wetland monitoring conducted on March 24, April 22 and 27-29, May 12, 13, 16, and 17, September 15, 16, 20, and 22, October 10, 13,14, and 29, and November 11, 16, and 23, 2022.

**Table 5**
**KNOWN AND POTENTIAL HABITAT FOR SPECIAL-STATUS PLANT SPECIES**

| Habitat Type | Common Name | Scientific Name | Bloom Period | Status | | |
|---|---|---|---|---|---|---|
| | | | | Federal | State | CNPS |
| Alkali Sink | ⁑ Hispid salty bird's-beak | *Chloropyron molle* ssp. *hispidum* | June - September | ~ | ~ | 1B.1 |
| Annual Grassland | *Ahart's dwarf rush | *Juncus leiospermus* var. *ahartii* | March - May | ~ | ~ | 1B.2 |
| | *Big-scale balsamroot | *Balsamorhiza macrolepis* | March - June | ~ | ~ | 1B.2 |
| | *Brandegee's clarkia | *Clarkia biloba* ssp. *brandegeeae* | May - June | ~ | ~ | 4.2 |
| | *Red Bluff dwarf rush | *Juncus leiospermus* | March - May | ~ | ~ | 1B.1 |
| | *Stinkbells | *Fritillaria agrestis* | March - June | ~ | ~ | 4.2 |
| | *Valley brodiaea | *Brodiaea rosea* ssp. *vallicola* | April - May (June) | ~ | ~ | 4.2 |
| Oak Woodland | *Big-scale balsamroot | *Balsamorhiza macrolepis* | March - June | ~ | ~ | 1B.2 |
| | *Brandegee's clarkia | *Clarkia biloba* ssp. *brandegeeae* | May - June | ~ | ~ | 4.2 |
| | *Stinkbells | *Fritillaria agrestis* | March - June | ~ | ~ | 4.2 |
| Riparian Woodland | *Big-scale balsamroot | *Balsamorhiza macrolepis* | March - June | ~ | ~ | 1B.2 |
| Seasonal Wetland | *Ahart's dwarf rush | *Juncus leiospermus* var. *ahartii* | March - May | ~ | ~ | 1B.2 |
| | *Legenere | *Legenere limosa* | April - June | ~ | ~ | 1B.1 |
| | Sanford's arrowhead | *Sagittaria sanfordii* | May - October | ~ | ~ | 1B.1 |
| Vernal Pool | *Ahart's dwarf rush | *Juncus leiospermus* var. *ahartii* | March - May | ~ | ~ | 1B.2 |
| | *Boggs Lake hedge-hyssop | *Gratiola heterosepala* | April - July | ~ | E | 1B.2 |
| | *Legenere | *Legenere limosa* | April - June | ~ | ~ | 1B.1 |
| | *Red Bluff dwarf rush | *Juncus leiospermus* | March - May | ~ | ~ | 1B.1 |

| Habitat Type | Common Name | Scientific Name | Bloom Period | Status | | |
|---|---|---|---|---|---|---|
| | | | | Federal | State | CNPS |
| Vernal Pool cont. | *Valley brodiaea | *Brodiaea rosea* ssp. *vallicola* | April - May (June) | ~ | ~ | 4.2 |
| | Dwarf downingia | *Downingia pusilla* | March - May | ~ | ~ | 2B.2 |
| | Pincushion navarretia | *Navarretia myersii* ssp. *myersii* | April - May | ~ | ~ | 1B.1 |
| | Sacramento Orcutt grass | *Orcuttia viscida* | April - June | E | E | 1B.1 |

(ɤ) Species present within the Preserve
(*) Species has the potential to occur in multiple habitats within the Preserve.
(E) Endangered
(1B.#) Plant is rare throughout its range and primarily endemic to California.
(2B.#) Plant meets the definitions of the CESA and is eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA.
(4.2) Plant has limited distribution or occurs infrequently throughout a broader area in California.

# 3.4 WETLAND AND RIPARIAN MONITORING

The GOSMP requires that wetland and riparian areas be examined visually (qualitative) annually. Problematic areas were identified and mapped using ArcGIS Collector or similar GPS application to address various issues including erosion, beaver activity, impacted culverts, invasive plant species within waterways, trash accumulation, and other disturbances within wetland and riparian areas. Surveys were conducted on March 24, April 22 and 27-29, May 12, 13, 16, and 17, September 15, 16, 20, and 22, October 10, 13, 14, and 29, and November 11, 16, and 23, 2022.

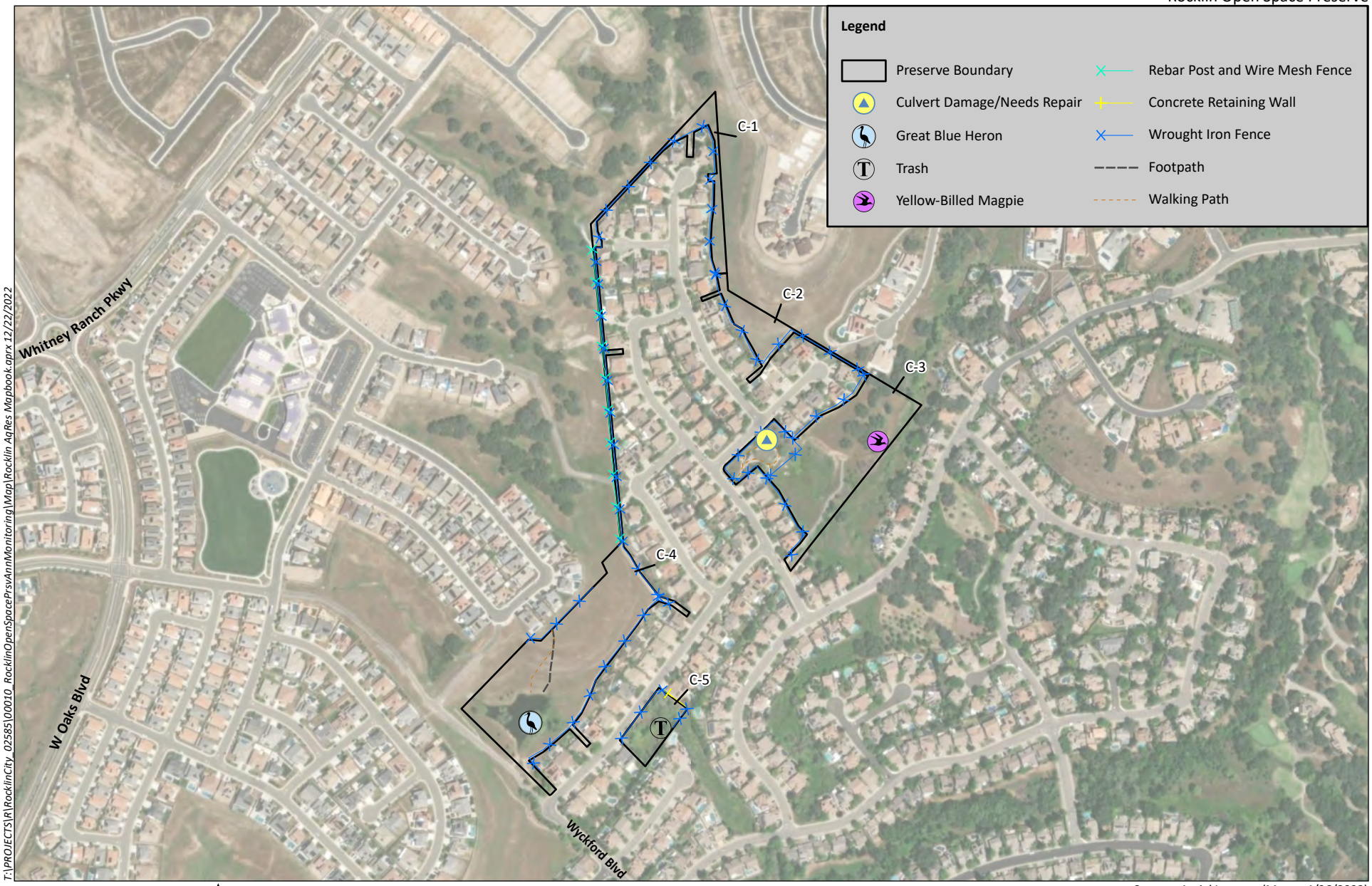
Below are descriptions/examples of items biologists noted while conducting the wetland and riparian monitoring, and are noted on Figures 5-1 through 5-9, *Conditions and Observations*.

## 3.4.1 Erosion

Erosion is a natural occurring process within the upland and aquatic habitats throughout the Preserve. Historic land practices, as well as present land use and development, have resulted in an anthropogenically altered landscape where features such as channelized drainages, stormwater outfalls from developed areas, and culverted crossings are common. Recurring erosion is expected to occur via surface runoff associated with bare and/or sparsely vegetated landscapes adjacent to aquatic resources, however some problematic areas where episodic erosion has occurred, or is anticipated to occur such as along steep slopes or areas without vegetation, were identified during the 2022 wetland and riparian monitoring efforts. Examples of episodic erosion sites noted within the Preserve during erosion monitoring include gullies and rill complexes, stream bank scour/instability, and channel incising/head cutting.

## 3.4.2 Beaver Activity

Aquatic resources within the Preserve are known to support beavers and some aquatic features are occasionally impounded by their dams. The dams typically consist of fine to medium-sized woody debris, mud, and emergent vegetation. Concerns relating to beaver activity include falling of riparian trees and backwatering of drainages that pose potential impacts to infrastructure in the event of a breached dam at high flow events. Although beaver dams can enhance or create wetlands, they can also negatively impact biological communities that have potential to host special-status plant and/or wildlife species by inundating, or prolonging inundation, in otherwise favorable habitat. In more extreme cases, dams can

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Source: Aerial Imagery (Maxar, 4/26/2022)

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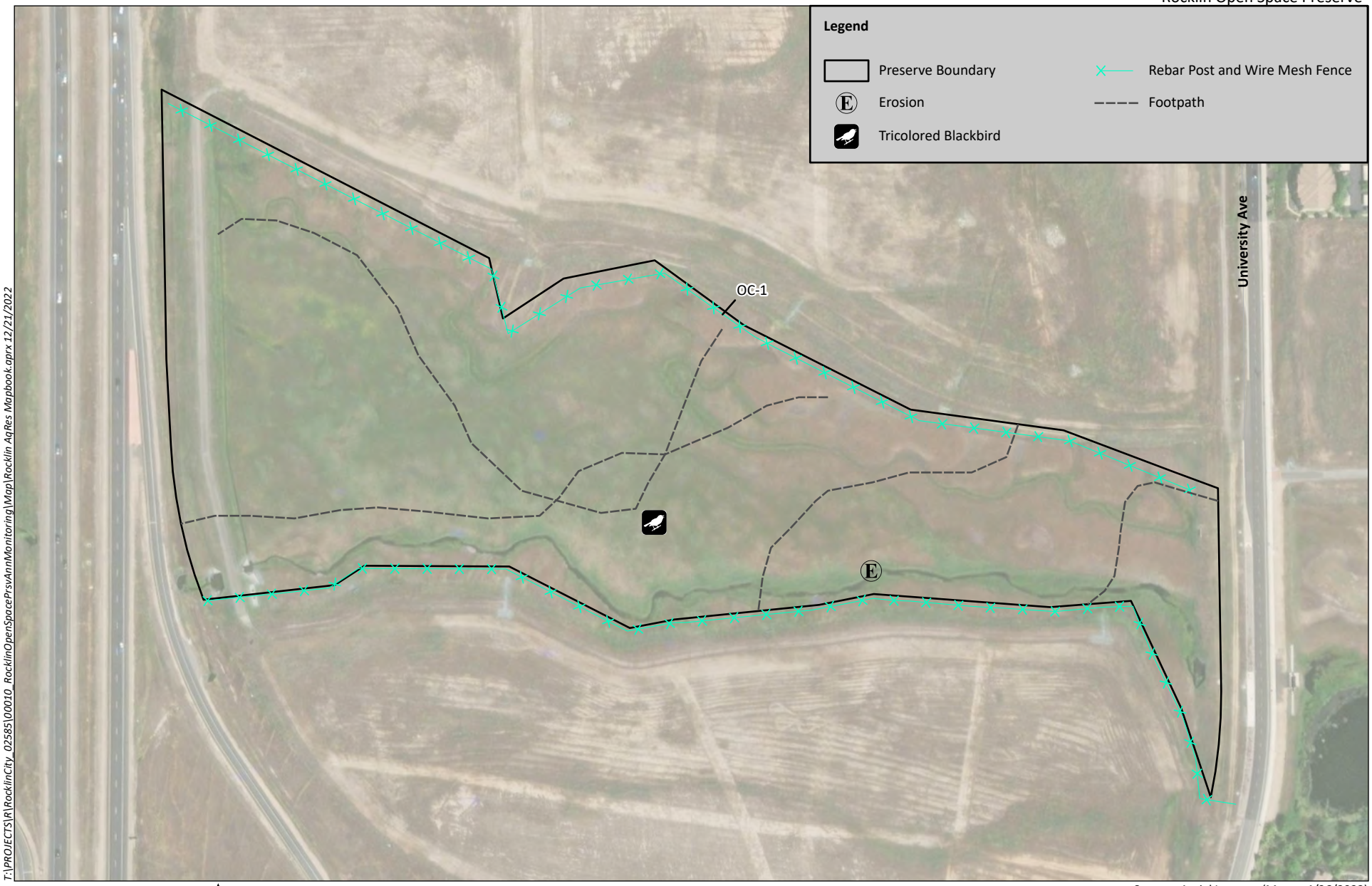
# Claremont Preserve Conditions and Observation

Figure 5-1

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Source: Aerial Imagery (Maxar, 4/26/2022)

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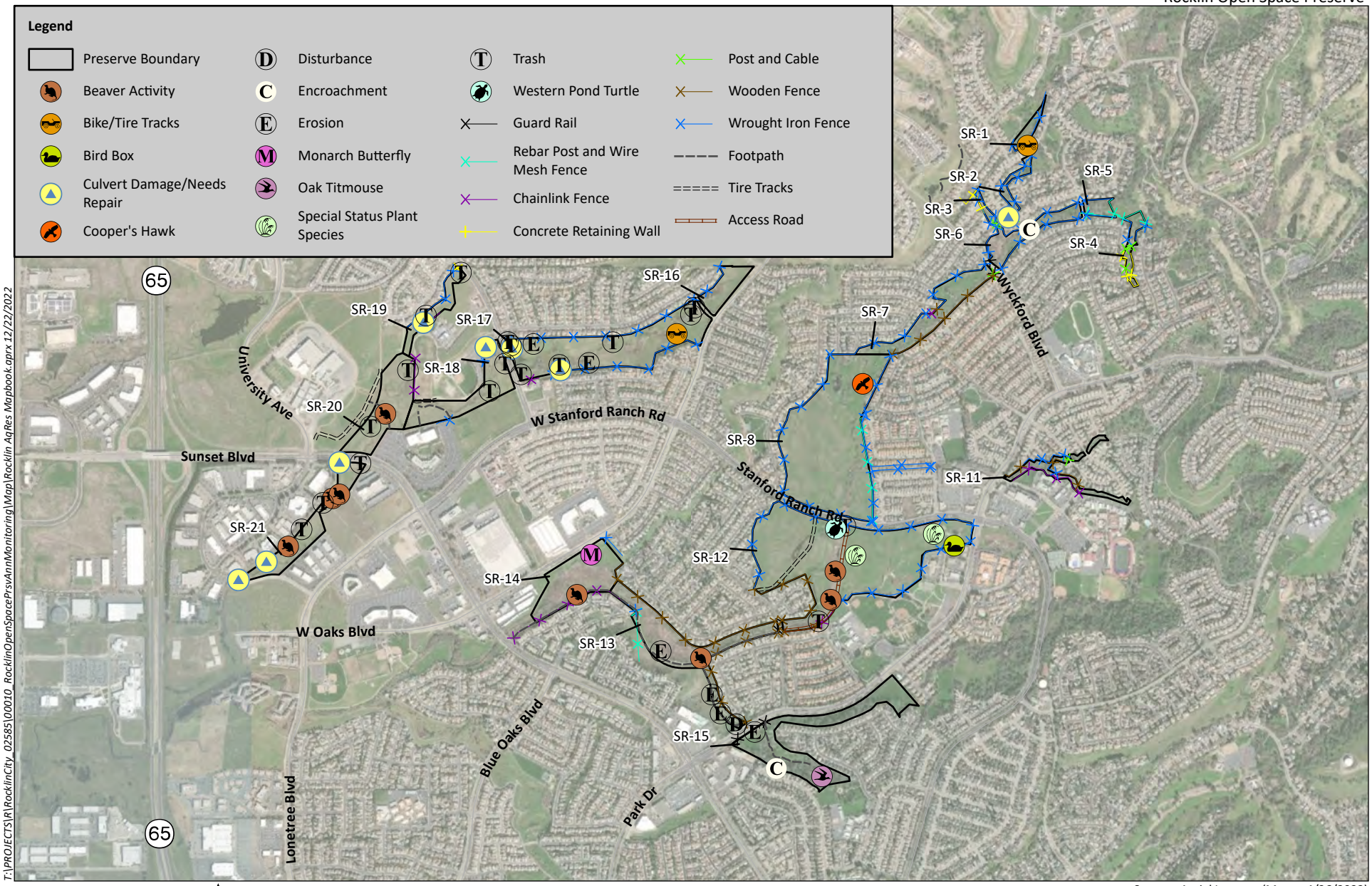
# Orchard Creek Preserve Conditions and Observation

Figure 5-2

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Source: Aerial Imagery (Maxar, 4/26/2022)

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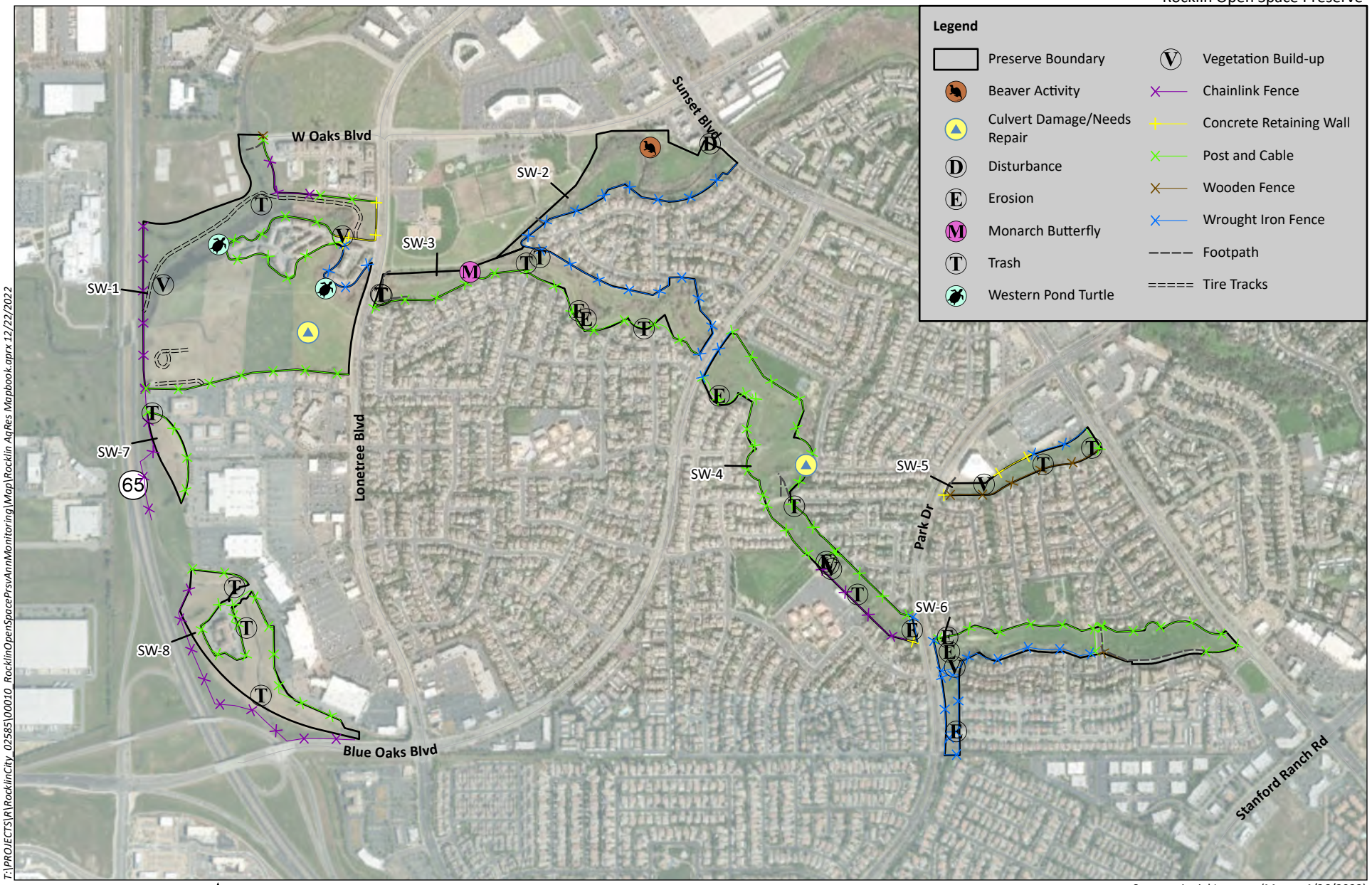
# Stanford Ranch Preserve Conditions and Observation

Figure 5-3




Source: Aerial Imagery (Maxar, 4/26/2022)

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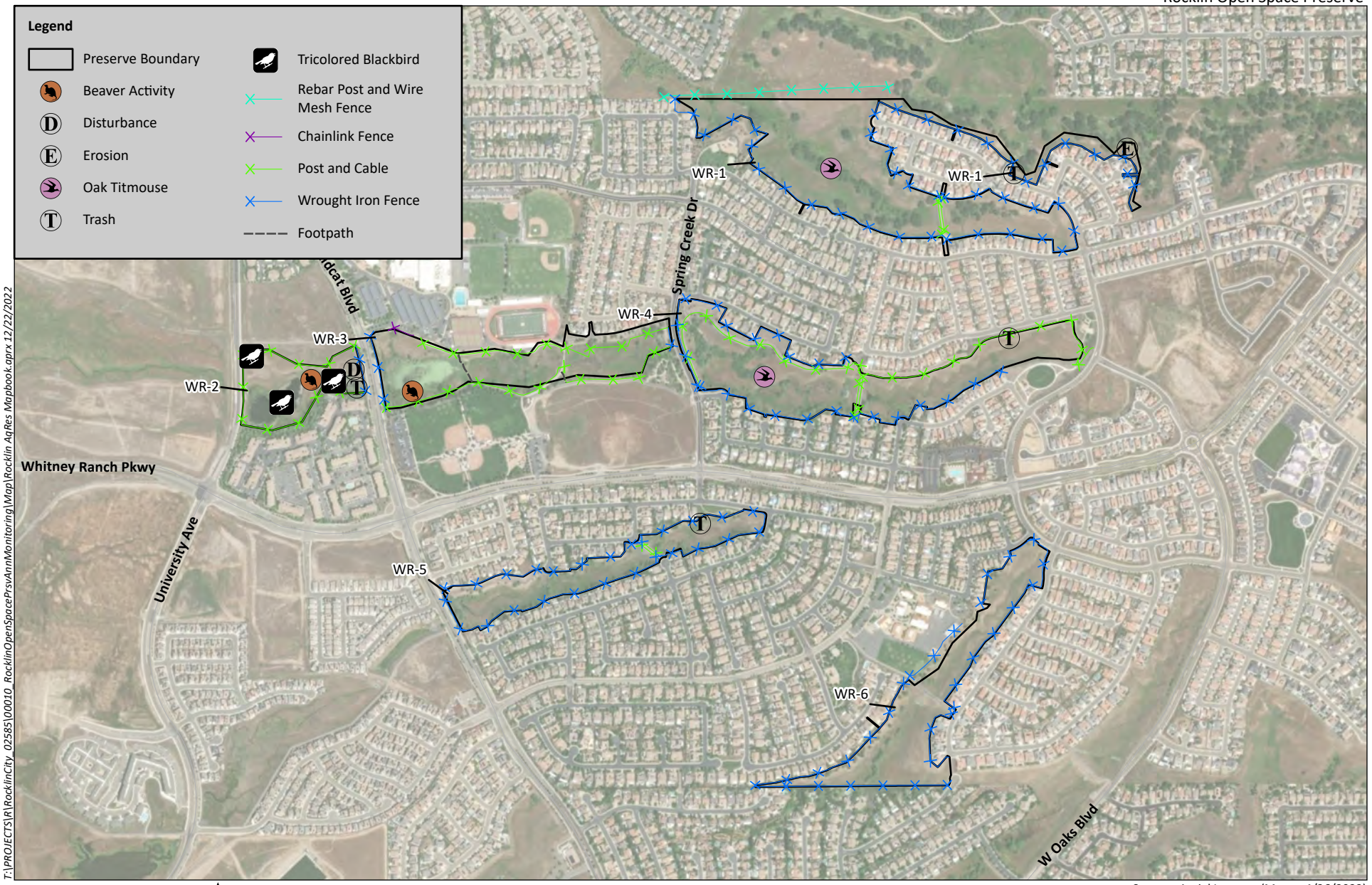
# Sunset West Preserve Conditions and Observation

Figure 5-4




Source: Aerial Imagery (Maxar, 4/26/2022)

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# Whitney Ranch Preserve Conditions and Observation

Figure 5-5


Source: Aerial Imagery (Maxar, 4/26/2022)

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# Brighton Preserve Conditions and Observation

Figure 5-6


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Source: Aerial Imagery (Maxar, 4/26/2022)

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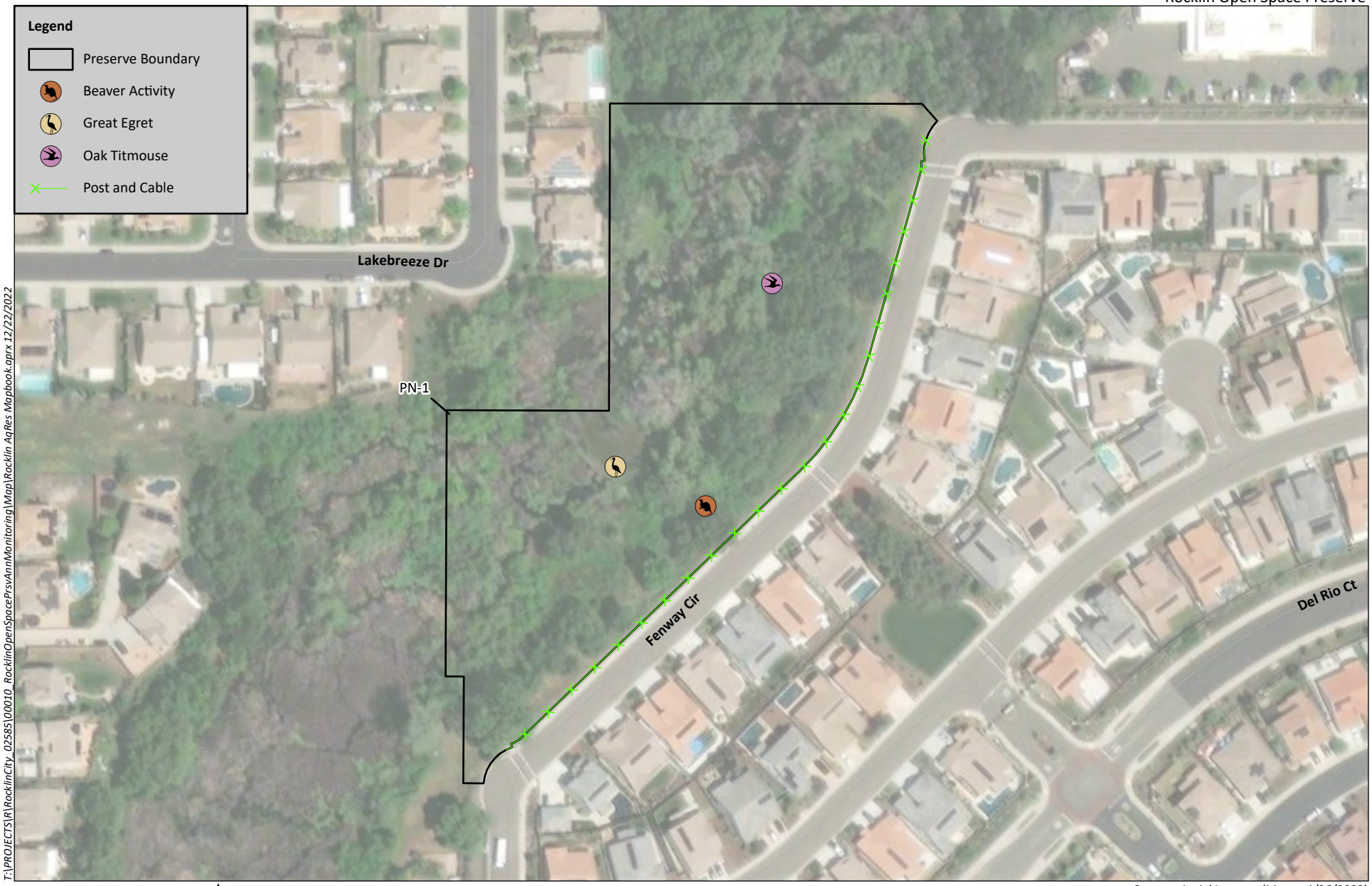
# Garnet Creek Preserve Conditions and Observation

Figure 5-7

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Source: Aerial Imagery (Maxar, 4/26/2022)

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# Parklands North Preserve Conditions and Observation

Figure 5-8


Source: Aerial Imagery (Maxar, 4/26/2022)

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# Placer Creek Preserve Conditions and Observation

Figure 5-9

also act as a barrier for passage of aquatic wildlife including, but not limited salmonids. Areas where beaver activities may cause flooding that could negatively impact infrastructure, or adjacent biological communities, were noted during annual monitoring and may require consideration of dam removal in some instances.

### 3.4.3 Culverts

There are many culverts throughout the Preserve associated with road crossings and storm water outfalls from adjacent developed areas. Culverts within the Preserve were monitored for potential issues that may inhibit flow, cause erosion, or result in damage/failure of the culvert or associated infrastructure. Common issues associated with culverts include corrosion or other failures of corrugated metal pipes (CMP), accumulated debris in trash racks impeding flow, freefall or "hanging" culvert outlets, and a lack of energy dissipation and/or rock outlet protection at outfall locations. Concrete box culverts are common within, or adjacent to, the Preserve on larger drainages and were included in the monitoring.

### 3.4.4 Disturbances

Other issues that are monitored in the Preserve include the presence of trash accumulation, vandalism, and other ground disturbances. Areas where significant trash accumulation was observed were mapped and indicated on Figure 4 Other disturbances were documented that are primarily associated with the human/preserve interface with the potential to cause a detriment to wetland and riparian habitats.

## 3.5 BIOLOGICAL SURVEYS

The GOSMP requires that biological surveys be conducted annually throughout the Preserve to assess trash accumulation, fencing conditions, evidence of trespass, the general condition of habitats, erosion, and other notable conditions. Surveys were conducted on March 24, April 22 and 27-29, May 12, 13, 16, and 17, September 15, 16, 20, and 22, October 10, 13, 14, and 29, and November 11, 16, and 23, 2022.

Observations made during the biological survey are noted on Figures 5-1 through 5-9.

## 3.6 HISPID SALTY BIRD'S-BEAK SURVEY

Once a special-status plants has been identified within the Preserve, the GOSMP requires the population be monitored annually. The hispid salty bird's- beak surveys include general observations regarding the condition of the known populations of hispid salty bird's-beak within preserve subsection SR-12, as well as specific information on the hydrologic condition, plant associations within the preserve subsection, and effects of grazing. Information collected includes the extent of hispid salty bird's-beak populations, changes in species composition or cover year over year, and introduction of non-native or invasive plants in the preserve subsection that may affect populations of hispid salty bird's beak. Occupied habitat was mapped using the ArcGIS Collector or similar GPS application. Abundance was assessed semi-quantitatively using abundance categories (i.e., 0, 1-5, 6 -25, 26-50, 51-75, etc.) (see Figure 6, *Hispid Bird's-Beak*). Surveys were conducted on May 4 and September 7, 2022.

## 3.7 INVASIVE PLANT MONITORING

The GOSMP requires mapping of invasive plant populations annually with the Preserve. The spread of invasive species within the Preserve may threaten the diversity or abundance of native species through competition for resources, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat. Invasive plant surveys were conducted in conjunction with biological and wetland and riparian monitoring surveys (see Figures 7-1 through 7-9, *Invasive Species*) conducted on March 24, April 22 and 27-29, May 12, 13, 16, and 17, September 15, 16, 20, and 22, October 10, 13, 14, and 29, and November 11, 16, and 23, 2022.

Portions of the Preserve are comprised of annual grassland habitat, which is characterized primarily by an assemblage of non-native grasses and forbs. Due to the existence of non-native grasses and other plant species within the Preserve, it is unreasonable to require or expect eradication of all established exotic grassland species in the Preserve. The management of non-native plants will therefore be limited to managing newly introduced exotic pest plants and controlling the spread of existing exotic pest plant populations that are a threat to the conservation values of the Preserve. The Qualified Personnel/Monitoring Biologist and the Preserve Manager can refer to the species found on the *California Exotic Pest Control Council (Cal-IPC) List A, List B, and Red Alert List* to assist with determining if a plant is an exotic plant species of concern, and which species should be given priority for management.

## 3.8 TRICOLORED BLACKBIRD SURVEY

Tricolored blackbirds are known to forage and nest within the Preserve. A small colony exhibiting nesting behavior has been documented in Whitney Ranch preserve subsection (WR-2) and foraging activity has been observed within the two adjacent preserves subsections, Orchard Creek and Whitney Ranch (WR-3) in 2019, 2020, and 2021. During the breeding season (April to August) potential nesting habitat within Whitney Ranch (WR-2) was visited to determine the presence or absence of tricolored blackbird colonies.

## 3.9 THATCH MONITORING

The GOSMP requires thatch levels to be monitored for 55 RDM sampling plots, including 35 in annual grassland habitat and 20 in oak woodland habitat (see Figures 8-1 through 8-9, *Thatch and Understory Management Recommendations*). RDM sampling took place on September 22, October 11-14, and November 16, 22, and 24, 2022.

