2018-2019 Annual Monitoring Report

± 600 -Acres Rocklin Open Space Preserve
City of Rocklin, California

December 2019 | CYR-02

Prepared for:

U.S. Army Corps of Engineers
1325 J Street
Sacramento, CA 95814-2922

Prepared by:

HELIX Environmental Planning, Inc.
590 Menlo Drive, Suite 5
Rocklin, CA 95765

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1.0 SUMMARY

This report presents the results of the annual monitoring of the Rocklin Open Space Preserve (Preserve) for the 2018-2019 survey session. This is the fourth year of monitoring for Claremont (C), Orchard Creek (OC), Stanford Ranch (SR), Sunset West (SW), and Whitney Ranch (WR) Preserves. This is the second year of monitoring for the Brighton (B) Preserve, and the first year of monitoring for the Garnet Creek (GC), Parklands North (PN), and Placer Creek Corporate Center (PCCC) Preserves.

The monitoring requirements for each Preserve unit are specified in the May 2015, *City of Rocklin General Open Space Management Plan*. Under the City of Rocklin (City) General Open Space Management Plan (GOSMP), the primary goal is to conserve and protect the functions and values of existing habitats, including vernal pool grasslands, seasonal wetlands, riparian areas, and oak woodlands within the Preserve. The GOSMP requires the preparation of an annual monitoring report to identify whether special-status species occur within the Preserve, to compare the vegetative and hydrologic condition of the Preserve to the recorded baseline conditions, and to make recommendations for active management to address potential problems including vandalism, dumping, invasive species infestations, excessive fuel buildup, and fencing issues. The purpose of the 2018-2019 annual monitoring was to continue to monitor conditions within the Preserve, identify and compare baseline conditions, and conduct special-status species surveys to document whether performance standards are being met within the Preserve.

The ±600-acre 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, 15, and 17. Township 11 North, Range 7 East, 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.

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) under the California Department of Fish and Wildlife;
- Swainson's hawk (*Buteo swainsoni*) a is a state-listed threatened species in California that was listed in 1983 by the California Fish and Game Commission;
- Tricolored blackbird (*Agelaius tricolor*) a threatened species under the California Endangered Species Act;
- Vernal pool fairy shrimp (*Branchinecta lynchi*) a federally-threatened species under the federal Endangered Species Act; and
- Hispid bird's-beak (*Chloropyron molle* ssp. *hispidum*) a California Rare Plant Rank 1B.1.

1.1 PROJECT BACKGROUND

The City adopted the GOSMP in 2015 to facilitate the management of all of the City's open space holdings. The GOSMP was adopted following approval by the U.S. Army Corps of Engineers (USACE). The GOSMP allows combined management of over ±600 acres at nine separate open space preserves. The

GOSMP replaces the previous project-specific management plans for the five of the nine Preserve space areas, 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*;
- *General Open Space Management Plan, New Open Space Preserve Package Submittal, Brighton Subdivision*;

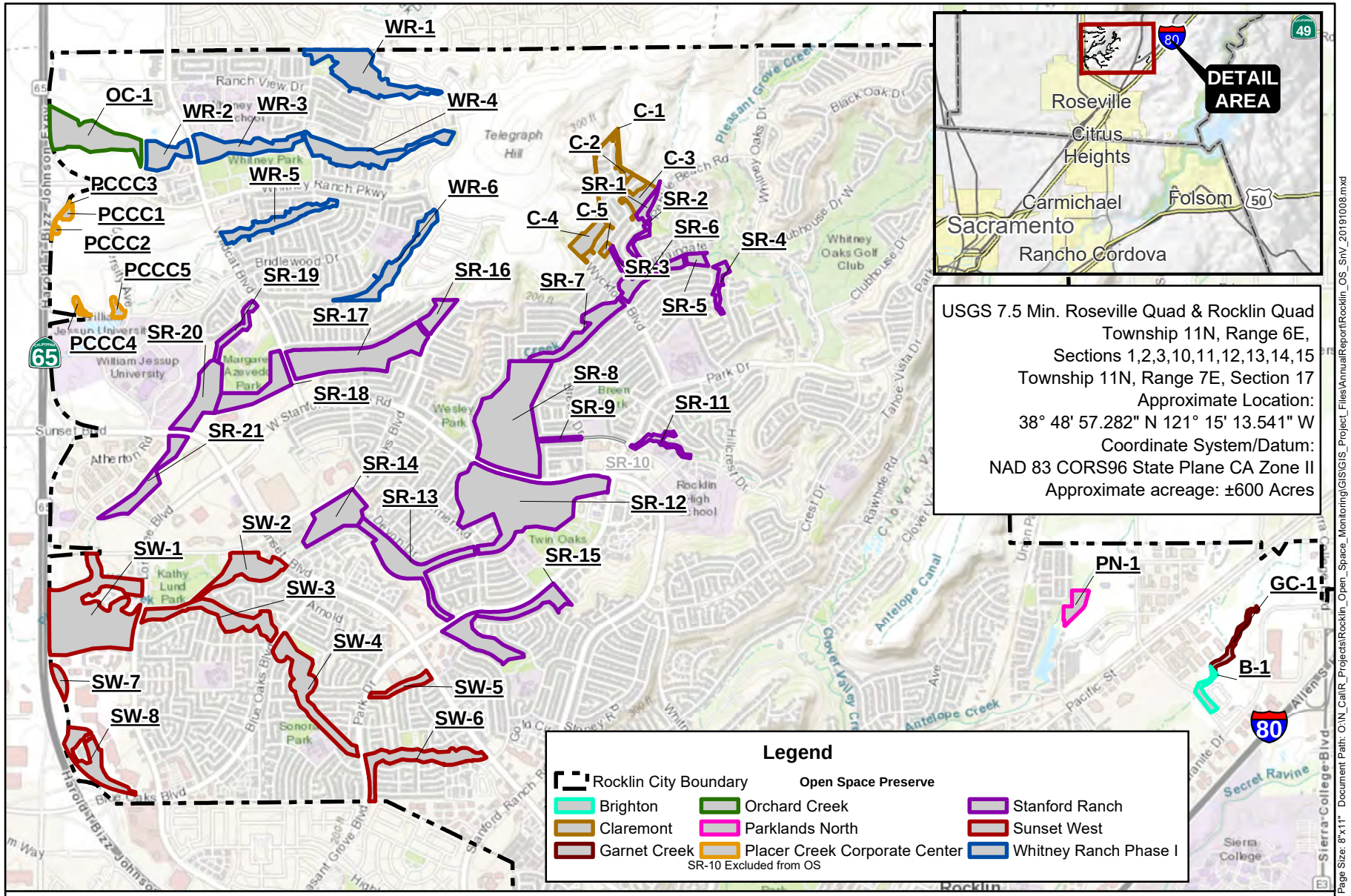
Garnet Creek, Parklands North, and Placer Creek Corporate Center did not have their own Open Space Management Plans prior to being incorporated into the GOSMP.

Table 1 below identifies the Preserve area by acreage and habitat types.

Table 1
PRESERVE AREA BY HABITAT TYPES

Preserve Area	Acreage	Habitat Types and Exiting Conditions
Brighton	±3 acres	Riparian woodland, annual grassland, and perennial marsh.
Claremont	±14.8 acres	Detention basin, pond, seasonal wetlands, open grassland, native and planted oaks, and preserved rock formation.
*Garnet Creek	±3.6 acres	Annual grassland, oak woodland, riparian, disturbed/ developed.
*Parklands North	±4.6 acres	Riparian and mixed oak woodlands.
*Placer Creek Corporate Center	±5 acres	Annual grassland and vernal pool complex.
Orchard Creek	±23.6 acres	Riverine seasonal wetland, vernal pool, intermittent drainage swale, and annual grassland dominated by invasive species.
Stanford Ranch	±308.2 acres	Annual grassland, riparian, oak woodland, vernal pool, seasonal wetland, and Pleasant Grove Creek.
Sunset West	±146 acres	Annual grassland, riparian, Pleasant Grove Creek, intermittent drainage, drainage swale, historic and created seasonal wetland, riverine wetland, and vernal pool.
Whitney Ranch	±91 acres	Annual grassland, drainages, and riparian.

(*) = Indicate the first year of monitoring under the GOSMP.



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: ±600 Acres

SITE AND VICINITY

HELIX Environmental Planning

N

0 0.6 1.2
Miles
1 : 36,000

Drawn By: JCD
Date: 10/08/2019

FIGURE 1

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2.0 MONITORING REQUIREMENTS AND METHODOLOGY

Overall Preserve conditions, including invasive plant monitoring, thatch monitoring, vernal pool invertebrate and hydrology monitoring, wetland and riparian monitoring, vernal pool floristic monitoring, oak inventory and mappings and special-status plant and animal surveys, are evaluated annually as specified by the GOSMP. Additionally, baseline surveys were conducted on newly acquired Garnet Creek, Parklands North and Placer Creek Corporate Center Preserve sections during the 2018-2019 monitoring period.

2.1 INVASIVE PLANT MONITORING

As part of the ongoing annual monitoring, invasive plant species surveys were conducted throughout the Preserve areas during the 2018-2019 survey season. Baseline data was collected in the fall of 2018 and summer of 2019 for the Garnet Creek, Parklands North, and Placer Creek Corporate Center Open Space Preserve, in the fall of 2017 for the Brighton Preserve, and in the fall of 2015 for Claremont, Orchard Creek, Stanford Ranch, Sunset West, and Whitney Ranch preserves.

HELIX's biologists conducted invasive plant monitoring between September 2018 and September 2019. Random transects spaced approximately 50 feet apart were walked throughout the Preserves to ensure total visual coverage. Locations of invasive species were recorded or updated using the ArcGIS Collector app for Android and iPhones. Due to limitations on the accuracy of the app and collection devices, revisiting and correctly identifying the point data collected in 2015 was extremely difficult in high-density riparian areas. Therefore, these areas were re-mapped as polygons encompassing small groups of invasive species. Single occurrences or populations of plants less than approximately 2-feet by 2-feet in size were mapped as points, and larger populations of plants were mapped as polygons. Additionally, representative site photographs were taken throughout the Preserves (Figures 2-A through 2-I and Appendix A), respectively.

2.2 THATCH MONITORING

To evaluate the effectiveness of the grazing program and to maintain the target residual dry matter (RDM) level, the GOSMP identified the target RDM for the Preserve as no more than 1,200 lbs./acre but did not set a minimum RDM target. The typical RDM objective for California annual grassland is an RDM between 800-1,200 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 the University of California Division of Agriculture and Natural Resources 2006 *Guidelines for Residual Dry Matter on Coastal and Foothill Rangelands* (Bartolome et al. 2006). Since many of the creek corridors are heavily 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 mowing practices should be implemented, while areas with RDM below the target range are overgrazed and stocking rates should be reduced.

A total of 55 RDM sampling points was analyzed by HELIX biologists on October 15, 17, 18, 19, 23, 24, 25, and 29, 2018. Five new points (#51-55) were established in Brighton, Garnet Creek, Parklands North, and Placer Creek Corporate Center (Figure 3). HELIX biologists clipped 1-foot square plots of vegetation

as outlined in the Guidelines. The location of the previously established RDM location test plot was located and monitored using the Collector Application on a GPS-enabled phone. Vegetation samples were clipped and weighed in the field. Damp samples were dried and re-weighed prior to determining the estimated RDM. Care was taken during the sampling to collect only dried grass and avoid new growth. Pictures were taken from 10 and 20 feet away from the RDM sampling point prior to clipping the vegetation to show vegetation quantity and height (Appendix B).

2.3 VERNAL POOL INVERTEBRATE AND HYDROLOGY MONITORING

The GOSMP requires 20 percent of the vernal pools within the Preserve be sampled twice per year for the presence of listed vernal pool branchiopods. A total of 64 pools (20%) were monitored in 2019. Two new vernal pools were surveyed in Placer Creek Corporate Center (#315 and 318). Figure 4 identifies the vernal pool features that were evaluated during the 2019 monitoring year.

Wet season surveys for listed vernal pool branchiopods were conducted on January 30, 31, February 1, 5, 22, and 28, and March 13, 2019. 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, as required by the GOSMP. 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 vernal pool was indicated on the data sheets (Appendix C). Other data collected included the vernal pool number, water depth, estimated maximum depth, percent of inundation, water temperature, and general habitat and weather conditions. Representative site photographs were taken with a digital camera and are shown in Appendix A.

2.4 WETLAND AND RIPARIAN MONITORING

Evaluation of the jurisdictional waters including erosion, sedimentation build-up or hydrologic changes were noted. Surveys also provide an assessment of vegetative form and function related to compositions, and invasive species control within waterways.

Wetland and riparian monitoring took place in the fall of 2018, after the onset of the first rains, and in the spring of 2019. Some surveys were conducted in conjunction with the biological or amphibian surveys.

2.5 VERNAL POOL FLORISTIC MONITORING

As outlined in the GOSMP, 20 percent of the vernal pools within the Preserve are to be surveyed. The same group of vernal pools monitored during the invertebrate survey were monitored during the floristic survey. Plant species with greater than 25 percent vegetative cover are considered dominant plant species. If no plant species comprise greater than 25 percent relative cover in a vernal pool, then the plant species with at least 10 percent relative cover are considered dominant plant species.