A one-foot square plot of vegetation as outlined in the University of California Division of Agriculture and Natural Resources 2006 Guidelines for Residual Dry Matter on Coastal and Foothill Rangelands (Guidelines), was used to measure RDM. Additionally, a golf ball, baseball, and basketball were placed at the monitoring site, pictures were taken from 10 and 20 feet away prior to clipping the vegetation as a manner to show vegetation quantity and height. The typical RDM objective for California annual grassland is an RDM between 800 to 1,200 lbs./acre. The typical minimum RDM objective for hardwoods with 50-75 percent cover is 400 lbs./acre for a 20 to 40 percent slope and can be as low as 200 lbs./acre on flatter areas, per (Bartolome et al. 2006). Since many of the creek corridors are steeply sloped, the target RDM range for oak woodland areas is established as 400-1,200 lbs./acre. Areas with RDM exceeding 1,200 lbs./acre are considered to have excess vegetation growth and increased grazing or


T:\PROJECTS\R1\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\AnnualReport\RocklinOS_HispidsLocation_20221214.mxd

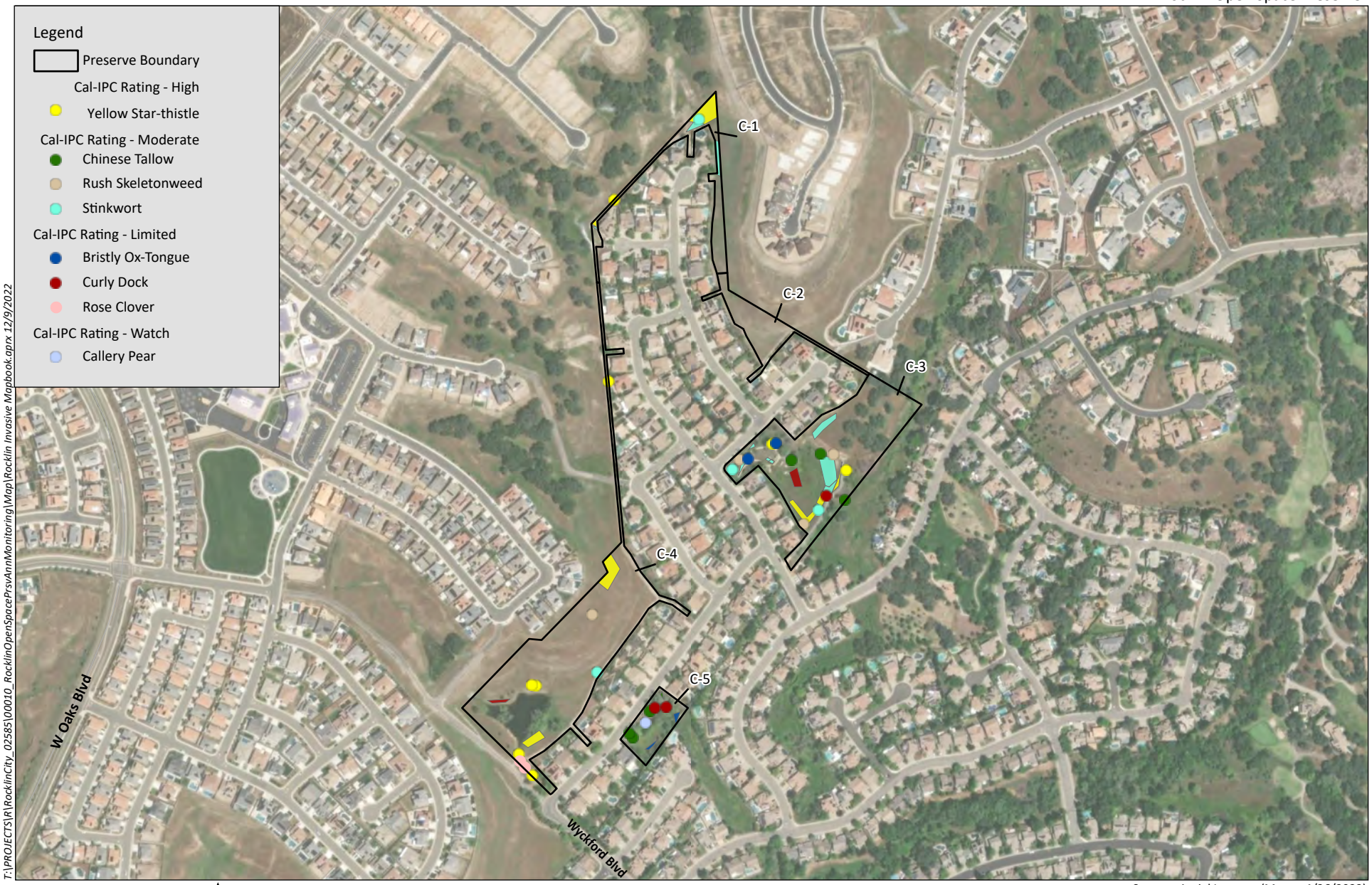
0 125 Feet

Source: Aerial (City of Rocklin, 2018).

HELIX Environmental Planning

# Hispid Bird's-Beak

Figure 6

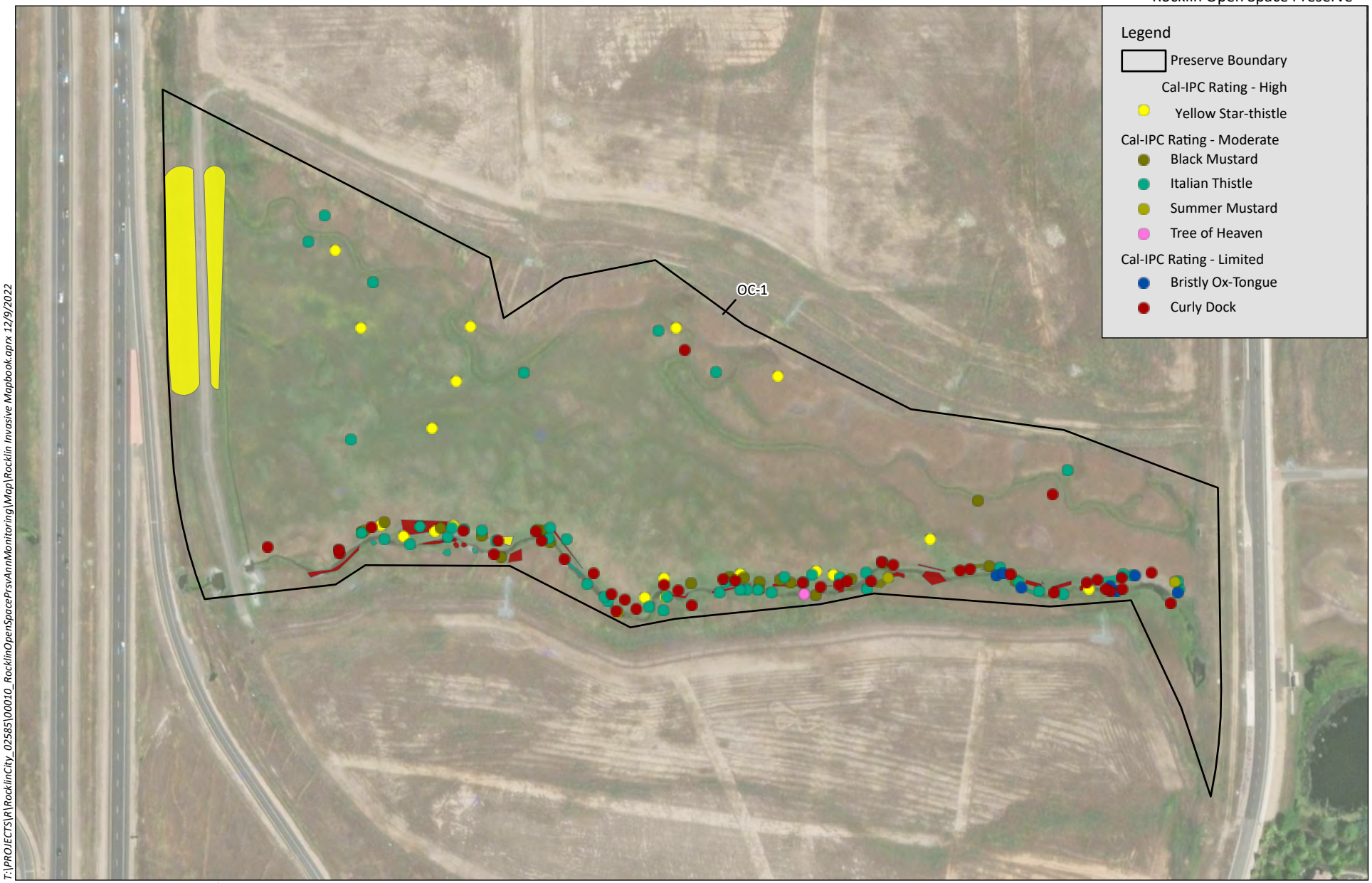



HELIX Environmental Planning

# Claremont Invasive Species

Figure 7-1

Rocklin Open Space Preserve




T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin invasive Mapbook.aprx 12/9/2022

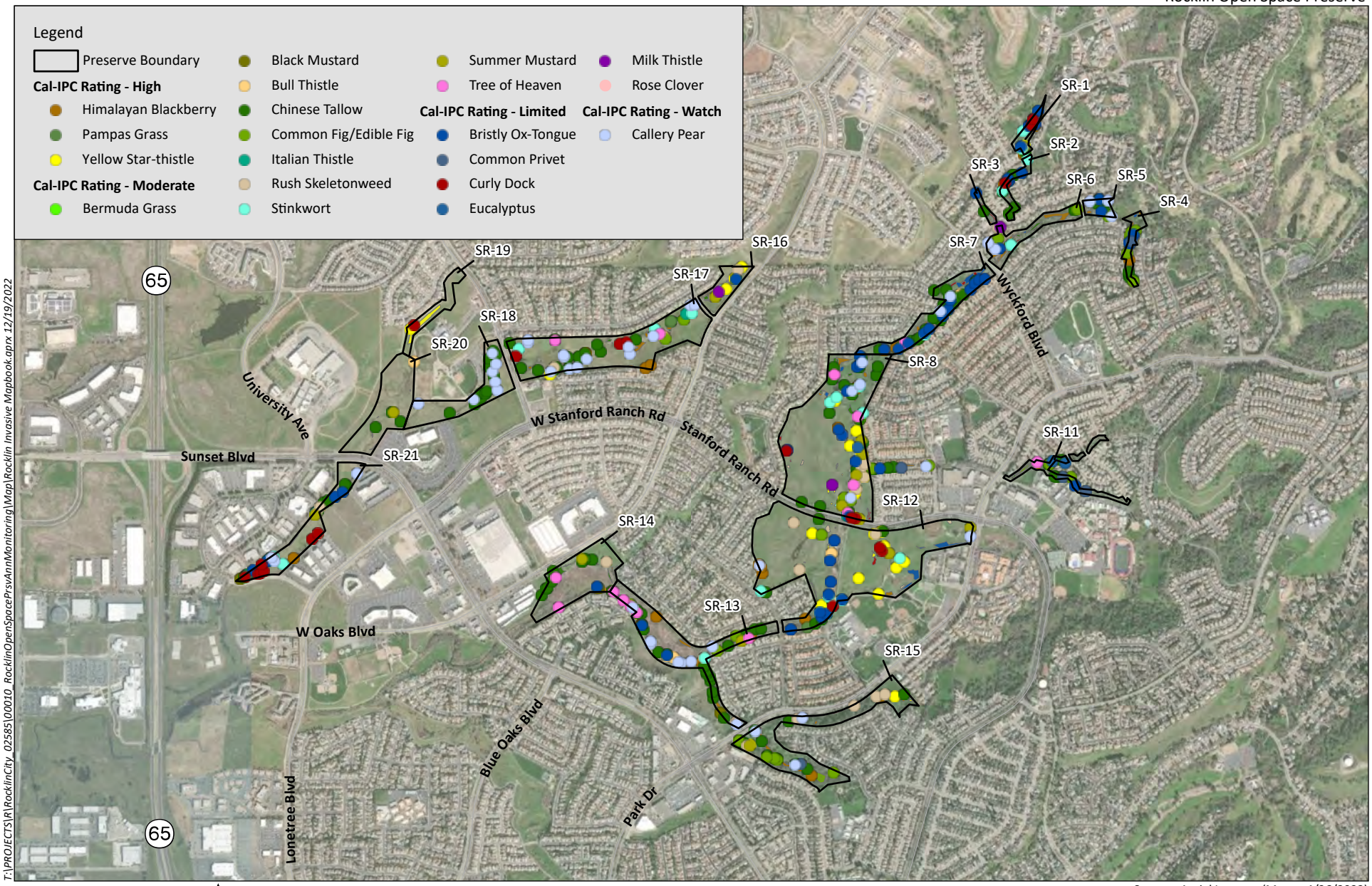
0 270 Feet

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Orchard Creek Invasive Species

Figure 7-2




T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin invasive Mapbook.aprx 12/19/2022

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Stanford Ranch Invasive Species

Figure 7-3


T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin invasive Mapbook.aprx 12/12/2022

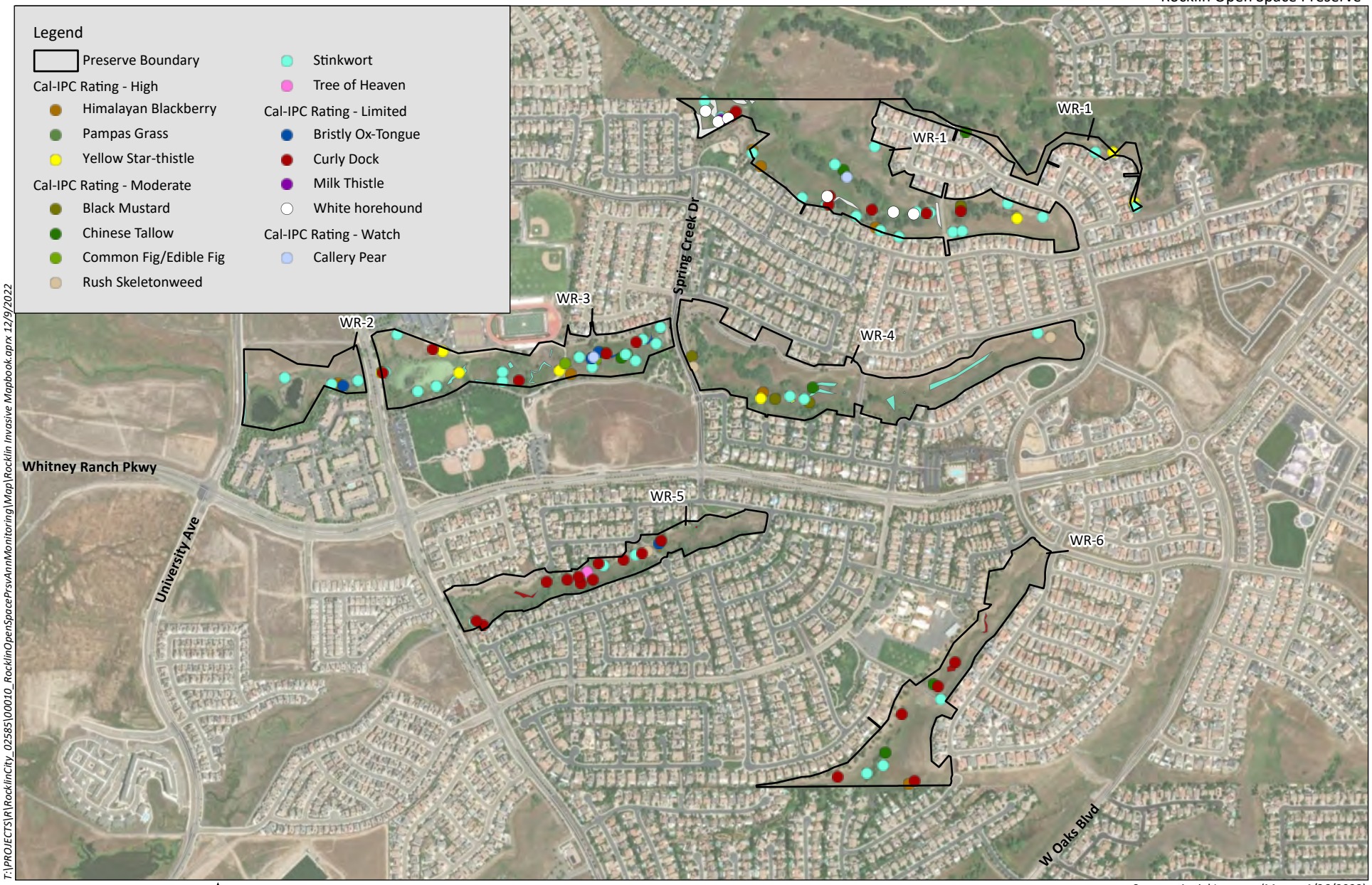
0 1,150 Feet

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Sunset West Invasive Species

Figure 7-4




T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin invasive Mapbook.aprx 12/9/2022

0 1,125 Feet

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Whitney Ranch Invasive Species

Figure 7-5


T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin invasive Mapbook.aprx 12/9/2022

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Brighton Invasive Species

Figure 7-6

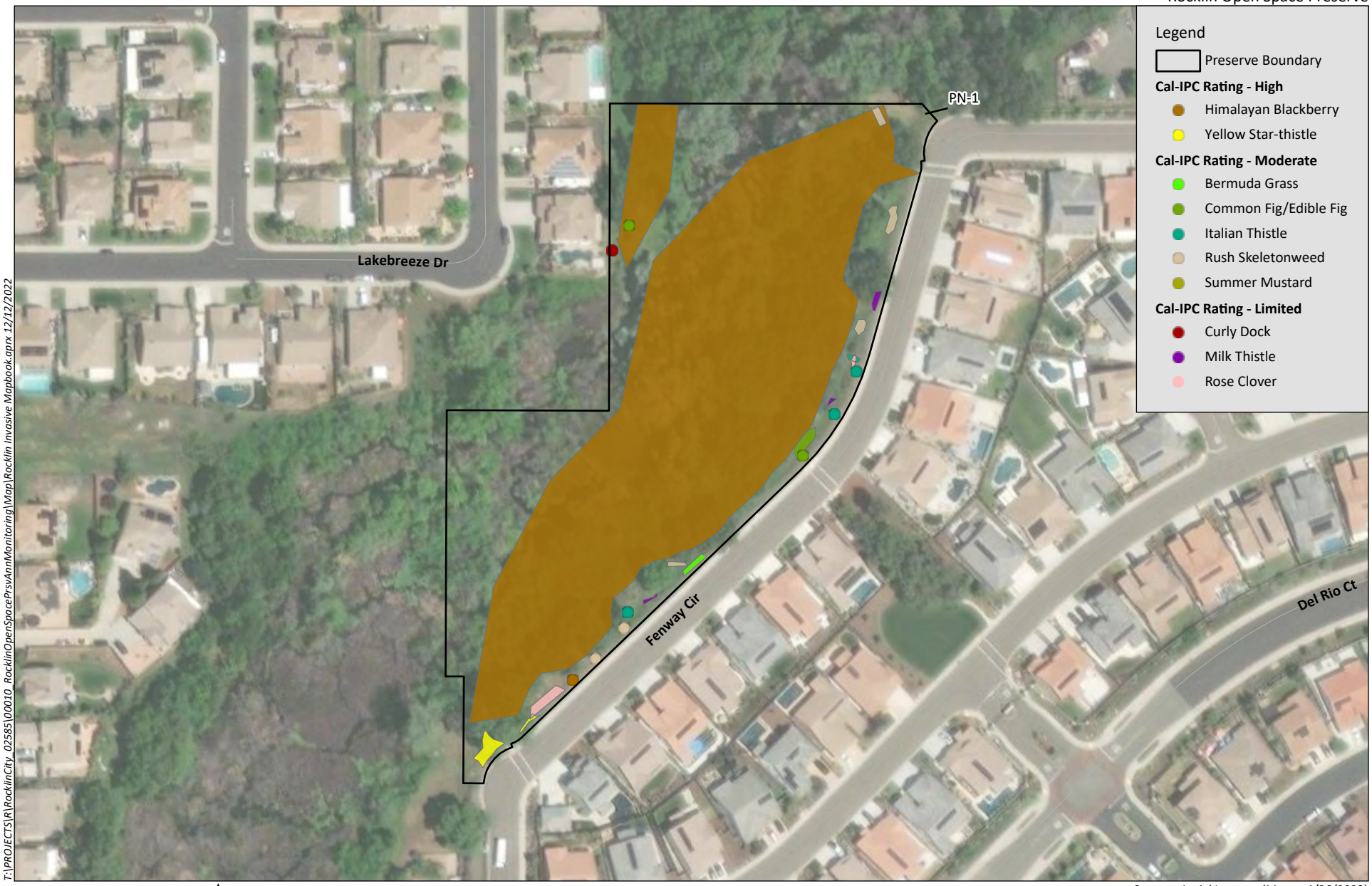

T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin invasive Mapbook.aprx 12/9/2022

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Garnet Creek Invasive Species

Figure 7-7




T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin invasive Mapbook.aprx 12/12/2022

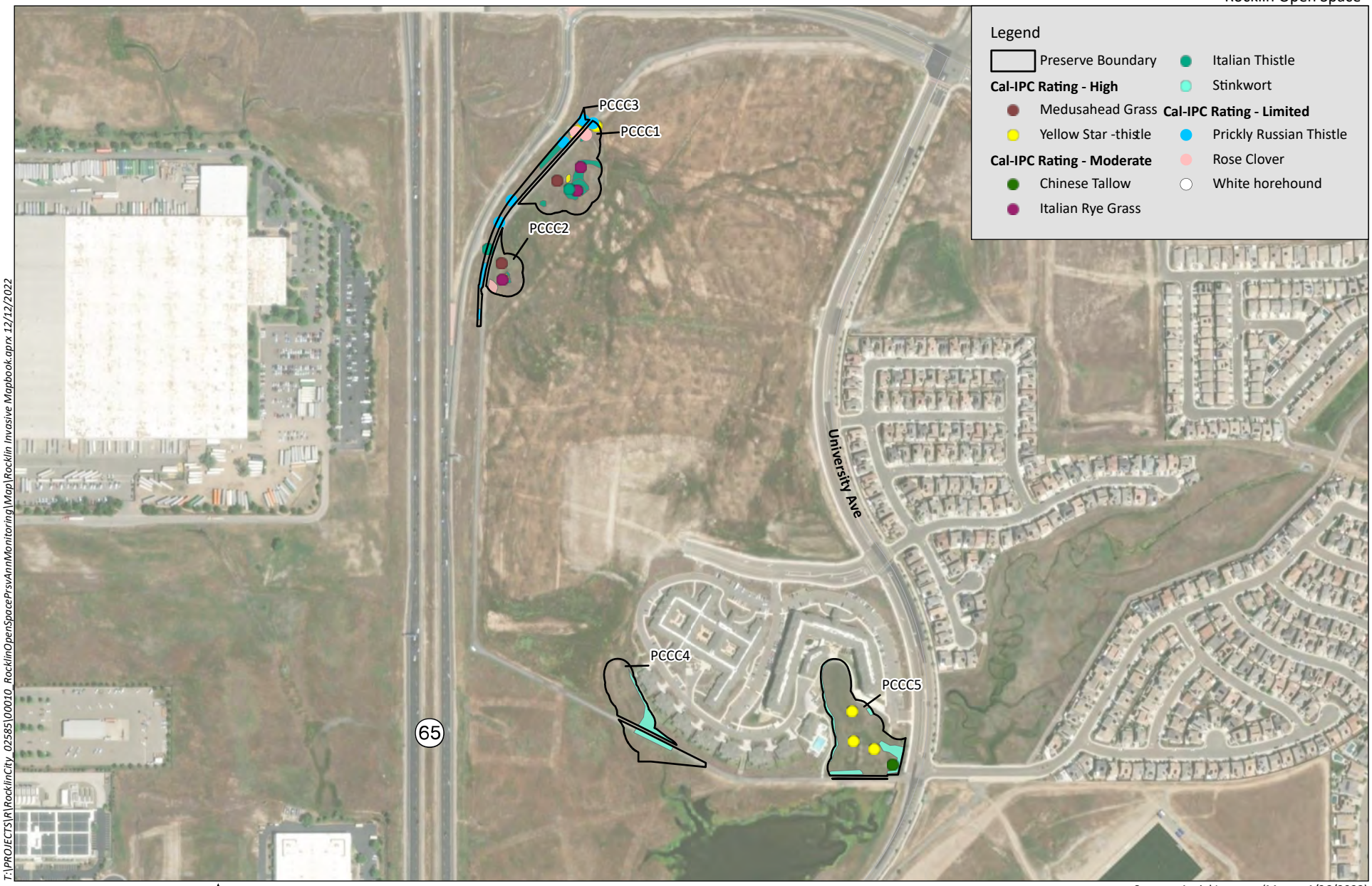
0 150Feet

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Parklands North Invasive Species

Figure 7-8




T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin invasive Mapbook.aprx 12/12/2022

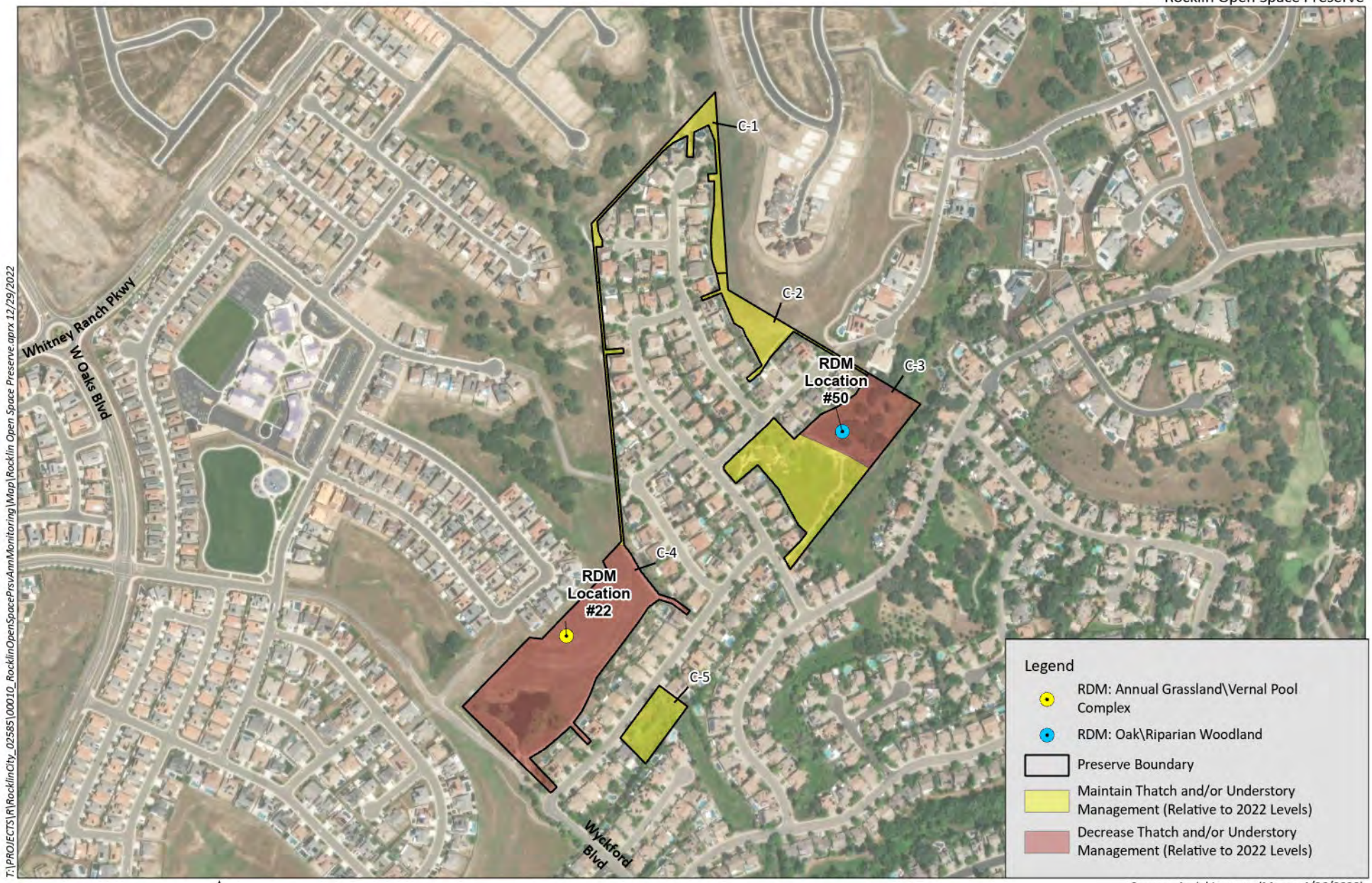
0 500 Feet

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Placer Creek Invasive Species

Figure 7-9

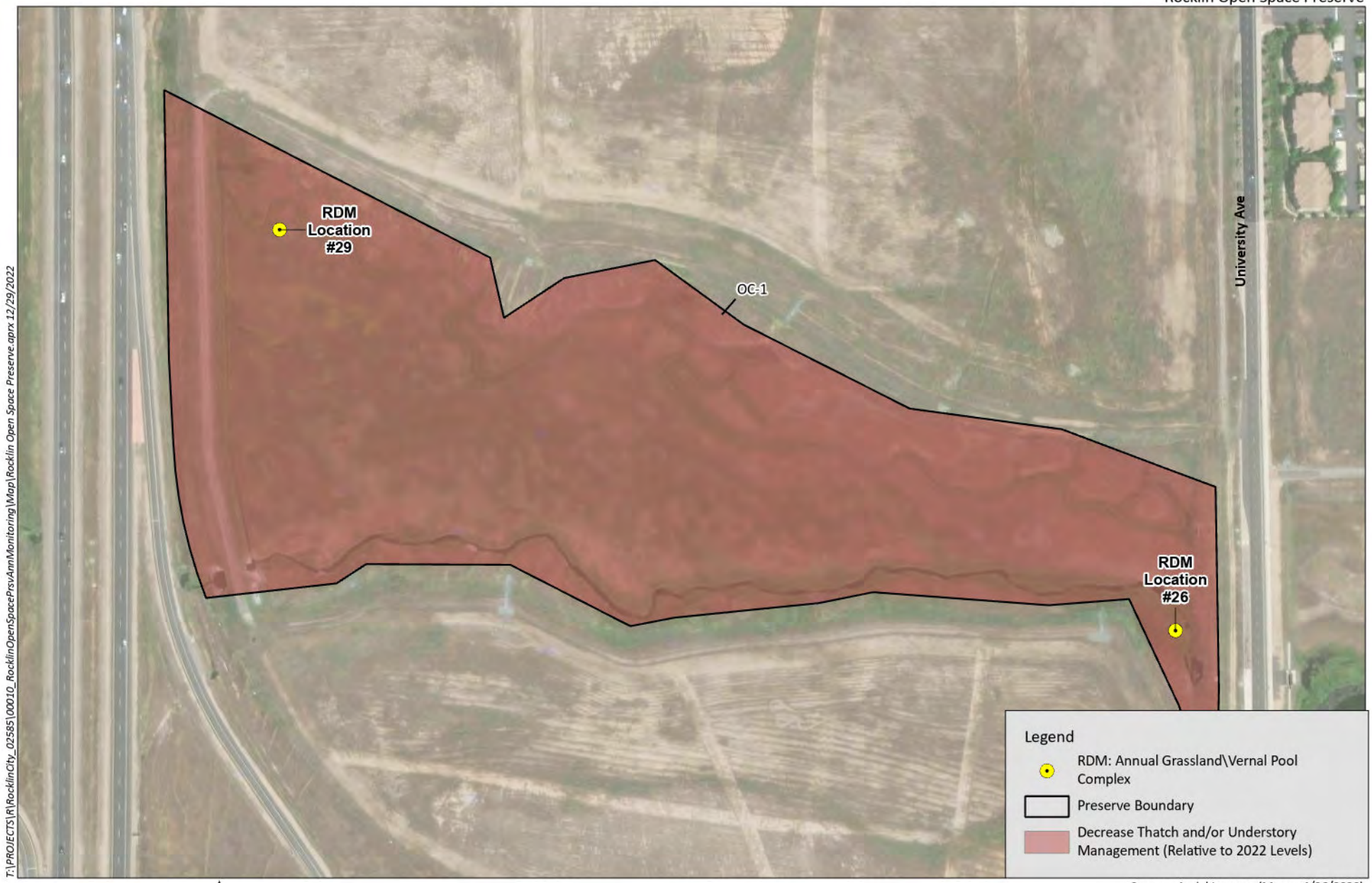



Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Claremont Thatch and Understory Management Recommendations

Figure 8-1



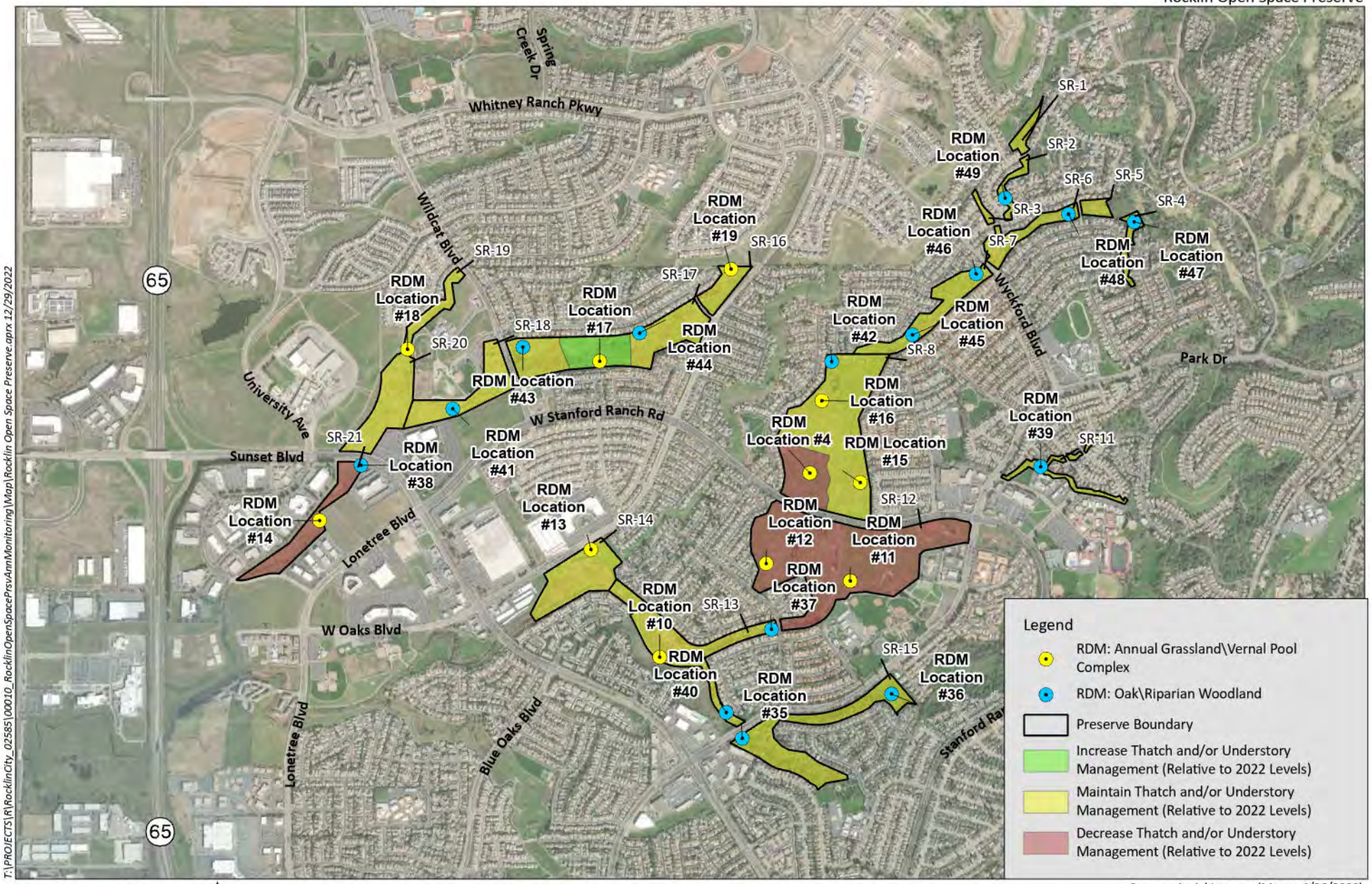

T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin Open Space Preserve.aprx 12/29/2022