HELIX Environmental Planning

N

0 840 1,680 Feet

1 : 6,000

Rocklin Open Space
Brighton/Garnet Creek/Parklands North
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-A

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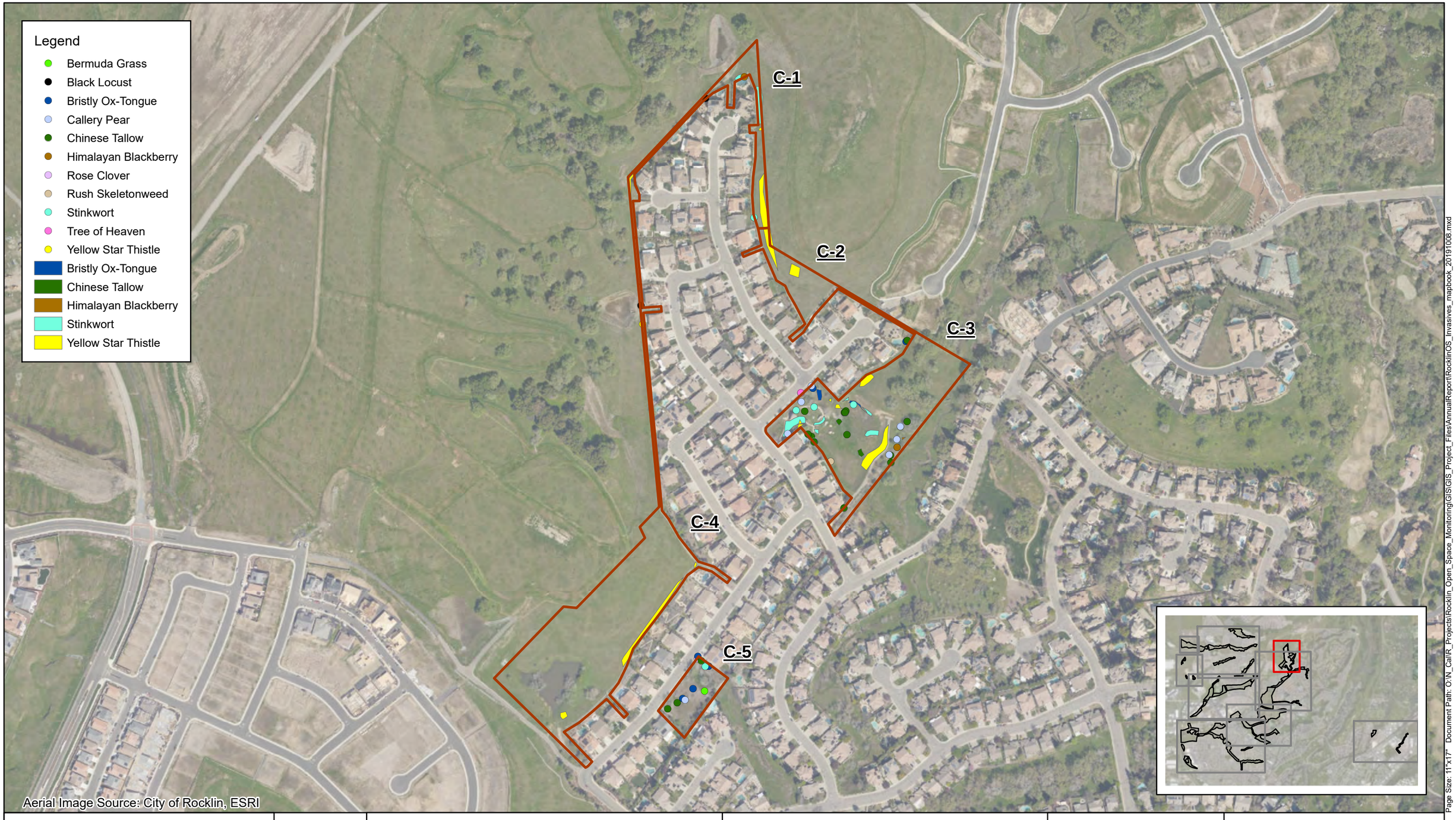

HELIX Environmental Planning

N

0 590 1,180 Feet

1 : 4,200

Rocklin Open Space
Claremont
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-B

Document Name: RocklinOS_Invasives_mapbook_20191008 : Date: 10/11/2019

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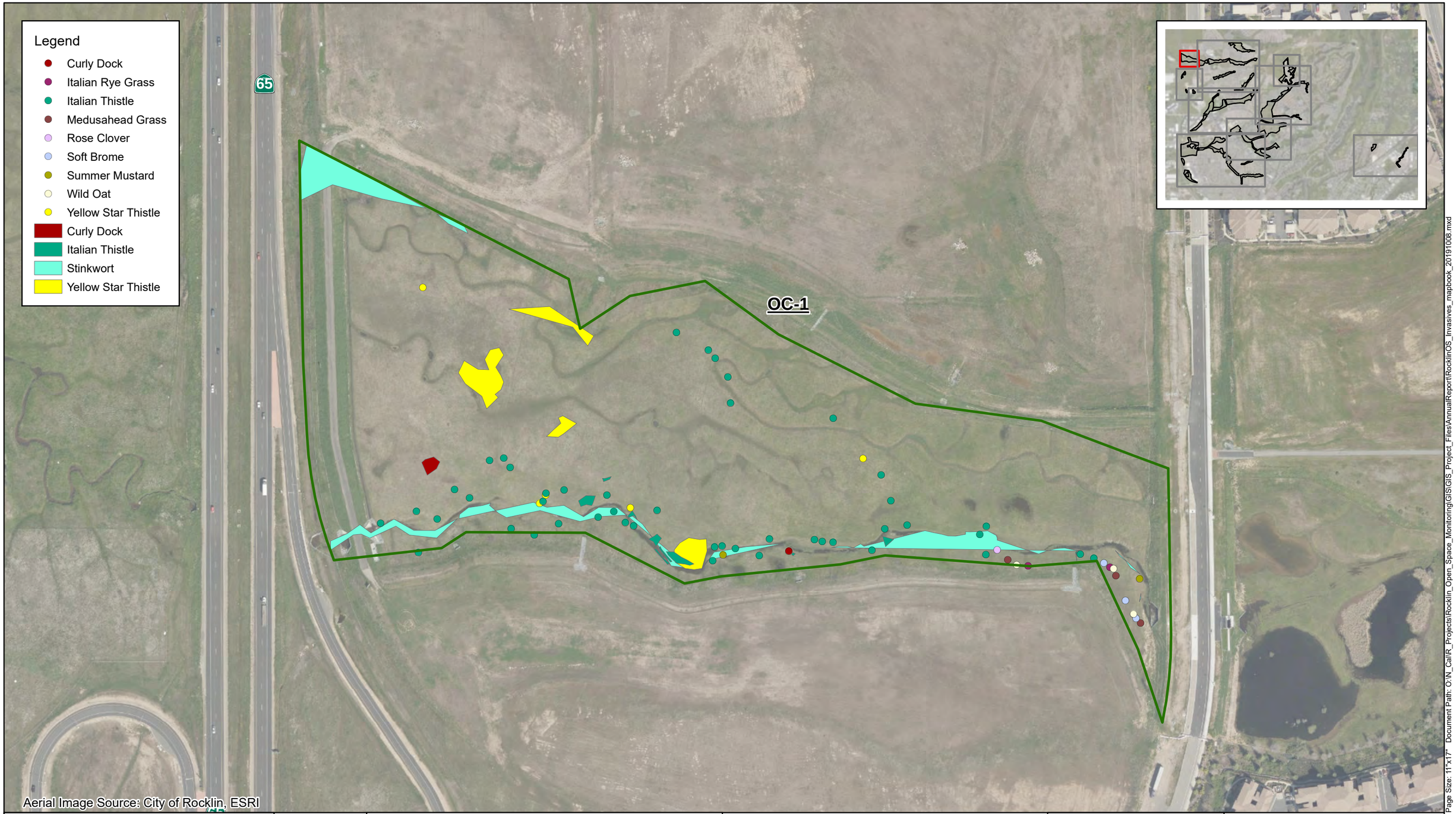

HELIX Environmental Planning

N

0 330 660 Feet

1 : 2,400

Rocklin Open Space
Orchard Creek
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-C

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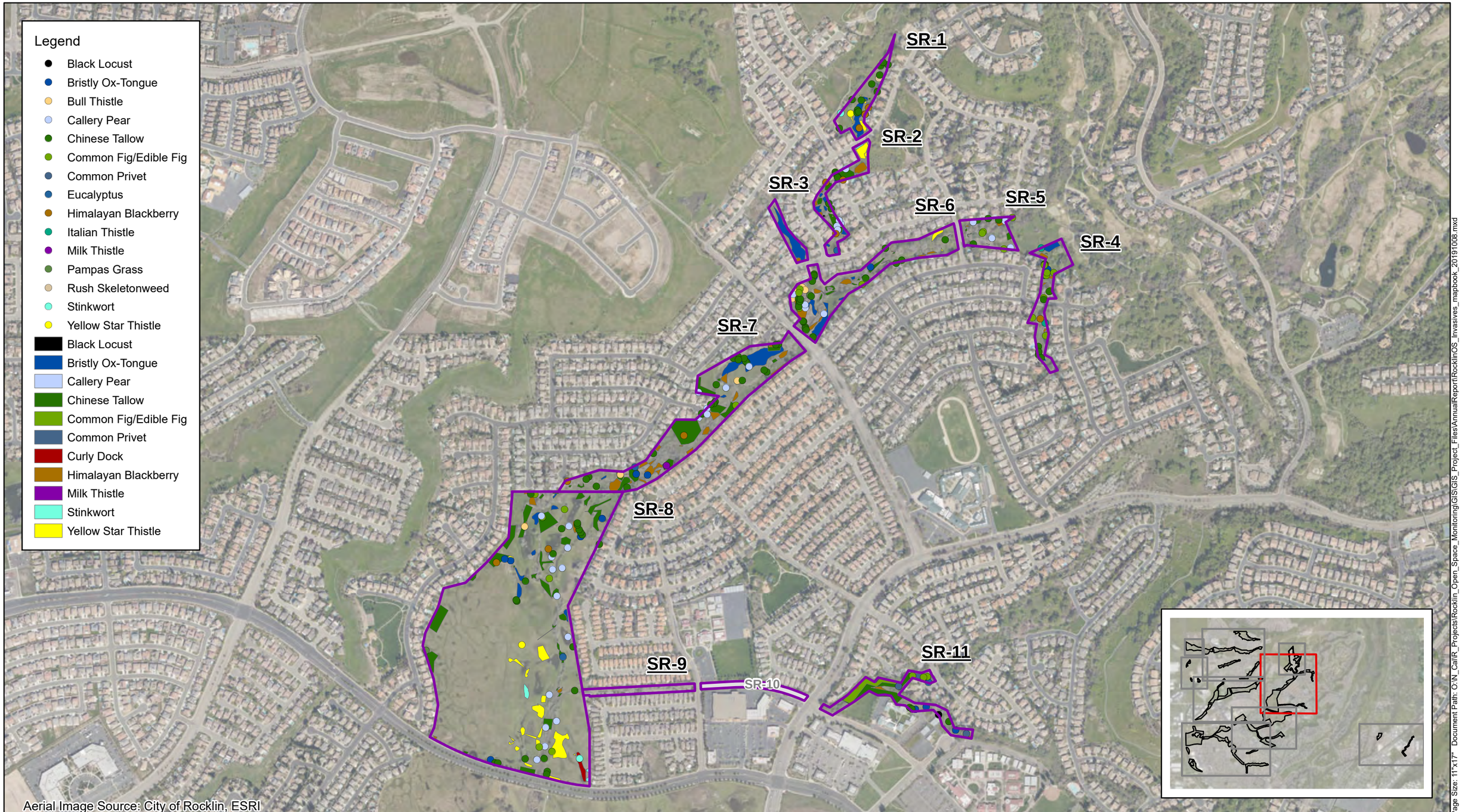

HELIX Environmental Planning

N

0 1,250 2,500 Feet

1 : 9,000

Rocklin Open Space
Stanford Ranch 1
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-D

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20191008.mxd

SR-12

SR-14

SR-13

SR-15

Legend

- Bristly Ox-Tongue
- Bull Thistle
- Callery Pear
- Chinese Tallow
- Common Fig/Edible Fig
- Eucalyptus
- Himalayan Blackberry
- Italian Thistle
- Milk Thistle
- Pampas Grass
- Rush Skeletonweed
- Stinkwort
- Tree of Heaven
- Yellow Star Thistle

Bristly Ox-Tongue
Bull Thistle
Callery Pear
Chinese Tallow
Common Fig/Edible Fig
Curly Dock
Himalayan Blackberry
Italian Thistle
Milk Thistle
Pampas Grass
Rush Skeletonweed
Stinkwort
Yellow Star Thistle

Aerial Image Source: City of Rocklin, ESRI

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HELIX Environmental Planning

N

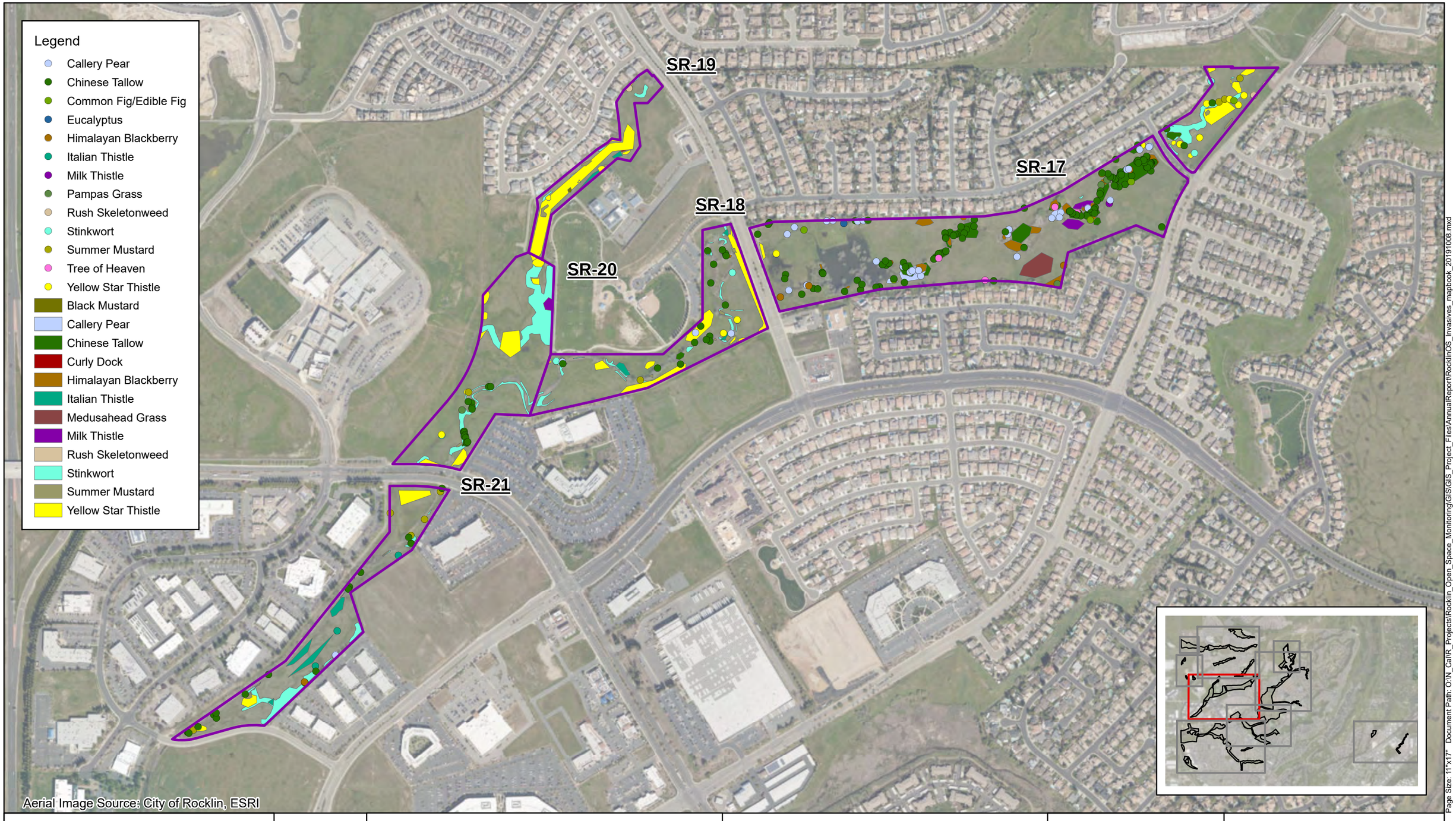
0 840 1,680 Feet

1 : 6,000

Rocklin Open Space
Stanford Ranch 2
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-E



HELIX Environmental Planning

N

0 1,000 2,000 Feet

1 : 7,400

Rocklin Open Space
Stanford Ranch 3
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-F

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20191008.mxd

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SW-1

SW-2

SW-3

SW-4

SW-5

SW-6

SW-7

SW-8

65

Legend

- Black Locust
- Black Mustard
- Bull Thistle
- Callery Pear
- Chinese Tallow
- Common Fig/Edible Fig
- Curly Dock
- Eucalyptus
- Himalayan Blackberry
- Italian Thistle
- Milk Thistle
- Pampas Grass
- Rush Skeletonweed
- Stinkwort
- Summer Mustard
- Tree of Heaven
- Yellow Star Thistle
- Black Locust
- Black Mustard
- Bristly Ox-Tongue
- Bull Thistle
- Callery Pear
- Chinese Tallow
- Curly Dock
- Himalayan Blackberry
- Italian Thistle
- Milk Thistle
- Rush Skeletonweed
- Stinkwort
- Summer Mustard
- Water Hyacinth
- Yellow Star Thistle

Aerial Image Source: City of Rocklin, ESRI

HELIX Environmental Planning

N

0 1,000 2,000 Feet

1 : 7,200

Rocklin Open Space
Sunset West
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-G

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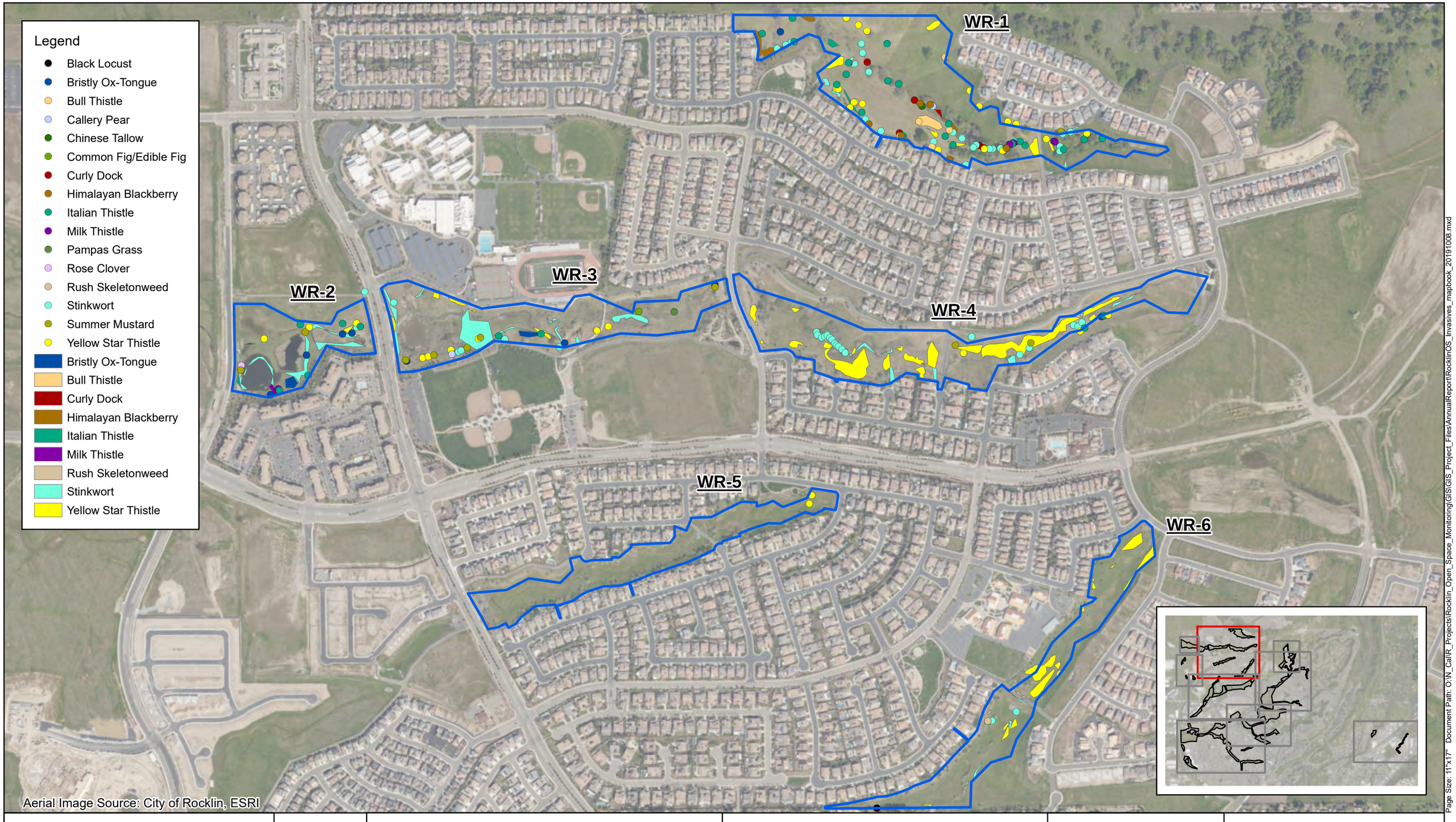


HELIX Environmental Planning

N

0 1,000 2,000 Feet

1 : 7,200

Rocklin Open Space
Whitney Ranch Phase I
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-H

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20191008.mxd

Document Name: RocklinOS_Invasives_mapbook_20191008 : Date: 10/11/2019

Legend

- Stinkwort
- Yellow Star Thistle

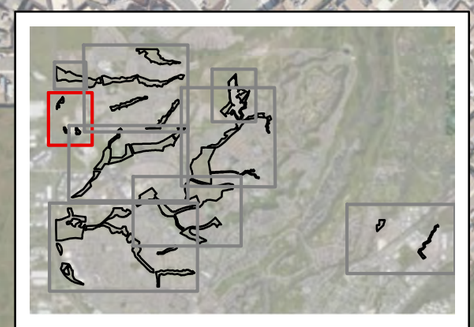
PCCC-1

PCCC-2

PCCC-3

PCCC-4

PCCC-5



Aerial Image Source: City of Rocklin, ESRI

HELIX Environmental Planning

N

0 590 1,180 Feet

1 : 4,200

Rocklin Open Space
Placer Creek Corporate Center
Invasive Species

Drawn By: JCD
Date: 10/04/2019

Figure 2-I

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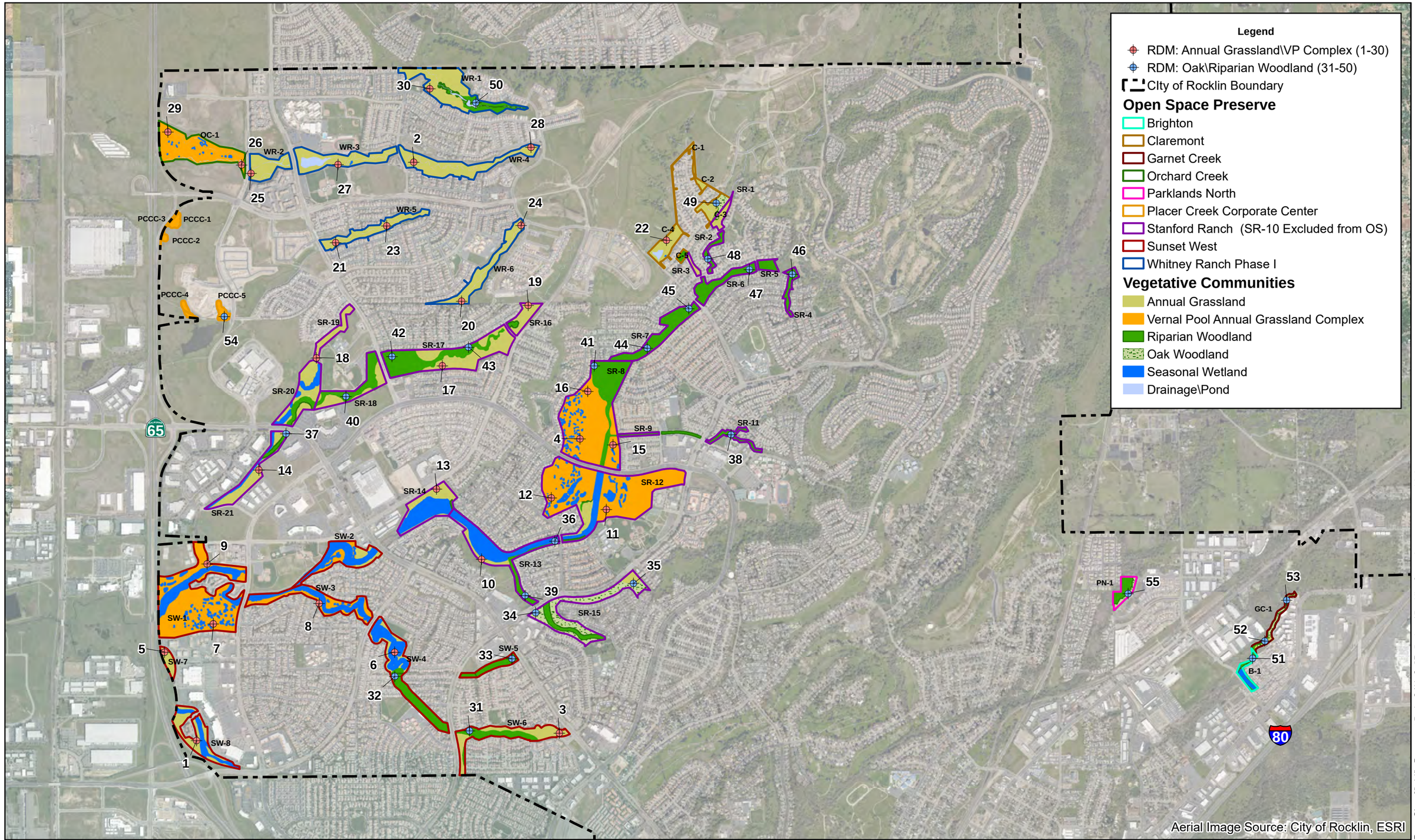