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Orchard Creek Thatch and Understory Management Recommendations

Figure 8-2



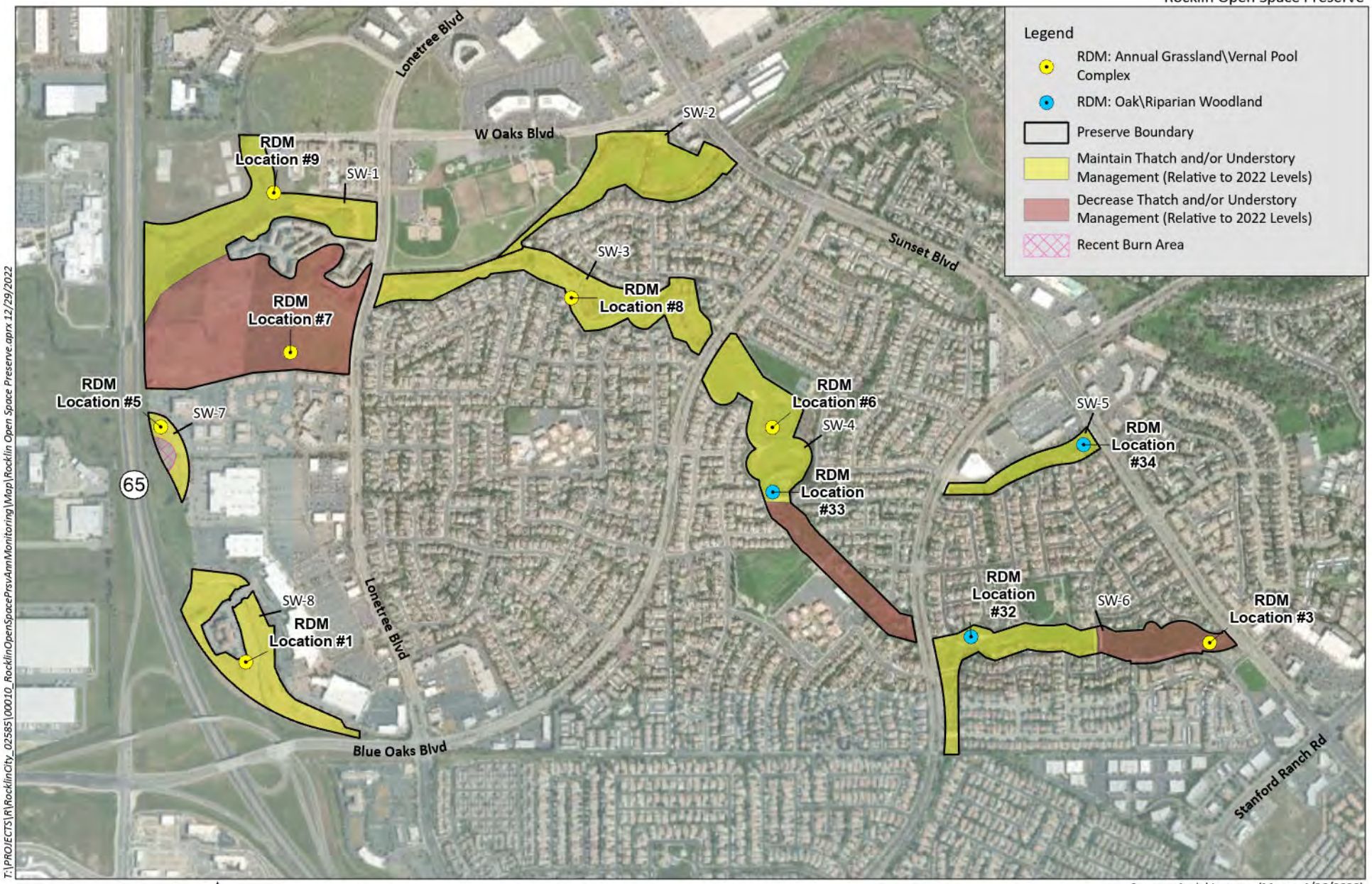

T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin Open Space Preserve.aprx 12/29/2022

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Stanford Ranch Thatch and Understory Management Recommendations

Figure 8-3




T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin Open Space Preserve.aprx 12/29/2022

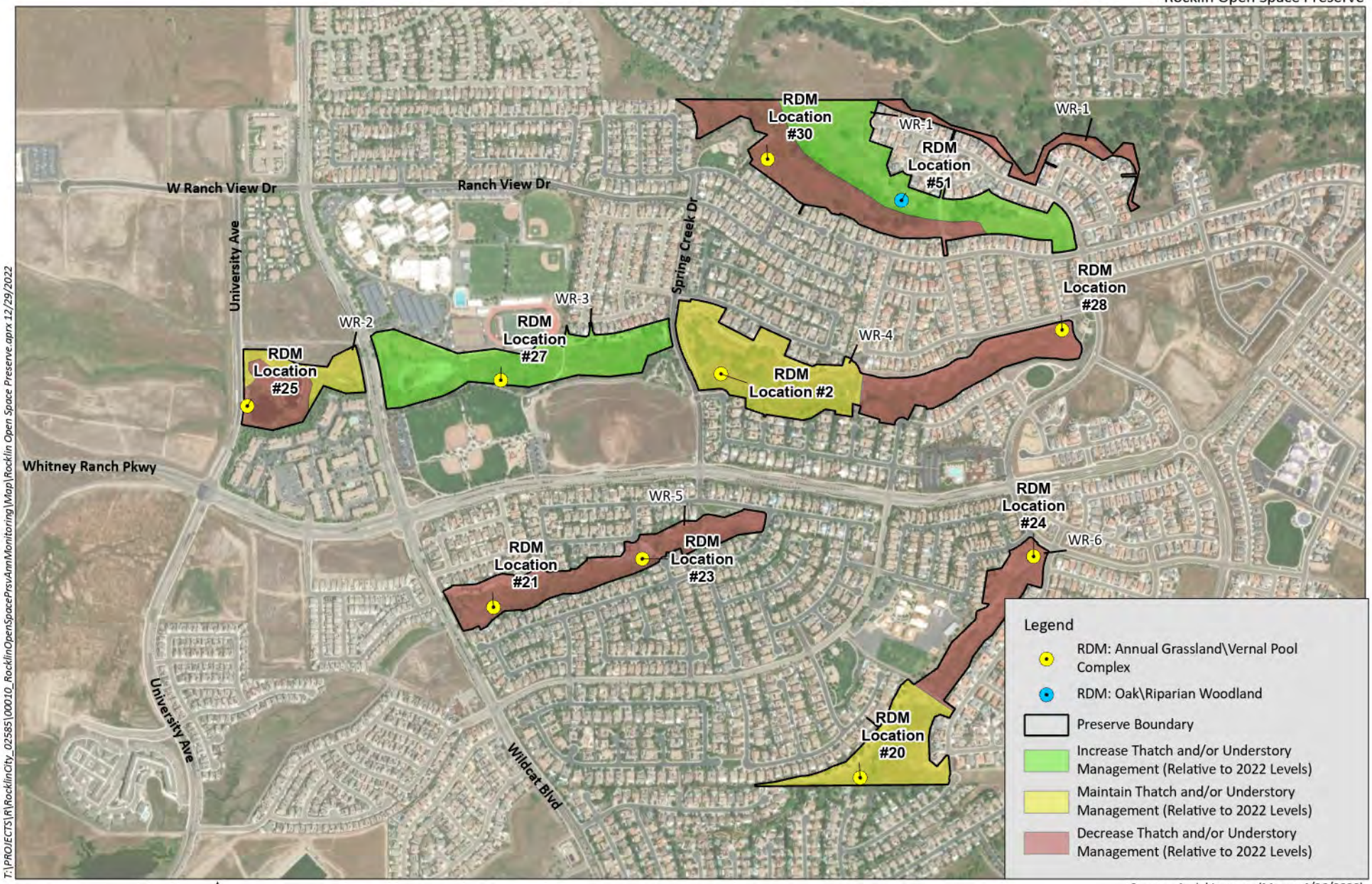
0 1,040 Feet

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Sunset West Thatch and Understory Management Recommendations

Figure 8-4




T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin Open Space Preserve.aprx 12/29/2022

0 940 Feet

N

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Whitney Ranch Thatch and Understory Management Recommendations

Figure 8-5


T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin Open Space Preserve.aprx 12/29/2022

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Brighton Thatch and Understory Management Recommendations

Figure 8-6


HELIX Environmental Planning

# Garnet Creek Thatch and Understory Management Recommendations

Figure 8-7


T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin Open Space Preserve.aprx 12/29/2022

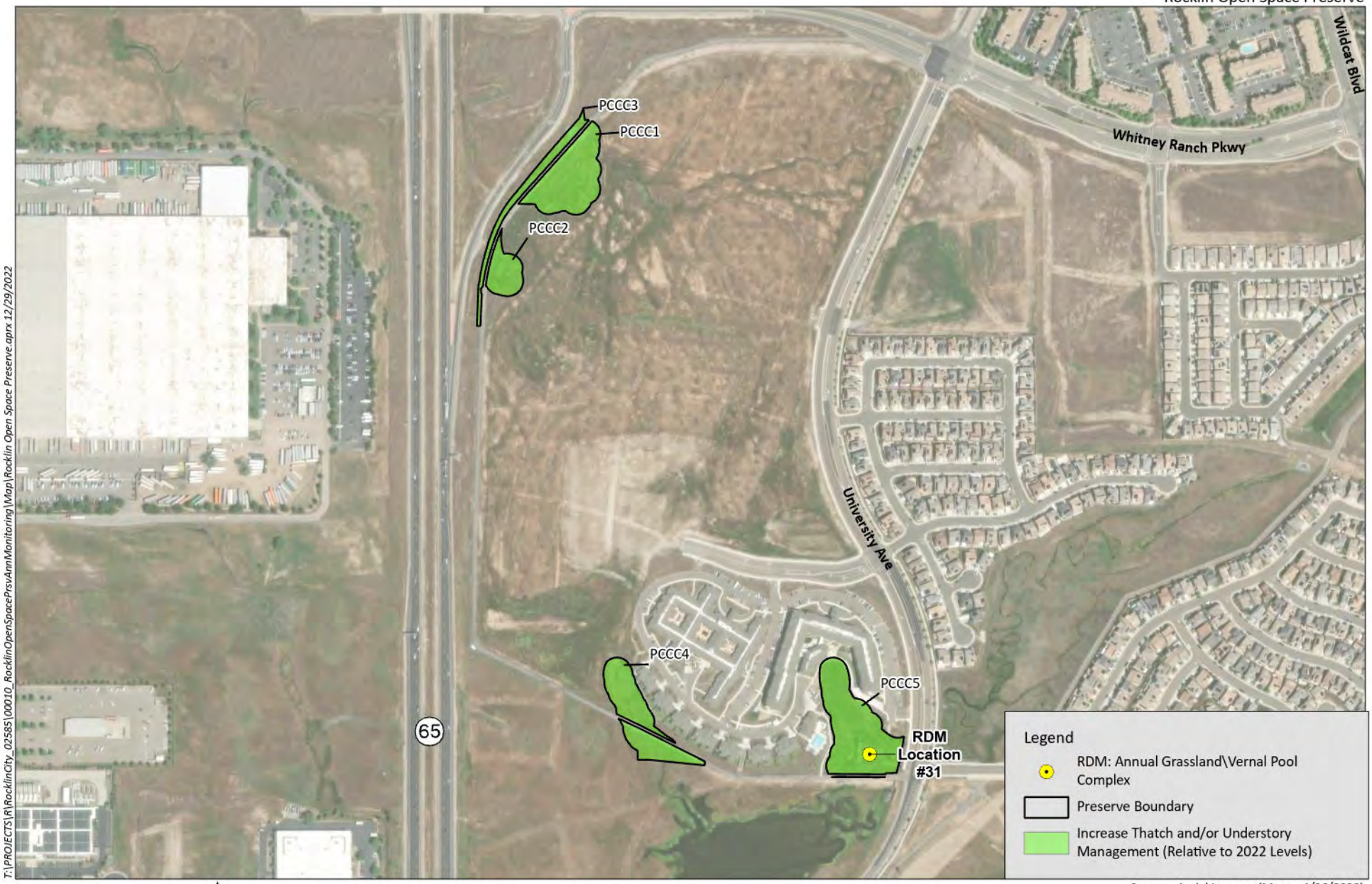
Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Parklands North Thatch and Understory Management Recommendations

Figure 8-8

Rocklin Open Space Preserve




T:\PROJECTS\R\RocklinCity_02585\00010_RocklinOpenSpacePrsvAnnMonitoring\Map\Rocklin Open Space Preserve.aprx 12/29/2022

Source: Aerial Imagery (Maxar, 4/26/2022)

HELIX Environmental Planning

# Placer Creek Thatch and Understory Management Recommendations

Figure 8-9

mowing practices should be implemented, while areas with RDM below the target range are considered overgrazed and stocking rates should be reduced.

# 4.0 ANNUAL MONITORING RESULTS

## 4.1 VERNAL POOL MONITORING AND WESTERN SPADEFOOT TOAD SURVEYS

Vernal pool invertebrate and western spadefoot toad surveys were conducted on November 16, 2021, and February 8 and 9, 2022. Surveys were conducted on 20% (65 total) of the vernal pools within the Preserves, as required by GOSMP. Vernal pools that were monitored were randomly chosen to represent the full range of vernal pool habitats and sizes, refer to Figure 4 for sampled pool locations. A summary of the 2021-2022 sampled vernal pools within the thirteen preserve subsections are detailed in Table 6**.**

**Table 6**
**SUMMARY OF SAMPLE VERNAL POOLS**

| Preserve Sub-Section | Number of Sampled Pools |
|---|---|
| Orchard Creek (OC-1) | 1 |
| Placer Creek Corporate Center (PCCC-2) | 1 |
| Placer Creek Corporate Center (PCCC-5) | 1 |
| Stanford Ranch (SR-8) | 14 |
| Stanford Ranch (SR-12) | 11 |
| Stanford Ranch (SR-17) | 1 |
| Stanford Ranch (SR-20) | 1 |
| Sunset West (SW-1) | 22 |
| Sunset West (SW-2) | 5 |
| Sunset West (SW-3) | 3 |
| Sunset West (SW-4) | 2 |
| Sunset West (SW-5) | 1 |
| Sunset West (SW-6) | 2 |
| **TOTAL** | **65** |

During the first round of surveys, 16 of the 65 vernal pools were inundated, an increase of inundation from the 2020-2021 season when two pools were inundated. During the second round of surveys, seven of the 65 pools were inundated, an increase of inundation from the 2020-2021 season where no pools were inundated.

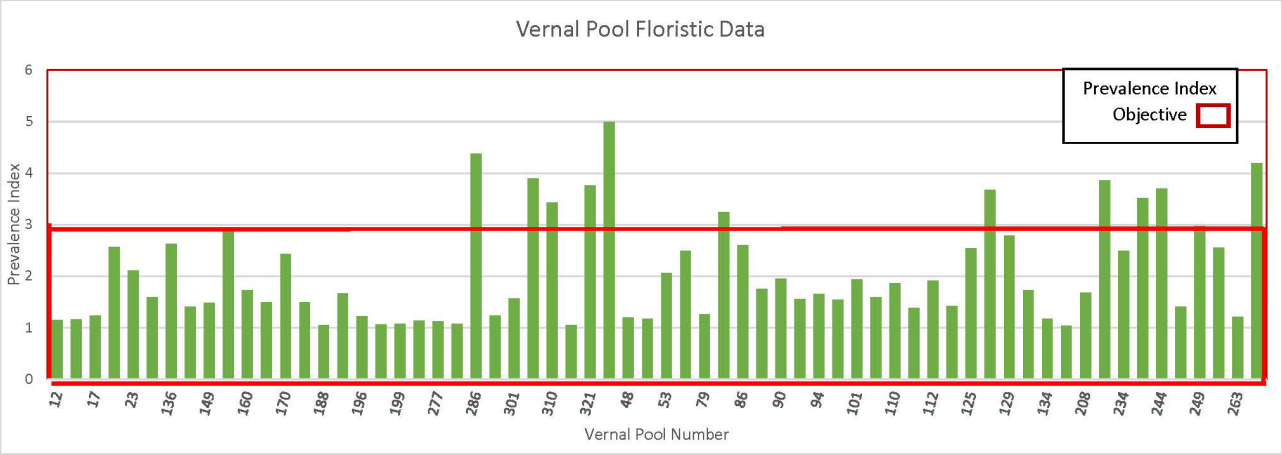
During the 2021-2022 surveys, neither the federally-listed vernal pool fairy shrimp (*Branchinecta lynchi*) or the non-listed California linderiella (*Linderiella occidentalis*) were found within the randomly selected vernal pools. Other non-listed aquatic invertebrates observed during surveys included: water fleas (Cladocera), copepods (Copepoda), seed shrimp (Ostracoda), flatworms (Turbellaria), diving water beetles (Dytiscidae), midges (Chironomidae), and crawling water beetles (Haliplidae). Invertebrate sampling data sheets and representative site photographs are included in Appendices C and D, respectively.

## 4.2 VERNAL POOL FLORISTIC MONITORING

Vernal pool floristic monitoring was conducted on March 23-25, April 1 and 7, 2022. The same group of randomly selected vernal pools monitored during the invertebrate survey (Figure 4) was monitored minus one (64 total). An error occurred in data the submittal within the Survey123 application, the error removed a single vernal pool from the floristic monitoring. This error was not realized until much later in the season when the vernal pool no longer contained vernal pool species and sampling could not be completed. To pass as a functioning and healthy vernal pool, each pool needed to be dominated by hydrophytic vegetation according to the methods referenced in the 1987 U.S. *Army Corps of Engineers Wetland Delineation Manual* (Environmental Laboratories 1987) or have a prevalence score of 3 or less based on the Prevalence Index found in the *Food Securities Act Manual*.

Of the sixty-four vernal pools surveyed throughout the Preserve, eleven (17%) failed to meet the objective, and fifty-two (83%) met the objective of having a prevalence index score of 3 or less, an increase of 20% from 2021. Graph 1 displays the 2022 floristic data prevalence index scores.

**Graphic 1**
**VERNAL POOL FLORISTIC DATA**




Vernal pools that meet the prevalence index criteria were dominated by hydrophytic and/or native vernal pool vegetation. Dominant species observed included: stalked popcornflower (*Plagiobothrys stipitatus*), coyote thistle (*Eryngium vaseyi*), woolly marbles (*Psilocarphus brevissimus*), smooth goldfields (*Lasthenia glaberrima*), white-headed navarretia (*Navarretia leucocephala*), common spikerush (*Eleocharis macrostachya*), hyssop loosestrife (*Lythrum hyssopifolia*), Fremont's goldfields (*Lasthenia fremontii*), and Douglas' pogogyne (*Pogogyne douglasii*). Detailed reports for each vernal pool including vernal pool number, precent cover, prevalence index score, species richness, and the number of native and non-native species can be found in Appendix E.

The eleven vernal pools that failed to meet the prevalence index criteria were dominated primarily by upland grass species including: medusa head (*Elymus caput-medusae*), silver hairgrass (*Aira caryophyllea*), or Italian rye grass (*Festuca perennis*). Of the twenty -seven vernal pools surveyed within the Stanford Ranch preserve unit, three (11%) failed to meet the prevalence index criteria (VP-238, VP-301, and VP-307). These pools tended to be shallower although they contained vernal pools species, they were outcompeted by upland grasses along the perimeter of the pools which affected the

prevalence index scores. Of the thirty-four pools surveyed within the Sunset West preserve unit, six (18%) failed the prevalence index criteria (VP-79, VP-125, VP-208, VP-234, VP-238, and VP-263). Similarly, to the pools in Stanford Ranch, pools within the Sunset West that failed to meet the prevalence index criteria were shallow or dominated by non-native species. Of the two vernal pools that were surveyed within Placer Creek Corporate Center preserve unit, both failed to meet the prevalence index criteria (100%), these pools were dominated by non-native grasses with little to no vernal pool species, however, surrounding pools were noted as having greater species richness and more vernal pool plant species. Although less vernal pools failed to meet the criteria this year when compared to last year, the past several years of drought conditions are a likely contributing factor to vernal pool floristics within the Preserve, especially for shallow features that have shorter inundation periods.

## 4.3 SPECIAL-STATUS PLANT SURVEYS

Special-status plant surveys were conducted in tandem with other annual surveys to target optimal bloom/identification periods. Surveys were conducted concurrently with floristic surveys conducted on March 23-25, April 1, and 7, 2022, as well as during biological and wetland monitoring conducted on March 24, April 22 and 27-29, May 12, 13, 16, and 17, September 15, 16, 20, and 22, October 10, 13,14, and 29, and November 11, 16, and 23, 2022.

Previous background research identified thirteen special-status plants with occurrence records in the greater vicinity of the Preserve including: Ahart's dwarf rush, big-scale balsamroot, Boggs Lake hedge-hyssop, Brandegee's clarkia, dwarf downingia, legenere, pincushion navarretia, Red Bluff dwarf rush, Sacramento Orcutt grass, Sanford's arrowhead, stinkbells, valley brodiaea, and hispid salty bird's beak. Refer to Table 5 for optimal bloom periods, and habits for these species.

To date, one special-status plant species, hispid salty bird's beak has been observed in the Preserve by Foothill Associates/ HELIX during the annual monitoring surveys and is discussed further in Section 4.6.

## 4.4 WETLAND AND RIPARIAN MONITORING

Wetland and riparian monitoring occurred on March 24, April 22 and 27-29, May 12, 13, 16, and 17, September 15, 16, 20, and 22, October 10, 13,14, and 29, and November 11, 16, and 23, 2022. Riparian habitats are distinctly different from surrounding habitats because of the unique soil and vegetation characteristics strongly influenced by water, rivers, streams, ponds, and numerous types of drainages. These unique areas are regulated under the California Fish and Game Code (California Fish and Game Code § 1600 et seq., Streambed Alteration Agreement). Riparian vegetation provides valuable aquatic food web services (inputs for nutrient cycling and food availability) to adjacent aquatic ecosystems. As such, many riparian areas in California are also considered special-status natural communities.

Wetland and riparian areas were examined, to evaluate existing conditions and determine areas with restoration potential. Overall, the wetlands and riparian areas are in good condition throughout the Preserve. Problematic areas were identified and mapped to address various issues including erosion, beaver activity, impacted culverts, invasive plant species, trash accumulation, and other disturbances within wetland and riparian areas (see Figures 5-1 through 5-9). Table 7 below summarizes findings within each preserve subsection.

**Table 7**
**WETLAND AND RIPARIAN MONITORING**

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| **Claremont** | | | | | | | |
| C-1 | WB and CAH | 5/17/22<br>10/14/22 | No issues | **No** | **N/A** | **No** | On May 17, the preserve subsection was in good condition. Cement-lined drainages adjacent to the preserve subsection were clear of debris.<br>No substantial changes from May observations. |
| C-2 | WB and CAH | 5/17/22<br>10/14/22 | No issues | **No** | **N/A** | **No** | On May 17, the preserve subsection was in good condition. Cement-lined drainages adjacent to the preserve subsection were clear of debris.<br>No substantial changes from May observations. |
| C-3 | WB and CAH | 5/17/22<br>10/14/22 | Features inundated in May | **No** | **No** | **Yes** | On May 17, the preserve subsection was in good condition. A culvert cage has been removed from the culvert located in the eastern portion of the preserve subsection. Recommend reattaching the cage.<br>No substantial changes from May observations. |
| C-4 | WB & CAH | 5/17/22<br>10/14/22 | Features inundated in May | **Minor** | **No** | **No** | On May 17, the preserve subsection was in good condition; aquatic features were inundated. A dirt path from the housing development to the southwestern pond has formed, likely caused by human utilization was observed.<br>Vegetation was noted as reestablishing within the path during the October survey. No action is required. |
| C-5 | GD and CAH | 5/17/22<br>10/14/22 | No Issues | No | N/A | No | On May 17, the preserve subsection was in good condition; aquatic features were inundated.<br>The soil was moist within the aquatic features, but no surface water was present during the September survey. |
| **Orchard Creek** | | | | | | | |
| OC-1 | WB MMB2 & HG | 4/22/22<br>9/20/22 | Features inundated May and September | **Minor** | No | **Yes** | Reduction in grazing pressure is recommended to ensure no additional erosion occurs in waterways in the future due to bare ground caused by overgrazing. During both site visits, water was observed within the drainages, and minor erosion was noted along the southern portion of the southern drainage. |

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| **Stanford Ranch** | | | | | | | |
| SR-1 | CAH and MMB2 | 5/17/22<br>11/16/22 | Features were saturated in May | **Minor (ATV tire tracks)** | No | **Yes** | Tire tracks were observed within wetlands on May 17, likely caused by an ATV used by the grazing crews. It is recommended that crews avoid wetlands, especially when inundated or soil is saturated. |
| SR-2 | CAH and MMB2 | 5/17/22<br>11/16/22 | Blocked culverts | No | No | **Yes** | On May 17, culverts within the northern and southern portions of the preserve subsection were partially blocked by dense vegetation or wracking. Clearing of vegetation is recommended.<br>No substantial changes from May observations. |
| SR-3 | CAH and MMB2 | 5/17/22<br>11/16/22 | No issues | No | No | No | On May 17, the preserve subsection was in good condition.<br>No substantial changes from May observations. |
| SR-4 | CAH and MMB2 | 5/17/22<br>11/16/22 | No issues | No | No | No | On May 17, the preserve subsection was in good condition. The culverts are clear but somewhat overgrown.<br>No substantial changes from May observations. |
| SR-5 | CAH and MMB2 | 5/17/22<br>11/16/22 | No issues | No | No | **Taken** | On May 17, the preserve subsection was in good condition. However, culverts are overgrown and require clearing.<br>On November 16, culverts were cleared of debris. One cottonwood with an approximate DBH of 6 had fallen across drainage within the central portion of the preserve subsection. No action is required. |
| SR-6 | CAH and MMB2 | 5/17/22<br>11/16/22 | Evidence of heavy flow | **Yes** | No | No | On May 17, the preserve subsection was in good condition, although some culverts were overgrown but clear. Evidence of heavy water flow was observed via sediment deposits and slight erosion along Pleasant Grove Creek along the southern banks within the central portion of the preserve subsection. No action is required as this is a natural process or creeks. If root zones of trees become exposed or banks start to subside, measures will likely need to be taken.<br>No substantial changes from May observations. |
| SR-7 | MMB2 | 5/17/22<br>11/16/22 | No issue | No | No | No | On May 17, the preserve subsection was in good condition. All culverts we clear of vegetation and debris.<br>No substantial changes from May observations. |
| SR-8 | MMB2 | 3/24/2022<br>9/15/22 and 9/16/22 | Blocked waterway due to beaver activity | No | Yes | **Likely** | Multiple beaver dams and beaver activity have obstructed flow within Pleasant Grove Creek. No flooding was observed; however, future actions may be required. |

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| SR-11 | CAH | 5/17/22<br>11/16/22 | Water flowing freely | No | No | **No** | On May 17, the preserve subsection was in good condition. All culverts we clear of vegetation and debris.<br>No substantial changes from May observations. |
| SR-12 | HG<br>MMB2 | 5/13/22<br>9/15/22 and 9/16/22 | Blocked waterway due to beaver activity | No | Yes | **Taken** | On May 13, 2022, multiple beaver dams were observed within Pleasant Grove Creek. Some erosion along the banks in the southern end of the creek was observed due to a small rusted/collapsed culvert. Trash and debris were found near the entrances of the culverts.<br>Beaver dam and debris removal occurred under the City's Streambed Alteration Agreement Notification (No. 1600 2018-0345-R2) City of Rocklin Routine Maintenance Agreement (RMA) on September 15 and 16, 2022. |
| SR-13 | HG<br>MMB2 | 5/13/22<br>9/15/22 and 9/16/22 | Blocked waterway due to beaver activity | **Yes** | Yes | **Yes** | On September 15 and 16, areas of erosion were noted along the southern fork of the preserve subsection. Burrowing animals, likely ground squirrels, caused erosion along the drainage corridor. Furthermore, areas of erosion were noted at the outfalls of culverts. It is recommended that additional rip rap be placed to mitigate erosion. A beaver dam was also noted in the same area and may cause flooding over the sewer easement. A prim site to consider a beaver deceiver as the beaver dam is relatively small, and there is ample access to the dam. |
| SR-14 | HG<br>MMB2 | 5/13/22<br>9/16/22 | Blocked waterway due to beaver activity | No | Yes | No | On September 16, a beaver dam was noted in the southern portion of the preserve subsection. No action is required at the moment as flooding is not likely to occur and water seem to be flowing with minion disruption from the dam. |
| SR-15 | HG<br>MMB2 | 5/13/22<br>9/16/22 | No issue | **Yes** | No | **Yes** | On May 13, the preserve subsection was in good condition, although slight erosion was noted along the wing wall of the culvert adjacent to Park Drive.<br>No substantial changes from May observations. |
| SR-16 | HG<br>MMB2 | 5/13/22<br>9/16/22 | No issue | No | No | No | On May 13, the preserve subsection was in good condition.<br>No substantial changes from May observations. |

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| SR-17 | MMB2 | 3/24/22<br>9/27/2022 | Snag in drainage. Blocked culvert | Yes | No | Yes | On March 24, 2022, a large snag in the drainage was observed, causing multiple dams and causing slight erosion. No action is required as flood waters would spill into adjacent established wetlands.<br>On September 27, it was noted that moderate to heavy trash within the creek was due to close proximity to the park. The trash in these locations consists of tires, packing materials, glass bottles, beer cans, coffee cups, and mylar balloons. Furthermore, a blocked culvert was noted within the southwestern portion of the preserve subsection. Clearing of trash and culverts is recommended. |
| SR-18 | HG<br>MMB2 | 5/13/22<br>9/27/2022 | Blocked culvert | No | No | Yes | On May 13, moderate to heavy trash within the creek was observed.<br>On September 27, it was noted that moderate to heavy trash within the creek was due to close proximity to the park and university. The trash in these locations consists of tires, packing materials, glass bottles, beer cans, coffee cups, golf balls, and mylar balloons. Furthermore, a blocked culvert was noted within the eastern portion of the preserve subsection. Clearing of trash and culverts is recommended. |
| SR-19 | HG | 5/13/22<br>9/27/2022 | Blocked culvert | No | No | Yes | On May 13, vegetation buildup in culverts and trash within the creek was observed.<br>No substantial changes from May observations. |
| SR-20 | HG | 5/13/22<br>9/27/2022 | Blocked culvert | No | Yes | Yes | On May 13, 2022, a fallen tree in the creek, potentially due to beaver activity, was observed. Additionally, multiple areas have trash within the creek and wetlands. Clearing of trash and culverts is recommended.<br>No substantial changes from May observations. |
| SR-21 | HG | 5/13/22 | Beaver activity | No | Yes | Yes | On May 13, 2022, a beaver dam was observed within the creek, causing flooding on the fire access road. Multiple areas within site had vegetation buildup around the culverts. Additionally, multiple areas have trash in the creek and wetlands.<br>No substantial changes from May observations. |

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| **Sunset West** | | | | | | | |
| SW-1 | MLS<br>CAH | 5/12/22<br>10/13/22 | Debris buildup | No | No | No | On May 12, 2022, flowing water from tributary to Pleasant Grove Creek was observed. There were two locations where wetland vegetation debris accumulated and layers of water fern built up, but the flow was not impeded. A rusted and damaged culvert was located in a dried tributary to Pleasant Grove Creek to the southeast of the site.<br>No substantial changes from May observations. Water hyacinth appears to have spread in Pleasant Groove Creek. |
| SW-2 | MLS<br>CAH | 5/16/22<br>10/13/22 | Debris buildup | No | Yes | **Yes** | On May 16, 2022, a potential beaver dam was noted east of the site. There is buildup of vegetation debris blocking the flow of Pleasant Gove Creek, creating upstream ponding. Two leaking sprinkler heads near Sunset Blvd were observed discharging water into a small drainage where water was pooling. This drainage connects with Pleasant Grove Creek.<br>No substantial changes from May observations. |
| SW-3 | MLS<br>HG | 5/16/22<br>9/22/22 | No issue | No | No | No | On May 16, 2022, some trash buildup at the culvert to the west near Lonetree Blvd. Dense vegetation consisting of cattails, tules, and water fern were noted but no impediment of flow was observed as a result. On September 22, 2022, some trash buildup in the culvert to the west near Lonetree Blvd was noted. One monarch butterfly was observed flying through the preserve. Some fallen trees within the preserve but not directly in the creek. No impediment of flow of the creek. Some erosion was observed as well as a small bike ramp with track marks also noted. |
| SW-4 | MLS<br>HG | 5/16/22<br>9/22/22 | No issues | No | No | No | On May 13, the preserve subsection was in good condition.<br>No substantial changes from May observations. |
| SW-5 | MLS<br>CAH | 5/16/22<br>10/14/22 | Minor vegetation buildup | No | No | No | On May 16, 2022, trash buildup was noted to the eastern portion of the site coming from the community along Amber Falls Drive. Minor vegetation buildup was noted downstream of the culverts located to the south of the Extra Space Storage.<br>No substantial changes from May observations. |