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LOCATION OF RDM MONITORING POINTS

N

0 0.4 0.8

Miles

1 : 24,000

Drawn By: JCD

Date: 10/08/2019

FIGURE 3

ROCKLIN OPEN SPACE

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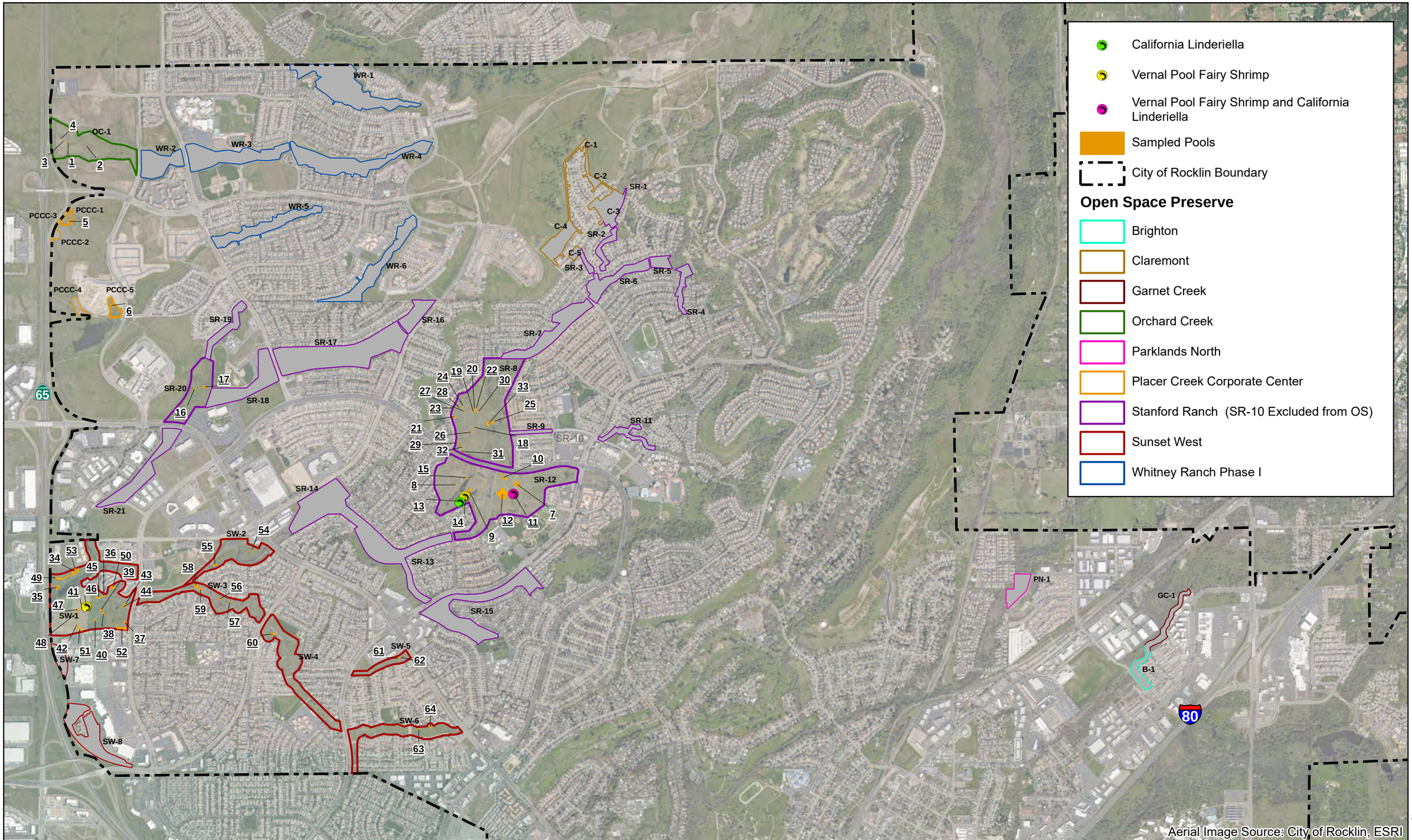

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Sampled Vernal Pools and Listed Branchiopod Occurrences

N

0 2,000 4,000 8,000

SCALE IN FEET
1 : 24,000

Drawn By: JCD
Date: 10/08/2019

FIGURE 4

ROCKLIN OPEN SPACE

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Monitoring was conducted on April 17 and 24, May 7, 14 and 31, and June 4 and 12, 2019. Surveys were conducted over a range of dates in an attempt to best capture the peak floristic conditions of pools that were no longer inundated. Meandering transects were walked through the entire area of each pool and all observed species were recorded (Appendix D). Each species observed within the pool was assigned a relative cover score using the Braun-Blanquet scale from 0-5 (Table 2).

Table 2
BRAUN BLANQUET SCALE

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

2.6 SPECIAL-STATUS PLANT SURVEY

Although the GOSMP identifies six (6) special-status plant species with potential to occur in the Preserve, five (5) are not known from the Rocklin area 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 California Native Plant Society (CNPS) ranking system was referenced. CNPS maintains a rank 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

Upon review of the above-referenced databases, 13 special-status plant species have the potential to occur within the region. These species include: big-scale balsamroot (*Balsamorhiza macrolepis*), hispid bird's-beak, Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*), dwarf downingia (*Downingia pusilla*), stinkbells (*Fritillaria agrestis*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), legenere (*Legenere limosa*), pincushion navarretia *(Navarretia myersii* ssp. *myersii)*, adobe navarretia (*Navarretia*

nigelliformis ssp*. nigelliformis*), and Sanford's arrowhead *(Sagittaria sanfordii*). Know populations of hispid bird's-beak occur and were verified during the 2019 survey session (Figure 5).

2.7 BIOLOGICAL SURVEY

The annual biological survey evaluates the form and function of habitats within the Preserve. Surveys include but are not limited to marking the locations of beaver (*Castor canadensis*) dams, compiling and updating observed plant and wildlife lists, noting areas of trash, trespass, and condition of fencing and signage within the Preserve (Figures 6-A through 6-I).

Surveys were conducted on October 1, and 29-31, November 1, 2, 5-7, 12, 14, 15, 19, and 21, 2018, July 22, August 5, 8, 9, 12, 13, 14, and 19-22, 2019. Additionally, observations were made by HELIX biologists throughout the year in tandem with other annual surveys.

2.8 BURROWING OWL AND SWAINSON'S HAWK SURVEY

As outlined in the GOSMP, surveys should be conducted every 5 years within potential habitat for burrowing owls (*Athene cunicularia*) and Swainson's hawk.

Focused baseline surveys for these species were conducted within Placer Creek Corporate Center by a HELIX biologist on March 20, 2019 and Garnet Creek on April 5, 2019. The biologist walked the perimeter and meandering transects within the preserve, where accessible. Binoculars were used to visually inspect for wildlife, and evidence of active avian nests, especially within trees and shrubs.

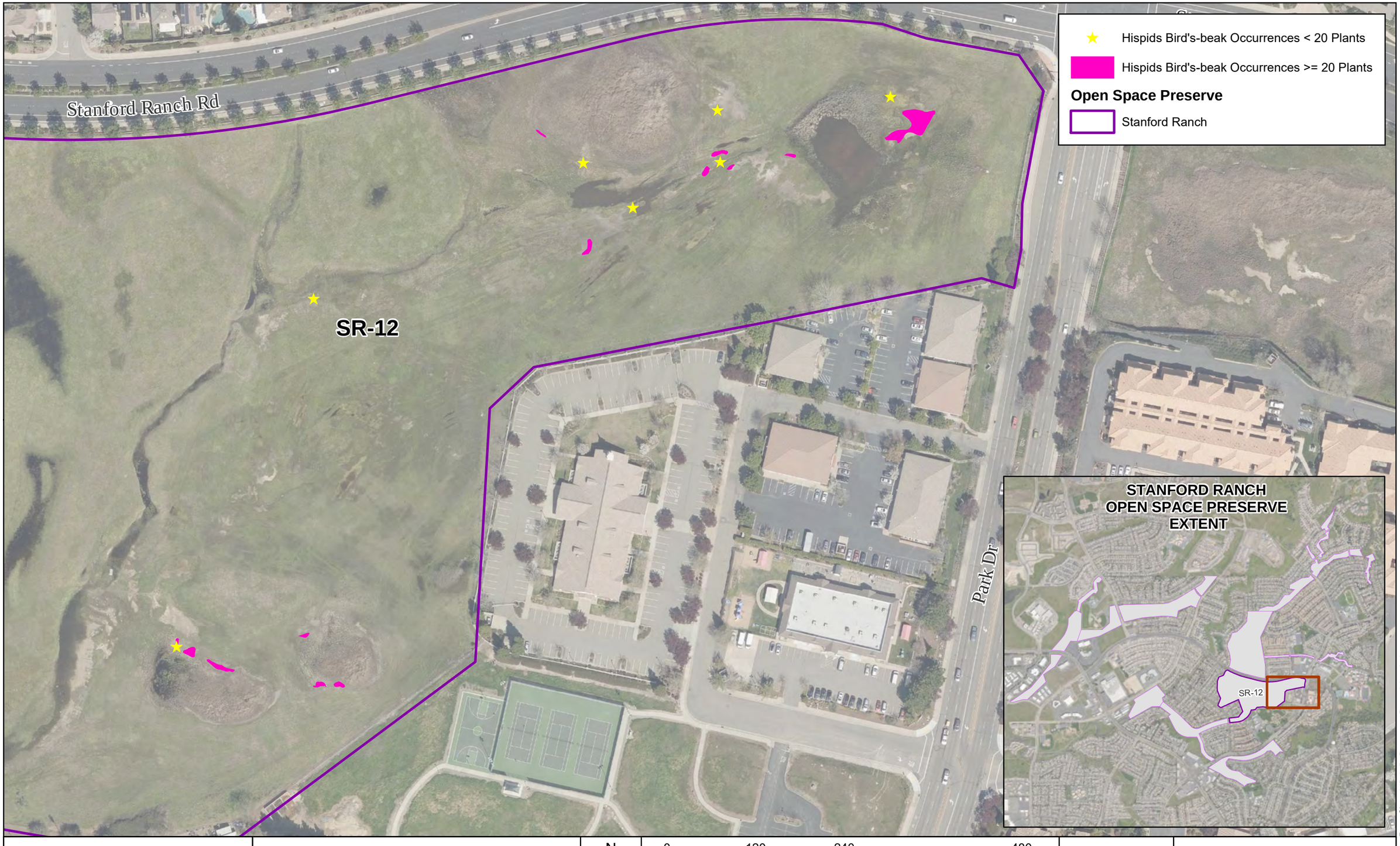
2.9 OAK INVENTORY AND MAPPING

Oak trees and oak woodlands were initially mapped within the Claremont, Orchard Creek, Stanford Ranch, Sunset West, and Whitney Ranch Preserves in 2015, within the Brighton Preserve in 2017, and within the newly acquired Garnett Creek (Figures 7 and 8) and Parklands North (Figures 9 and 10) in 2019. Additionally, as per the 2015 GOSMP, a subset of oak canopy was verified and re-assessed within approximately twenty percent of the total open space areas, which included Whitney Ranch and Sunset West (Figure 11-A).

2.9.1 Garnett Creek and Parklands North

Oak trees and oak woodland habitat within the Garnett Creek and Parklands North Open Space Preserves were systematically surveyed on foot by ISA-Certified Arborist Zachary Neider (WE-11615A) on August 8, 12, 13, 15, and 19, 2019. All existing oak trees were examined to determine their species type and diameter at breast height (DBH). A diameter tape or calipers were used to verify each trunk diameter at the industry standard of 54 inches above grade, where accessible. The measurement from the trunk to the end of the longest lateral limb was estimated and used as the dripline radius (DLR). Recommendations for removal or suitability for preservation were noted for each tree.