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| SW-6 | MLS<br>CAH | 5/12/22<br>10/14/22 | Falling culver | Yes | No | Yes | On May 12, 2022, a concrete culvert that is experiencing significant erosion above it located to the north of Misty Hollow Drive near Park Drive was noted. The concrete foundations from the perimeter steel fence located immediately above the culvert is almost entirely exposed as well as the concrete from the sidewalk of Misty Hollow Drive. At the time of the observation there was standing water in front of the culvert which could suggest that the water surface could be much higher during significant flows from high precipitation events and the culvert could be clogged somewhere under Misty Hollow Drive. The rest of the site was mostly dry, and there were minor observations of erosion that appeared to be monitored.<br>No substantial changes from May observations. |
| SW-7 | MLS<br>MMB2 | 5/12/22<br>10/14/22 | Blocked culvert | Yes | No | Yes | On May 12, 2022, it was noted that a culvert to the north of the site has an overgrowth of cattails which could restrict flow coming from the north causing buildup of sediment and debris within the culvert. There is also a concrete box culvert to the west of SW-7 but within the Preserve boundaries that occurs under Highway 65 and is backed up with vegetation debris and trash. There was erosion to the southwest of the area that appeared to have been addressed in previous years. However, sediment, rocks, and debris were observed to have been flushed into the drainage at this location.<br>No substantial changes from May observations. |
| SW-8 | MLS | 5/12/22 | Blocked culvert | No | No | Yes | On May 12, it was noted that there was a significant amount of trash buildup along the drainage which ran throughout the site. Trash was also present in this drainage up towards SW-7 but still within the Preserve boundaries. There was also trash buildup observed from a box culvert to the west that occurs under Highway 65.<br>No substantial changes from May observations. |
| **Whitney Ranch** | | | | | | | |
| WR-1 | WB | 4/27/22<br>9/20/22 | No issues | No | No | No | On April 27, the preserve subsection was in good condition.<br>No substantial changes from April observations. |

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| WR-2 | WB MMB2, HG and GD | 4/22/22 9/20/22 10/13/22 | Reduce grazing | No | Yes | **Yes** | On April 22, tricolored blackbirds were observed nesting within the cattails located within the centrally located pond. On September 20, it was noted that the degree of vegetation utilization by grazing animals was severe. Observations include a reduction in wetland vegetation, including cattails and willows known to provide habitat for numerous avion species including tricolored blackbirds. It is recommended that the thatch management practices by grazing animals or hand crews avoid the ponds in the southwestern and central portion of the preserve in future thatch reduction. |
| WR-3 | WB GD | 4/28/22 10/13/22 | No issues | No | Yes | No | On April 28, the preserve subsection was in good condition. On October 13, the pond was observed to be inundated. An old, fallen cottonwood tree was observed that was the result of past beaver activity, however no dams were detected, and the tree appears to have been down since 2020 (visible on Google Earth 10/2022 aerial imagery). |
| WR-4 | WB GD | 4/28/22 10/13/22 | Damaged culvert | **Yes** | No | **Yes** | On April 28, relatively dry conditions were observed. The flow regime appears normal. On October 13, the stream channel west of the central portion of the preserve subsection was saturated/inundated throughout the preserve and was observed to be dry in the eastern portion of the preserve. In the eastern portion of the preserve subsection, a gully is forming along the left bank of the main drainage upstream of a culverted crossing. The source of erosion is a culvert outlet below Baronial Lane, which is discharging water into a seasonal wetland feature. There is a 6-foot headcut and plunge pool below the culvert outlet that is dissipated by riprap, however flow splits in several directions and is causing incision/gully formation on the hillslope. At the base of the slope, the left bank of the main drainage has eroded and is nearly vertical. There is also a headcut in the main drainage at the upstream extent of the erosion caused by the culvert outlet upslope. If left untreated, erosion of the hillslope and sediment delivery to the main drainage will continue, which includes gully formation, headcut migration, and bank erosion. |

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| WR-5 | WB<br>MMB2 | 4/28/22<br>10/11/22 | No issues | No | No | **Yes** | On April 28, the preserve subsection was in good condition.<br>On October 11, trash was noted in culvert outfall within the southeaster portion of the preserve subsection. Trash consisted of cans, plywood, and shipping materials. |
| WR-6 | WB<br>MMB2 | 4/29/22<br>10/11/22 | No issues | No | No | No | On April 29, it was observed that the flow regime of waterways and features at this parcel appear to be consistent with the anticipated conditions for this time of year.<br>No substantial changes from April observations. |
| **Parklands North** | | | | | | | |
| PN-1 | CAH | 5/10/22<br>10/29/22 | No issue | No | Yes | **Taken** | On May 10, it was noted that hydrologic conditions appear to be functioning well. Slight flooding observed in northern portion of the preserve unit; however, the survey was conducted one day after a rain event and conditions were as expected. No changes observed in stream bank or channel and culverts were clear of debris. Vegetation has grown substantially along stream corridor. Minor windblown trash observed.<br>On September 29, it was noted that culverts had been recently cleared, of debris, trash, and vegetation had been cut around culverts. |
| **Brighton** | | | | | | | |
| BR-1 | CAH<br>MMB2 | 5/10/22<br>10/10/22 | Future culvert clearing of invasive aquatic plant species | No | No | **No** | On May 10, it was noted that hydrologic conditions appear to be functioning well; no changes in stream bank or channel were observed. Culverts were clear of debris. Moderate amount of trash observed in southern portion of Preserve including a dumped Christmas tree. Two small clusters of yellow iris (*Iris pseudacorus*) observed in northern portion of Preserve.<br>On October 10, 2022, two new non-native aquatic plant species were noted within the drainage including six petal water primrose (*Ludwigia hexapetala*) and parrot feather watermilfoil (*Myriophyllum aquaticum*), both Cal-IPC rating: high. Both aquatic species have the potential to clog culverts/ waterways. |

| Preserve Subsection | Surveyor | Date Surveyed | Hydrology Status | Erosion Issues | Beaver Activity | Action Required | Notes |
|---|---|---|---|---|---|---|---|
| **Garnet Creek** | | | | | | | |
| GC-1 | CAH MMB2 and GD | 5/10/22<br>10/10/22 | Future culvert clearing of invasive aquatic plant species | Addressed | No | **Taken** | On May 10, it was noted that erosion issues continued in northern portion of Preserve. Gabion baskets appear to be slumping into streambed and the substrate behind the baskets is very soft and unstable – especially the upstream basket. Undercutting of baskets has been persisting and will continue without treatment. Left bank continues to incise. The large log and other debris upstream of the gabion baskets has not been removed and continues to rack debris and aggregate sediment. Downstream section of stream appears to be functioning well and no changes were observed from previous years. Culverts were clear of debris. One yellow iris observed in stream channel.<br>On October 10, it was noted that the gabion baskets had been fixed, debris had been removed, and riprap had been added to the channel to help in erosion control. The majority of culverts were clear with the exception of a central-located culvert noted. Additionally, bigleaf periwinkle (*Vinca major*) Cal-IPC rating: moderate was noted in portions of the oak woodland. |
| **Placer Creek Corporate Center** | | | | | | | |
| PCCC-1 | WB | 4/29/22<br>10/10/22 | No issues | No | No | No | On April 29, the preserve subsection was in good condition. No substantial changes from April observations. |
| PCCC-2 | WB | 4/29/22<br>10/10/22 | No issues | No | No | No | On April 29, the preserve subsection was in good condition. No substantial changes from April observations. |
| PCCC-3 | WB | 4/29/22<br>10/10/22 | No issues | No | No | No | On April 29, the preserve subsection was in good condition. No substantial changes from April observations. |
| PCCC-4 | WB | 4/29/22<br>10/10/22 | No issues | No | No | No | On April 29, the preserve subsection was in good condition. No substantial changes from April observations. |
| PCCC-5 | WB | 4/29/22<br>10/10/22 | No issues | No | No | No | On April 29, the preserve subsection was in good condition. No substantial changes from April observations. |

## 4.5 BIOLOGICAL SURVEYS

Biological surveys were conducted throughout the Preserve to assess trash accumulation, fencing conditions, evidence of trespass, the general condition of habitats, erosion, and other notable conditions. Surveys were conducted on March 24, April 22 and 27-29, May 12, 13, 16, and 17, September 15, 16, 20, and 22, October 10, 13,14, and 29, and November 11, 16, and 23, 2022.

Observations made during the biological survey are noted on Figures 5-1 through 5-9.

## 4.6 HISPID SALTY BIRD'S-BEAK SURVEY

Verification of the hispid bird's-beak populations located on the saline/alkali soils within Stanford Ranch preserve subsection (SR-12) took place on May 4 and September 7, 2022. The extent of the population is consistent with the 2021 survey. Population clusters range from approximately 2 to 200 plants during the May 4, 2022, survey (Figure 6). During the September 2022 survey, grazing levels were heavy in the preserve subsection which could adversely impact the hispid bird's-beak populations.

During the May 4 survey, vegetation composition surrounding the populations was consistent with previous years (2015-2021) and was dominated by salt grass (*Distichlis spicata*), yellow glandweed (*Parentucellia viscosa*), cattails (*Typha* sp.), and common lippia (*Phyla nodiflora*). During the September 7 survey, patches of dirt and heavily grazed cattails were noted within the preserve subsection.

## 4.7 TRICOLORED BLACKBIRD SURVEY

Tricolored blackbird is a state-listed threatened species under the California Endangered Species Act. This species had been observed nesting in Whitney Ranch preserve subsection (WR-1) and foraging in Orchard Creek (OC-1) and Whitney Ranch (WR-2) preserve subsections (HELIX 2020). Tricolored blackbird is a colonial species that typically breeds in freshwater marshes of cattail, bulrush (*Schoenoplect*us sp. and *Isolepis* sp.), sedge (*Carex* sp.), and non-native vegetation including Himalayan blackberry (*Rubus armeniacus*). Nests occur in large colonies of up to thousands of individuals. Nesting locations must be large enough to support a minimum colony of approximately fifty pairs (Zeiner et al. 1990). This species forages in grasslands and agricultural fields with low-growing vegetation (Shuford and Gardladi 2008). There are ten documented CNDDB occurrences within five miles of the Preserve (CDFW 2022).

During the breeding season of 2022 (April through August), nesting habitat was visited to determine the presence or absence of tricolored blackbird colonies. Tricolored blackbirds were observed nesting within (WR-1) in 2022 as well as foraging within Orchard Creek preserve subsection in the spring (Figure 4). However, vegetation utilization by grazing animals in the fall was extensive especially in and around wetlands that provide nesting habitat and materials for nesting. The heavy grazing level could adversely impact the habitat diversity of the area if not allowed to grow back. It is recommended that grazing levels be reduced in these areas.

## 4.8 INVASIVE PLANT SURVEY

Verification, identification, and mapping of new invasive plant populations located throughout the Preserve took place concurrently with wetland and riparian monitoring as well as biological surveys conducted on September 15, 16, 20, and 22, October 10, 13,14, and 29, and November 11, 16, and 23, 2022 (Figures 7-1 through 7-9).

The most notable decreases in invasive species were observed with a reduction of yellow star-thistle (*Centaurea solstitialis*). This is due to the City's invasive removal efforts, including implementing grazing before the seed set for many of the invasive plants in the Preserve; refer to Table 8 for an overview of invasive populations from 2015-2022. The most notable increase was with water hyacinth (*Eichhornia crassipes*) as it has established in previously cleared waterways and spread throughout numerous waterways within the Sunset West preserve unit.

Two new aquatic invasive species,  six petal water primrose (*Ludwigia hexapetala*) and parrot feather watermilfoil (*Myriophyllum aquaticum*), were mapped during the invasive species survey efforts. These species both have a Cal-IPC rating of high and both aquatic species have the potential to clog culverts/ waterways within Brighton preserve unit.

In addition to the aquatic species, three new invasive plants were observed during mapping efforts including bigleaf periwinkle (*Vinca major*), prickly Russian thistle (*Salsola tragus*), and white horehound (*Marrubium vulgare*). Refer to Table 9 for invasive species populations within each preserve subsection.

**Table 8**
**INVASIVE SPECIES OCCURRENCES**

| Species | Scientific Name | Cal-IPC Ranking | Approximate Acreage 2022 | Approximate Acreage 2021 | Approximate Acreage 2020 | Approximate Acreage 2018-2019 | Approximate Acreage 2017-2018 | Approximate Acreage 2016-2017 |
|---|---|---|---|---|---|---|---|---|
| Himalayan blackberry | *Rubus armeniacus* | High | 12.81 | 13.5 | 12.55 | 10.01 | 4.9 | 6.9 |
| Medusa head grass | *Elymus caput-medusae* | High | <0.1 | 0.1 | N/A | 1.8 | <0.1 | <0.1 |
| Pampas grass | *Cortaderia selloana* | High | <0.1 | <0.1 | 0.12 | 0.2 | <0.1 | <0.1 |
| Parrot feather watermilfoil | *Myriophyllum aquaticum* | High | <0.1 | N/A | N/A | N/A | N/A | N/A |
| Six petal water primrose | *Ludwigia hexapetala* | High | <0.1 | N/A | N/A | N/A | N/A | N/A |
| Water hyacinth | *Eichhornia crassipes* | High | 1.34 | 0.65 | <0.1 | 3.0 | <0.1 | 0.2 |
| Yellow star-thistle | *Centaurea solstitialis* | High | 4.45 | 15.35 | 28.56 | 30.0 | 25.9 | 20.1 |
| *Bermuda grass | *Cynodon dactylon* | Moderate | 0.34 | <0.1 | N/A | <0.1 | N/A | N/A |
| *Italian rye grass | *Festuca perennis* | Moderate | <0.1 | N/A | N/A | <0.1 | N/A | N/A |
| Bigleaf periwinkle | *Vinca major* | Moderate | <0.1 | N/A | N/A | N/A | N/A | N/A |
| Black mustard | *Brassica nigra* | Moderate | 0.77 | <0.1 | 1.11 | 1.15 | <0.1 | <0.1 |
| Bull thistle | *Cirsium vulgare* | Moderate | 0.16 | 0.63 | 0.08 | 1 | 0.3 | 0.3 |
| Chinese tallow | *Triadica sebifera* | Moderate | 5.48 | 3.5 | 9.02 | 26.5 | 19.1 | 23.8 |
| Common fig/edible fig | *Ficus carica* | Moderate | 1.60 | 1.2 | 1.20 | 3.2 | 2.6 | 2.9 |
| Italian thistle | *Carduus pycnocephalus* | Moderate | 1.27 | 1.26 | 1.45 | 3.5 | 1.1 | 0.5 |
| Rip gut brome | *Bromus diandrus* | Moderate | N/A | N/A | N/A | 0.1 | N/A | N/A |
| Rush skeletonweed | *Chondrilla juncea* | Moderate | 1.26 | 1.5 | 0.69 | 0.7 | N/A | N/A |
| Stinkwort | *Dittrichia graveolens* | Moderate | 1.78 | 1.52 | 2.21 | 20.00 | 4.2 | 3.7 |
| Summer mustard | *Hirschfeldia incana* | Moderate | 0.28 | 0.53 | 5.58 | 1.2 | N/A | N/A |
| Tree of heaven | *Ailanthus altissima* | Moderate | 0.24 | 0.08 | 0.08 | 0.26 | <0.1 | 0.1 |
| Black locust | *Robinia pseudoacacia* | Limited | <0.1 | <0.1 | <0.1 | 1.1 | <0.1 | <0.1 |
| Bristly ox-tongue | *Helminthotheca echioides* | Limited | 3.45 | 2.7 | 2.25 | 4.9 | 0.23 | <0.1 |
| Common privet | *Ligustrum lucidum* | Limited | 0.38 | 0.33 | 0.22 | 0.2 | N/A | N/A |
| Curly dock | *Rumex crispus* | Limited | 3.49 | 4.12 | 6.20 | 0.9 | 0.2 | 0.2 |
| Eucalyptus | *Eucalyptus* sp. | Limited | <0.1 | N/A | N/A | 0.11 | <0.1 | <0.1 |
| Milk thistle | *Silybum marianum* | Limited | <0.1 | 0.8 | 1.5 | 1.2 | 0.3 | 0.5 |
| Prickly Russian thistle | *Salsola tragus* | Limited | 0.11 | N/A | N/A | N/A | N/A | N/A |
| Rose cover | *Trifolium hirtum* | Limited | 1.04 | 2.64 | 0.34 | 0.1 | <0.1 | <0.1 |
| *Soft Brome | *Bromus hordeaceus* | Limited | <0.1 | N/A | N/A | <0.1 | N/A | N/A |

| Species | Scientific Name | Cal-IPC Ranking | Approximate Acreage 2022 | Approximate Acreage 2021 | Approximate Acreage 2020 | Approximate Acreage 2018-2019 | Approximate Acreage 2017-2018 | Approximate Acreage 2016-2017 |
|---|---|---|---|---|---|---|---|---|
| White horehound | *Marrubium vulgare* | Limited | <0.1 | N/A | N/A | N/A | N/A | N/A |
| Callery pear | *Pyrus calleryana* | Watchlist | 0.72 | 0.13 | 0.41 | 2.5 | 0.95 | 1.2 |

* Indicates dense populations of the grass species. Mapping of theses grasses typical does not take place as the population is distributed through the majority of the annual grasslands and is known to occur throughout the Preserve.

**Table 9**
**INVASIVE SPECIES OCCURRENCES PER PRESERVE SUBSECTION**

| Preserve Unit | High Density Invasive Forbs | Low Density Invasive Grasses and Forbs | High Density Invasive Shrubs | Low Density Invasive Shrubs | High Density Invasive Trees | Low Density Invasive Trees |
|---|---|---|---|---|---|---|
| **Claremont** | | | | | | |
| C-1 | Yellow star-thistle, stinkwort | | | | | |
| C-2 | Yellow star-thistle | | | | | |
| C-3 | Yellow star-thistle, stinkwort, curly dock | | | | Chinese tallow | |
| C-4 | Yellow star-thistle | Rush skeletonweed, rose clover | | | | |
| **Orchard Creek** | | | | | | |
| | Yellow star-thistle, stinkwort, curly dock, Italian thistle, summer mustard | | | | | |
| **Stanford Ranch** | | | | | | |
| SR-1 | Curly dock, stinkwort, bristly ox tongue | | Himalayan blackberry | | | Chinese tallow |
| SR-2 | bristly ox tongue, stinkwort, | Rush skeletonweed | Himalayan blackberry | | Chinese tallow | |
| SR-3 | Bristly ox tongue, | | Himalayan blackberry | | | |
| SR-4 | Bristly ox tongue, | | Himalayan blackberry | | Chinese tallow | |
| SR-5 | | | Himalayan blackberry | | Chinese tallow | Callery pear |

| Preserve Unit | High Density Invasive Forbs | Low Density Invasive Grasses and Forbs | High Density Invasive Shrubs | Low Density Invasive Shrubs | High Density Invasive Trees | Low Density Invasive Trees |
|---|---|---|---|---|---|---|
| SR-6 | | Curly dock, bristly ox tongue, | Himalayan blackberry | | Chinese tallow | Callery pear |
| SR-7 | Bristly ox tongue, curly dock | Rush skeletonweed | Himalayan blackberry | | Chinese tallow | |
| SR-8 | Yellow star-thistle, curly dock, bristly ox tongue | Stinkwort, rush skeletonweed | | | Chinese tallow | Callery pear |
| SR-11 | Bristly ox tongue, | Rush skeletonweed | Himalayan blackberry, common privet | | Chinese tallow, common fig, tree of heaven | |
| SR-12 | Bristly ox tongue, yellow star-thistle, | Curly dock, rush skeletonweed, Bermuda grass | | Himalayan blackberry | Chinese tallow | |
| SR-13 | Bristly ox tongue, yellow star-thistle, | Summer mustard | Himalayan blackberry | | Chinese tallow, Callery pear | Tree of heaven |
| SR-14 | Bristly ox tongue, curly dock | | Himalayan blackberry | | Chinese tallow | |
| SR-15 | Yellow star-thistle, curly dock | | Himalayan blackberry | Common privet | Common fig | Chinese tallow, |
| SR-16 | Yellow star-thistle, stinkwort, rush skeletonweed, summer mustard | Curly dock | | | Chinese tallow | |
| SR-17 | | Curly dock, yellow star-thistle | Himalayan blackberry | | Callery pear, Chinese tallow | |
| SR-18 | Summer mustard, yellow star-thistle, curly dock | | Himalayan blackberry | | Chinese tallow | |
| SR-19 | Yellow star-thistle, curly dock | Summer mustard | | | | |
| SR-20 | Yellow star-thistle, curly dock | Summer mustard | | | Chinese tallow | |
| SR-21 | Curly dock, stinkwort | Italian thistle | | | Chinese tallow | |
| **Sunset West** | | | | | | |
| SW-1 | Water hyacinth, stinkwort, yellow star-thistle, summer mustard, bristly ox tongue, rose clover | | | | Callery pear | Chinese tallow |

| Preserve Unit | High Density Invasive Forbs | Low Density Invasive Grasses and Forbs | High Density Invasive Shrubs | Low Density Invasive Shrubs | High Density Invasive Trees | Low Density Invasive Trees |
|---|---|---|---|---|---|---|
| SW-2 | Stinkwort, black mustard, water hyacinth | | | | Chinese tallow | |
| SW-3 | Stinkwort, Bermuda grass | Curly dock | | | Chinese tallow | |
| SW-4 | Stinkwort, Bermuda grass, yellow star-thistle, rush skeletonweed, curly dock | | Himalayan blackberry | | Callery pear | |
| SW-5 | Stinkwort, curly dock, black mustard | | Himalayan blackberry | | | Chinese tallow |
| SW-6 | Bermuda grass, stinkwort, curly dock, medusa head, yellow star-thistle, rush skeletonweed | | | | Chinese tallow | |
| SW-7 | Rose clover, yellow star thistle, stinkwort, curly dock | | | | | |
| SW-8 | Yellow star-thistle, rose clover, curly dock, rush skeletonweed | | | | | |
| **Whitney Ranch** | | | | | | |
| WR-1 | Yellow star-thistle, black mustard, Italian thistle, white horehound, curly dock, stinkwort | Milk thistle | Himalayan blackberry | | | |
| WR-2 | Yellow star-thistle, stinkwort, Italian thistle, bristly ox tongue | Curly dock, black mustard | | Himalayan blackberry | | |
| WR-3 | Stinkwort, bristly ox tongue | Curly dock, yellow star-thistle | | | | |
| WR-4 | Yellow star-thistle, stinkwort | Curly dock | | | | |
| WR-5 | Curly dock | Black mustard, rush skeletonweed | | | | |
| WR-6 | Stinkwort, curly dock, yellow star-thistle | Rush skeletonweed | | | | |

| Preserve Unit | High Density Invasive Forbs | Low Density Invasive Grasses and Forbs | High Density Invasive Shrubs | Low Density Invasive Shrubs | High Density Invasive Trees | Low Density Invasive Trees |
|---|---|---|---|---|---|---|
| **Brighton** | | | | | | |
| B-1 | Curly dock, rose clover, rush skeletonweed | | Himalayan blackberry | | | |
| **Garnet Creek** | | | | | | |
| GC-1 | Rose clover, yellow star-thistle, rush skeletonweed, Italian thistle, black mustard, curly dock | Ripgut brome, stinkwort | Himalayan blackberry | | | |
| **Parklands North** | | | | | | |
| PN-1 | Rose clover, yellow star-thistle, Bermuda grass, rush skeletonweed | Milk thistle, Italian thistle, | Himalayan blackberry | | | |
| **Placer Creek Corporate Center** | | | | | | |
| PCCC-1 | Italian thistle, yellow star thistle, medusa head, Italian rye grass | | | | | |
| PCCC-2 | Rose clover, Italian thistle, yellow star-thistle, Italian rye grass, medusa head | | | | | |
| PCCC-3 | Prickly Russian thistle, Italian thistle | | | | | |
| PCCC-4 | Stinkwort, Italian thistle, yellow star-thistle, Italian rye grass, medusa head | Curly dock | | | | |
| PCCC-5 | Yellow star-thistle, Italian thistle, stinkwort, curly dock | | | | | |

## 4.9 3.1 RESIDUAL DRY MATTER ASSESSMENT

Residual dry matter sampling for 55 RDM sampling plots, including 35 in annual grassland habitat and 20 in oak woodland (Figures 8-1 through 8-9) took place on September 22, October 11-14, and November 16, 22, and 24, 2022.

The Claremont, Orchard Creek, Whitney Ranch, and Placer Creek Corporate Center preserves units consist primarily of annual grassland habitats. The Stanford Ranch and Sunset West preserves units contain both annual grassland and oak woodland habitats. The Parklands North, Garnet Creek, and Brighton preserve units contain primarily oak woodland and riparian habitats.

During the RDM sampling efforts, 55 RDM points were sampled. RDM results for 2022 indicated that the vegetation utilization by grazing animals within the annual grasslands was on target or exceeded the targets set forth in the GOSMP. Of the 30 points sampled, 14 (47%) meet the target objective, 14 (47%) fall below, indicating a high degree of vegetation utilization, and the remaining 2 (6%), exceeded the target objective, indicating a low degree of vegetation utilization. Refer to Table 10 for a summary of RDM data in annual grasslands.

Table 11 summarizes RDM data for the 25 RDM locations within oak woodlands. Sixty percent of the surveyed plots within oak woodland meet the target objective, eight percent fell below, and 32% exceeded target objectives. Representative photos along with field data sheets are located in Appendix D and F, respectively.

**Table 10**
**SUMMARY OF RDM DATA IN ANNUAL GRASSLANDS**

| Preserve Unit | Total RDM Points | RDM Range (lbs./acre) | Exceeds Objective >1,200 lbs./acre | Meets Objective 800-1,200 lbs./acre | Below Objective <800 lbs./acre |
|---|---|---|---|---|---|
| Claremont | 1 | 96 | — | — | 100% (1) |
| Orchard Creek | 2 | 294-575 | — | — | 100% (2) |
| Stanford Ranch | 10 | 192-1,152 | — | 60% (6) | 40% (4) |
| Sunset West | 7 | 192-1152 | — | 71% (5) | 29% (2) |
| Whitney Ranch | 9 | 96-1,920 | 11% (1) | 33% (3) | 56% (5) |
| Placer Creek | 1 | 2,880 | 100% (1) | — | — |
| **TOTAL** | **30** | — | **2** | **14** | **14** |

**Table 11**
**SUMMARY OF RDM DATA IN OAK WOODLAND**

| Preserve Unit | Total RDM Points | RDM Range (lbs./acre) | Exceeds Objective >1,200 lbs./acre | Meets Objective 400-1,200 lbs./acre | Below Objective <400 lbs./acre |
|---|---|---|---|---|---|
| Claremont | 1 | 288 | — | — | 100% (1) |
| Stanford Ranch | 16 | 672-1,284 | 6% (1) | 88% (14) | 6% (1) |
| Sunset West | 3 | 864-1,536 | 67% (2) | 33% (1) | — |
| Whitney Ranch | 1 | 1,920 | 100% (1) | — | — |
| Brighton | 1 | 2,208 | 100% (1) | — | — |
| Garnet Creek | 2 | 1,440-1,536 | 100% (2) | — | — |

| Preserve Unit | Total RDM Points | RDM Range (lbs./acre) | Exceeds Objective >1,200 lbs./acre | Meets Objective 400-1,200 lbs./acre | Below Objective <400 lbs./acre |
|---|---|---|---|---|---|
| Parklands North | 1 | 1.920 | 100% (1) | — | — |
| **TOTAL** | **25** | **—** | **8** | **15** | **2** |

# 5.0 CONCLUSIONS AND RECOMMENDATIONS

Tasks to support the GOSMP management, monitoring, and reporting activities conducted during the 2022 survey season for the ±630-acre Rocklin Open Space Preserve were completed by HELIX from November 2021 through December 2022. Overall, the Preserve remains in good condition. During the wet-season invertebrate sampling effort, no California linderiella or vernal pool fairy shrimp were observed within the 65 randomly selected vernal pools. Although California linderiella and/or vernal pool fairy shrimp are known to occur in some of the preserve subsections, none have ever been observed with the 65 randomly selected vernal pools surveyed in 2021-2022. Other non-listed aquatic invertebrates were found to inhabit the majority of the sampled pools. The extent of inundated pools has increased from the previous year's survey efforts where only two pools of the randomly selected 64 pools were ever inundated enough to survey; however, inundation levels for 2021-2022 are lower in comparison to 2015 through 2019 levels due to the ongoing drought conditions.

Vernal pools within the Preserve continue to support vernal pool flora that is native to the region. Of the 64 pools surveyed in 2022, 83% met the objective of having a prevalence index score of 3 or less, an increase of 20% from 2021.

Special-status plant surveys were conducted in tandem with other annual surveys to target optimal bloom/identification periods. To date, one special-status plant species, hispid salty bird's beak, has been identified in the preserve subsection (SR-12). It is recommended that grazing pressure be reduced with this preserve subsection and feeding/ watering station be placed away from known populations. Furthermore, the areas with the preserve subsections containing hispid salty bird's beak should not be used as a staging or holding area for grazing animals as prolonged disturbance may be detrimental to the hispid salty bird's beak population.

Overall wetland and riparian habitats are functioning well. Some trash, blocked culverts, and erosion issues were noted. Trash accumulations is an ongoing issue due to vast majority of the preserve's subsection abutting suburban areas.

The Preserve continues to function as habitat for numerous special-status species, however it is recommended that vegetation utilization be reduced in areas where tricolored blackbirds are known to nest.

In 2023, monitoring will continue in accordance with the City's GOSMP. The following recommendations for the Preserve include:

Continue regular trash pick-up within the individual preserve subsections as necessary.

Biologists will work in coordination with City staff and contractors in the following areas.

- Help City staff identify invasive plants that can be targeted for removal during routine maintenance activities.

- Provide contracted grazers with maps showing locations of sensitive habitat to be avoided during grazing.

Target invasive species to maintain current extent and approximate number of invasive species within the Preserve. Conduct focused control of invasive species where appropriate.

- Implement high-intensity short duration grazing by sheep, goats, or cattle for yellow star-thistle. Grazing should take place prior to the formation of spines, ideally late spring to early summer (May through June). Consider treating these areas with targeted herbicides between January and March. Potentially seed with native plants next winter to help establish a cover crop to compete with yellow star-thistle. Monitor and adjust control techniques in future years depending on their success in reducing invasive populations.

- To avoid impacts to nesting birds, trees should be removed outside of the nesting season (February 1 to August 30), if possible. This work would be done under the existing Memorandum of Understanding (MOU) with the California Department of Fish and Wildlife (CDFW) for stream channel maintenance. The City should work to develop a replanting program to replace removed trees with native trees. Native tree planting is a good project for volunteers.

Hand-pull, graze, or mow stinkwort. If mowing, two mowing sessions are recommended, especially in mid-to late summer after soil has dried out as this may provide improved control.

Develop a master restoration plan with standard procedures and typical plans for addressing invasive species removal, bank stabilization, or other similar restoration goals to facilitate the implementation of restoration activities within the Preserve in the future.

- Erosion and culvert remediation.

  - If new or continued bank erosion is observed, bioremediation techniques should be implemented. Techniques may include use of willow cuttings, wattles, and mats to help in stabilizing portions of waterway banks that are eroding. Erosion control measures should not be installed in jurisdictional waters without prior authorization from the appropriate regulatory agencies.

  - Debris should be removed from the culverts so water can flow freely thus reducing the chance of flooding and erosion.

    - Assess culverts and remove debris and trash were necessary.

    - Repair or replace culverts as necessary within agency notifications as required.

# 6.0 REFERENCES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# Appendix A

## Plant Species Observed

| **Claremont Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Acmispon americanus* var. *americanus* | American bird's foot trefoil | N |
| *Amaranthus californicus* | California amaranth | N |
| *Amsinckia intermedia* | Common fiddleneck | N |
| *Avena barbata* | Slender oat | NN, I |
| *Baccharis pilularis* ssp. *consanguinea* | Coyote brush | N |
| *Brassica nigra* | Black mustard | NN, I |
| *Briza minor* | Little quaking grass | NN |
| *Bromus diandrus* | Ripgut grass | NN, I |
| *Bromus hordeaceus* | Soft chess | NN, I |
| *Carduus pycnocephalus* ssp. *pycnocephalus* | Italian thistle | NN |
| *Centaurea solstitialis* | Yellow star thistle | NN, I |
| *Centromadia fitchii* | Spikeweed | N |
| *Cercis occidentalis* | Western redbud | N |
| *Chondrilla juncea* | Skeleton weed | NN, I |
| *Cichorium intybus* | Chicory | NN |
| *Claytonia parviflora* var. *parviflora* | Miner's lettuce | N |
| *Croton setiger* | Turkey-mullein | N |
| *Cuscuta howelliana* | Boggs lake dodder | N |
| *Cynodon dactylon* | Bermuda grass | NN, I |
| *Cyperus eragrostis* | Tall cyperus | N |
| *Deschampsia danthonioides* | Annual hairgrass | N |
| *Dichelostemma capitatum* ssp. *capitatum* | Bluedicks | N |
| *Dittrichia graveolens* | Stinkwort | NN, I |
| *Eleocharis macrostachya* | Common spikerush | N |
| *Elymus caput-medusae* | Medusahead | NN, I |
| *Elymus* cf. *ponticus* | Tall wheat grass | NN |
| *Epilobium brachycarpum* | Autumn willowweed | N |
| *Epilobium ciliatum* cf. ssp. *ciliatum* | Fringed willowherb | N |
| *Erigeron canadensis* | Canada horseweed | N |
| *Erodium botrys* | Big heron bill | NN |
| *Eryngium* sp. | Button celery | N |
| *Euphorbia ocellata* ssp. *ocellata* | Valley spurge | N |
| *Euthamia occidentalis* | Western goldenrod | N |
| *Festuca bromoides* | Brome fescue | NN |
| *Festuca perennis* | Rye grass | NN, I |
| *Gastridium phleoides* | Nit grass | NN |
| *Geranium dissectum* | Cut leaved geranium | NN, I |
| *Geranium molle* | Crane's bill geranium | NN |
| *Glinus lotoides* | Lotus sweetjuice | NN |
| *Helminthotheca echioides* | Bristly ox-tongue | NN, I |
| *Heteromeles arbutifolia* | Toyon | N |
| *Heterotheca grandiflora* | Telegraph weed | N |
| *Holocarpha virgata* ssp. *virgata* | Narrow tarplant | N |
| *Hordeum murinum* | Foxtail barley | NN, I |
| *Hypericum perforatum* ssp. *perforatum* | Common st. johnswort | NN, I |
| *Hypochaeris radicata* | Hairy cat's ear | NN, I |
| *Juncus* cf. *balticus* ssp. *ater* | Baltic rush | N |

| **Claremont Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Juncus effusus* ssp. *pacificus* | Pacific rush | N |
| *Kickxia* sp. | Fluellin | NN |
| *Lactuca serriola* | Prickly lettuce | NN |
| *Lemna* sp. | Duckweed | N |
| *Lessingia virgata* var. *glomerata* | Wand lessingia | N |
| *Lupinus bicolor* | Miniature Lupine | N |
| *Lythrum hyssopifolia* | Hyssop loosestrife | NN, I |
| *Medicago polymorpha* | Bur clover | NN, I |
| *Mentha pulegium* | Pennyroyal | NN, I |
| *Muhlenbergia rigens* | Deergrass | N |
| *Nerium oleander* | Oleander | NN |
| *Paspalum dilatatum* | Dallis grass | NN |
| *Pistacia chinensis* | Chinese pistachio | NN |
| *Plagiobothrys fulvus* var. *campestris* | Field popcornflower | N |
| *Plantago lanceolata* | English plantain | NN, I |
| *Platanus racemosa* | *California sycamore* | N |
| *Polypogon monspeliensis* | Rabbitsfoot grass | NN, I |
| *Populus fremontii* ssp. *fremontii* | Fremont cottonwood | N |
| *Pyrus calleryana* | Callery pear | NN, I |
| *Quercus douglasii* | Blue oak | N |
| *Quercus wislizeni* var. *wislizeni* | Interior live oak | N |
| *Ranunculus bonariensis* var. *trisepalus* | Vernal pool buttercup | N |
| *Raphanus sativus* | Jointed charlock | NN, I |
| *Rubus armeniacus* | Himalayan blackberry | NN, I |
| *Rumex crispus* | Curly dock | NN, I |
| *Rumex pulcher* | Fiddle dock | NN |
| *Salix exigua* var. *hindsiana* | Sandbar willow | N |
| *Salix gooddingii* | Gooding's willow | N |
| *Salix laevigata* | Red willow | N |
| *Salix lasiolepis* | Arroyo willow | N |
| *Silybum marianum* | Milk thistle | NN, I |
| *Sonchus* sp. | Sowthistle | NN |
| *Stipa* sp. | Needlegrass | N |
| *Torilis arvensis* | Field hedge parsley | NN, I |
| *Triadica sebifera* | Chinese tallowtree | NN, I |
| *Trichostema lanceolatum* | Vinegarweed | N |
| *Trifolium depauperatum* var. *Depauperatum* | Dwarf sack clover | N |
| *Trifolium fragiferum* | Strawberry clover | NN |
| *Trifolium hirtum* | Rose clover | NN, I |
| *Triphysaria eriantha* | Butter 'n' eggs | N |
| *Triteleia laxa* | Ithuriel's spear | N |
| *Typha* sp. | Cattail | N |
| *Vicia villosa* | Hairy vetch | NN |
| *Xanthium strumarium* | Rough cockleburr | N |
| *Zeltnera muehlenbergii* | Muhlenberg’s centaury | N |

| **Orchard Creek Preserve Unit** | | |
|---|---|---|
| ***Scientific Name*** | **Common Name** | **Native, Non-native, Invasive** |
| *Alopecurus saccatus* | Pacific foxtail | N |
| *Avena barbata* | Slender oat | NN, I |
| *Brassica nigra* | Black mustard | NN, I |
| *Briza minor* | Little quaking grass | NN |
| *Brodiaea elegans* | Harvest brodiaea | N |
| *Bromus diandrus* | Ripgut grass | NN, I |
| *Bromus hordeaceus* | Soft chess | NN, I |
| *Carduus pycnocephalus* ssp. *pycnocephalus* | Italian thistle | NN |
| *Centaurea solstitialis* | Yellow star thistle | NN, I |
| *Centromadia fitchii* | Spikeweed | N |
| *Cichorium intybus* | Chicory | NN |
| *Croton setiger* | Turkey-mullein | N |
| *Deschampsia danthonioides* | Annual hairgrass | N |
| *Dichelostemma capitatum* ssp. *capitatum* | Bluedicks | N |
| *Dittrichia graveolens* | Stinkwort | NN, I |
| *Eleocharis macrostachya* | Common spikerush | N |
| *Elymus caput-medusae* | Medusahead | NN, I |
| *Erodium botrys* | Big heron bill | NN |
| *Eryngium* sp. | Button celery | N |
| *Eryngium vaseyi* | Coyote thistle | N |
| *Euphorbia ocellata* ssp. *ocellata* | Valley spurge | N |
| *Festuca bromoides* | Brome fescue | NN |
| *Festuca perennis* | Rye grass | NN, I |
| *Geranium dissectum* | Cut leaved geranium | NN, I |
| *Geranium molle* | Crane's bill geranium | NN |
| *Glinus lotoides* | Lotus sweetjuice | NN |
| *Helminthotheca echioides* | Bristly ox-tongue | NN, I |
| *Hordeum murinum* | Foxtail barley | NN, I |
| *Hypericum perforatum* ssp. *perforatum* | Common st. johnswort | NN, I |
| *Juncus bufonius* | Common toad rush | N |
| *Juncus* sp. | Rush | N |
| *Lactuca serriola* | Prickly lettuce | NN |
| *Lasthenia fremontii* | Fremont's goldfields | N |
| *Lasthenia glaberrima* | Smooth goldfields | N |
| *Leontodon saxatilis* | Hawkbit | NN |
| *Medicago polymorpha* | Bur clover | NN, I |
| *Mentha pulegium* | Pennyroyal | NN, I |
| *Muhlenbergia rigens* | Deergrass | N |
| *Paspalum dilatatum* | Dallis grass | NN |
| *Plagiobothrys fulvus* var. *campestris* | Field popcornflower | N |
| *Plagiobothrys stipitatus* | Stalked popcornflowe | N |
| *Plantago lanceolata* | English plantain | NN, I |
| *Polypogon monspeliensis* | Rabbitsfoot grass | NN, I |
| *Psilocarphus brevissimus* | Short woollyheads | N |
| *Ranunculus aquatilis* | Whitewater crowfoot | N |
| *Ranunculus bonariensis* var. *trisepalus* | Vernal pool buttercup | N |
| *Rumex crispus* | Curly dock | NN, I |

| **Orchard Creek Preserve Unit** | | |
|---|---|---|
| ***Scientific Name*** | **Common Name** | **Native, Non-native, Invasive** |
| *Silybum marianum* | Milk thistle | NN, I |
| *Sonchus* sp. | Sowthistle | NN |
| *Trichostema lanceolatum* | Vinegarweed | N |
| *Trifolium depauperatum* var. *Depauperatum* | Dwarf sack clover | N |
| *Trifolium fragiferum* | Strawberry clover | NN |
| *Trifolium hirtum* | Rose clover | NN, I |
| *Triphysaria eriantha* | Butter 'n' eggs | N |
| *Triteleia hyacinthina* | White brodiaea | N |
| *Vicia villosa* | Hairy vetch | NN |
| *Asclepias eriocarpa* | Indian milkweed | N |
| *Stipa pulchra* | Purple needle grass | N |

| Stanford Ranch Preserve Unit | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Acer macrophyllum* | Bigleaf maple | N |
| *Acmispon americanus* var. *americanus* | American bird's foot trefoil | N |
| *Aegilops triuncialis* | Barbed goatgrass | NN, I |
| *Aesculus californica* | California buckeye | N |
| *Alisma lanceolatum* | Lanceleaf water plantain | NN |
| *Alnus rhombifolia* | White alder | N |
| *Alopecurus saccatus* | Pacific foxtail | N |
| *Amaranthus californicus* | California amaranth | N |
| *Amsinckia intermedia* | Common fiddleneck | N |
| *Andropogon virginicus* var. *virginicus* | Broomsedge bluestem | NN |
| *Asclepias eriocarpa* | Indian milkweed | N |
| *Asclepias fascicularis* | Narrow leaf milkweed | N |
| *Avena barbata* | Slender oat | NN, I |
| *Baccharis pilularis* | Coyote brush | N |
| *Bellardia trixago* | Mediterranean linseed | NN, I |
| *Brachypodium distachyon* | False brome | NN, I |
| *Brassica nigra* | Black mustard | NN, I |
| *Briza minor* | Little quaking grass | N |
| *Brodiaea elegans* ssp. *elegans* | Harvest brodiaea | N |
| *Brodiaea minor* | Dwarf brodiaea | N |
| *Bromus diandrus* | Ripgut grass | NN, I |
| *Bromus hordeaceus* | Soft chess | NN, I |
| *Carduus pycnocephalus* ssp. *pycnocephalus* | Italian thistle | NN, I |
| *Castilleja attenuata* | Narrow leaved owl's clover | N |
| *Castilleja campestris* | Vernal pool indian paintbrush, | N |
| *Catalpa speciosa* | Northern catalpa | NN |
| *Centaurea solstitialis* | Yellow star thistle | NN, I |
| *Cephalanthus occidentalis* | Common buttonbush | N |
| *Chondrilla juncea* | Skeleton weed | NN, I |
| *Cichorium intybus* | Chicory | NN |
| *Cirsium vulgare* | Bull thistle | NN, I |
| *Convolvulus arvensis* | Field bindweed | NN |
| *Cordylanthus mollis* ssp. *hispidus* | Hispid bird's-beak | N RARE |
| *Cortaderia* sp. | Pampas grass | NN, I |
| *Crassula aquatica* | Aquatic pygmy weed | N |
| *Cressa truxillensis* | Alkali weed | N |
| *Croton setiger* | Turkey-mullein | N |
| *Cynodon dactylon* | Bermuda grass | NN, I |
| *Cynosurus echinatus* | Annual dogtail | NN, I |
| *Cyperus eragrostis* | Tall cyperus | N |
| *Deschampsia danthonioides* | Annual hairgrass | N |
| *Dichelostemma capitatum* | Blue dicks | N |
| *Digitaria sanguinalis* | Hairy crabgrass | NN |
| *Dittrichia graveolens* | Stinkwort | NN, I |
| *Downingia bicornuta* | Bristled downingia | N |
| *Downingia cuspidata* | Toothed downingia | N |
| *Downingia ornatissima* | Horned downingia | N |

| Stanford Ranch Preserve Unit | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Echinochloa cf. crus -galli* | Barnyard grass | NN |
| *Eleocharis acicularis* | Needle spike rush | N |
| *Eleocharis macrostachya* | Spikerush | N |
| *Elymus caput-medusae* | Medusahead | NN, I |
| *Elymus caput-medusae* | Medusa head | NN, I |
| *Elymus cf. ponticus* | Tall wheat grass | NN |
| *Elymus glaucus* | Blue wild rye | N |
| *Epilobium brachycarpum* | Autumn willowweed | N |
| *Epilobium ciliatum* | Willowherb | NN |
| *Epilobium densiflorum* | Denseflower willowherb | N |
| *Erigeron canadensis* | Canada horseweed | N |
| *Erodium botrys* | Big heron bill | NN |
| *Eryngium vaseyi* | Coyote thistle | N |
| *Eschscholzia californica* | California poppy | N |
| *Eucalyptus* sp. | Eucalyptus | NN |
| *Euphorbia ocellata* ssp. *ocellata* | Valley spurge | N |
| *Festuca bromoides* | Brome fescue | NN |
| *Festuca perennis* | Rye grass | NN, I |
| *Ficus carica* | Edible fig | NN, I |
| *Galium aparine* | Cleavers | N |
| *Geranium dissectum* | Wild geranium | NN, I |
| *Geranium molle* | Crane's bill geranium | NN |
| *Glyceria* sp. | Mannagrass | (NN) |
| *Helminthotheca echioides* | Bristly ox-tongue | NN, I |
| *Hirschfeldia incana* | Short podded mustard | NN, I |
| *Holocarpha virgata* ssp. *virgata* | Narrow tarplant | NN |
| *Hordeum brachyantherum* | Meadow barley | N |
| *Hordeum marinum* | Seaside barley | NN |
| *Hordeum murinum* | Foxtail barley | NN, I |
| *Hypochaeris glabra* | Smooth cat's ear | NN, I |
| *Juncus bufonius* | Common toad rush | N |
| *Juncus cf. balticas* ssp. *ater* | Baltic rush | N |
| *Juncus effusus* ssp. *pacificus* | Pacific rush | N |
| *Juncus* sp. | Rush | N |
| *Lactuca serriola* | Prickly lettuce | NN |
| *Lasthenia californica* | California goldfields | N |
| *Lasthenia fremontii* | Fremont's goldfields | N |
| *Lasthenia glaberrima* | Smooth goldfields | N |
| *Layia fremontii* | Fremont layia | N |
| *Lemna sp.* | Duckweed | N |
| *Leontodon saxatilis* ssp. *longirostris* | Hawkbit | NN |
| *Lysimachia arvensis* | Scarlet pimpernel | NN |
| *Lythrum hyssopifolia* | Hyssop loosestrife | NN, I |
| *Marrubium vulgare* | White horehound | NN, I |
| *Medicago polymorpha* | California burclover | NN, I |
| *Mentha pulegium* | Pennyroyal | NN, I |
| *Mentha spicata* | Spearmint | NN |

| Stanford Ranch Preserve Unit | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Muhlenbergia rigens* | Deergrass | N |
| *Navarretia intertexta* | Interwoven navarretia | N |
| *Navarretia leucocephala* | White headed navarretia | N |
| *Olea europaea* | Olive | NN, I |
| *Panicum cf. capillare* | Witchgrass | N |
| *Parentucellia viscosa* | yellow glandweed | NN, I |
| *Paspalum dilatatum* | Dallis grass | NN |
| *Persicaria hydropiper* | Common smartweed | NN |
| *Persicaria* sp. | Smartweed | (N) |
| *Phalaris aquatica* | Harding grass | NN, I |
| *Phalaris cf. minor* | Little seed canarygrass | NN |
| *Phoradendron leucarpum* ssp. *macrophyllum* | Mistletoe | N |
| *Phyla nodiflora* | Lippia | N |
| *Phyllostachys* sp. | Bamboo | NN |
| *Phytolacca americana* var. *americana* | American pokeweed | NN, I |
| *Pilularia americana* | American pillwort | N |
| *Plagiobothrys fulvus* | Fulvous popcorn flower | N |
| *Plagiobothrys greenei* | Greene's allocarya | N |
| *Plagiobothrys stipitatus* | Stalked popcornflower | N |
| *Plantago elongata* | Annual coast plantago | N |
| *Plantago lanceolata* | English plantain | NN, I |
| *Pogogyne zizyphoroides* | Sacramento mint | N |
| *Polygonum aviculare* ssp. *depressum* | Prostrate knotweed | NN |
| *Polygonum* sp. | Smartweed | N |
| *Polypogon monspeliensis* | Rabbitsfoot grass | NN, I |
| *Populus fremontii* | Fremont cottonwood | N |
| *Populus fremontii* ssp. *fremontii* | Fremont cottonwood | N |
| *Psilocarphus brevissimus* | Short woollyheads | N |
| *Punica granatum* | Pomegranate | NN |
| *Pyracantha* sp. | Firethorn | NN |
| *Pyrus calleryana* | Callery pear | NN, I |
| *Quercus douglasii* | Blue oak | N |
| *Quercus lobata* | Valley oak | N |
| *Quercus wislizeni* var. *wislizeni* | Interior live oak | N |
| *Ranunculus bonariensis* | Vernal pool indian paintbrush | N |
| *Robinia pseudoacacia* | Black locust | NN, I |
| *Rosa* sp. | Rose | NN |
| *Rosmarinus officinalis* | Rosemary | NN |
| *Rubus armeniacus* | Himalayan blackberry | NN, I |
| *Rumex crispus* | Curly dock | NN, I |
| *Rumex pulcher* | Fiddle dock | NN |
| *Salix babylonica* | Weeping willow | NN |
| *Salix cf. lasiandra* var. *lasiandra* | Pacific willow | N |
| *Salix exigua* var. *hindsiana* | Sandbar willow | N |
| *Salix gooddingii* | Gooding's willow | N |
| *Salix lasiolepis* | Arroyo willow | N |
| *Sanicula bipinnatifida* | Purple sanicle | N |

| **Stanford Ranch Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Schoenoplectus acutus* var. *occidentalis* | Tule | N |
| *Schoenoplectus americanus* | Tule | N |
| *Silybum marianum* | Blessed milkthistle | NN, I |
| *Sonchus oleraceus* | Sow thistle | NN |
| *Sorghum halepense* | Johnsongrass | NN |
| *Stipa* sp. | Needlegrass | N |
| *Toxicodendron diversilobum* | Poison oak | N |
| *Triadica sebifera* | Chinese tallowtree | NN, I |
| *Trifolium depauperatum* | Cowbag clover | N |
| *Trifolium dubium* | Shamrock clover | NN |
| *Trifolium hirtum* | Rose clover | NN, I |
| *Trifolium* sp. | Clover | / |
| *Triglochin scilloides* | Flowering-quillwort | N |
| *Triteleia hyacinthina* | White brodiaea | N |
| *Typha* sp. | Cattail | N |
| *Veronica peregrina* | Hairy purslane speedwell | N |
| *Vicia* sp. | Vetch | / |
| *Vicia villosa* | Hairy vetch | NN |
| *Vitex agnus-castus* | Lilac chastetree | NN |
| *Vitis californica* | California grape | N |
| *Washingtonia* cf. *robusta* | Mexican fan palm | NN, I |
| *Xanthium strumarium* | Rough cockleburr | N |
| *Zeltnera muehlenbergii* | Muhlenberg's centaury | N |

| **Sunset West Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Acmispon americanus* var. *americanus* | American bird's foot trefoil | N |
| *Adiantum jordanii* | California maidenhair fern | N |
| *Aira caryophyllea* | Shiver grass | NN |
| *Alnus rhombifolia* | White alder | N |
| *Alopecurus saccatus* | Pacific foxtail | N |
| *Amaranthus californicus* | California amaranth | N |
| *Ammania robusta* | Grand ammania | N |
| *Andropogon virginicus* var. *virginicus* | Broomsedge bluestem | NN |
| *Avena barbata* | Slender oat | NN, I |
| *Azolla filiculoides* | American water fern | N |
| *Baccharis pilularis* ssp. *consanguinea* | Coyote brush | N |
| *Briza minor* | Little quaking grass | N |
| *Brodiaea elegans* | Harvest brodiaea | N |
| *Brodiaea minor* | Dwarf brodiaea | N |
| *Bromus diandrus* | Ripgut grass | NN, I |
| *Bromus hordeaceus* | Soft chess | NN, I |
| *Carduus pycnocephalus* ssp. *pycnocephalus* | Italian thistle | NN, I |
| *Catalpa speciosa* | Northern catalpa | NN |
| *Centaurea solstitialis* | Yellow star thistle | NN, I |
| *Centromadia fitchii* | Spikeweed | N |
| *Chondrilla juncea* | Skeleton weed | NN, I |
| *Cirsium vulgare* | Bull thistle | NN, I |
| *Convolvulus arvensis* | Field bindweed | NN |
| *Cortaderia* sp. | Pampas grass | NN, I |
| *Crassula aquatica* | Aquatic pygmy weed | N |
| *Croton setiger* | Turkey-mullein | N |
| *Cuscuta* sp. | Dodder | N |
| *Cynodon dactylon* | Bermuda grass | NN, I |
| *Cynosurus echinatus* | Annual dogtail | NN, I |
| *Cyperus difformis* | Variable flatsedge | NN |
| *Cyperus eragrostis* | Tall flatsedge | N |
| *Deschampsia danthonioides* | Annual hairgrass | N |
| *Digitaria sanguinalis* | Hairy crabgrass | NN |
| *Dittrichia graveolens* | Stinkwort | NN, I |
| *Downingia bicornuta* | Bristled downingia | N |
| *Downingia ornatissima* | Horned downingia | N |
| *Echinodorus berteroi* | Burhead | N |
| *Eichhornia crassipes* | Common water hyacinth | NN, I |
| *Eleocharis acicularis* | Needle spike rush | N |
| *Eleocharis macrostachya* | Spikerush | N |
| *Elymus caput-medusae* | Medusahead | NN, I |
| *Elymus caput-medusae* | Medusa head | NN, I |
| *Epilobium brachycarpum* | Autumn willowweed | N |
| *Epilobium densiflorum* | Dense boisduvalia | N |
| *Erigeron canadensis* | Canada horseweed | N |
| *Erodium botrys* | Broad leaf filaree | NN |

| **Sunset West Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Erodium cicutarium* | Red stemmed filaree | NN, I |
| *Eryngium* sp. | Button celery | N |
| *Eryngium vaseyi* | Coyote thistle | N |
| *Euphorbia ocellata* ssp. *ocellata* | Valley spurge | N |
| *Euthamia occidentalis* | Western goldenrod | N |
| *Festuca bromoides* | Brome fescue | NN |
| *Festuca myuros* | Rattail sixweeks grass | NN, I |
| *Festuca perennis* | Rye grass | NN, I |
| *Ficus carica* | Edible fig | NN, I |
| *Galium aparine* | Common bedstraw | N |
| *Geranium molle* | Crane's bill geranium | NN |
| *Glyceria declinata* | Waxy mannagrass | N |
| *Glyceria* sp. | Mannagrass | (NN) |
| *Gratiola ebracteata* | Bractless hedge hyssop | N |
| *Helminthotheca echioides* | Bristly ox-tongue | NN, I |
| *Heterotheca grandiflora* | Telegraph weed | N |
| *Hirschfeldia incana* | Short podded mustard | NN, I |
| *Holocarpha virgata* ssp. *virgata* | Narrow tarplant | N |
| *Hordeum marinum* | Seaside barley | NN |
| *Hordeum murinum* | Foxtail barley | NN, I |
| *Juncus bufonius* | Common toad rush | N |
| *Juncus cf. balticus* ssp. *ater* | Baltic rush | N |
| *Juncus effusus* ssp. *pacificus* | Pacific rush | N |
| *Juncus oxymeris* | Pointed rush | N |
| *Juncus* sp. | Rush | N |
| *Lactuca serriola* | Prickly lettuce | NN |
| *Lasthenia californica* | California goldfields | N |
| *Lasthenia fremontii* | Fremont's goldfields | N |
| *Lasthenia glaberrima* | Smooth goldfields | N |
| *Lathyrus angulatus* | Angled pea vine | NN |
| *Layia fremontii* | Fremont layia | N |
| *Leersia oryzoides* | Rice cutgrass | N |
| *Lemna* sp. | Duckweed | N |
| *Leontodon saxatilis* | Hawkbit | NN |
| *Ludwigia* sp. | Water primrose | (NN) |
| *Lythrum hyssopifolia* | Loosestrife | NN, I |
| *Mentha pulegium* | Pennyroyal | NN, I |
| *Mimulus guttatus* | Seep monkey flower | N |
| *Muhlenbergia rigens* | Deergrass | N |
| *Navarretia leucocephala* | White headed navarretia | N |
| *Oenothera* sp. | Evening primrose | N |
| *Paspalum dilatatum* | Dallis grass | NN |
| *Persicaria* sp. | Knotweed | (N) |
| *Phalaris* sp. | Canary grass | NN |
| *Physalis cf. angulata* | Cutleaf groundcherry | N |
| *Pilularia americana* | American pillwort | N |

| **Sunset West Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Plagiobothrys greenei* | Greene's allocarya | N |
| *Plagiobothrys stipitatus* | Stalked popcornflower | N |
| *Plantago elongata* | Annual coast plantago | N |
| *Platanus* sp. | Planetree | NN |
| *Pogogyne zizyphoroides* | Sacramento mint | N |
| *Polygonum* sp. | Smartweed | N |
| *Polypogon monspeliensis* | Rabbitsfoot grass | NN, I |
| *Populus fremontii* | Fremont cottonwood | N |
| *Populus fremontii* ssp. *fremontii* | Fremont cottonwood | N |
| *Portulaca oleracea* | Common purslane | NN |
| *Psilocarphus brevissimus* | Short woollyheads | N |
| *Psilocarphus brevissimus* var. *brevissimus* | Short woollyheads | N |
| *Pyrus calleryana* | Callery pear | NN, I |
| *Quercus lobata* | Valley oak | N |
| *Quercus wislizeni* var. *wislizeni* | Interior live oak | N |
| *Ranunculus aquatilis* | Whitewater crowfoot | N |
| *Ranunculus bonariensis* | Carter's buttercup | N |
| *Robinia pseudoacacia* | Black locust | NN, I |
| *Rubus armeniacus* | Himalayan blackberry | NN, I |
| *Rumex crispus* | Curly dock | NN, I |
| *Rumex pulcher* | Fiddle dock | NN |
| *Salix babylonica* | Weeping willow | NN |
| *Salix exigua* | Narrow leaved willow | N |
| *Salix exigua* var. *hindsiana* | Sandbar willow | N |
| *Salix gooddingii* | Gooding's 'willow | N |
| *Salix laevigata* | Red willow | N |
| *Salix lasiandra* var. *lasiandra* | Pacific willow | N |
| *Salix* sp. | Willow | N |
| *Salsola tragus* | Tumbleweed | NN, I |
| *Schoenoplectus acutus* var. *occidentalis* | Tule | N |
| *Sorghum halepense* | Johnsongrass | NN |
| *Spergularia rubra* | Purple sand spurry | NN |
| *Stipa miliacea* var. *miliacea* | Smilo grass | NN, I |
| *Stipa s*p. | Needlegrass | N |
| *Tamarix* sp. | Tamarisk | NN, I |
| *Torilis arvensis* | Field hedge parsley | NN, I |
| *Triadica sebifera* | Chinese tallowtree | NN, I |
| *Trichostema lanceolatum* | Vinegar weed | N |
| *Trifolium depauperatum* | Cowbag clover | N |
| *Trifolium dubium* | Shamrock clover | NN |
| *Trifolium hirtum* | Rose clover | NN, I |
| *Trifolium* sp. | Clover | / |
| *Triglochin scilloides* | Flowering-quillwort | N |
| *Triteleia hyacinthina* | White brodiaea | N |
| *Typha* sp. | Cattail | N |
| *Veronica peregrina* | Hairy purslane speedwell | N |

| **Sunset West Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Vicia* sp. | Vetch | / |
| *Vicia villosa* | Hairy vetch | NN |
| *Xanthium strumarium* | Rough cockleburr | N |

| **Whitney Ranch Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Acmispon purshianus* | Spanish lotus | NN,I |
| *Avena fatua* | Wild oat | NN |
| *Baccharis pilularis* | Coyote brush | N |
| *Brassica rapa* | Field mustard | NN |
| *Bromus diandrus* | Ripgut grass | NN |
| *Bromus hordeaceus* | Soft chess | NN |
| *Carduus pycnocephalus* | Italian thistle | NN,I |
| *Centaurea solstitialis* | Yellow star thistle | NN,I |
| *Centromadia fitchii* | Spikeweed | N |
| *Croton setigerus* | Turkey-mullein | N |
| *Cyperus eragrostis* | Nutsedge | N |
| *Datura* sp. | Jimson weed | NN |
| *Eleocharis macrostachya* | Spikerush | N |
| *Elymus caput-medusae* | Medusahead | NN,I |
| *Epilobium ciliatum* | Willowherb | N |
| *Festuca perennis* | Rye grass | NN |
| *Ficus carica* | Edible fig | NN,I |
| *Foeniculum vulgare* | Sweet fennel | NN, I |
| *Galium aparine* | Common bedstraw | N |
| *Holocarpha virgata* | Tarweed | N |
| *Hordeum marinum* | Mediterranean barley | NN |
| *Juncus patens* | Spreading rush | N |
| *Lactuca serriola* | Prickly lettuce | NN,I |
| *Mentha pulegium* | Pennyroyal | NN,I |
| *Paspalum dilatatum* | Dallis grass | NN,I |
| *Plantago lanceolata* | English plantain | NN |
| *Polygonum* sp. | Knotweed | NN |
| *Polypogon monspeliensis* | Rabbitsfoot grass | NN,I |
| *Populus fremontii* ssp. *fremontii* | Fremont cottonwood | N |
| *Pyrus calleryana* | Callery pear | NN,I |
| *Raphanus sativus* | Wild radish | NN,I |
| *Rubus armeniacus* | Himalayan blackberry | NN,I |
| *Rumex crispus* | Curly dock | NN,I |
| *Salix laevigata* | Red willow | N |
| *Triadica sebifera* | Chinese tallowtree | NN,I |
| *Trichostema lanceolatum* | Vinegar weed | N |
| *Trifolium dubium* | Little hop clover | NN |
| *Trifolium hirtum* | Rose clover | NN,I |
| *Typha angustifolia* | Narrow-leaved cattail | N |

| **Brighton Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Acmispon americanus* var. *americanus* | American bird's foot trefoil | N |
| *Aira caryophyllea* | Silver hairgrass | NN |
| *Amaranthus californicus* | California amaranth | N |
| *Artemisia douglasiana* | California mugwort | N |
| *Artemisia dracunculus* | Tarragon | N |
| *Avena barbata* | Slender oat | NN, I |
| *Baccharis pilularis* ssp. *consanguinea* | Coyote brush | N |
| *Brassica nigra* | Black mustard | NN, I |
| *Bromus diandrus* | Ripgut grass | NN, I |
| *Bromus hordeaceus* | Soft chess | NN, I |
| *Carduus pycnocephalus* ssp. *pycnocephalus* | Italian thistle | NN |
| *Chondrilla juncea* | Skeleton weed | NN, I |
| *Cirsium vulgare* | Bull thistle | NN, I |
| *Cynodon dactylon* | Bermuda grass | NN, I |
| *Cyperus eragrostis* | Tall flatsedge | N |
| *Dittrichia graveolens* | Stinkwort | NN, I |
| *Epilobium brachycarpum* | Autumn willowweed | N |
| *Epilobium ciliatum* cf. ssp. *ciliatum* | Fringed willowherb | N |
| *Erigeron canadensis* | Canada horseweed | N |
| *Euthamia occidentalis* | Western goldenrod | N |
| *Festuca perennis* | Rye grass | NN, I |
| *Heteromeles arbutifolia* | Toyon | N |
| *Heterotheca grandiflora* | Telegraph weed | N |
| *Hirschfeldia incana* | Short podded mustard | NN, I |
| *Hydrilla verticillata* | Hydrilla | NN, I |
| *Hypochaeris glabra* | Smooth cat's 'ear | NN, I |
| *Juglans hindsii* | Northern california black walnut | N |
| *Juncus effusus* ssp. *pacificus* | Pacific rush | N |
| *Lactuca serriola* | Prickly lettuce | NN |
| *Leersia oryzoides* | Rice cutgrass | N |
| *Lemna* sp. | Duckweed | N |
| *Myriophyllum aquaticum* | Parrot's feather | NN |
| *Persicaria* cf. *hydropiper* | Waterpepper | NN |
| *Polygonum aviculare* ssp. *depressum* | Prostrate knotweed | NN |
| *Populus fremontii* ssp. *fremontii* | Fremont cottonwood | N |
| *Portulaca oleracea* | Common purslane | NN |
| *Pyrus calleryana* | Callery pear | NN, I |
| *Quercus douglasii* | Blue oak | N |
| *Quercus lobata* | Valley oak | N |
| *Quercus wislizeni* var. *wislizeni* | Interior live oak | N |
| *Raphanus sativus* | Cultivated radish | NN, I |
| *Rubus armeniacus* | Himalayan blackberry | NN, I |
| *Rumex crispus* | Curly dock | NN, I |
| *Salix exigua* var. *hindsiana* | Sandbar willow | N |
| *Salix laevigata* | Red willow | N |
| *Salix lasiandra* | Pacific willow | N |
| *Salix lasiolepis* | Arroyo willow | N |

| **Brighton Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Schoenoplectus acutus* var. *occidentalis* | Tule | N |
| *Torilis arvensis* | Field hedge parsley | NN, I |
| *Toxicodendron diversilobum* | Poison oak | N |
| *Trifolium hirtum* | Rose clover | I |
| *Typha* sp. | Cattail | N |
| *Verbascum blattaria* | Moth mullein | NN |

| **Garnet Creek Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Avena* sp. | Oat | ~ |
| *Baccharis pilularis* | Coyote brush | N |
| *Erodium botrys* | Big heron bill | NN |
| *Eschscholzia californica* | California poppy | N |
| *Galium aparine* | Common bedstraw | N |
| *Pinus sabiniana* | Foothill pine | N |
| *Populus fremontii* ssp. *fremontii* | Fremont cottonwood | N |
| *Quercus douglasii* | Blue oak | N |
| *Quercus lobata* | Valley oak | N |
| *Quercus wislizeni* var. *wislizeni* | Interior live oak | N |
| *Rubus armeniacus* | Himalayan blackberry | NN,I |
| *Rumex crispus* | Curly dock | NN,I |
| *Salix* sp. | Willow | ~ |
| *Typha* sp. | Cattail | N |
| *Vicia* sp. | Vetch | ~ |

| **Parklands North Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Aesculus californica* | California buckeye | N |
| *Avena* sp. | Oat | ~ |
| *Carduus pycnocephalus* | Italian thistle | NN,I |
| *Centaurea solstitialis* | Yellow star thistle | NN,I |
| *Cynodon dactylon* | Bermuda grass | NN, I |
| *Hordeum murinum* | Wall barley | NN, I |
| *Persicaria sp.* | Smartweed | (N) |
| *Phytolacca americana* var. *americana* | American pokeweed | NN, I |
| *Pinus* sp. | Pine | ~ |
| *Populus fremontii* ssp. *fremontii* | Fremont cottonwood | N |
| *Quercus douglasii* | Blue oak | N |
| *Quercus wislizeni* var. *wislizeni* | Interior live oak | N |
| *Rubus armeniacus* | Himalayan blackberry | NN,I |
| *Salix* sp. | Willow | ~ |
| *Sambucus nigra* ssp. *caerulea* | Blue elderberry | N |
| *Typha* sp. | Cattail | N |
| *Vitis californica* | Wild grape | N |

| **Placer Creek Corporate Center Preserve Unit** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Native, Non-native, Invasive** |
| *Amsinckia* sp. | Fiddleneck | ~ |
| *Avena* sp. | Oat | ~ |
| *Baccharis pilularis* | Coyote brush | N |
| *Blennosperma nanum* | Yellow carpet | N |
| *Dichelostemma* sp. | Blue dicks | ~ |
| *Dittrichia graveolens* | Stinkwort | NN, I |
| *Eleocharis macrostachya* | Common spikerush | N |
| *Elymus caput-medusae* | Medusahead | NN, I |
| *Erodium botrys* | Big heron bill | NN |
| *Festuca* sp. | Fescue | ~ |
| *Geranium dissectum* | Cut leaved geranium | NN, I |
| *Holocarpha virgata ssp. virgata* | Narrow tarplant | NN |
| *Hypochaeris glabra* | Smooth cat's ear | NN, I |
| *Lasthenia californica* | California goldfields | N |
| *Leontodon saxatilis* | Hawkbit | NN |
| *Lupinus* sp. | Lupine | ~ |
| *Ranunculus bonariensis* | Carter's buttercup | N |
| *Rumex crispus* | Curly dock | NN, I |
| *Senecio vulgaris* | Common groundsel | NN |
| *Triphysaria eriantha* | Butter 'n' eggs | N |
| *Vicia* sp. | Vetch | ~ |