All trees within Garnet Creek and Parklands North with at least one stem measuring greater than six-inches in DBH were inventoried and tagged with pre-printed aluminum tags (Figures 7 and 9). Trees that were not physically accessible to the arborist were not tagged, but were given an arbitrary number and mapped using an estimated directional and distance offset from the handheld GPS unit. A note was



HELIX Environmental Planning

HISPIDS BIRD'S-BEAK OCCURRENCES

N

0 120 240 480

SCALE IN FEET
1 : 1,440

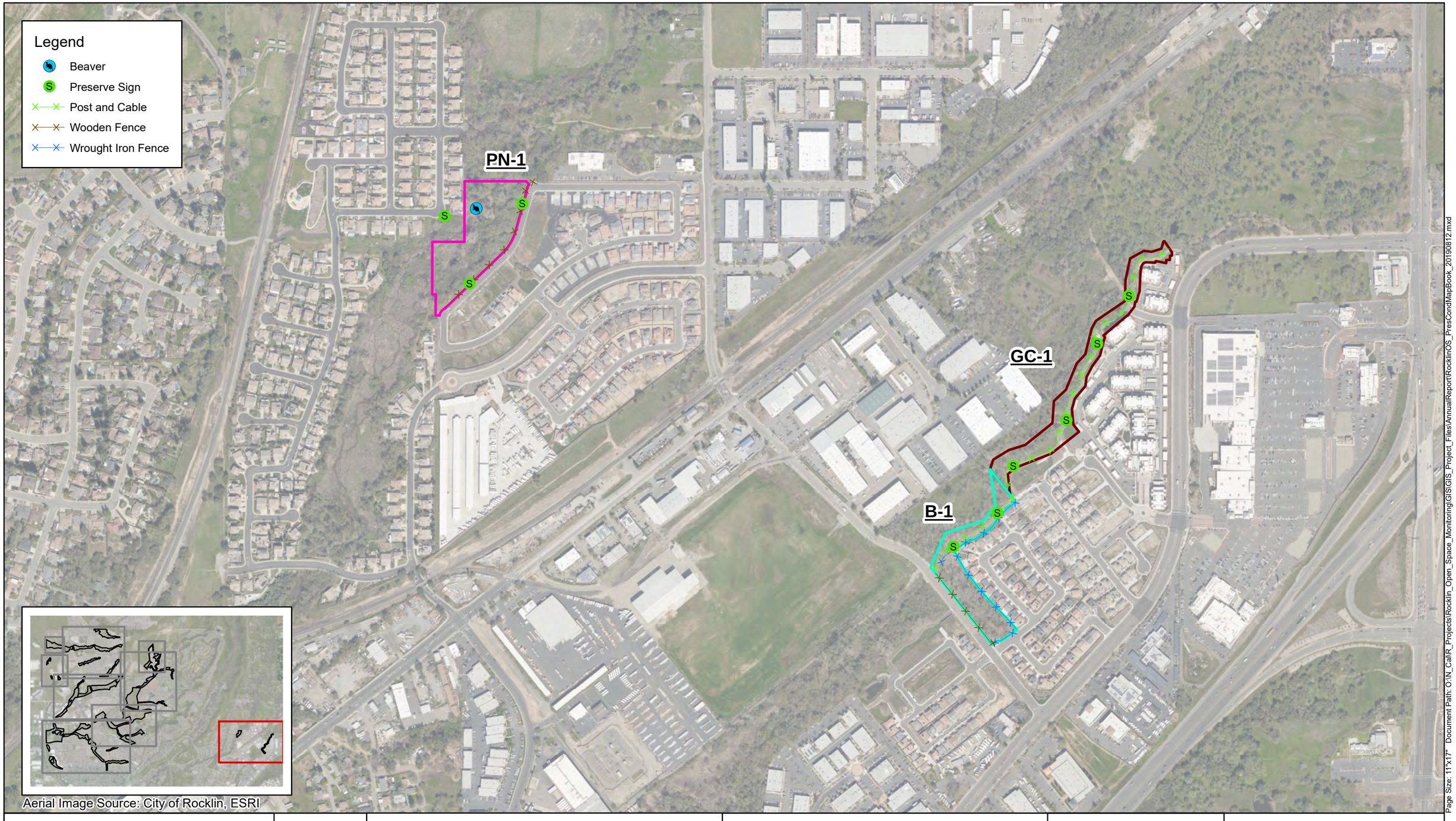
Drawn By: JCD
QAQC: CTG
Date: 07/23/2019

FIGURE 5

ROCKLIN OPEN SPACE

Document Name: RocklinOS_HispidsLocation_20190723 : 7/23/2019 4:33:05 PM

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_HispidsLocation_20190723.mxd



HELIX Environmental Planning

N

0 840 1,680 Feet

1 : 6,000

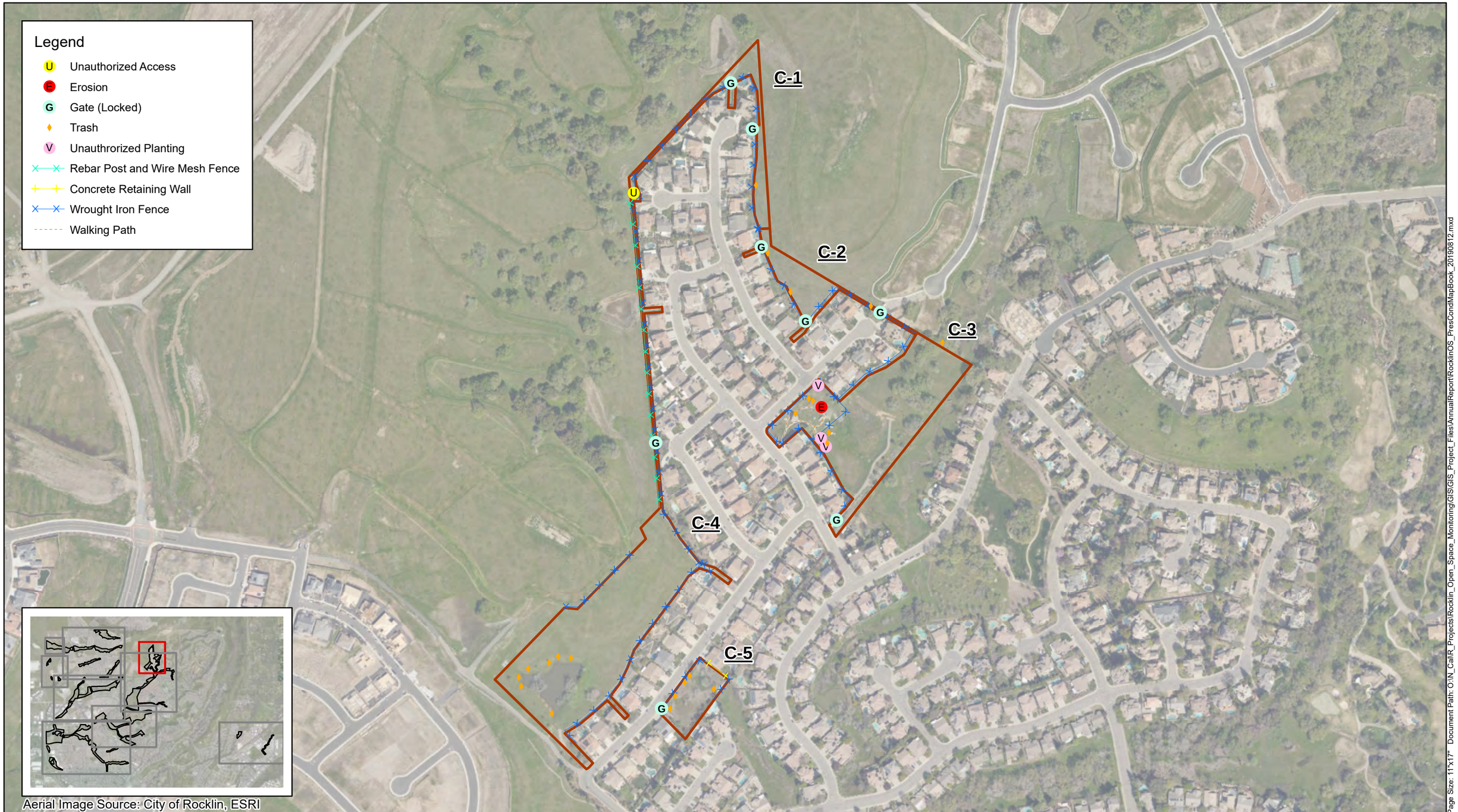
Rocklin Open Space
Brighton/Garnet Creek
Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-A

Document Name: RocklinOS_PresCondMapBook_20190812 : Date: 12/16/2019

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd



HELIX Environmental Planning

N

0 590 1,180 Feet

1 : 4,200

Rocklin Open Space
Claremont
Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-B

Document Name: RocklinOS_PresCondMapBook_20190812 : Date: 12/16/2019

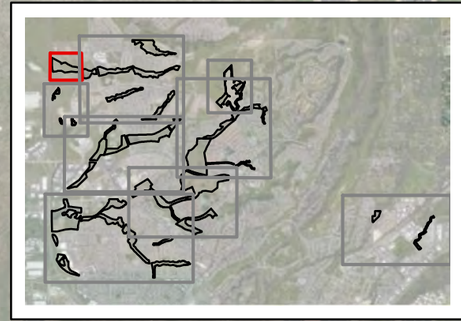
Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd

Legend

- Tri-color Blackbird (Foraging)
- Trash
- Rebar Post and Wire Mesh Fence

65

OC-1



Aerial Image Source: City of Rocklin, ESRI

HELIX Environmental Planning

N

0 330 660 Feet

1 : 2,400

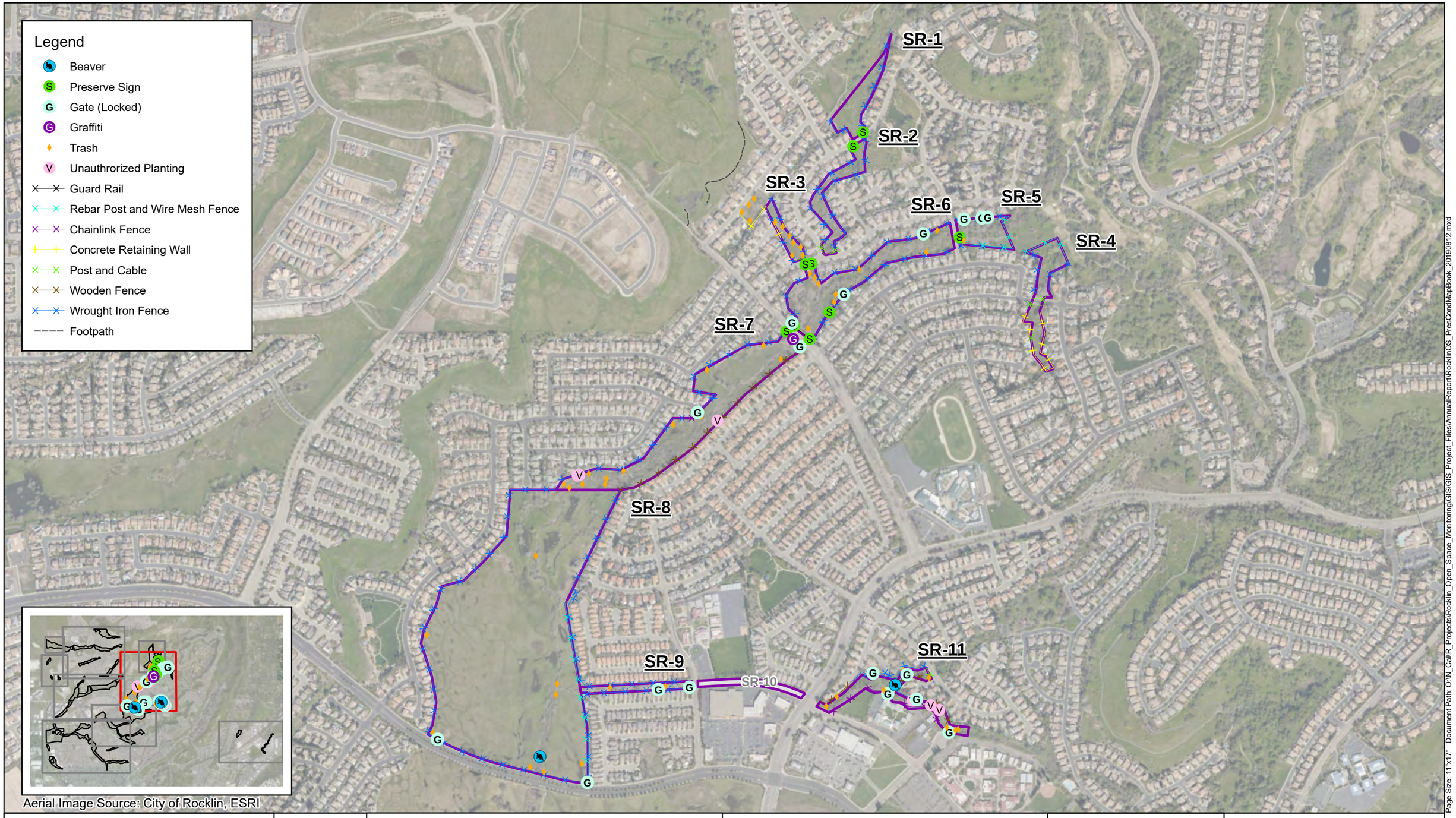
Rocklin Open Space
Orchard Creek
Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-C

Document Name: RocklinOS_PresCondMapBook_20190812 : Date: 12/16/2019

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd



Aerial Image Source: City of Rocklin, ESRI

HELIX Environmental Planning

N

0 1,250 2,500 Feet

1 : 9,000

Rocklin Open Space
Stanford Ranch 1
Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-D

Document Name: RocklinOS_PresCondMapBook_20190812 : Date: 12/16/2019

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd

SR-14

SR-12

SR-13

SR-15

G

G

G

Legend

- Beaver
- WPT
- G Gate (Locked)
- Trash
- Guard Rail
- Rebar Post and Wire Mesh Fence
- Chainlink Fence
- Wooden Fence
- Wrought Iron Fence
- Footpath
- Tire Tracks
- Access Road