# Appendix B

## Wildlife Species Observed or Detected

| Scientific Name | Common Name |
|---|---|
| **Birds** | |
| *Anser caerulescens* | snow goose |
| *Accipiter cooperii* | Cooper's hawk |
| *Anas acuta* | northern pintail |
| *Anas crecca* | green-winged teal |
| *Anas platyrhynchos* | mallard |
| *Anser albifrons* | greater white-fronted goose |
| *Antigone canadensis* | sandhill crane |
| *Aphelocoma californica* | California scrub-jay |
| *Ardea alba* | great egret |
| *Ardea herodias* | great blue heron |
| *Baeolophus inornatus* | oak titmouse |
| *Branta canadensis* | Canada goose |
| *Bubo virginianus* | great horned owl |
| *Bubulcus ibis* | cattle egret |
| *Bucephala albeola* | bufflehead |
| *Bucephala clangula* | common goldeneye |
| *Buteo jamaicensis* | red-tailed hawk |
| *Buteo lineatus* | red-shouldered hawk |
| *Buteo swainsoni* | Swainson's hawk |
| *Callipepla californica* | California quail |
| *Calypte anna* | Anna's hummingbird |
| *Cathartes aura* | turkey vulture |
| *Certhia americana* | brown creeper |
| *Charadrius vociferus* | killdeer |
| *Circus hudsonius* | northern harrier |
| *Colaptes auratus* | northern flicker |
| *Dryobates villosus* | hairy woodpecker |
| *Elanus leucurus* | white-tailed kite |
| *Falco sparverius* | American kestrel |
| *Fulica americana* | American coot |
| *Haemorhous mexicanus* | house finch |
| *Hirundo rustica* | barn swallow |
| *Junco hyemalis* | dark-eyed junco |
| *Mareca americana* | American wigeon |
| *Mareca strepera* | gadwall |
| *Melanerpes formicivorus* | acorn woodpecker |
| *Melospiza melodia* | song sparrow |
| *Melozone crissalis* | California towhee |
| *Mimus polyglottos* | northern mockingbird |
| *Nycticorax nycticorax* | black-crowned night-heron |
| *Pandion haliaetus* | osprey |
| *Passerculus sandwichensis* | savannah sparrow |
| *Phasianus colchicus* | ring-necked pheasant |
| *Pipilo maculatus* | spotted towhee |
| *Podilymbus podiceps* | pied-billed grebe |
| *Poecile gambeli* | mountain chickadee |
| *Recurvirostra americana* | American avocet |
| *Regulus calendula* | ruby-crowned kinglet |

| Scientific Name | Common Name |
|---|---|
| *Sayornis nigricans* | black phoebe |
| *Sayornis saya* | Say's phoebe |
| *Setophaga coronata* | yellow-rumped warbler |
| *Sialia mexicana* | western bluebird |
| *Sitta canadensis* | red-breasted nuthatch |
| *Spatula clypeata* | northern shoveler |
| *Spatula cyanoptera* | cinnamon teal |
| *Spinus tristis* | American goldfinch |
| *Sturnus vulgaris* | European starling |
| *Tachycineta bicolor* | tree swallow |
| *Thryomanes bewickii* | Bewick's wren |
| *Troglodytes aedon* | house wren |
| *Turdus migratorius* | American robin |
| *Tyrannus verticalis* | western kingbird |
| *Tyto alba* | barn owl |
| *Vireo huttoni* | Hutton's vireo |
| *Zenaida macroura* | mourning dove |
| *Zonotrichia leucophrys* | white-crowned sparrow |
| **Amphibians** | |
| *Pseudacris sierra* | Sierran treefrog |
| *Lithobates catesbeianus* | American bullfrog |
| **Reptiles** | |
| *Actinemys marmorata* | western pond turtle |
| *Coluber constrictor mormon* | western yellow-bellied racer |
| *Thamnophis sirtalis fitchi* | valley garter snake |
| *Trachemys scripta elegans* | red-eared slider |
| **Mammals** | |
| *Canis latrans* | coyote |
| *Castor canadensis subauratus* | beaver |
| *Lepus californicus* | black-tailed jackrabbit |
| *Lontra canadensis* | river otter |
| *Procyon lotor* | racoon |

# Appendix C

## Vernal Pool Invertebrate Survey Datasheets

**Project Site** Rocklin Open Space | **Date:** October 16, 2021 | **Quad:** Roseville and Rocklin
**County:** Placer | **Time:** 9AM to 2PM | **Township:** 11 North
**Collectors:** Marisa Brilts | **Temp:** 16-18°C | **Range:** 6 East
**Permit #:** TE-778195-14.2 | **Weather:** Fog | **Section:** 1-3, 10-15

| Vernal Pool # | Water Temp. (°C) | Water Depth (cm) | Estimated Maximum Depth (cm) | Present Surface Area (mxm) | Inundation (%) | Photo # | Crustacea | | | | | | | | Turbellaria | Insecta | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Anostraca | | Notostraca | Cladocera | Conchostraca | Copepoda | Ostracoda | | | Coleoptera | | Hemiptera | Diptera | |
| | | | | | | | Vernal Pool Fairy Shrimp (B. lynchi) | California Linderiella | Vernal Pool Tadpole Shrimp | Water Fleas | Clam Shrimps | Copepods | Seed Shrimp | | Flatworms | Dytiscidae (Diving Water Beetles) | Haliplidae (Crawling Water Beetles) | Notonectidae (Backswimmers) | Chironomidae (Midge) | |
| SW-1 | | | | | | | | | | | | | | | | | | | | |
| 53 | | | | | | 1 | | | | | | | | | | | | | | |
| 238 | DRY | | | | | 2 | | | | | | | | | | | | | | |
| 234 | DRY | | | | | 3 | | | | | | | | | | | | | | |
| 48 | 16 | 8 | 13 | 6x23 | 75% | 4 | | | | | | | | x | | | | | | Mosquito larva and dark water |
| 108 | 16 | 8 | 15 | 15x9 | 85% | 5 | | | | | | | | x | | | | | x | Mosquito larva and dark water |
| 110 | DRY | | | | | 6 | | | | | | | | | | | | | | |
| 111 | 14 | 13 | 18 | 15x9 | 40% | 7 | | | | | | | | x | | | | | | Dark water |
| 112 | DRY | | | | | 8 | | | | | | | | | | | | | | |
| 99 | DRY | | | | | 9 | | | | | | | | | | | | | | |
| 94 | 16 | 5 | 8 | 18x15 | 90% | 10&11 | | | | | | x | x | x | | | | x | x | Oil (non-organic) in vernal pool but otherwise clear water. |
| 90 | 17 | 3 | 8 | 5x3 | 50% | 12 | | | | | | | | x | | | | | | Mosquito larva and clear wate |
| 51 | DRY | | | | | 13 | | | | | | | | | | | | | | |
| 88 | 17 | 3 | 3 | 2x2 | 5% | 14 | | | | | | | | x | | | | | x | Mosquito larva and clear wate |
| 86 | DRY | | | | | 15 | | | | | | | | | | | | | | |
| 92 | DRY | | | | | 16 | | | | | | | | | | | | | | |
| 208 | DRY | | | | | 17 | | | | | | | | | | | | | | |
| 79 | 17 | 10 | 18 | 15x6 | 80% | 18 | | | | x | | x | x | x | | | | x | x | Rockpile in pool, dark water, and water fern. |
| 82 | DRY | | | | | 19 | | | | | | | | | | | | | | |
| 101 | DRY | | | | | 20 | | | | | | | | | | | | | | |
| 47 | 16 | 10 | 15 | 15x15 | 98% | 21 | | | | x | | x | x | x | x | | | x | x | Organic film and clear water |
| 210 | DRY | | | | | 22 | | | | | | | | | | | | | | |
| 206 | DRY | | | | | 23 | | | | | | | | | | | | | | |
| SR-8 | | | | | | | | | | | | | | | | | | | | |
| 286 | DRY | | | | | | | | | | | | | | | | | | | |
| 307 | DRY | | | | | | | | | | | | | | | | | | | |
| 290 | DRY | | | | | | | | | | | | | | | | | | | |
| 18 | DRY | | | | | | | | | | | | | | | | | | | |
| 149 | DRY | | | | | | | | | | | | | | | | | | | |
| 17 | DRY | | | | | | | | | | | | | | | | | | | |
| 150 | DRY | | | | | | | | | | | | | | | | | | | |
| 301 | DRY | | | | | | | | | | | | | | | | | | | |
| 163 | DRY | | | | | | | | | | | | | | | | | | | |
| 160 | DRY | | | | | | | | | | | | | | | | | | | |
| 170 | DRY | | | | | | | | | x | | x | x | x | | | | x | x | Tadpoles |
| 23 | DRY | | | | | | | | | | | | | | | | | | | |
| 283 | DRY | | | | | | | | | | | | | | | | | | | |
| SR-12 | | | | | | | | | | | | | | | | | | | | |
| 277 | DRY | | | | | | | | | | | | | | | | | | | |
| 188 | DRY | | | | | | | | | | | | | | | | | | | |
| 191 | 4 | 9 | 13 | 76x24 | 95% | | | | | x | | x | | x | x | x | | | | Hydrologically connected to 204 |
| 13 | DRY | | | | | | | | | | | | | | | | | | | |
| 199 | DRY | | | | | | | | | | | | | | | | | | | |
| 198 | DRY | | | | | | | | | | | | | | | | | | | |
| 196 | DRY | | | | | | | | | | | | | | | | | | | |
| 173 | DRY | | | | | | | | | | | | | | | | | | | |
| SR-17 | | | | | | | | | | | | | | | | | | | | |
| 310 | DRY | | | | | | | | | | | | | | | | | | | |
| PCCC-5 | | | | | | | | | | | | | | | | | | | | |
| 317 | DRY | | | | | | | | | | | | | | | | | | | |
| PCCC-2 | | | | | | | | | | | | | | | | | | | | |
| 321 | DRY | | | | | | | | | | | | | | | | | | | |
| OC-1 | | | | | | | | | | | | | | | | | | | | |
| 66 | DRY | | | | | | | | | | | | | | | | | | | |
| SW-2 | | | | | | | | | | | | | | | | | | | | |
| 125 | DRY | | | | | | | | | | | | | | | | | | | |
| 245 | DRY | | | | | | | | | | | | | | | | | | | |
| 131 | 4 | 13 | 15 | 20x10 | 70% | | | | | x | | | | | | | | x | x | |
| 128 | DRY | | | | | | | | | | | | | | | | | | | |
| 129 | DRY | | | | | | | | | | | | | | | | | | | |
| SW-3 | | | | | | | | | | | | | | | | | | | | |
| 59 | DRY | | | | | | | | | | | | | | | | | | | |
| 244 | DRY | | | | | | | | | | | | | | | | | | | |
| 116 | DRY | | | | | | | | | | | | | | | | | | | |
| SW-1 | | | | | | | | | | | | | | | | | | | | |
| 94 | 7 | 6 | 10 | 10x10 | 80% | | | | | x | | | | | | | x | | | Tree frog tadpoles |
| 88 | 9 | 10 | 17 | 23x12 | 90% | | | | | x | | | | | x | | x | | x | |
| 111 | 12 | 6 | 9 | 3x12 | 45% | | | | | x | | | | | x | | x | x | x | |
| 48 | 7 | 5 | 8 | 4x2 | 20% | | | | | x | | | | | x | | | | x | |
| 108 | DRY | | | | | | | | | | | | | | | | | | | |
| 47 | 8 | 5 | 8 | 6x5 | 35% | | | | | | | | | | | | | x | x | |
| 90 | DRY | | | | | | | | | | | | | | | | | | | |
| 79 | DRY | | | | | | | | | | | | | | | | | | | |
| 206 | DRY | | | | | | | | | | | | | | | | | | | |
| SW-4 | | | | | | | | | | | | | | | | | | | | |
| 133 | DRY | | | | | | | | | | | | | | | | | | | |
| 134 | 13 | 9 | 13 | 8x3 | 65% | | | | | | | | | | | | | | | |
| SW-6 | | | | | | | | | | x | | | | | | | x | x | x | |
| 262 | DRY | | | | | | | | | | | | | | | | | | | |
| 263 | DRY | | | | | | | | | | | | | | | | | | | |
| SW-5 | | | | | | | | | | | | | | | | | | | | |
| 249 | DRY | | | | | | | | | | | | | | | | | | | |
| SR-20 | | | | | | | | | | | | | | | | | | | | |
| 258 | DRY | | | | | | | | | | | | | | | | | | | |
| SR-12 | | | | | | | | | | | | | | | | | | | | |
| 12 | DRY | | | | | | | | | | | | | | | | | | | |
| 136 | DRY | | | | | | | | | | | | | | | | | | | |
| 137 | DRY | | | | | | | | | | | | | | | | | | | |

**Project Site:** Rocklin Open Space
**County:** Placer
**Collectors:** Michael Scaffidi
**Permit #:** TE-778195-14.2

**Date:** February 8 and 9, 2022
**Time:** 8AM-4PM
**Temp:** 16 °C
**Weather:** Partially cloudy

**Quad:** Roseville and Rocklin
**Township:** 11 North
**Range:** 6 East
**Section:** 1-3, 10-15

| Vernal Pool # | Water Temp. (°C) | Water Depth (cm) | Estimated Maximum Depth (cm) | Present Surface Area (mxm) | Inundation (%) | Photo # | Crustacea | | | | | | | Turbellaria | Insecta | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Anostraca | | Notostraca | Cladocera | Conchostraca | Copepoda | Ostracoda | | Coleoptera | | Hemiptera | Diptera | |
| | | | | | | | Vernal Pool Fairy Shrimp (B. lynchi) | California Linderiella | Vernal Pool Tadpole Shrimp | Water Fleas | Clam Shrimps | Copepods | Seed Shrimp | Flatworms | Dytiscidae (Diving Water Beetles) | Haliplidae (Crawling Water Beetles) | Notonectidae (Backswimmers) | Chironomidae (Midge) | |
| SR-8 | | | | | | | | | | | | | | | | | | | |
| 286 | DRY | | | | | | | | | | | | | | | | | | |
| 307 | DRY | | | | | | | | | | | | | | | | | | |
| 290 | DRY | | | | | | | | | | | | | | | | | | |
| 18 | DRY | | | | | | | | | | | | | | | | | | |
| 149 | DRY | | | | | | | | | | | | | | | | | | |
| 17 | DRY | | | | | | | | | | | | | | | | | | |
| 150 | DRY | | | | | | | | | | | | | | | | | | |
| 301 | DRY | | | | | | | | | | | | | | | | | | |
| 163 | DRY | | | | | | | | | | | | | | | | | | |
| 160 | DRY | | | | | | | | | | | | | | | | | | |
| 170 | DRY | | | | | | | | | | | | | | | | | | Desiccated tadpole |
| 23 | DRY | | | | | | | | | | | | | | | | | | |
| 283 | DRY | | | | | | | | | | | | | | | | | | |
| SR-12 | | | | | | | | | | | | | | | | | | | |
| 277 | DRY | | | | | | | | | | | | | | | | | | |
| 188 | DRY | | | | | | | | | | | | | | | | | | |
| 191 | 14 | 9 | 13 | 76x24 | 95% | | | | | x | | x | | x | x | x | | | Hydrologically connected to 204 |
| 13 | DRY | | | | | | | | | | | | | | | | | | |
| 199 | DRY | | | | | | | | | | | | | | | | | | |
| 198 | DRY | | | | | | | | | | | | | | | | | | |
| 196 | DRY | | | | | | | | | | | | | | | | | | |
| 173 | DRY | | | | | | | | | | | | | | | | | | |
| SR-17 | | | | | | | | | | | | | | | | | | | |
| 310 | DRY | | | | | | | | | | | | | | | | | | |
| PCCC-5 | | | | | | | | | | | | | | | | | | | |
| 317 | DRY | | | | | | | | | | | | | | | | | | |
| PCCC-2 | | | | | | | | | | | | | | | | | | | |
| 321 | DRY | | | | | | | | | | | | | | | | | | |
| OC-1 | | | | | | | | | | | | | | | | | | | |
| 66 | DRY | | | | | | | | | | | | | | | | | | |
| SW-2 | | | | | | | | | | | | | | | | | | | |
| 125 | DRY | | | | | | | | | | | | | | | | | | |
| 245 | DRY | | | | | | | | | | | | | | | | | | |
| 131 | 7 | 6 | 9 | 8x3 | 10% | | | | | | | | | | | | x | x | |
| 128 | DRY | | | | | | | | | | | | | | | | | | |
| 129 | DRY | | | | | | | | | | | | | | | | | | |
| SW-3 | | | | | | | | | | | | | | | | | | | |
| 59 | DRY | | | | | | | | | | | | | | | | | | |
| 244 | DRY | | | | | | | | | | | | | | | | | | |
| 116 | DRY | | | | | | | | | | | | | | | | | | |
| SW-1 | | | | | | | | | | | | | | | | | | | |
| 94 | 7 | 6 | 10 | 6x6 | 75% | | | | | x | | | | | | x | | | Tree frog tadpoles |
| 88 | 9 | 10 | 17 | 21x9 | 85% | | | | | x | | | | x | | x | | x | |
| 111 | 12 | 6 | 9 | 3x12 | 30% | | | | | x | | | | | | x | x | x | |
| 48 | DRY | | | | | | | | | | | | | | | | | | |
| 108 | DRY | | | | | | | | | | | | | | | | | | |
| 47 | 8 | 5 | 8 | 6x5 | 35% | | | | | | | | | | | | x | x | |
| 90 | DRY | | | | | | | | | | | | | | | | | | |
| 79 | DRY | | | | | | | | | | | | | | | | | | |
| 206 | DRY | | | | | | | | | | | | | | | | | | |
| SW-4 | | | | | | | | | | | | | | | | | | | |
| 133 | DRY | | | | | | | | | | | | | | | | | | |
| 134 | 13 | 9 | 13 | 8x3 | 65% | | | | | | | | | | | | | | |
| SW-6 | | | | | | | | | | x | | | | | | x | x | x | |
| 262 | DRY | | | | | | | | | | | | | | | | | | |
| 263 | DRY | | | | | | | | | | | | | | | | | | |
| SW-5 | | | | | | | | | | | | | | | | | | | |
| 249 | DRY | | | | | | | | | | | | | | | | | | |
| SR-20 | | | | | | | | | | | | | | | | | | | |
| 258 | DRY | | | | | | | | | | | | | | | | | | |
| SR-12 | | | | | | | | | | | | | | | | | | | |
| 12 | DRY | | | | | | | | | | | | | | | | | | |
| 136 | DRY | | | | | | | | | | | | | | | | | | |
| 137 | DRY | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

# Appendix D

## Representative Site Photos

**Photo 1**: Inundated vernal pool #108 within SW-1, photo taken during invertebrate surveys.

**Photo 2**: Partially inundated vernal pool #111 within SW-1, photo taken during invertebrate surveys.

**Photo 3:** Dry vernal pool #210 within SW-1, photo taken during invertebrate surveys.

**Photo 4**: Dry vernal pool #234 within SW-1, dominant vegetation includes curly dock.


**Photo 5**: Inundated vernal pool #47 within SW-1, the photo was taken during the second round of invertebrate surveys.


**Photo 6:** Biotic crust was observed in a dry vernal pool # 310 within SR-17 during the second round of invertebrate surveys.


**Photo 7**: Dry vernal pool #262 within SW-6, photo was taken during the second round of invertebrate surveys.


**Photo 8**: Inundated vernal pool #191 within SW-12, photo was taken during the second round of invertebrate surveys.

**Photo 9**: Bristled downingia and popcorn flowers observed in vernal pool #191 within SR-12 during floristic surveys.

**Photo 10**: Carpet of native vernal pool Fremont's goldfields observed in vernal pool #12 within SR-12 during floristic surveys.

**Photo 11**: Vernal pool #66 within OC-1, photo taken during floristic surveys.

**Photo 12**: Vernal pool #317 within PCCC-5, photo taken during floristic surveys.

**Photo 13**: Vernal pool #23 within SR-8, example of vernal pool with rock, bare ground, and dense flowers dominating only a portion of the pool.

**Photo 14:** Vernal pool #290 within SR-8, Fremont's goldfields ringing the vernal pool. Photo taken during floristic surveys.

**Photo 15**: Vernal pool #12 within SR-12, photo taken during floristic surveys.

**Photo 16**: Vernal pool #258 within SR-20, vernal pool dominated by native woolly marbles.

**Photo 17:** Alkali sink community observed in SR- 12, photo taken during spring wetland and riparian monitoring.

**Photo 18**: Closeup of salt-crusted soils and salt grass within SR-12, photo taken during spring wetland and riparian monitoring.

**Photo 19**: Drainage and pond within SR-17, photo taken during spring wetland and riparian monitoring.

**Photo 20**: Pound within SR-17, turtles, mallards, and snowy egrets were observed utilizing the pond during spring wetland and riparian monitoring.

**Photo 21**: Snag was observed within a drainage in SR-17 during spring wetland and riparian monitoring.

**Photo 22**: Monkey flowers were observed within a drainage within SR-17 during spring wetland and riparian monitoring.

**Photo 23**: Winding drainage within SR-20. Photo taken during spring wetland and riparian monitoring.

**Photo 24**: Willows and cottonwoods lining drainage within SW-4. Photo taken during spring wetland and riparian monitoring.

**Photo 25**: Inundated drainage and adjacent vernal pool within SW-6, photo taken during special-status plant surveys.

**Photo 26**: Green vegetation within the wetland and adjacent dry upland, within SW-6, photo taken during special-status species monitoring.

**Photo 27**: Fallen willow tree next to a culvert in SW-3, photo taken during fall wetland and riparian monitoring.

**Photo 28**: Trash accumulation in the creek at SW-18, photo taken during fall wetland and riparian monitoring.

**Photo 29**: Area of previous concern within GC-1. Gabion basket has been fixed as well as placement of rip-rap to minimize erosion.

**Photo 30**: View of culvert and the newly introduced/mapped invasive aquatic plant species, six petal water primrose (*Ludwigia hexapetala*) within GC-1.

**Photo 31**: View of newly introduced/mapped invasive aquatic plant species, parrot feather watermilfoil (*Myriophyllum aquaticum*) within GC-1.

**Photo 32**: Removed culvert cage observed in C-3 during the wetlands and riparian monitoring.

**Photo 33:** Fallen cottonwood observed in SR-5 during wetland and riparian monitoring.

**Photo 34**: RDM location 30 within WR-1. Photo taken from 20 feet.

**Photo 35**: Overview of OC-1 during RDM survey, note the multiple trails throughout the preserve unit.

**Photo 35**: RDM location 54 within BR-1. Photo taken from 20 feet.

# Appendix E

## Vernal Pool Floristic Datasheets

## 2022 Plant Species Frequency for Rocklin - Orchard Creek

| Species | Frequency |
|---|---|
| *Downingia ornatissima* | 100.00% |
| *Eryngium vaseyi* | 100.00% |
| *Leontodon saxatilis* | 100.00% |
| *Plagiobothrys stipitatus* | 100.00% |
| *Ranunculus bonariensis* | 100.00% |
| *Veronica peregrina* | 100.00% |

## 2022 Monitoring Summary for Rocklin - Orchard Creek

| Wetland | Cover | PI | CVVP Species | | CVVP Cover | Species Richness | Native Species | Non-Native Species | Non-Native Cover |
|---|---|---|---|---|---|---|---|---|---|
| VP-066 | 80% | 1.15 | 4 | 66.67% | 76.28% | 6 | 5 | 1 | 3.85% |

Wetland: VP-066

| Species | Cover Class |
|---|---|
| *Downingia ornatissima* | 1 |
| *Eryngium vaseyi* | 1 |
| *Leontodon saxatilis* | 1 |
| *Plagiobothrys stipitatus* | 3 |
| *Ranunculus bonariensis* | 2 |
| *Veronica peregrina* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 80% |
| Prevalence Index: | 1.15 |
| CRAM RIchness: | 5 |
| CRAM Cover: | 96.15% |
| % CVVP Species: | 66.67% |
| CVVP Cover: | 76.28% |
| Species Richness: | 6 |
| Native Species: | 5 |
| Non-Native Species: | 1 |
| Non-Native Cover: | 3.85% |

## 2022 Plant Species Frequency for Rocklin - Stanford Ranch

| Species | Frequency |
|---|---|
| *Achyrachaena mollis* | 3.70% |
| *Aira caryophyllea* | 11.11% |
| *Alopecurus saccatus* | 25.93% |
| *Avena sp.* | 3.70% |
| *Briza minor* | 22.22% |
| *Bromus hordeaceus* | 22.22% |
| *Castilleja attenuata* | 29.63% |
| *Cicendia quadrangularis* | 3.70% |
| *Convolvulus arvensis* | 7.41% |
| *Cotula coronopifolia* | 11.11% |
| *Crassula aquatica* | 44.44% |
| *Croton setiger* | 3.70% |
| *Deschampsia danthonioides* | 29.63% |
| *Downingia bicornuta* | 29.63% |
| *Downingia ornatissima* | 22.22% |
| *Eleocharis macrostachya* | 25.93% |
| *Elymus caput-medusae* | 14.81% |
| *Erodium botrys* | 48.15% |
| *Eryngium aristulatum* | 3.70% |
| *Eryngium castrense* | 11.11% |
| *Eryngium vaseyi* | 33.33% |
| *Festuca microstachys* | 3.70% |
| *Festuca perennis* | 37.04% |
| *Gratiola ebracteata* | 3.70% |
| *Holocarpha virgata* | 7.41% |
| *Hordeum marinum* | 40.74% |
| *Hypochaeris glabra* | 37.04% |
| *Juncus bufonius* | 51.85% |
| *Lasthenia fremontii* | 74.07% |
| *Lasthenia glaberrima* | 11.11% |
| *Leontodon saxatilis* | 40.74% |
| *Lupinus bicolor* | 3.70% |
| *Lysimachia arvensis* | 3.70% |
| *Lythrum hyssopifolia* | 62.96% |
| *Medicago polymorpha* | 3.70% |
| *Montia fontana* | 3.70% |

| | |
|---|---|
| *Navarretia leucocephala* | 11.11% |
| *Plagiobothrys stipitatus* | 77.78% |
| *Plantago lanceolata* | 3.70% |
| *Psilocarphus brevissimus* | 74.07% |
| *Psilocarphus tenellus* | 3.70% |
| *Ranunculus bonariensis* | 22.22% |
| *Rumex crispus* | 3.70% |
| *Trifolium depauperatum* | 29.63% |
| *Trifolium dubium* | 7.41% |
| *Trifolium hirtum* | 3.70% |
| *Triphysaria eriantha* | 3.70% |
| *Triteleia hyacinthina* | 7.41% |

## 2022 Monitoring Summary for Rocklin - Stanford Ranch

| Wetland | Cover | PI | CVVP Species | | CVVP Cover | Species Richness | Native Species | Non-Native Species | Non-Native Cover |
|---|---|---|---|---|---|---|---|---|---|
| VP-012 | 95% | 1.16 | 6 | 40.00% | 92.86% | 15 | 10 | 5 | 5.64% |
| VP-013 | 90% | 1.24 | 3 | 27.27% | 91.22% | 11 | 6 | 5 | 4.88% |
| VP-017 | 95% | 2.57 | 3 | 30.00% | 55.12% | 10 | 4 | 6 | 29.76% |
| VP-018 | 90% | 2.11 | 7 | 63.64% | 56.50% | 11 | 9 | 2 | 18.73% |
| VP-023 | 40% | 1.59 | 8 | 72.73% | 80.22% | 11 | 8 | 3 | 19.78% |
| VP-027 | 90% | 2.63 | 3 | 30.00% | 39.57% | 10 | 5 | 5 | 44.68% |
| VP-136 | 95% | 1.41 | 4 | 36.36% | 86.83% | 11 | 6 | 5 | 8.98% |
| VP-137 | 90% | 1.48 | 4 | 44.44% | 75.68% | 9 | 4 | 5 | 24.32% |
| VP-149 | 90% | 2.95 | 2 | 18.18% | 37.35% | 11 | 6 | 5 | 33.13% |
| VP-150 | 30% | 1.73 | 6 | 60.00% | 74.86% | 10 | 6 | 4 | 25.14% |
| VP-160 | 25% | 1.49 | 4 | 66.67% | 80.33% | 6 | 5 | 1 | 9.84% |
| VP-163 | 65% | 2.43 | 6 | 60.00% | 20.80% | 10 | 5 | 5 | 80.00% |
| VP-170 | 75% | 1.50 | 10 | 66.67% | 68.66% | 15 | 11 | 4 | 22.09% |
| VP-173 | 98% | 1.05 | 3 | 60.00% | 96.39% | 5 | 4 | 1 | 0.52% |
| VP-188 | 80% | 1.67 | 5 | 41.67% | 76.98% | 12 | 8 | 4 | 8.25% |
| VP-191 | 94% | 1.23 | 7 | 53.85% | 82.24% | 13 | 9 | 4 | 15.06% |
| VP-196 | 98% | 1.07 | 7 | 58.33% | 97.57% | 12 | 9 | 3 | 1.46% |
| VP-198 | 97% | 1.08 | 5 | 50.00% | 97.55% | 10 | 6 | 4 | 1.96% |
| VP-199 | 95% | 1.14 | 5 | 62.50% | 94.98% | 8 | 5 | 3 | 5.02% |
| VP-258 | 90% | 1.12 | 7 | 70.00% | 97.60% | 10 | 8 | 2 | 0.60% |
| VP-277 | 80% | 1.08 | 7 | 70.00% | 96.21% | 10 | 7 | 3 | 3.79% |
| VP-283 | 85% | 4.38 | 1 | 14.29% | 4.38% | 7 | 1 | 6 | 95.62% |
| VP-286 | 99% | 1.24 | 8 | 57.14% | 82.66% | 14 | 9 | 5 | 9.29% |
| VP-290 | 100% | 1.57 | 11 | 57.89% | 67.43% | 19 | 12 | 7 | 25.51% |
| VP-301 | 85% | 3.90 | 2 | 20.00% | 4.83% | 10 | 3 | 7 | 94.48% |
| VP-307 | 85% | 3.43 | 1 | 25.00% | 3.66% | 4 | 2 | 2 | 92.68% |
| VP-310 | 60% | 1.05 | 3 | 42.86% | 95.93% | 7 | 5 | 2 | 3.17% |

Wetland: VP-012

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 0 |
| *Castilleja attenuata* | 0 |
| *Cotula coronopifolia* | 0 |
| *Downingia ornatissima* | 1 |
| *Erodium botrys* | 0 |
| *Festuca perennis* | 0 |
| *Juncus bufonius* | 0 |
| *Lasthenia fremontii* | 4 |
| *Leontodon saxatilis* | 1 |
| *Lupinus bicolor* | 0 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 3 |
| *Psilocarphus brevissimus* | 2 |
| *Ranunculus bonariensis* | 1 |
| *Trifolium depauperatum* | 0 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 1.16 |
| CRAM RIchness: | 6 |
| CRAM Cover: | 92.86% |
| % CVVP Species: | 40.00% |
| CVVP Cover: | 92.86% |
| Species Richness: | 15 |
| Native Species: | 10 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 5.64% |

Wetland: VP-013

| Species | Cover Class |
|---|---|
| *Aira caryophyllea* | 0 |
| *Castilleja attenuata* | 0 |
| *Crassula aquatica* | 1 |
| *Elymus caput-medusae* | 0 |
| *Erodium botrys* | 0 |
| *Juncus bufonius* | 0 |
| *Lasthenia fremontii* | 5 |
| *Leontodon saxatilis* | 1 |
| *Lysimachia arvensis* | 0 |
| *Psilocarphus brevissimus* | 1 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 90% |
| Prevalence Index: | 1.24 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 91.22% |
| % CVVP Species: | 27.27% |
| CVVP Cover: | 91.22% |
| Species Richness: | 11 |
| Native Species: | 6 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 4.88% |

Wetland: VP-017

| Species | Cover Class |
|---|---|
| *Bromus hordeaceus* | 1 |
| *Deschampsia danthonioides* | 3 |
| *Elymus caput-medusae* | 1 |
| *Erodium botrys* | 1 |
| *Festuca perennis* | 1 |
| *Hordeum marinum* | 1 |
| *Hypochaeris glabra* | 2 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 2 |
| *Plagiobothrys stipitatus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 2.57 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 55.12% |
| % CVVP Species: | 30.00% |
| CVVP Cover: | 55.12% |
| Species Richness: | 10 |
| Native Species: | 4 |
| Non-Native Species: | 6 |
| Non-Native Cover: | 29.76% |

Wetland: VP-018

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 1 |
| *Crassula aquatica* | 1 |
| *Deschampsia danthonioides* | 3 |
| *Eryngium vaseyi* | 1 |
| *Holocarpha virgata* | 1 |
| *Hordeum marinum* | 2 |
| *Hypochaeris glabra* | 2 |
| *Juncus bufonius* | 3 |
| *Lasthenia fremontii* | 2 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 90% |
| Prevalence Index: | 2.11 |
| CRAM RIchness: | 7 |
| CRAM Cover: | 56.50% |
| % CVVP Species: | 63.64% |
| CVVP Cover: | 56.50% |
| Species Richness: | 11 |
| Native Species: | 9 |
| Non-Native Species: | 2 |
| Non-Native Cover: | 18.73% |

Wetland: VP-023

| Species | Cover Class |
|---|---|
| *Aira caryophyllea* | 1 |
| *Alopecurus saccatus* | 1 |
| *Crassula aquatica* | 1 |
| *Deschampsia danthonioides* | 1 |
| *Downingia bicornuta* | 1 |
| *Eryngium vaseyi* | 1 |
| *Hordeum marinum* | 1 |
| *Lasthenia fremontii* | 2 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 1 |
| *Psilocarphus brevissimus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 40% |
| Prevalence Index: | 1.59 |
| CRAM RIchness: | 8 |
| CRAM Cover: | 80.22% |
| % CVVP Species: | 72.73% |
| CVVP Cover: | 80.22% |
| Species Richness: | 11 |
| Native Species: | 8 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 19.78% |

Wetland: VP-027

| Species | Cover Class |
|---|---|
| *Bromus hordeaceus* | 2 |
| *Deschampsia danthonioides* | 2 |
| *Erodium botrys* | 2 |
| *Hordeum marinum* | 2 |
| *Hypochaeris glabra* | 1 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 2 |
| *Lythrum hyssopifolia* | 1 |
| *Psilocarphus brevissimus* | 2 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 90% |
| Prevalence Index: | 2.63 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 39.57% |
| % CVVP Species: | 30.00% |
| CVVP Cover: | 39.57% |
| Species Richness: | 10 |
| Native Species: | 5 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 44.68% |

Wetland: VP-136

| Species | Cover Class |
|---|---|
| *Castilleja attenuata* | 0 |
| *Cicendia quadrangularis* | 1 |
| *Crassula aquatica* | 1 |
| *Elymus caput-medusae* | 0 |
| *Erodium botrys* | 0 |
| *Eryngium vaseyi* | 1 |
| *Festuca perennis* | 1 |
| *Leontodon saxatilis* | 0 |
| *Medicago polymorpha* | 1 |
| *Plagiobothrys stipitatus* | 4 |
| *Ranunculus bonariensis* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 1.41 |
| CRAM RIchness: | 4 |
| CRAM Cover: | 86.83% |
| % CVVP Species: | 36.36% |
| CVVP Cover: | 86.83% |
| Species Richness: | 11 |
| Native Species: | 6 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 8.98% |

Wetland: VP-137

| Species | Cover Class |
|---|---|
| *Briza minor* | 1 |
| *Convolvulus arvensis* | 0 |
| *Eleocharis macrostachya* | 0 |
| *Erodium botrys* | 0 |
| *Eryngium vaseyi* | 1 |
| *Festuca perennis* | 2 |
| *Lasthenia fremontii* | 1 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 4 |

| Statistics | |
|---|---|
| Vegetative Cover: | 90% |
| Prevalence Index: | 1.48 |
| CRAM RIchness: | 4 |
| CRAM Cover: | 75.68% |
| % CVVP Species: | 44.44% |
| CVVP Cover: | 75.68% |
| Species Richness: | 9 |
| Native Species: | 4 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 24.32% |

Wetland: VP-149

| Species | Cover Class |
|---|---|
| *Bromus hordeaceus* | 1 |
| *Castilleja attenuata* | 1 |
| *Deschampsia danthonioides* | 2 |
| *Elymus caput-medusae* | 2 |
| *Erodium botrys* | 1 |
| *Festuca perennis* | 1 |
| *Holocarpha virgata* | 1 |
| *Hypochaeris glabra* | 1 |
| *Juncus bufonius* | 2 |
| *Plagiobothrys stipitatus* | 2 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 90% |
| Prevalence Index: | 2.95 |
| CRAM RIchness: | 2 |
| CRAM Cover: | 37.35% |
| % CVVP Species: | 18.18% |
| CVVP Cover: | 37.35% |
| Species Richness: | 11 |
| Native Species: | 6 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 33.13% |

Wetland: VP-150

| Species | Cover Class |
|---|---|
| *Deschampsia danthonioides* | 2 |
| *Downingia bicornuta* | 1 |
| *Eryngium castrense* | 0 |
| *Hordeum marinum* | 2 |
| *Hypochaeris glabra* | 1 |
| *Lasthenia fremontii* | 2 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |
| *Triphysaria eriantha* | 0 |

| Statistics | |
|---|---|
| Vegetative Cover: | 30% |
| Prevalence Index: | 1.73 |
| CRAM RIchness: | 6 |
| CRAM Cover: | 74.86% |
| % CVVP Species: | 60.00% |
| CVVP Cover: | 74.86% |
| Species Richness: | 10 |
| Native Species: | 6 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 25.14% |

Wetland: VP-160

| Species | Cover Class |
|---|---|
| *Crassula aquatica* | 1 |
| *Deschampsia danthonioides* | 1 |
| *Hordeum marinum* | 1 |
| *Plagiobothrys stipitatus* | 1 |
| *Psilocarphus brevissimus* | 2 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 25% |
| Prevalence Index: | 1.49 |
| CRAM RIchness: | 4 |
| CRAM Cover: | 80.33% |
| % CVVP Species: | 66.67% |
| CVVP Cover: | 80.33% |
| Species Richness: | 6 |
| Native Species: | 5 |
| Non-Native Species: | 1 |
| Non-Native Cover: | 9.84% |

Wetland: VP-163

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 1 |
| *Downingia bicornuta* | 0 |
| *Eryngium castrense* | 0 |
| *Festuca perennis* | 2 |
| *Hordeum marinum* | 2 |
| *Hypochaeris glabra* | 1 |
| *Lasthenia fremontii* | 1 |
| *Lythrum hyssopifolia* | 2 |
| *Plagiobothrys stipitatus* | 1 |
| *Psilocarphus brevissimus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 65% |
| Prevalence Index: | 2.43 |
| CRAM RIchness: | 6 |
| CRAM Cover: | 20.80% |
| % CVVP Species: | 60.00% |
| CVVP Cover: | 20.80% |
| Species Richness: | 10 |
| Native Species: | 5 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 80.00% |

Wetland: VP-170

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 2 |
| *Deschampsia danthonioides* | 2 |
| *Downingia bicornuta* | 1 |
| *Downingia ornatissima* | 1 |
| *Eleocharis macrostachya* | 1 |
| *Eryngium aristulatum* | 1 |
| *Festuca perennis* | 1 |
| *Hordeum marinum* | 2 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 3 |
| *Lasthenia glaberrima* | 1 |
| *Lythrum hyssopifolia* | 2 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 1 |
| *Ranunculus bonariensis* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 75% |
| Prevalence Index: | 1.50 |
| CRAM RIchness: | 11 |
| CRAM Cover: | 70.45% |
| % CVVP Species: | 66.67% |
| CVVP Cover: | 68.66% |
| Species Richness: | 15 |
| Native Species: | 11 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 22.09% |

Wetland: VP-173

| Species | Cover Class |
|---|---|
| *Erodium botrys* | 0 |
| *Juncus bufonius* | 1 |
| *Lasthenia fremontii* | 5 |
| *Navarretia leucocephala* | 1 |
| *Psilocarphus brevissimus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 98% |
| Prevalence Index: | 1.05 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 96.39% |
| % CVVP Species: | 60.00% |
| CVVP Cover: | 96.39% |
| Species Richness: | 5 |
| Native Species: | 4 |
| Non-Native Species: | 1 |
| Non-Native Cover: | 0.52% |

Wetland: VP-188

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 1 |
| *Briza minor* | 1 |
| *Convolvulus arvensis* | 1 |
| *Crassula aquatica* | 1 |
| *Croton setiger* | 2 |
| *Eleocharis macrostachya* | 1 |
| *Juncus bufonius* | 1 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 5 |
| *Ranunculus bonariensis* | 2 |
| *Trifolium depauperatum* | 1 |
| *Trifolium dubium* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 80% |
| Prevalence Index: | 1.67 |
| CRAM RIchness: | 5 |
| CRAM Cover: | 76.98% |
| % CVVP Species: | 41.67% |
| CVVP Cover: | 76.98% |
| Species Richness: | 12 |
| Native Species: | 8 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 8.25% |

Wetland: VP-191

| Species | Cover Class |
|---|---|
| *Castilleja attenuata* | 0 |
| *Cotula coronopifolia* | 1 |
| *Crassula aquatica* | 1 |
| *Downingia bicornuta* | 1 |
| *Eleocharis macrostachya* | 1 |
| *Erodium botrys* | 0 |
| *Gratiola ebracteata* | 1 |
| *Lasthenia fremontii* | 2 |
| *Leontodon saxatilis* | 0 |
| *Lythrum hyssopifolia* | 2 |
| *Plagiobothrys stipitatus* | 4 |
| *Psilocarphus brevissimus* | 2 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 94% |
| Prevalence Index: | 1.23 |
| CRAM RIchness: | 7 |
| CRAM Cover: | 82.24% |
| % CVVP Species: | 53.85% |
| CVVP Cover: | 82.24% |
| Species Richness: | 13 |
| Native Species: | 9 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 15.06% |

Wetland: VP-196

| Species | Cover Class |
|---|---|
| *Castilleja attenuata* | 0 |
| *Crassula aquatica* | 1 |
| *Downingia ornatissima* | 1 |
| *Eleocharis macrostachya* | 0 |
| *Erodium botrys* | 0 |
| *Eryngium vaseyi* | 0 |
| *Juncus bufonius* | 0 |
| *Lasthenia fremontii* | 5 |
| *Leontodon saxatilis* | 0 |
| *Lythrum hyssopifolia* | 0 |
| *Plagiobothrys stipitatus* | 1 |
| *Psilocarphus brevissimus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 98% |
| Prevalence Index: | 1.07 |
| CRAM RIchness: | 7 |
| CRAM Cover: | 97.57% |
| % CVVP Species: | 58.33% |
| CVVP Cover: | 97.57% |
| Species Richness: | 12 |
| Native Species: | 9 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 1.46% |

Wetland: VP-198

| Species | Cover Class |
|---|---|
| *Aira caryophyllea* | 0 |
| *Briza minor* | 0 |
| *Castilleja attenuata* | 0 |
| *Downingia ornatissima* | 1 |
| *Erodium botrys* | 0 |
| *Lasthenia fremontii* | 5 |
| *Leontodon saxatilis* | 0 |
| *Navarretia leucocephala* | 1 |
| *Plagiobothrys stipitatus* | 1 |
| *Psilocarphus brevissimus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 97% |
| Prevalence Index: | 1.08 |
| CRAM RIchness: | 5 |
| CRAM Cover: | 97.55% |
| % CVVP Species: | 50.00% |
| CVVP Cover: | 97.55% |
| Species Richness: | 10 |
| Native Species: | 6 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 1.96% |

Wetland: VP-199

| Species | Cover Class |
|---|---|
| *Eryngium vaseyi* | 1 |
| *Festuca perennis* | 1 |
| *Lasthenia fremontii* | 3 |
| *Leontodon saxatilis* | 1 |
| *Lythrum hyssopifolia* | 0 |
| *Navarretia leucocephala* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 4 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 1.14 |
| CRAM RIchness: | 5 |
| CRAM Cover: | 94.98% |
| % CVVP Species: | 62.50% |
| CVVP Cover: | 94.98% |
| Species Richness: | 8 |
| Native Species: | 5 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 5.02% |

Wetland: VP-258

| Species | Cover Class |
|---|---|
| *Crassula aquatica* | 1 |
| *Downingia bicornuta* | 0 |
| *Eryngium vaseyi* | 2 |
| *Juncus bufonius* | 1 |
| *Lasthenia fremontii* | 2 |
| *Leontodon saxatilis* | 0 |
| *Lythrum hyssopifolia* | 0 |
| *Plagiobothrys stipitatus* | 5 |
| *Psilocarphus brevissimus* | 3 |
| *Ranunculus bonariensis* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 90% |
| Prevalence Index: | 1.12 |
| CRAM RIchness: | 7 |
| CRAM Cover: | 97.60% |
| % CVVP Species: | 70.00% |
| CVVP Cover: | 97.60% |
| Species Richness: | 10 |
| Native Species: | 8 |
| Non-Native Species: | 2 |
| Non-Native Cover: | 0.60% |

Wetland: VP-277

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 0 |
| *Briza minor* | 0 |
| *Crassula aquatica* | 1 |
| *Downingia ornatissima* | 0 |
| *Eryngium vaseyi* | 1 |
| *Lasthenia fremontii* | 4 |
| *Leontodon saxatilis* | 0 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 80% |
| Prevalence Index: | 1.08 |
| CRAM RIchness: | 7 |
| CRAM Cover: | 96.21% |
| % CVVP Species: | 70.00% |
| CVVP Cover: | 96.21% |
| Species Richness: | 10 |
| Native Species: | 7 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 3.79% |

Wetland: VP-283

| Species | Cover Class |
|---|---|
| *Briza minor* | 1 |
| *Bromus hordeaceus* | 2 |
| *Erodium botrys* | 3 |
| *Hordeum marinum* | 1 |
| *Hypochaeris glabra* | 1 |
| *Leontodon saxatilis* | 1 |
| *Triteleia hyacinthina* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 85% |
| Prevalence Index: | 4.38 |
| CRAM RIchness: | 0 |
| CRAM Cover: | 0.00% |
| % CVVP Species: | 14.29% |
| CVVP Cover: | 4.38% |
| Species Richness: | 7 |
| Native Species: | 1 |
| Non-Native Species: | 6 |
| Non-Native Cover: | 95.62% |

Wetland: VP-286

| Species | Cover Class |
|---|---|
| *Castilleja attenuata* | 0 |
| *Cotula coronopifolia* | 1 |
| *Crassula aquatica* | 1 |
| *Downingia bicornuta* | 1 |
| *Eleocharis macrostachya* | 2 |
| *Eryngium castrense* | 1 |
| *Hypochaeris glabra* | 1 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 2 |
| *Lasthenia glaberrima* | 1 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 5 |
| *Psilocarphus brevissimus* | 1 |
| *Rumex crispus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 99% |
| Prevalence Index: | 1.24 |
| CRAM RIchness: | 8 |
| CRAM Cover: | 82.66% |
| % CVVP Species: | 57.14% |
| CVVP Cover: | 82.66% |
| Species Richness: | 14 |
| Native Species: | 9 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 9.29% |

Wetland: VP-290

| Species | Cover Class |
|---|---|
| *Briza minor* | 1 |
| *Bromus hordeaceus* | 1 |
| *Crassula aquatica* | 1 |
| *Downingia bicornuta* | 1 |
| *Downingia ornatissima* | 1 |
| *Eleocharis macrostachya* | 3 |
| *Festuca microstachys* | 1 |
| *Festuca perennis* | 2 |
| *Hordeum marinum* | 2 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 3 |
| *Lasthenia glaberrima* | 1 |
| *Lythrum hyssopifolia* | 2 |
| *Montia fontana* | 0 |
| *Plagiobothrys stipitatus* | 3 |
| *Psilocarphus brevissimus* | 1 |
| *Psilocarphus tenellus* | 1 |
| *Ranunculus bonariensis* | 2 |
| *Trifolium dubium* | 0 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 1.57 |
| CRAM RIchness: | 10 |
| CRAM Cover: | 66.06% |
| % CVVP Species: | 57.89% |
| CVVP Cover: | 67.43% |
| Species Richness: | 19 |
| Native Species: | 12 |
| Non-Native Species: | 7 |
| Non-Native Cover: | 25.51% |

Wetland: VP-301

| Species | Cover Class |
|---|---|
| *Achyrachaena mollis* | 0 |
| *Avena sp.* | 0 |
| *Bromus hordeaceus* | 1 |
| *Erodium botrys* | 2 |
| *Festuca perennis* | 2 |
| *Hordeum marinum* | 2 |
| *Hypochaeris glabra* | 2 |
| *Psilocarphus brevissimus* | 1 |
| *Trifolium hirtum* | 1 |
| *Triteleia hyacinthina* | 0 |

| Statistics | |
|---|---|
| Vegetative Cover: | 85% |
| Prevalence Index: | 3.90 |
| CRAM RIchness: | 1 |
| CRAM Cover: | 4.14% |
| % CVVP Species: | 20.00% |
| CVVP Cover: | 4.83% |
| Species Richness: | 10 |
| Native Species: | 3 |
| Non-Native Species: | 7 |
| Non-Native Cover: | 94.48% |

Wetland: VP-307

| Species | Cover Class |
|---|---|
| *Eryngium vaseyi* | 1 |
| *Hypochaeris glabra* | 3 |
| *Lythrum hyssopifolia* | 3 |
| *Plantago lanceolata* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 85% |
| Prevalence Index: | 3.43 |
| CRAM RIchness: | 2 |
| CRAM Cover: | 7.32% |
| % CVVP Species: | 25.00% |
| CVVP Cover: | 3.66% |
| Species Richness: | 4 |
| Native Species: | 2 |
| Non-Native Species: | 2 |
| Non-Native Cover: | 92.68% |

Wetland: VP-310

| Species | Cover Class |
|---|---|
| *Juncus bufonius* | 0 |
| *Lasthenia fremontii* | 2 |
| *Leontodon saxatilis* | 0 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 5 |
| *Psilocarphus brevissimus* | 1 |
| *Trifolium depauperatum* | 0 |

| Statistics | |
|---|---|
| Vegetative Cover: | 60% |
| Prevalence Index: | 1.05 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 95.93% |
| % CVVP Species: | 42.86% |
| CVVP Cover: | 95.93% |
| Species Richness: | 7 |
| Native Species: | 5 |
| Non-Native Species: | 2 |
| Non-Native Cover: | 3.17% |

## 2022 Plant Species Frequency for Rocklin - Sunset West

| Species | Frequency |
|---|---|
| *Aira caryophyllea* | 5.88% |
| *Alopecurus saccatus* | 23.53% |
| *Amsinckia sp.* | 2.94% |
| *Briza minor* | 17.65% |
| *Bromus hordeaceus* | 8.82% |
| *Cotula coronopifolia* | 2.94% |
| *Crassula aquatica* | 29.41% |
| *Deschampsia danthonioides* | 2.94% |
| *Downingia bicornuta* | 20.59% |
| *Downingia ornatissima* | 2.94% |
| *Eleocharis acicularis* | 2.94% |
| *Eleocharis macrostachya* | 41.18% |
| *Elymus caput-medusae* | 11.76% |
| *Erodium botrys* | 41.18% |
| *Eryngium aristulatum* | 5.88% |
| *Eryngium castrense* | 2.94% |
| *Eryngium vaseyi* | 47.06% |
| *Festuca microstachys* | 58.82% |
| *Festuca myuros* | 5.88% |
| *Festuca perennis* | 26.47% |
| *Geranium dissectum* | 2.94% |
| *Hordeum marinum* | 11.76% |
| *Hypochaeris glabra* | 2.94% |
| *Juncus balticus* | 8.82% |
| *Juncus bufonius* | 32.35% |
| *Juncus effusus* | 5.88% |
| *Juncus xiphioides* | 5.88% |
| *Lactuca serriola* | 2.94% |
| *Lasthenia californica* | 2.94% |
| *Lasthenia fremontii* | 55.88% |
| *Lasthenia glaberrima* | 2.94% |
| *Leontodon saxatilis* | 20.59% |
| *Lupinus bicolor* | 8.82% |
| *Lythrum hyssopifolia* | 23.53% |
| *Medicago polymorpha* | 2.94% |
| *Mentha pulegium* | 14.71% |

| | |
|---|---|
| *Mentha spicata* | 2.94% |
| *Montia fontana* | 8.82% |
| *Navarretia leucocephala* | 8.82% |
| *Plagiobothrys greenei* | 5.88% |
| *Plagiobothrys stipitatus* | 79.41% |
| *Polypogon maritimus* | 2.94% |
| *Psilocarphus brevissimus* | 35.29% |
| *Psilocarphus oregonus* | 11.76% |
| *Psilocarphus tenellus* | 11.76% |
| *Ranunculus bonariensis* | 58.82% |
| *Ranunculus muricatus* | 5.88% |
| *Rumex crispus* | 44.12% |
| *Rumex pulcher* | 5.88% |
| *Salix exigua* | 2.94% |
| *Trifolium depauperatum* | 17.65% |
| *Trifolium dubium* | 8.82% |
| *Triphysaria eriantha* | 5.88% |
| *Veronica peregrina* | 23.53% |
| *Vicia sp.* | 29.41% |

## 2022 Monitoring Summary for Rocklin - Sunset West

| Wetland | Cover | PI | CVVP Species | | CVVP Cover | Species Richness | Native Species | Non-Native Species | Non-Native Cover |
|---|---|---|---|---|---|---|---|---|---|
| VP-047 | 20% | 1.20 | 9 | 81.82% | 80.33% | 11 | 11 | 0 | 0.00% |
| VP-048 | 75% | 1.18 | 6 | 60.00% | 89.14% | 10 | 7 | 3 | 7.43% |
| VP-051 | 100% | 2.06 | 4 | 44.44% | 69.27% | 9 | 6 | 3 | 24.02% |
| VP-053 | 100% | 2.49 | 2 | 28.57% | 50.47% | 7 | 2 | 5 | 49.53% |
| VP-059 | 98% | 1.26 | 3 | 42.86% | 74.13% | 7 | 4 | 3 | 15.03% |
| VP-079 | 75% | 3.23 | 1 | 10.00% | 23.85% | 10 | 4 | 6 | 62.31% |
| VP-082 | 95% | 2.61 | 6 | 60.00% | 48.26% | 10 | 8 | 2 | 35.65% |
| VP-086 | 50% | 1.75 | 7 | 53.85% | 66.67% | 13 | 8 | 5 | 31.75% |
| VP-088 | 70% | 1.95 | 9 | 60.00% | 76.98% | 15 | 10 | 5 | 20.75% |
| VP-090 | 98% | 1.56 | 4 | 66.67% | 77.54% | 6 | 5 | 1 | 11.23% |
| VP-092 | 90% | 1.66 | 7 | 87.50% | 84.34% | 8 | 7 | 1 | 15.66% |
| VP-094 | 95% | 1.54 | 7 | 77.78% | 79.33% | 9 | 8 | 1 | 10.33% |
| VP-099 | 80% | 1.94 | 10 | 66.67% | 67.39% | 15 | 11 | 4 | 19.13% |
| VP-101 | 75% | 1.60 | 10 | 66.67% | 82.14% | 15 | 12 | 3 | 13.57% |
| VP-108 | 85% | 1.87 | 6 | 60.00% | 56.49% | 10 | 7 | 3 | 32.63% |
| VP-110 | 35% | 1.38 | 9 | 75.00% | 89.53% | 12 | 11 | 1 | 3.49% |
| VP-111 | 80% | 1.92 | 7 | 50.00% | 60.68% | 14 | 10 | 4 | 20.94% |
| VP-112 | 85% | 1.42 | 4 | 44.44% | 77.46% | 9 | 6 | 3 | 7.38% |
| VP-116 | 100% | 2.54 | 0 | 0.00% | 0.00% | 8 | 2 | 6 | 59.32% |
| VP-125 | 98% | 3.68 | 1 | 10.00% | 12.11% | 10 | 3 | 7 | 83.20% |
| VP-128 | 95% | 2.79 | 7 | 43.75% | 26.98% | 16 | 9 | 7 | 62.17% |
| VP-129 | 95% | 1.73 | 3 | 27.27% | 48.47% | 11 | 5 | 6 | 40.18% |
| VP-131 | 85% | 1.17 | 4 | 50.00% | 66.06% | 8 | 6 | 2 | 16.97% |
| VP-134 | 80% | 1.04 | 2 | 40.00% | 98.56% | 5 | 2 | 3 | 1.44% |
| VP-206 | 100% | 1.68 | 5 | 71.43% | 84.45% | 7 | 5 | 2 | 15.55% |
| VP-208 | 80% | 3.86 | 1 | 11.11% | 0.59% | 9 | 2 | 7 | 95.86% |
| VP-210 | 100% | 2.50 | 3 | 50.00% | 62.43% | 6 | 3 | 3 | 37.57% |
| VP-234 | 95% | 3.52 | 1 | 14.29% | 11.79% | 7 | 1 | 6 | 88.21% |
| VP-238 | 98% | 3.70 | 1 | 12.50% | 2.23% | 8 | 2 | 6 | 95.54% |
| VP-244 | 100% | 1.41 | 2 | 25.00% | 34.45% | 8 | 6 | 2 | 5.04% |
| VP-245 | 99% | 2.97 | 1 | 16.67% | 14.98% | 6 | 2 | 4 | 82.13% |
| VP-249 | 80% | 2.55 | 2 | 50.00% | 22.42% | 4 | 3 | 1 | 76.97% |
| VP-262 | 40% | 1.21 | 6 | 66.67% | 96.10% | 9 | 6 | 3 | 3.90% |
| VP-263 | 95% | 4.20 | 2 | 28.57% | 8.76% | 7 | 3 | 4 | 86.86% |

Wetland: VP-047

| Species | Cover Class |
|---|---|
| *Crassula aquatica* | 1 |
| *Eleocharis macrostachya* | 1 |
| *Eryngium vaseyi* | 1 |
| *Juncus bufonius* | 1 |
| *Lasthenia glaberrima* | 0 |
| *Montia fontana* | 1 |
| *Plagiobothrys stipitatus* | 1 |
| *Psilocarphus brevissimus* | 1 |
| *Psilocarphus oregonus* | 1 |
| *Ranunculus bonariensis* | 1 |
| *Veronica peregrina* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 20% |
| Prevalence Index: | 1.20 |
| CRAM RIchness: | 10 |
| CRAM Cover: | 90.16% |
| % CVVP Species: | 81.82% |
| CVVP Cover: | 80.33% |
| Species Richness: | 11 |
| Native Species: | 11 |
| Non-Native Species: | 0 |
| Non-Native Cover: | 0.00% |

Wetland: VP-048

| Species | Cover Class |
|---|---|
| *Briza minor* | 0 |
| *Crassula aquatica* | 1 |
| *Eryngium vaseyi* | 1 |
| *Lasthenia fremontii* | 2 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 1 |
| *Ranunculus bonariensis* | 3 |
| *Rumex crispus* | 1 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 75% |
| Prevalence Index: | 1.18 |
| CRAM RIchness: | 6 |
| CRAM Cover: | 89.14% |
| % CVVP Species: | 60.00% |
| CVVP Cover: | 89.14% |
| Species Richness: | 10 |
| Native Species: | 7 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 7.43% |

Wetland: VP-051

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 2 |
| *Erodium botrys* | 1 |
| *Festuca microstachys* | 2 |
| *Lasthenia fremontii* | 2 |
| *Lupinus bicolor* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Ranunculus bonariensis* | 2 |
| *Rumex crispus* | 1 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 2.06 |
| CRAM RIchness: | 4 |
| CRAM Cover: | 69.27% |
| % CVVP Species: | 44.44% |
| CVVP Cover: | 69.27% |
| Species Richness: | 9 |
| Native Species: | 6 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 24.02% |

Wetland: VP-053

| Species | Cover Class |
|---|---|
| *Eleocharis macrostachya* | 3 |
| *Elymus caput-medusae* | 2 |
| *Eryngium aristulatum* | 1 |
| *Festuca perennis* | 2 |
| *Plagiobothrys stipitatus* | 2 |
| *Rumex crispus* | 1 |
| *Vicia sp.* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 2.49 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 53.30% |
| % CVVP Species: | 28.57% |
| CVVP Cover: | 50.47% |
| Species Richness: | 7 |
| Native Species: | 2 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 49.53% |

Wetland: VP-059

| Species | Cover Class |
|---|---|
| *Eleocharis macrostachya* | 5 |
| *Festuca perennis* | 2 |
| *Juncus balticus* | 2 |
| *Montia fontana* | 1 |
| *Ranunculus bonariensis* | 2 |
| *Ranunculus muricatus* | 1 |
| *Rumex crispus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 98% |
| Prevalence Index: | 1.26 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 74.13% |
| % CVVP Species: | 42.86% |
| CVVP Cover: | 74.13% |
| Species Richness: | 7 |
| Native Species: | 4 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 15.03% |

Wetland: VP-079

| Species | Cover Class |
|---|---|
| *Amsinckia sp.* | 1 |
| *Bromus hordeaceus* | 1 |
| *Erodium botrys* | 1 |
| *Festuca microstachys* | 2 |
| *Festuca myuros* | 1 |
| *Leontodon saxatilis* | 0 |
| *Lupinus bicolor* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Rumex crispus* | 2 |
| *Vicia sp.* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 75% |
| Prevalence Index: | 3.23 |
| CRAM RIchness: | 1 |
| CRAM Cover: | 23.85% |
| % CVVP Species: | 10.00% |
| CVVP Cover: | 23.85% |
| Species Richness: | 10 |
| Native Species: | 4 |
| Non-Native Species: | 6 |
| Non-Native Cover: | 62.31% |

Wetland: VP-082

| Species | Cover Class |
|---|---|
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 3 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 2 |
| *Leontodon saxatilis* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 1 |
| *Psilocarphus oregonus* | 1 |
| *Ranunculus bonariensis* | 2 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 2.61 |
| CRAM RIchness: | 6 |
| CRAM Cover: | 48.26% |
| % CVVP Species: | 60.00% |
| CVVP Cover: | 48.26% |
| Species Richness: | 10 |
| Native Species: | 8 |
| Non-Native Species: | 2 |
| Non-Native Cover: | 35.65% |

Wetland: VP-086

| Species | Cover Class |
|---|---|
| *Cotula coronopifolia* | 0 |
| *Eleocharis macrostachya* | 1 |
| *Erodium botrys* | 0 |
| *Eryngium castrense* | 1 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 1 |
| *Juncus bufonius* | 1 |
| *Lasthenia fremontii* | 1 |
| *Plagiobothrys stipitatus* | 1 |
| *Psilocarphus brevissimus* | 1 |
| *Ranunculus bonariensis* | 1 |
| *Ranunculus muricatus* | 1 |
| *Veronica peregrina* | 0 |

| Statistics | |
|---|---|
| Vegetative Cover: | 50% |
| Prevalence Index: | 1.75 |
| CRAM RIchness: | 8 |
| CRAM Cover: | 68.25% |
| % CVVP Species: | 53.85% |
| CVVP Cover: | 66.67% |
| Species Richness: | 13 |
| Native Species: | 8 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 31.75% |

Wetland: VP-088

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 2 |
| *Eleocharis macrostachya* | 2 |
| *Erodium botrys* | 1 |
| *Eryngium vaseyi* | 2 |
| *Festuca microstachys* | 2 |
| *Lasthenia californica* | 1 |
| *Lasthenia fremontii* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |
| *Psilocarphus oregonus* | 1 |
| *Psilocarphus tenellus* | 1 |
| *Ranunculus bonariensis* | 2 |
| *Trifolium dubium* | 1 |
| *Veronica peregrina* | 1 |
| *Vicia sp.* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 70% |
| Prevalence Index: | 1.95 |
| CRAM RIchness: | 9 |
| CRAM Cover: | 76.98% |
| % CVVP Species: | 60.00% |
| CVVP Cover: | 76.98% |
| Species Richness: | 15 |
| Native Species: | 10 |
| Non-Native Species: | 5 |
| Non-Native Cover: | 20.75% |

Wetland: VP-090

| Species | Cover Class |
|---|---|
| *Crassula aquatica* | 2 |
| *Festuca microstachys* | 2 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 3 |
| *Plagiobothrys stipitatus* | 3 |
| *Ranunculus bonariensis* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 98% |
| Prevalence Index: | 1.56 |
| CRAM RIchness: | 4 |
| CRAM Cover: | 77.54% |
| % CVVP Species: | 66.67% |
| CVVP Cover: | 77.54% |
| Species Richness: | 6 |
| Native Species: | 5 |
| Non-Native Species: | 1 |
| Non-Native Cover: | 11.23% |

Wetland: VP-092

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 1 |
| *Eleocharis macrostachya* | 2 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 2 |
| *Lasthenia fremontii* | 2 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |
| *Ranunculus bonariensis* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 90% |
| Prevalence Index: | 1.66 |
| CRAM RIchness: | 7 |
| CRAM Cover: | 84.34% |
| % CVVP Species: | 87.50% |
| CVVP Cover: | 84.34% |
| Species Richness: | 8 |
| Native Species: | 7 |
| Non-Native Species: | 1 |
| Non-Native Cover: | 15.66% |

Wetland: VP-094

| Species | Cover Class |
|---|---|
| *Downingia bicornuta* | 1 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 2 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 2 |
| *Plagiobothrys stipitatus* | 4 |
| *Psilocarphus brevissimus* | 2 |
| *Psilocarphus oregonus* | 1 |
| *Ranunculus bonariensis* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 1.54 |
| CRAM RIchness: | 7 |
| CRAM Cover: | 79.33% |
| % CVVP Species: | 77.78% |
| CVVP Cover: | 79.33% |
| Species Richness: | 9 |
| Native Species: | 8 |
| Non-Native Species: | 1 |
| Non-Native Cover: | 10.33% |

Wetland: VP-099

| Species | Cover Class |
|---|---|
| *Briza minor* | 0 |
| *Downingia bicornuta* | 1 |
| *Downingia ornatissima* | 0 |
| *Eleocharis macrostachya* | 1 |
| *Erodium botrys* | 1 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 2 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 2 |
| *Leontodon saxatilis* | 1 |
| *Navarretia leucocephala* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |
| *Psilocarphus tenellus* | 1 |
| *Ranunculus bonariensis* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 80% |
| Prevalence Index: | 1.94 |
| CRAM RIchness: | 9 |
| CRAM Cover: | 64.78% |
| % CVVP Species: | 66.67% |
| CVVP Cover: | 67.39% |
| Species Richness: | 15 |
| Native Species: | 11 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 19.13% |

Wetland: VP-101

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 2 |
| *Crassula aquatica* | 1 |
| *Downingia bicornuta* | 1 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 2 |
| *Juncus bufonius* | 1 |
| *Lasthenia fremontii* | 2 |
| *Leontodon saxatilis* | 1 |
| *Lythrum hyssopifolia* | 0 |
| *Navarretia leucocephala* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |
| *Psilocarphus tenellus* | 1 |
| *Ranunculus bonariensis* | 3 |
| *Veronica peregrina* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 75% |
| Prevalence Index: | 1.60 |
| CRAM RIchness: | 10 |
| CRAM Cover: | 82.14% |
| % CVVP Species: | 66.67% |
| CVVP Cover: | 82.14% |
| Species Richness: | 15 |
| Native Species: | 12 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 13.57% |

Wetland: VP-108

| Species | Cover Class |
|---|---|
| *Briza minor* | 2 |
| *Downingia bicornuta* | 2 |
| *Elymus caput-medusae* | 2 |
| *Eryngium vaseyi* | 2 |
| *Festuca perennis* | 2 |
| *Lasthenia fremontii* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |
| *Ranunculus bonariensis* | 2 |
| *Veronica peregrina* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 85% |
| Prevalence Index: | 1.87 |
| CRAM RIchness: | 7 |
| CRAM Cover: | 67.37% |
| % CVVP Species: | 60.00% |
| CVVP Cover: | 56.49% |
| Species Richness: | 10 |
| Native Species: | 7 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 32.63% |

Wetland: VP-110

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 1 |
| *Crassula aquatica* | 1 |
| *Downingia bicornuta* | 1 |
| *Eleocharis macrostachya* | 1 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 1 |
| *Lasthenia fremontii* | 2 |
| *Plagiobothrys stipitatus* | 2 |
| *Psilocarphus brevissimus* | 2 |
| *Ranunculus bonariensis* | 2 |
| *Trifolium depauperatum* | 1 |
| *Triphysaria eriantha* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 35% |
| Prevalence Index: | 1.38 |
| CRAM RIchness: | 9 |
| CRAM Cover: | 89.53% |
| % CVVP Species: | 75.00% |
| CVVP Cover: | 89.53% |
| Species Richness: | 12 |
| Native Species: | 11 |
| Non-Native Species: | 1 |
| Non-Native Cover: | 3.49% |