Aerial Image Source: City of Rocklin, ESRI

HELIX Environmental Planning

N

0 840 1,680 Feet

1 : 6,000

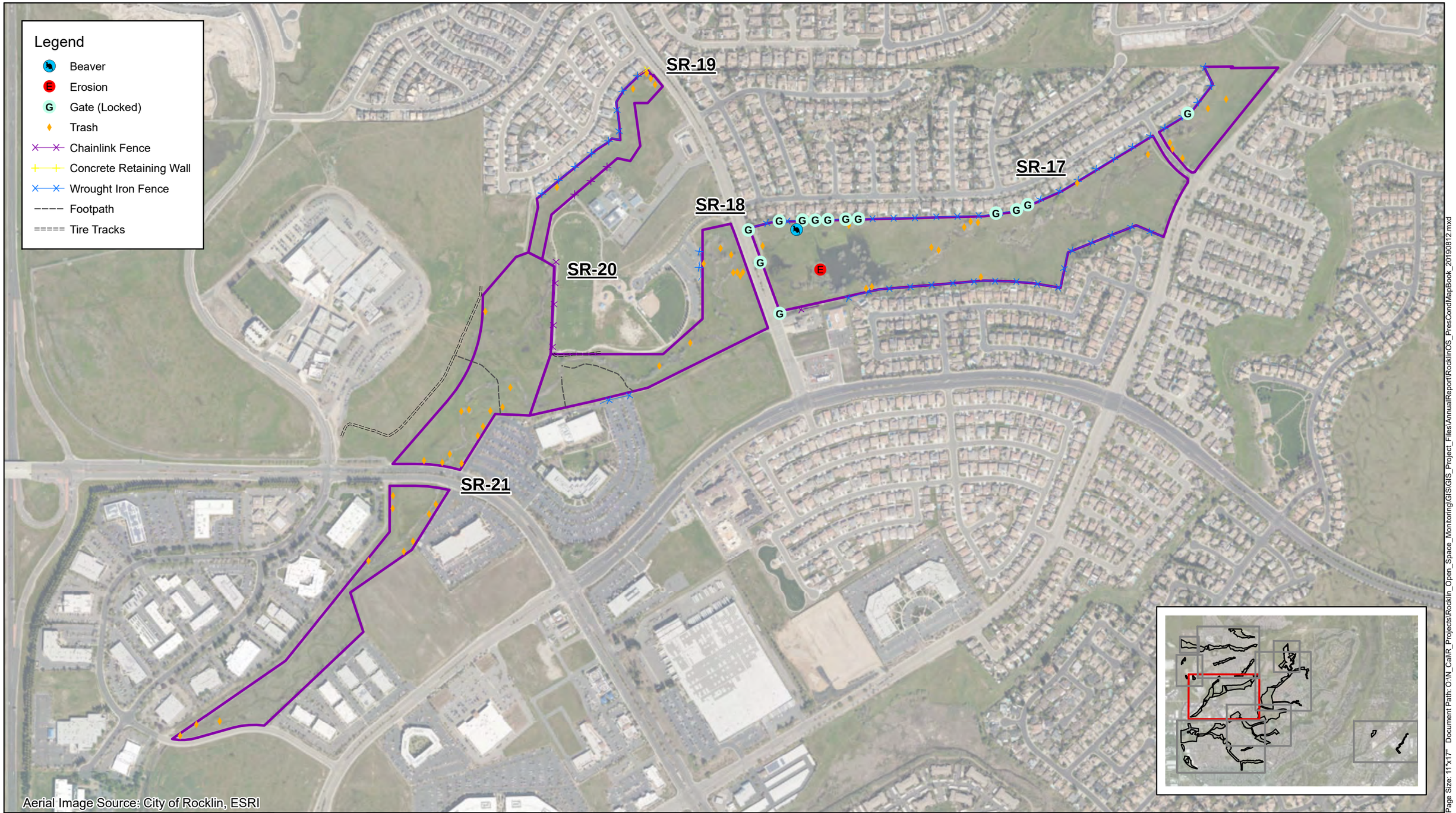
Rocklin Open Space
Stanford Ranch 2 Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-E

Document Name: RocklinOS_PresCondMapBook_20190812 : Date: 12/16/2019

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd



HELIX Environmental Planning

N

0 1,000 2,000 Feet

1 : 7,400

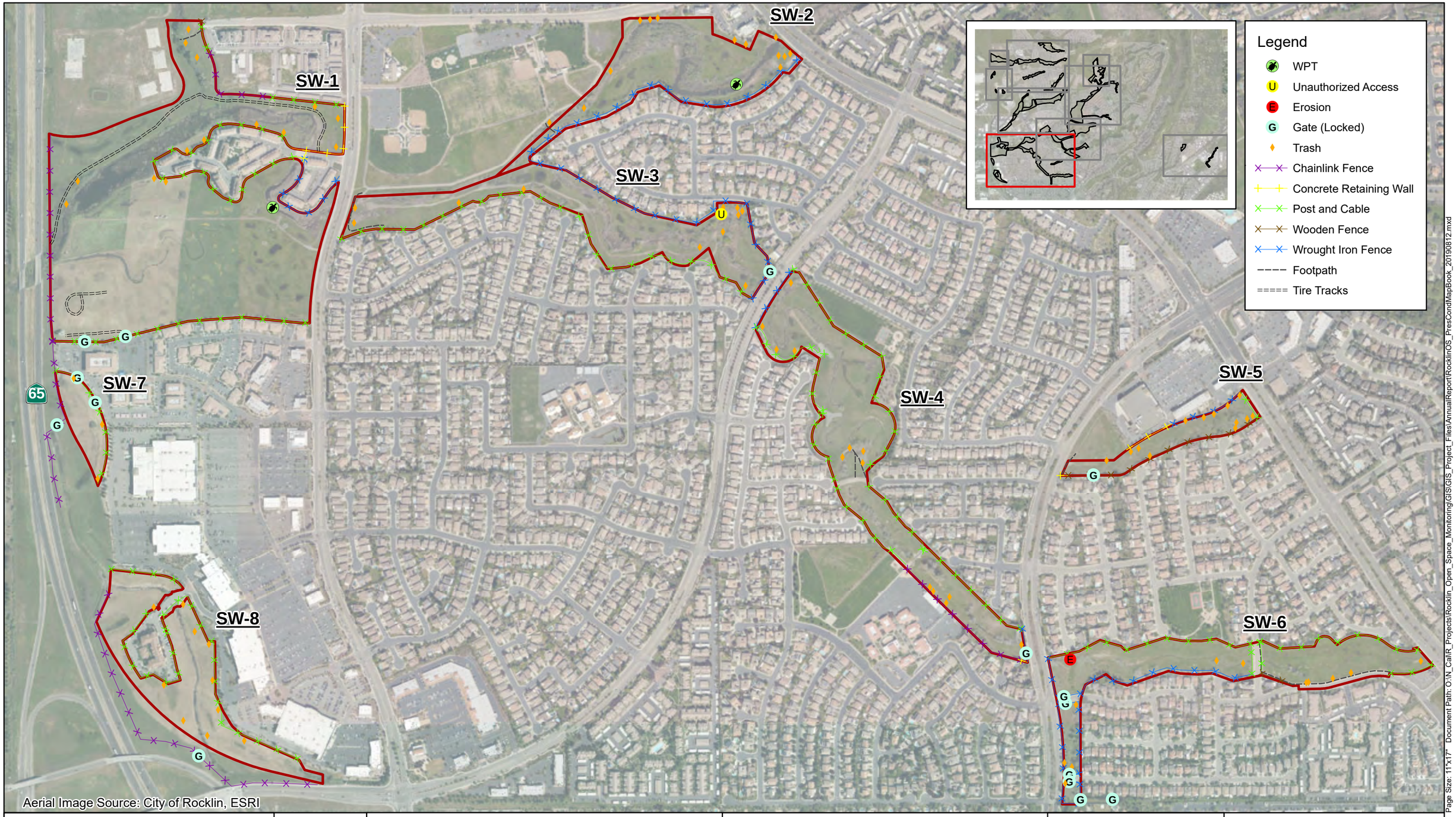
Rocklin Open Space
Stanford Ranch 3
Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-F

Document Name: RocklinOS_PresCondMapBook_20190812 : Date: 12/16/2019

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd



HELIX Environmental Planning

N

0 1,000 2,000 Feet

1 : 7,200

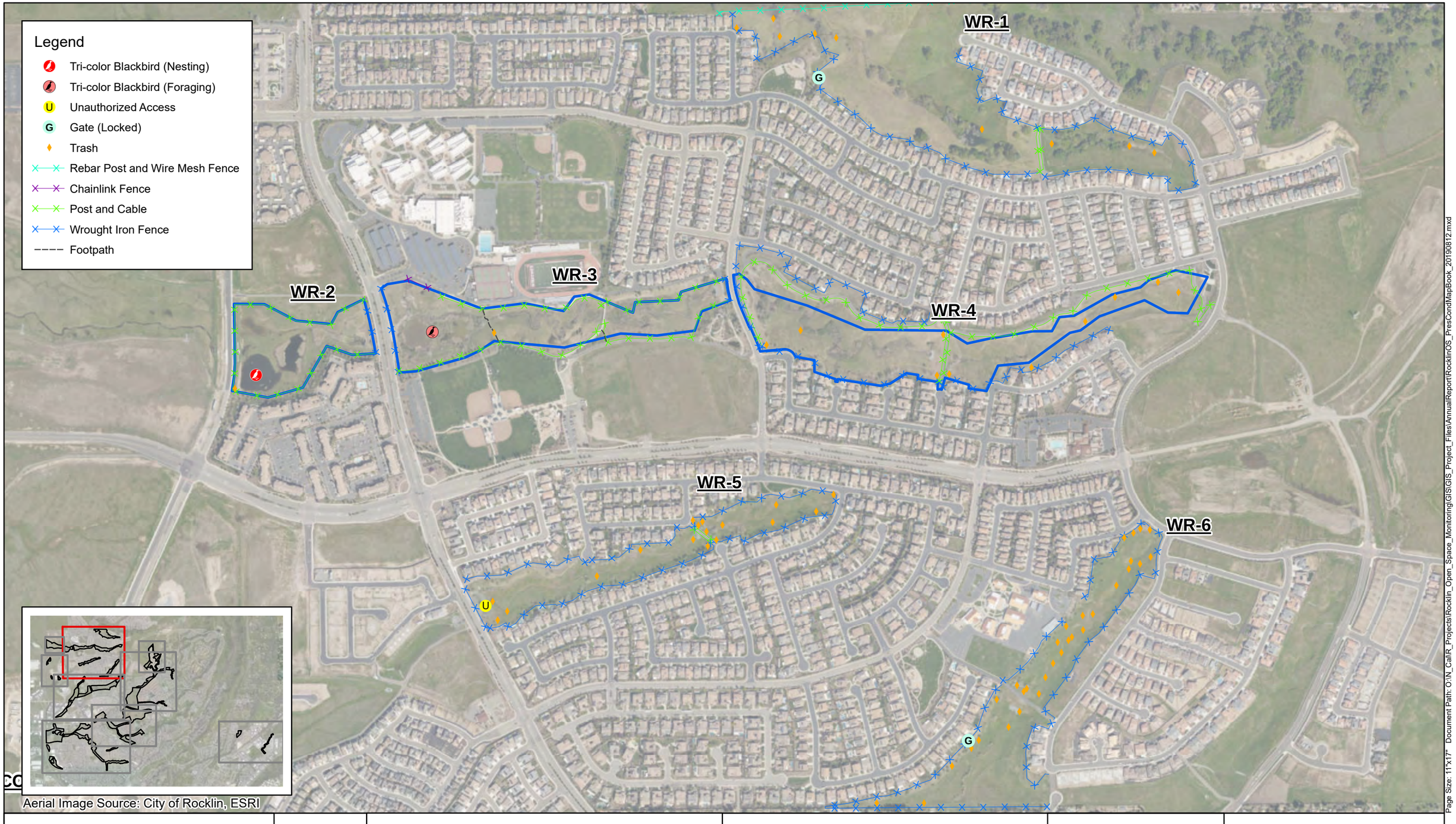
Rocklin Open Space
Sunset West
Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-G

Document Name: RocklinOS_PresCondMapBook_20190812 : Date: 12/16/2019

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd



HELIX Environmental Planning

N

0 1,000 2,000 Feet

1 : 7,200

Rocklin Open Space
Whitney Ranch Phase I
Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-H