Wetland: VP-111

| Species | Cover Class |
|---|---|
| *Crassula aquatica* | 2 |
| *Downingia bicornuta* | 1 |
| *Erodium botrys* | 1 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 2 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 2 |
| *Leontodon saxatilis* | 1 |
| *Lythrum hyssopifolia* | 1 |
| *Montia fontana* | 1 |
| *Plagiobothrys greenei* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Ranunculus bonariensis* | 2 |
| *Veronica peregrina* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 80% |
| Prevalence Index: | 1.92 |
| CRAM RIchness: | 9 |
| CRAM Cover: | 65.81% |
| % CVVP Species: | 50.00% |
| CVVP Cover: | 60.68% |
| Species Richness: | 14 |
| Native Species: | 10 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 20.94% |

Wetland: VP-112

| Species | Cover Class |
|---|---|
| *Briza minor* | 1 |
| *Erodium botrys* | 1 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 1 |
| *Juncus bufonius* | 2 |
| *Lasthenia fremontii* | 3 |
| *Plagiobothrys stipitatus* | 3 |
| *Ranunculus bonariensis* | 2 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 85% |
| Prevalence Index: | 1.42 |
| CRAM RIchness: | 4 |
| CRAM Cover: | 77.46% |
| % CVVP Species: | 44.44% |
| CVVP Cover: | 77.46% |
| Species Richness: | 9 |
| Native Species: | 6 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 7.38% |

Wetland: VP-116

| Species | Cover Class |
|---|---|
| *Bromus hordeaceus* | 3 |
| *Festuca microstachys* | 2 |
| *Geranium dissectum* | 1 |
| *Juncus balticus* | 3 |
| *Juncus xiphioides* | 2 |
| *Mentha pulegium* | 2 |
| *Rumex crispus* | 1 |
| *Vicia sp.* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 2.54 |
| CRAM RIchness: | 0 |
| CRAM Cover: | 0.00% |
| % CVVP Species: | 0.00% |
| CVVP Cover: | 0.00% |
| Species Richness: | 8 |
| Native Species: | 2 |
| Non-Native Species: | 6 |
| Non-Native Cover: | 59.32% |

Wetland: VP-125

| Species | Cover Class |
|---|---|
| *Briza minor* | 2 |
| *Bromus hordeaceus* | 1 |
| *Eleocharis macrostachya* | 2 |
| *Erodium botrys* | 1 |
| *Festuca microstachys* | 4 |
| *Lythrum hyssopifolia* | 1 |
| *Rumex crispus* | 1 |
| *Salix exigua* | 1 |
| *Trifolium dubium* | 2 |
| *Veronica peregrina* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 98% |
| Prevalence Index: | 3.68 |
| CRAM RIchness: | 2 |
| CRAM Cover: | 14.45% |
| % CVVP Species: | 10.00% |
| CVVP Cover: | 12.11% |
| Species Richness: | 10 |
| Native Species: | 3 |
| Non-Native Species: | 7 |
| Non-Native Cover: | 83.20% |

Wetland: VP-128

| Species | Cover Class |
|---|---|
| *Crassula aquatica* | 1 |
| *Erodium botrys* | 2 |
| *Eryngium vaseyi* | 1 |
| *Festuca microstachys* | 2 |
| *Festuca myuros* | 2 |
| *Hordeum marinum* | 3 |
| *Lactuca serriola* | 1 |
| *Lasthenia fremontii* | 1 |
| *Lythrum hyssopifolia* | 2 |
| *Navarretia leucocephala* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Polypogon maritimus* | 1 |
| *Psilocarphus tenellus* | 1 |
| *Ranunculus bonariensis* | 2 |
| *Rumex crispus* | 2 |
| *Triphysaria eriantha* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 2.79 |
| CRAM RIchness: | 6 |
| CRAM Cover: | 25.22% |
| % CVVP Species: | 43.75% |
| CVVP Cover: | 26.98% |
| Species Richness: | 16 |
| Native Species: | 9 |
| Non-Native Species: | 7 |
| Non-Native Cover: | 62.17% |

Wetland: VP-129

| Species | Cover Class |
|---|---|
| *Briza minor* | 1 |
| *Eleocharis macrostachya* | 1 |
| *Erodium botrys* | 1 |
| *Hordeum marinum* | 3 |
| *Juncus effusus* | 1 |
| *Lythrum hyssopifolia* | 2 |
| *Mentha pulegium* | 2 |
| *Plagiobothrys stipitatus* | 3 |
| *Ranunculus bonariensis* | 3 |
| *Rumex crispus* | 1 |
| *Trifolium dubium* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 1.73 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 48.47% |
| % CVVP Species: | 27.27% |
| CVVP Cover: | 48.47% |
| Species Richness: | 11 |
| Native Species: | 5 |
| Non-Native Species: | 6 |
| Non-Native Cover: | 40.18% |

Wetland: VP-131

| Species | Cover Class |
|---|---|
| *Crassula aquatica* | 1 |
| *Eleocharis macrostachya* | 3 |
| *Lythrum hyssopifolia* | 1 |
| *Mentha pulegium* | 2 |
| *Plagiobothrys stipitatus* | 2 |
| *Ranunculus bonariensis* | 2 |
| *Rumex crispus* | 2 |
| *Veronica peregrina* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 85% |
| Prevalence Index: | 1.17 |
| CRAM RIchness: | 5 |
| CRAM Cover: | 68.81% |
| % CVVP Species: | 50.00% |
| CVVP Cover: | 66.06% |
| Species Richness: | 8 |
| Native Species: | 6 |
| Non-Native Species: | 2 |
| Non-Native Cover: | 16.97% |

Wetland: VP-134

| Species | Cover Class |
|---|---|
| *Eleocharis macrostachya* | 5 |
| *Erodium botrys* | 0 |
| *Medicago polymorpha* | 0 |
| *Mentha spicata* | 0 |
| *Ranunculus bonariensis* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 80% |
| Prevalence Index: | 1.04 |
| CRAM RIchness: | 2 |
| CRAM Cover: | 98.56% |
| % CVVP Species: | 40.00% |
| CVVP Cover: | 98.56% |
| Species Richness: | 5 |
| Native Species: | 2 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 1.44% |

Wetland: VP-206

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 1 |
| *Deschampsia danthonioides* | 2 |
| *Downingia bicornuta* | 1 |
| *Festuca microstachys* | 2 |
| *Lasthenia fremontii* | 4 |
| *Plagiobothrys stipitatus* | 2 |
| *Rumex crispus* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 1.68 |
| CRAM RIchness: | 5 |
| CRAM Cover: | 84.45% |
| % CVVP Species: | 71.43% |
| CVVP Cover: | 84.45% |
| Species Richness: | 7 |
| Native Species: | 5 |
| Non-Native Species: | 2 |
| Non-Native Cover: | 15.55% |

Wetland: VP-208

| Species | Cover Class |
|---|---|
| *Crassula aquatica* | 0 |
| *Erodium botrys* | 1 |
| *Festuca microstachys* | 2 |
| *Festuca perennis* | 3 |
| *Leontodon saxatilis* | 1 |
| *Lupinus bicolor* | 1 |
| *Rumex crispus* | 1 |
| *Rumex pulcher* | 1 |
| *Vicia sp.* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 80% |
| Prevalence Index: | 3.86 |
| CRAM RIchness: | 1 |
| CRAM Cover: | 0.59% |
| % CVVP Species: | 11.11% |
| CVVP Cover: | 0.59% |
| Species Richness: | 9 |
| Native Species: | 2 |
| Non-Native Species: | 7 |
| Non-Native Cover: | 95.86% |

Wetland: VP-210

| Species | Cover Class |
|---|---|
| *Alopecurus saccatus* | 1 |
| *Erodium botrys* | 2 |
| *Festuca microstachys* | 2 |
| *Lasthenia fremontii* | 3 |
| *Plagiobothrys stipitatus* | 2 |
| *Vicia sp.* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 2.50 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 62.43% |
| % CVVP Species: | 50.00% |
| CVVP Cover: | 62.43% |
| Species Richness: | 6 |
| Native Species: | 3 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 37.57% |

Wetland: VP-234

| Species | Cover Class |
|---|---|
| *Erodium botrys* | 2 |
| *Festuca microstachys* | 2 |
| *Festuca perennis* | 4 |
| *Hypochaeris glabra* | 1 |
| *Plagiobothrys stipitatus* | 2 |
| *Rumex pulcher* | 1 |
| *Vicia sp.* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 3.52 |
| CRAM RIchness: | 1 |
| CRAM Cover: | 11.79% |
| % CVVP Species: | 14.29% |
| CVVP Cover: | 11.79% |
| Species Richness: | 7 |
| Native Species: | 1 |
| Non-Native Species: | 6 |
| Non-Native Cover: | 88.21% |

Wetland: VP-238

| Species | Cover Class |
|---|---|
| *Elymus caput-medusae* | 4 |
| *Eryngium aristulatum* | 1 |
| *Festuca perennis* | 2 |
| *Juncus effusus* | 1 |
| *Juncus xiphioides* | 2 |
| *Plagiobothrys stipitatus* | 1 |
| *Rumex crispus* | 2 |
| *Vicia sp.* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 98% |
| Prevalence Index: | 3.70 |
| CRAM RIchness: | 2 |
| CRAM Cover: | 4.46% |
| % CVVP Species: | 12.50% |
| CVVP Cover: | 2.23% |
| Species Richness: | 8 |
| Native Species: | 2 |
| Non-Native Species: | 6 |
| Non-Native Cover: | 95.54% |

Wetland: VP-244

| Species | Cover Class |
|---|---|
| *Eleocharis macrostachya* | 3 |
| *Eryngium vaseyi* | 1 |
| *Juncus balticus* | 3 |
| *Juncus bufonius* | 2 |
| *Mentha pulegium* | 1 |
| *Plagiobothrys greenei* | 2 |
| *Rumex crispus* | 1 |
| *Vicia sp.* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 1.41 |
| CRAM RIchness: | 3 |
| CRAM Cover: | 47.48% |
| % CVVP Species: | 25.00% |
| CVVP Cover: | 34.45% |
| Species Richness: | 8 |
| Native Species: | 6 |
| Non-Native Species: | 2 |
| Non-Native Cover: | 5.04% |

Wetland: VP-245

| Species | Cover Class |
|---|---|
| *Eleocharis macrostachya* | 2 |
| *Elymus caput-medusae* | 2 |
| *Hordeum marinum* | 4 |
| *Mentha pulegium* | 1 |
| *Rumex crispus* | 1 |
| *Vicia sp.* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 99% |
| Prevalence Index: | 2.97 |
| CRAM RIchness: | 1 |
| CRAM Cover: | 14.98% |
| % CVVP Species: | 16.67% |
| CVVP Cover: | 14.98% |
| Species Richness: | 6 |
| Native Species: | 2 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 82.13% |

Wetland: VP-249

| Species | Cover Class |
|---|---|
| *Festuca perennis* | 4 |
| *Juncus bufonius* | 0 |
| *Lasthenia fremontii* | 1 |
| *Plagiobothrys stipitatus* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 80% |
| Prevalence Index: | 2.55 |
| CRAM RIchness: | 2 |
| CRAM Cover: | 22.42% |
| % CVVP Species: | 50.00% |
| CVVP Cover: | 22.42% |
| Species Richness: | 4 |
| Native Species: | 3 |
| Non-Native Species: | 1 |
| Non-Native Cover: | 76.97% |

Wetland: VP-262

| Species | Cover Class |
|---|---|
| *Aira caryophyllea* | 0 |
| *Alopecurus saccatus* | 0 |
| *Crassula aquatica* | 1 |
| *Eleocharis acicularis* | 2 |
| *Festuca perennis* | 0 |
| *Lasthenia fremontii* | 0 |
| *Lythrum hyssopifolia* | 1 |
| *Plagiobothrys stipitatus* | 4 |
| *Psilocarphus brevissimus* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 40% |
| Prevalence Index: | 1.21 |
| CRAM RIchness: | 5 |
| CRAM Cover: | 80.98% |
| % CVVP Species: | 66.67% |
| CVVP Cover: | 96.10% |
| Species Richness: | 9 |
| Native Species: | 6 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 3.90% |

Wetland: VP-263

| Species | Cover Class |
|---|---|
| *Aira caryophyllea* | 3 |
| *Eryngium vaseyi* | 1 |
| *Festuca perennis* | 1 |
| *Hordeum marinum* | 1 |
| *Leontodon saxatilis* | 2 |
| *Plagiobothrys stipitatus* | 1 |
| *Trifolium depauperatum* | 1 |

| Statistics | |
|---|---|
| Vegetative Cover: | 95% |
| Prevalence Index: | 4.20 |
| CRAM RIchness: | 2 |
| CRAM Cover: | 8.76% |
| % CVVP Species: | 28.57% |
| CVVP Cover: | 8.76% |
| Species Richness: | 7 |
| Native Species: | 3 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 86.86% |

## 2022 Plant Species Frequency for Rocklin - Placer Creek Corporate Center

| Species | Frequency |
|---|---|
| *Avena sp.* | 50.00% |
| *Bromus hordeaceus* | 50.00% |
| *Elymus caput-medusae* | 100.00% |
| *Festuca perennis* | 50.00% |
| *Rumex crispus* | 50.00% |
| *Vicia sp.* | 50.00% |

## 2022 Monitoring Summary for Rocklin - Placer Creek Corporate Center

| Wetland | Cover | PI | CVVP Species | | CVVP Cover | Species Richness | Native Species | Non-Native Species | Non-Native Cover |
|---|---|---|---|---|---|---|---|---|---|
| VP-317 | 100% | 3.76 | 0 | 0.00% | 0.00% | 4 | 0 | 4 | 100.00% |
| VP-321 | 100% | 5.00 | 0 | 0.00% | 0.00% | 3 | 0 | 3 | 100.00% |

Wetland: VP-317

| Species | Cover Class |
|---|---|
| *Bromus hordeaceus* | 3 |
| *Elymus caput-medusae* | 3 |
| *Festuca perennis* | 3 |
| *Rumex crispus* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 3.76 |
| CRAM RIchness: | 0 |
| CRAM Cover: | 0.00% |
| % CVVP Species: | 0.00% |
| CVVP Cover: | 0.00% |
| Species Richness: | 4 |
| Native Species: | 0 |
| Non-Native Species: | 4 |
| Non-Native Cover: | 100.00% |

Wetland: VP-321

| Species | Cover Class |
|---|---|
| *Avena sp.* | 2 |
| *Elymus caput-medusae* | 5 |
| *Vicia sp.* | 2 |

| Statistics | |
|---|---|
| Vegetative Cover: | 100% |
| Prevalence Index: | 5.00 |
| CRAM RIchness: | 0 |
| CRAM Cover: | 0.00% |
| % CVVP Species: | 0.00% |
| CVVP Cover: | 0.00% |
| Species Richness: | 3 |
| Native Species: | 0 |
| Non-Native Species: | 3 |
| Non-Native Cover: | 100.00% |

# Appendix F

## Residual Dry Matter Datasheets

**Rocklin Open Space Preserves**

**Biologist(s): Marisa Brilts and Greg Davis. Christine Heckler for SW**

| Preserve Area | RDM Sampling Point | Vegetation Utilization (visual percentage) | | | | Degree of Veg Utilization | Dried Weight (grams/sq.ft) | RDM Calc (Dried weight) X (96 lbs./acre) | Photo Number | | Date Sampled | Habitat Type | Dominant Vegetation Observed | RDM Criteria (meets, above, below) for habitat type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Distance | Golf ball | Baseball | Basketball | | | | 10 ft Distance | 20 ft Distance | | | | |
| Claremont (C-3) | 50 | **10 ft** | 100% | 100% | 100% | 5 | 3 | 288 | Overview | Overview | 10/14/2022 | Mixed oak woodland | *Elymus caput-medusae* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Claremont (C-4) | 22 | **10 ft** | 100% | 100% | 100% | 5 | 1 | 96 | Overview | Overview | 10/14/2022 | Annual grassland | *Avena barbata, Bromus diandrus, Quercus douglasii* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Orchard Creek (OC-1) | 29 | **10 ft** | 100% | 100% | 100% | 5 | 2 | 294 | 1p | 2p | 9/22/2022 | Annual grassland | *Avena fatua, Bromus diandrus, Centromadia fitchii, Elymus caput-medusae* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Orchard Creek (OC-1) | 26 | **10 ft** | 50% | 50% | 75% | 5 | 6 | 575 | 3p | 4p | 9/22/2022 | Annual grassland | *Avena fatua, Bromus diandrus, Centromadia fitchii, Elymus caput-medusae* | Below |
| | | **20 ft** | 45% | 45% | 60% | | | | | | | | | |
| Stanford Ranch (SR-2) | 49 | **10 ft** | 98% | 98% | 98% | 5 | 6 | 576 | 9p | 10p | 11/16/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus* | Meets |
| | | **20 ft** | 95% | 95% | 95% | | | | | | | | | |
| Stanford Ranch (SR-4) | 47 | **10 ft** | 100% | 100% | 100% | 5 | 5.5 | 528 | 1p | 2p | 11/16/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus* | Meets |
| | | **20 ft** | 98% | 98% | 98% | | | | | | | | | |
| Stanford Ranch (SR- 6) | 48 | **10 ft** | 100% | 100% | 100% | 5 | 4.5 | 432 | 3p | 4p | 11/16/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus* | Meets |
| | | **20 ft** | 98% | 95% | 95% | | | | | | | | | |
| Stanford Ranch (SR-7) | 46 | **10 ft** | 100% | 100% | 100% | 5 | 5 | 480 | 5p | 6p | 11/16/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus ,Centromadia fitchii, Elymus caput-medusae* | Meets |
| | | **20 ft** | 98% | 98% | 98% | | | | | | | | | |
| Stanford Ranch (SR- 7) | 45 | **10 ft** | 100% | 100% | 100% | 5 | 5 | 480 | 7p | 8p | 11/16/2022 | Mixed oak woodland | *Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 95% | 95% | 95% | | | | | | | | | |
| Stanford Ranch (SR-8) | 42 | **10 ft** | 90% | 85% | 85% | 4 | 10.5 | 1,008 | 15p | 16p | 11/22/2022 | Mixed oak woodland | *Avena fatua, Bromus hordeaceus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 85% | 80% | 80% | | | | | | | | | |
| Stanford Ranch (SR-8) | 16 | **10 ft** | 90% | 90% | 85% | 4 | 11 | 1,056 | 17p | 18p | 11/22/2022 | Annual grassland | *Bromus hordeaceus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 85% | 85% | 80% | | | | | | | | | |
| Stanford Ranch (SR- 8) | 15 | **10 ft** | 95% | 90% | 90% | 4 | 11 | 1,056 | 19p | 20p | 11/22/2022 | Annual grassland | *Bromus hordeaceus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 90% | 85% | 85% | | | | | | | | | |
| Stanford Ranch (SR- 8) | 4 | **10 ft** | 95% | 95% | 95% | 4 | 9 | 864 | 21p | 22p | 11/22/2022 | Annual grassland | *Elymus caput-medusae* | Meets |
| | | **20 ft** | 90% | 90% | 90% | | | | | | | | | |
| Stanford Ranch (SR-11) | 39 | **10 ft** | 100% | 100% | 100% | 3 | 10 | 960 | 33p | 34p | 11/23/2022 | Mixed oak woodland | *Avena fatua, Bromus hordeaceus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 95% | 95% | 95% | | | | | | | | | |

**Rocklin Open Space Preserves**

**Biologist(s): Marisa Brilts and Greg Davis. Christine Heckler for SW**

| Preserve Area | RDM Sampling Point | Vegetation Utilization (visual percentage) | | | | Degree of Veg Utilization | Dried Weight (grams/sq.ft) | RDM Calc (Dried weight) X (96 lbs./acre) | Photo Number | | Date Sampled | Habitat Type | Dominant Vegetation Observed | RDM Criteria (meets, above, below) for habitat type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Distance | Golf ball | Baseball | Basketball | | | | 10 ft Distance | 20 ft Distance | | | | |
| Stanford Ranch (SR-12) | 11 | **10 ft** | 100% | 100% | 100% | 5 | 6 | 576 | 1p | 2p | 10/24/2022 | Annual grassland | *Elymus caput-medusae, Distichlis spicata* | Below |
| | | **20 ft** | 98% | 98% | 98% | | | | | | | | | |
| Stanford Ranch (SR-12) | 12 | **10 ft** | 100% | 100% | 100% | 5 | 2 | 192 | 3p | 4p | 10/24/2022 | Annual grassland | *Elymus caput-medusae, Bromus hordeaceus* | Below |
| | | **20 ft** | 98% | 98% | 98% | | | | | | | | | |
| Stanford Ranch (SR-13) | 37 | **10 ft** | 100% | 100% | 100% | 5 | 8.5 | 816 | Overview | Overview | 11/22/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 98% | 98% | 98% | | | | | | | | | |
| Stanford Ranch (SR-13) | 40 | **10 ft** | 98% | 98% | 98% | 4 | 9 | 864 | 7p | 8p | 11/22/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 95% | 95% | 95% | | | | | | | | | |
| Stanford Ranch (SR-13) | 10 | **10 ft** | 98% | 98% | 98% | 4 | 8.5 | 816 | 3p | 4p | 11/22/2022 | Annual grassland | *Elymus caput-medusae, Bromus diandrus* | Meets |
| | | **20 ft** | 95% | 95% | 95% | | | | | | | | | |
| Stanford Ranch (SR-14) | 13 | **10 ft** | 95% | 95% | 95% | 5 | 12 | 1,152 | 1p | 2p | 11/22/2022 | Annual grassland | *Elymus caput-medusae, Bromus diandrus* | Meets |
| | | **20 ft** | 90% | 90% | 90% | | | | | | | | | |
| Stanford Ranch (SR-15) | 35 | **10 ft** | 98% | 98% | 98% | 4 | 8 | 768 | Overview | Overview | 11/22/2022 | Mixed oak woodland | *Erodium botrys, Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 95% | 95% | 95% | | | | | | | | | |
| Stanford Ranch (SR-15) | 36 | **10 ft** | 98% | 98% | 98% | 4 | 7 | 672 | Overview | Overview | 11/22/2022 | Mixed oak woodland | *Erodium botrys, Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 95% | 95% | 95% | | | | | | | | | |
| Stanford Ranch (SR-16) | 19 | **10 ft** | 100% | 100% | 100% | 5 | 8 | 768 | Overview | Overview | 11/16/2022 | Annual grassland | *Erodium botrys, Bromus diandrus, Elymus caput-medusae* | Below |
| | | **20 ft** | 98% | 98% | 98% | | | | | | | | | |
| Stanford Ranch (SR-17) | 44 | **10 ft** | 100% | 100% | 100% | 5 | 7 | 672 | 33p | 34p | 11/16/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 98% | 98% | 98% | | | | | | | | | |
| Stanford Ranch (SR-17) | 17 | **10 ft** | 98% | 98% | 98% | 5 | 6 | 575 | Overview | Overview | 11/16/2022 | Mixed oak woodland | *Avena fatua, Elymus-caput-medusae* | Meets |
| | | **20 ft** | 95% | 95% | 95% | | | | | | | | | |
| Stanford Ranch (SR-17) | 43 | **10 ft** | 85% | 80% | 80% | 3 | 13 | 1,248 | Overview | Overview | 11/16/2022 | Mixed oak woodland | *Bromus diandrus, Avena fatua* | Above |
| | | **20 ft** | 75% | 70% | 70% | | | | | | | | | |
| Stanford Ranch (SR-18) | 41 | **10 ft** | 90% | 85% | 85% | 4 | 10 | 960 | 11p | 12p | 11/16/2022 | Mixed oak woodland | *Festuca perennis, Elymus-caput medusae* | Meets |
| | | **20 ft** | 85% | 80% | 80% | | | | | | | | | |
| Stanford Ranch (SR-19) | 18 | **10 ft** | 90% | 90% | 90% | 4 | 11 | 1,056 | 13p | 14p | 11/16/2022 | Annual grassland | *Avena fatua, Elymus-caput-medusae* | Meets |
| | | **20 ft** | 85% | 80% | 80% | | | | | | | | | |

| Rocklin Open Space Preserves | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Biologist(s): Marisa Brilts and Greg Davis. Christine Heckler for SW | | | | | | | | | | | | | | |
| Preserve Area | RDM Sampling Point | Vegetation Utilization (visual percentage) | | | | Degree of Veg Utilization | Dried Weight (grams/sq.ft) | RDM Calc (Dried weight) X (96 lbs./acre) | Photo Number | | Date Sampled | Habitat Type | Dominant Vegetation Observed | RDM Criteria (meets, above, below) for habitat type |
| | | Distance | Golf ball | Baseball | Basketball | | | | 10 ft Distance | 20 ft Distance | | | | |
| Stanford Ranch (SR-21) | 38 | **10 ft** | 90% | 100% | 100% | 4 | 8 | 768 | Overview | Overview | 11/23/2022 | Mixed oak woodland | *Avena barbata, Bromus diandrus, Elymus caput-medusae* | Below |
| | | **20 ft** | 85% | 95% | 100% | | | | | | | | | |
| Stanford Ranch (SR-21) | 14 | **10 ft** | 100% | 100% | 100% | 5 | 3 | 288 | Overview | Overview | 11/23/2022 | Annual grassland | *Elymus caput-medusae* | Below |
| | | **20 ft** | 98% | 95% | 100% | | | | | | | | | |
| Sunset West (SW-1) | 7 | **10 ft** | 100% | 100% | 100% | 4 | 8 | 768 | Overview | Overview | 10/13/2022 | Annual grassland | *Elymus caput-medusae, Bromus diandrus* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Sunset Wet (SW-1) | 9 | **10 ft** | 90% | 95% | 100% | 3 | 11 | 1,056 | Overview | Overview | 10/13/2022 | Annual grassland | *Elymus caput-medusae, Bromus diandrus* | Meets |
| | | **20 ft** | 60% | 80% | 100% | | | | | | | | | |
| Sunset West (SW-3) | 8 | **10 ft** | 50% | 80% | 90% | 3 | 12 | 1,152 | Overview | Overview | 10/13/2022 | Annual grassland | *Erodium botrys, Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 30% | 50% | 80% | | | | | | | | | |
| Sunset West (SW-4) | 6 | **10 ft** | 85% | 100% | 100% | 3 | 10 | 960 | Overview | Overview | 10/14/2022 | Annual grassland | *Avena fatua, Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 60% | 80% | 90% | | | | | | | | | |
| Sunset West (SW-4) | 33 | **10 ft** | 10% | 10% | 95% | 3 | 16 | 1,536 | Overview | Overview | 10/14/2022 | Mixed oak woodland | *Avena fatua, Elymus-caput-medusae* | Above |
| | | **20 ft** | 0% | 0% | 75% | | | | | | | | | |
| Sunset West (SW-5) | 34 | **10 ft** | 90% | 95% | 100% | 4 | 9 | 864 | Overview | Overview | 10/14/2022 | Mixed oak woodland | *Bromus diandrus, Avena fatua* | Meets |
| | | **20 ft** | 65% | 80% | 100% | | | | | | | | | |
| Sunset West (SW-6) | 3 | **10 ft** | 95% | 100% | 100% | 4 | 11 | 1,056 | Overview | Overview | 10/14/2022 | Annual grassland | *Festuca perennis, Elymus-caput medusae* | Meets |
| | | **20 ft** | 80% | 95% | 100% | | | | | | | | | |
| Sunset West (SW-6) | 32 | **10 ft** | 85% | 100% | 100% | 4 | 13 | 1,248 | Overview | Overview | 10/14/2022 | Mixed oak woodland | *Avena fatua, Elymus-caput-medusae* | Above |
| | | **20 ft** | 60% | 80% | 90% | | | | | | | | | |
| Sunset West (SW-7) | 46 | **10 ft** | 85% | 95% | 95% | 4 | 11 | 1,056 | Overview | Overview | 10/14/2022 | Mixed oak woodland | *Avena fatua, Elymus-caput-medusae* | Meets |
| | | **20 ft** | 70% | 90% | 90% | | | | | | | | | |
| Sunset West (SW-7) | 46 | **10 ft** | 95% | 90% | 90% | 4 | 12 | 1,152 | Overview | Overview | 10/14/2022 | Mixed oak woodland | *Avena fatua, Elymus-caput-medusae* | Meets |
| | | **20 ft** | 90% | 85% | 80% | | | | | | | | | |
| Whitney Ranch (WR-1) | 51 | **10 ft** | 10% | 10% | 95% | 3 | 20 | 1,920 | 1p | 2p | 10/11/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus, Centromadia fitchii, Elymus caput-medusae* | Above |
| | | **20 ft** | 0% | 0% | 75% | | | | | | | | | |
| Whitney Ranch (WR-1) | 30 | **10 ft** | 100% | 100% | 100% | 5 | 4 | 384 | 3p | 4p | 10/11/2022 | Annual grassland | *Bromus diandrus, Elymus caput-medusae* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |

**Rocklin Open Space Preserves**

**Biologist(s): Marisa Brilts and Greg Davis. Christine Heckler for SW**

| Preserve Area | RDM Sampling Point | Vegetation Utilization (visual percentage) | | | | Degree of Veg Utilization | Dried Weight (grams/sq.ft) | RDM Calc (Dried weight) X (96 lbs./acre) | Photo Number | | Date Sampled | Habitat Type | Dominant Vegetation Observed | RDM Criteria (meets, above, below) for habitat type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Distance | Golf ball | Baseball | Basketball | | | | 10 ft Distance | 20 ft Distance | | | | |
| Whitney Ranch (WR-2) | 25 | **10 ft** | 95% | 95% | 100% | 3 | 15 | 1,440 | 5p | 6p | 10/13/2022 | Annual grassland | *Avena fatua, Bromus hordeaceus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 90% | 90% | 100% | | | | | | | | | |
| Whitney Ranch (WR-3) | 27 | **10 ft** | 95% | 95% | 100% | 3 | 20 | 1,920 | Overview | Overview | 10/13/2022 | Annual grassland | *Bromus hordeaceus, Elymus caput-medusae* | Above |
| | | **20 ft** | 85% | 90% | 100% | | | | | | | | | |
| Whitney Ranch (WR-4) | 2 | **10 ft** | 100% | 100% | 100% | 5 | 6 | 576 | Overview | Overview | 10/13/2022 | Annual grassland | *Bromus hordeaceus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Whitney Ranch (WR-4) | 28 | **10 ft** | 100% | 100% | 100% | 5 | 3 | 288 | Overview | Overview | 10/13/2022 | Annual grassland | *Elymus caput-medusae* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Whitney Ranch (WR-5) | 21 | **10 ft** | 100% | 100% | 100% | 4 | 5 | 480 | 5 | 6 | 10/11/2022 | Annual grassland | *Avena fatua, Bromus diandrus, Elymus caput-medusae* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Whitney Ranch (WR-5) | 23 | **10 ft** | 100% | 100% | 100% | 4 | 9 | 480 | 7 | 8 | 10/11/2022 | Annual grassland | *Avena fatua, Bromus diandrus, Elymus caput-medusae* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Whitney Ranch (WR-6) | 20 | **10 ft** | 100% | 100% | 100% | 3 | 9 | 864 | 9 | 10 | 10/11/2022 | Annual grassland | *Avena fatua, Bromus diandrus, Elymus caput-medusae* | Meets |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Whitney Ranch (WR-6) | 24 | **10 ft** | 100% | 100% | 100% | 5 | 1 | 96 | 11 | 12 | 10/12/2022 | Annual grassland | *Avena fatua, Bromus diandrus, Elymus caput-medusae* | Below |
| | | **20 ft** | 100% | 100% | 100% | | | | | | | | | |
| Brighton | 52 | **10 ft** | 0% | 0% | 50% | 1 | 23 | 2,208 | 5p | 6p | 10/10/2022 | Mixed oak woodland | *Cynodon dactylon* | Above |
| | | **20 ft** | 0% | 0% | 45% | | | | | | | | | |
| Garnet Creek | 54 | **10 ft** | 50% | 50% | 75% | 1 | 16 | 1,536 | 1p | 2p | 10/10/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus, Trifolium hirtum* | Above |
| | | **20 ft** | 45% | 45% | 60% | | | | | | | | | |
| Garnet Creek | 53 | **10 ft** | 75% | 75% | 98% | 1 | 15 | 1,440 | 3p | 4p | 10/10/2022 | Mixed oak woodland | *Avena fatua, Bromus diandrus, Trifolium hirtum* | Above |
| | | **20 ft** | 75% | 75% | 98% | | | | | | | | | |
| Parklands North | 55 | **10 ft** | 0% | 0% | 50% | 1 | 20 | 1,920 | Overview | Overview | 9/22/2022 | Mixed oak woodland | *Rubus armeniacus* | Above |
| | | **20 ft** | 0% | 0% | 45% | | | | | | | | | |
| Placer Creek (PCCC-5) | 31 | **10 ft** | 0% | 0% | 15% | 1 | 30 | 2,880 | Overview | Overview | 10/14/2022 | Annual grassland | *Bromus hordeaceus, Elymus caput-medusae, Festuca perennis* | Above |
| | | **20 ft** | 0% | 0% | 5% | | | | | | | | | |

| Rocklin Open Space Preserves | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Biologist(s): Marisa Brilts and Greg Davis. Christine Heckler for SW | | | | | | | | | | | | | | |
| Preserve Area | RDM Sampling Point | Vegetation Utilization (visual percentage) | | | | Degree of Veg Utilization | Dried Weight (grams/sq.ft) | RDM Calc (Dried weight) X (96 lbs./acre) | Photo Number | | Date Sampled | Habitat Type | Dominant Vegetation Observed | RDM Criteria (meets, above, below) for habitat type |
| | | Distance | Golf ball | Baseball | Basketball | | | | 10 ft Distance | 20 ft Distance | | | | |

| | |
|---|---|
| RDM Objective for Annual Grassland (AG): | 800-1,200 lbs./acre |
| RDM Objective for Oak Woodland (OW): | 400-1,200 lbs./acre |

**RDM = (Dry Weight of Sample in grams) X (96 lbs./acre) OR**
**RDM = (X grams/1 sq.ft) X (43560 sf/1 acre) X (1 lb./454 grams)**

**Degree of Vegetation Utilization:**

**1 - None** **0-15%; Little or no use of surveyed vegetation**
**2 - Light** **16-35%; Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.**
**3 - Moderate** **36-65%; Grazing is spotty, but evident. Trampling damage may be evident.**
**4 - Heavy** **66-80%; Surveyed vegetation is closely cropped. Trampling damage should be evident.**
**5 - Severe** **> 80%; Surveyed vegetation grubbed. Trampling damage evident.**

*California Guidelines for RDM Management on Coastal and Foothill Annual Rangelands. 2002. Publication 8092. University of California, Division of Agriculture and Natural Resources.*

Thatch levels fall below the target RDM. Heavy vegetation grubbing /trampling
RDM levels meet target range for annual grasslands or oak woodlands
Thatch levels are high and are above target range
Mixed oak woodland
Annual grassland