Document Name: RocklinOS_PresCondMapBook_20190812 : Date: 12/16/2019

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd

HELIX Environmental Planning

N

0 590 1,180 Feet

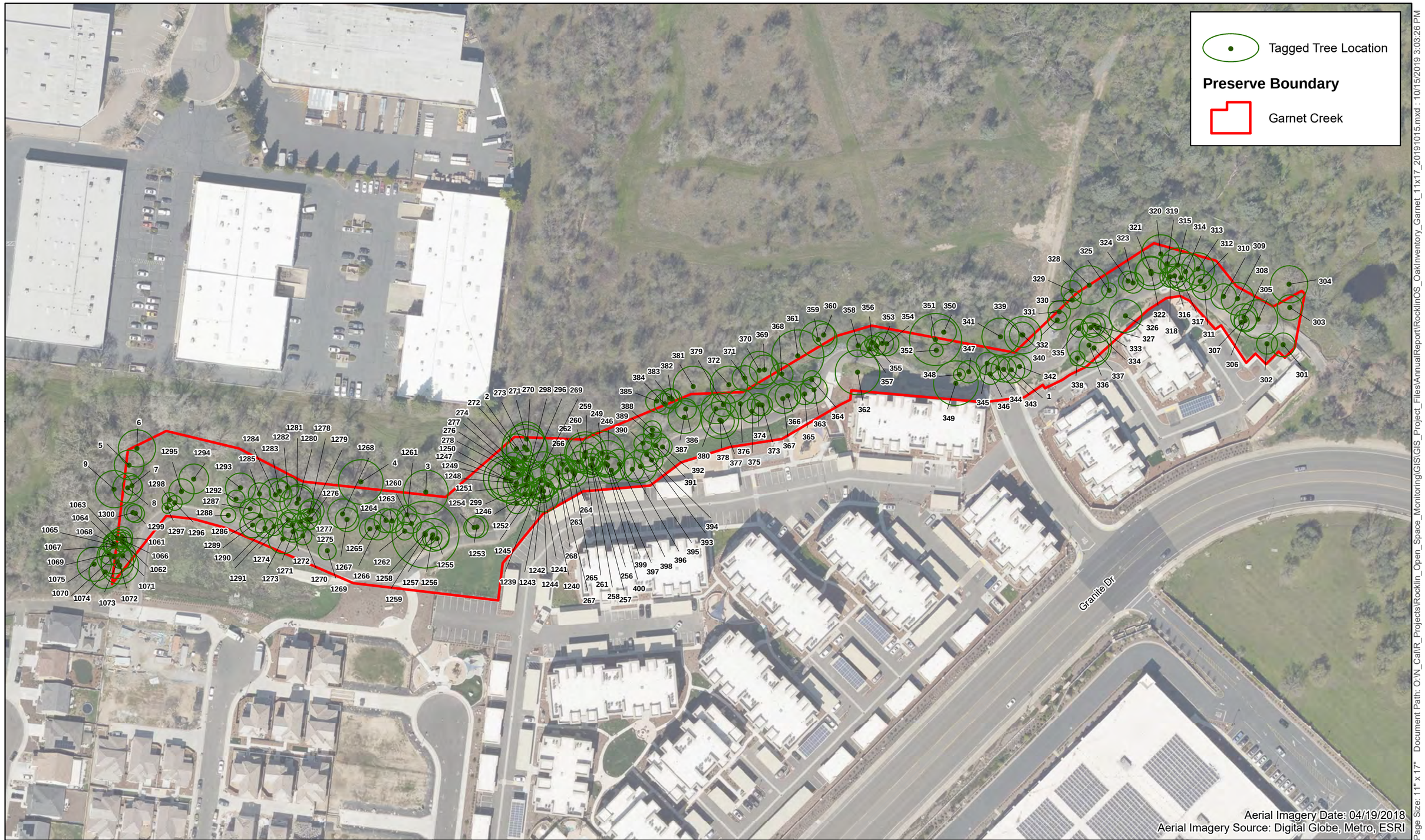
1 : 4,200

Rocklin Open Space
Placer Creek
Preserve Conditions

Drawn By: JCD
Date: 12/16/2019

Figure 6-I

Page Size: 11"x17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_PresCondMapBook_20190812.mxd



HELIX Environmental Planning

0 120 240
Feet
1 : 1,440

GARNET CREEK - OAK INVENTORY

Drawn By: JCD
Date: 10/15/2019

FIGURE 7

ROCKLIN OPEN SPACE

HELIX Environmental Planning

0 120 240
Feet
1 : 1,440

GARNET CREEK - OAK CANOPY

Drawn By: JCD
Date: 10/15/2019

FIGURE 8

ROCKLIN OPEN SPACE

Page Size: 11" x 17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_OakCanopy_Garnet_11x17_20191015.mxd : 10/15/2019 3:56:25 PM

Tagged Tree Location

Preserve Boundary

Parklands North

Lakebreeze Dr

Fenway Cir

Fenway Cir

Del Rio Ct

Aerial Imagery Date: 04/19/2018
Aerial Imagery Source: Digital Globe, Metro, ESRI

HELIX Environmental Planning

N

0 100 200
Feet
1 : 1,200

PARKLANDS NORTH - OAK INVENTORY

Drawn By: JCD
Date: 10/15/2019

FIGURE 9

ROCKLIN OPEN SPACE

HELIX Environmental Planning

N

0 120 240

Feet

1 : 1,440

PARKLANDS NORTH - OAK CANOPY

Drawn By: JCD
Date: 10/15/2019

FIGURE 10

ROCKLIN OPEN SPACE

Page Size: 11" x 17" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_OakCanopy_ParklandNorth_11x17_20191015.mxd : 10/16/2019 10:04:29 AM

HELIX Environmental Planning

OAK CANOPY - SUNSET WEST

N

0 0.05 0.1

Miles

1 : 3,000

Drawn By: JCD

Date: 10/08/2019

Figure 11-A

Document Name: Rocklin_OS_CanopyCover_20191009mxd.mxd : 10/16/2019 4:14:07 PM

Legend

- Preserve Boundary
- Oak Canopy *2.46 Acres*

WR-1

Document Path: O:\N CalR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Annual Report\Rocklin_OS_CanopyCover_20191009mxd.mxd

HELIX Environmental Planning

OAK CANOPY - WHITNEY RANCH

N

0 0.05 0.1

Miles

1 : 3,000

Drawn By: JCD

Date: 10/08/2019

Figure 11-A

Document Name: Rocklin_OS_CanopyCover_20191009mxd.mxd : 10/16/2019 4:14:07 PM

Document Path: O:\N CalIR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\AnnualReport\Rocklin_OS_CanopyCover_20191009mxd.mxd

HELIX Environmental Planning

OAK CANOPY - WHITNEY RANCH

N

0 0.05 0.1
Miles
1 : 3,000

Drawn By: JCD
Date: 10/08/2019

Figure 11-A

Legend

- Preserve Boundary
- Oak Canopy *0.27 Acre*

WR-6

OAK CANOPY - WHITNEY RANCH

HELIX Environmental Planning

N

0 0.05 0.1

Miles

1 : 3,000

Drawn By: JCD

Date: 10/08/2019

Figure 11-A

Document Name: Rocklin_OS_CanopyCover_20191009mxd.mxd : 10/16/2019 4:14:07 PM

Document Path: O:\N_CalIR_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\Rocklin_OS_CanopyCover_20191009mxd.mxd

made for each tree mapped in this manner. The baseline extent of oak tree canopy within the Garnet Creek and Parklands North Preserves was also estimated by the arborist (Figures 8 and 10).

All trees measuring less than six-inches in DBH, but three feet or greater in height were mapped as points or polygons, mapping the extent of DLR for each tree or group of trees. These trees or groups of trees were not given a physical tag. Single trees or groups of trees in areas less than three-feet by three-feet were mapped as points. These were classified based on the dominant oak species (Figures 8 and 10). The locations of all individual or groups of trees, regardless of size, were recorded with a handheld GPS unit.

The health and structural condition of each tree was rated according to Table 3 below. The health rating considers factors such as the size, color, and density of the foliage; the amount of deadwood within the canopy; bud viability; evidence of wound closure; and the presence or evidence of stress, disease, nutrient deficiency, and/or insect infestation. The structural rating reflects the trunk and branch configuration; canopy balance; the presence of included bark and other structural defects such as decay; and the potential for structural failure. In cases where conditions fall between the Good, Fair, and Poor ratings, intermediate ratings of Fair-Good and Fair-Poor were used.

Table 3
TREE RATING SYSTEM

Rating	Tree Health
Good	There is an average or below-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are typical for the species; buds are normal size, viable, abundant, and uniform throughout the canopy; current and past growth increments are generally average or better; any callusing is vigorous. This health rating indicates that there is very little, if any, evidence of stress, disease, nutrient deficiency, and/or insect infestation.
Fair	There is an above-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density may be below what is typically expected for the species; buds are normal size and viable, but slightly sparse throughout the canopy; current and past growth increments may be below average; tree may be slow to callus around old wounds. This health rating indicates that there is moderate evidence of stress, disease, nutrient deficiency, and/or insect infestation. 1-5%
Poor	There is an extreme amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are clearly compromised; very few viable buds are present throughout the canopy; current and past growth increments are meager; no evidence of callusing around old wounds. This health rating indicates that there is widespread evidence of stress, disease, nutrient deficiency, and/or insect infestation. 6-25%
Rating	**Tree Structure**
Good	No wounds, cavities, decay, or indication of hollowness are evident in the root crown, trunk, or primary and secondary limbs; no anchor roots are exposed; no codominant branching or multiple trunk attachments are present; very little included bark at branch attachments exists; no dead primary or secondary limbs are present in canopy; there have been no major limb failures; limbs are not overburdened; branching structure is appropriate for species; any decay is limited to small dead branches/stubs. This structure rating represents a low potential for failure.
Fair	With respect to the size of the tree, small to moderate wounds, cavities, decay, and indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; some anchor roots may be exposed; codominant branching or multiple trunk attachments may be present, but included bark does not exist or is not well developed; minor to moderate amounts of included bark at branch attachments may exist; there may be small to moderate amounts of large dead limbs in canopy, but there is no evidence of large limb failures; limbs may be slightly overburdened; branching structure and/or canopy balance may be moderately altered by the tree's growing environment. This structure rating represents a moderate potential for failure. >75%
Poor	With respect to the size of the tree, significant wounds, cavities, decay, and/or indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; anchor roots may be exposed and/or the tree may have lost anchorage; codominant branching or multiple trunk attachments may be present; significant amounts of included bark may exist in trunk and branch attachments; there may be significant amounts of large dead limbs in the canopy; there may be evidence of trunk or large limb failures; limbs may be severely overburdened; branching structure and/or canopy balance may be drastically altered by the tree's growing environment. This structure rating represents a high potential for failure.

2.9.2 Oak Canopy Assessment of Whitney Ranch and Sunset West (Twenty Percent Subset)

Oak canopy assessments within the Whitney Ranch and Sunset West Preserves were conducted by Mr. Neider on August 5 through 7, 2019. Each section of both Preserve subsets were systematically surveyed on foot. All existing oak trees were examined to determine their species type and canopies were compared against aerial photography and digitized in order to produce up-to-date, representative maps displaying existing oak canopy within the Preserves (Figure 11-A).

2.10 AMPHIBIAN AND REPTILE SURVEY

As outlined in GOSMP, surveys should be conducted every 5 years within potential habitat for amphibian and reptiles. Emphasis for this survey was on special-status amphibian and reptile species with the potential to occur in the area.

Focused surveys for these species were conducted on February 11 and 27, and March 8, 13, and 14, 2019, within all potential habitat within the Preserve. Additionally, numerous sightings of amphibian and reptiles were made during other annual surveys and are noted within the results and conclusion section of this report.

2.11 BASELINE SURVEY

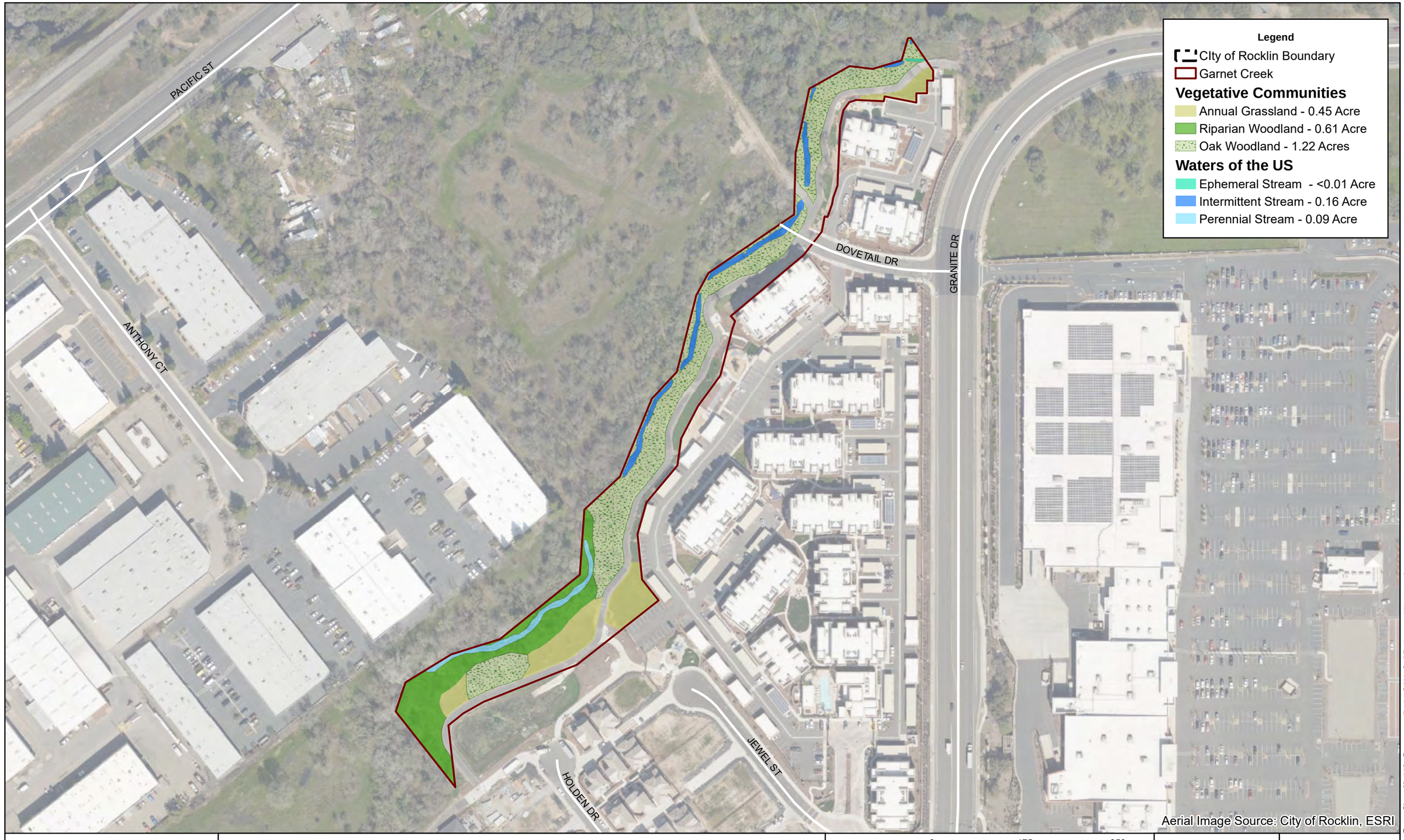
Baseline surveys are required for the Garnet Creek, Parklands North, and Placer Creek Corporate Center Preserve units as these are new units in 2018-2019. These baseline surveys include all annual surveys listed above (2.1 through 2.10). Additionally, vegetative community mapping and verification of aquatic features for the three newly acquired preserves are to be conducted.

Baseline surveys within these Preserve units took place during the 2018-2019 survey season. Vegetative community mapping and verification of aquatic features took place on August 29 and in conjunction with the arborist and general biological surveys. (Figures 12, 13, and 14).

3.0 ANNUAL MONITORING RESULTS

3.1 INVASIVE PLANT SURVEY

In total, approximately 114 acres were mapped with some degree of invasive species occurrence (~19% of the total Preserve area) in 2018-2019. The most widespread invasive species within the Preserve is yellow star-thistle (*Centaurea solstitialis*), which was present in over 30 acres of Preserve and is found mostly in annual grassland areas, Chinese tallow (*Triadica sebifera*), which was present in over 26 acres of the Preserve, and stinkwort (*Dittrichia graveolens*), which was present in approximately 20 acres of the Preserve and is found primarily along drainage and wetland margins (Table 4).



HELIX Environmental Planning

BIOLOGICAL COMMUNITIES FOR GARNET CREEK

N

0 175 350

Feet

1 : 2,000

Drawn By: JCD

Date: 12/08/2019

FIGURE 12

ROCKLIN OPEN SPACE

Document Name: Rocklin_OS_BioComs_Garnet_20191008.mxd : 12/9/2019 3:48:48 PM

Page Size: 8"x11" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\Rocklin_OS_BioComs_Garnet_20191008.mxd

HELIX Environmental Planning

BIOLOGICAL COMMUNITIES FOR PARKLANDS NORTH

N

0 160 320

Feet

1 : 1,800

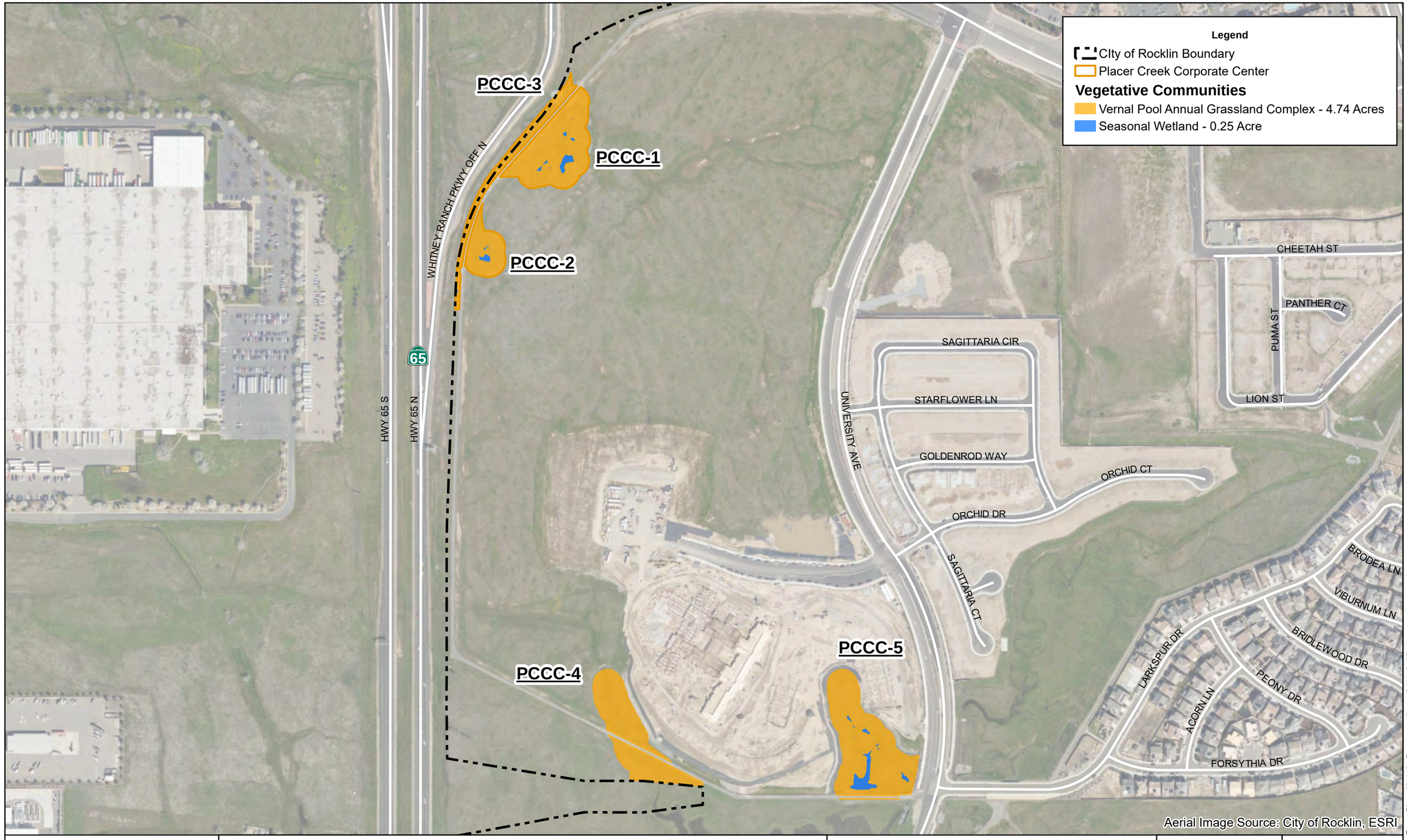
Drawn By: JCD

Date: 10/08/2019

FIGURE 13

Document Name: Rocklin_OS_BioComs_Parklands_20191008.mxd : 10/16/2019 4:04:18 PM

Page Size: 8"x11" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\Rocklin_OS_BioComs_Parklands_20191008.mxd



HELIX Environmental Planning

BIOLOGICAL COMMUNITIES FOR PLACER CREEK CORPORATE CENTER

N

0 320 640

Feet

1 : 3,600

Drawn By: JCD

Date: 10/08/2019

FIGURE 14

Document Name: Rocklin_OS_BioComs_PCCC_20191008.mxd : 10/29/2019 2:03:06 PM

Page Size: 8"x11" Document Path: O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\Rocklin_OS_BioComs_PCCC_20191008.mxd

Table 4
INVASIVE SPECIES OCCURRENCES

Species	Scientific Name	Cal-IPC Ranking	Approximate Acreage 2018-2019	Approximate Acreage 2017 -2018	Approximate Acreage 2016-2017	Approximate Acreage 2015-2016	No. of Occurrences - 018-2019	No. of Occurrences 2017-2018	No. of Occurrences 2016-2017	No. of Occurrences 2015-2016
High Priority Species										
Black Mustard	*Brassica nigra*	Moderate	1.15	<0.1	<0.1	0.3	20	9	2	27
Bull Thistle	*Cirsium vulgare*	Moderate	1	0.3	0.3	0.3	42	13	8	22
Italian Thistle	*Carduus pycnocephalus*	Moderate	3.5	1.1	0.5	0.6	188	39	12	51
Milk Thistle	*Silybum marianum*	Limited	1.2	0.3	0.5	0.9	36	13	7	31
Pampas Grass	*Cortaderia selloana* or *C. jubata*	High	0.2	<0.1	<0.1	<0.1	15	3	8	13
Water Hyacinth	*Eichhornia crassipes*	High	3.0	<0.1	0.2	<0.1	10	1	3	1
Yellow Star-Thistle	*Centaurea solstitialis*	High	30.0	25.9	20.1	23.3	391	248	140	396
Woody/ Shrub Species										
Black Locust	*Robinia pseudoacacia*	Limited	1.1	<0.1	<0.1	<0.1	11	2	4	4
Callery Pear	*Pyrus calleryana*	Watchlist	2.5	0.95	1.2	0.1	157	68	104	124
Chinese Tallow	*Triadica sebifera*	Moderate	26.5	19.1	23.8	2.1	663	200	401	1,084
Common Fig/Edible Fig	*Ficus carica*	Moderate	3.2	2.6	2.9	0.1	52	35	49	99
Common Privet	*Ligustrum lucidum*	Limited	0.2	N/A	N/A	N/A	3	N/A	N/A	N/A
Eucalyptus	*Eucalyptus* sp.	Limited	0.11	<0.1	<0.1	<0.1	9	5	6	1
Himalayan Blackberry	*Rubus armeniacus*	High	10.01	4.9	6.9	2.7	203	98	122	86
Tree of Heaven	*Ailanthus altissima*	Moderate	0.26	<0.1	0.1	0.1	21	6	23	69
Other Grass/ Herb Species										
*Bermuda Grass	*Cynodon dactylon*	Moderate	<0.1	N/A	N/A	N/A	4	N/A	N/A	N/A
Bristly Ox-tongue	*Helminthotheca echioides*	Limited	4.9	0.23	<0.1	<0.1	80	4	1	1
Curly Dock	*Rumex crispus*	Limited	0.9	0.2	0.2	0.2	41	10	11	29
*Italian Rye Grass	*Festuca perennis*	Moderate	0.01	N/A	N/A	N/A	4	N/A	N/A	N/A
Medusa Head Grass	*Elymus caput-medusae*	High	1.8	<0.1	<0.1	N/A	3	N/A	1	N/A
Rip Gut Brome	*Bromus diandrus*	Moderate	0.1	N/A	N/A	N/A	7	N/A	N/A	N/A
Rose Clover	*Trifolium hirtum*	Limited	0.1	<0.1	<0.1	N/A	5	N/A	1	N/A
Rush Skeletonweed	*Chondrilla juncea*	Moderate	0.7	N/A	N/A	N/A	56	N/A	N/A	N/A
*Soft Brome	*Bromus hordeaceus*	Limited	<0.1	N/A	N/A	N/A	6	N/A	N/A	N/A
Stinkwort	*Dittrichia graveolens*	Moderate	20.00	4.2	3.7	2.0	367	47	50	70
Summer Mustard	*Hirschfeldia incana*	Moderate	1.2	N/A	N/A	N/A	94	N/A	N/A	N/A

*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.

Similar to the 2017-2018 surveys, emphasis was placed on monitoring invasive species considered as high priority and woody plants in the riparian corridors. High priority plants are those that are the most likely to quickly develop into monocultures, and/or which provide poor wildlife habitat. Woody plants in the Preserve are most often found along the edges of riparian areas.

Although the approximate total mapped acreage of invasive species has almost doubled from the 2017-2018 year survey, it should be noted that additional species were more extensively mapped during the 2018-2019 survey season including Bermuda grass, soft brome, and Italian rye grass. Furthermore, an emphasis was placed on mapping additional IPC moderate ranked invasive species such as stinkwort as HELIX biologists noted an increase in population along drainages and wetland margins. Species with moderate concern as ranked by the IPC have substantial and apparent, but generally not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Additionally, Garnet Creek, Parklands North, and Placer Creek Corporate Center were inventoried for the first time increasing the Preserves' size by approximately 15.2 acres.

3.1.1 Brighton

Brighton Preserve sub-sections had 16 counts of invasive species including:

- Black mustard
- Bull thistle
- Callery pear
- Rush skeletonweed
- Stinkwort
- Summer mustard
- Water hyacinth
- Yellow star thistle

3.1.2 Claremont

Claremont Preserve sub-sections had 40 counts of invasive species including:

- Bermuda grass
- Black locust
- Bristly ox-tongue
- Callery pear
- Chinese tallow
- Himalayan blackberry
- Rose clover
- Stinkwort
- Yellow star thistle

3.1.3 Garnet Creek

Garnet Creek Preserve sub-sections had 37 counts of invasive species including:

- Bermuda grass
- Black mustard
- Curly dock
- Himalayan blackberry
- Italian rye grass
- Italian thistle
- Rip gut brome
- Rose clover
- Rush skeletonweed
- Soft brome
- Stinkwort
- Yellow star thistle

3.1.4 Orchard Creek

Orchard Creek Preserve sub-sections had 64 counts of invasive species including:

- Curly dock
- Italian rye grass
- Italian thistle
- Medusahead grass
- Rose clover
- Soft brome
- Summer mustard
- Wild oat
- Yellow star thistle

3.1.5 Parklands North

Parklands North Preserve sub-sections had 4 counts of invasive species including:

- Common fig/edible fig
- Italian thistle
- Milk thistle

3.1.6 Placer Creek Corporate Center

Placer Creek Corporate Center Preserve sub-sections had 3 counts of invasive species including:

- Stinkwort
- Yellow star thistle

3.1.7 Stanford Ranch

Stanford Ranch Preserve sub-sections had 762 counts of invasive species including:

- Black locust
- Bristly ox-tongue
- Bull thistle
- Callery pear
- Chinese tallow
- Common fig/edible fig
- Common privet
- Eucalyptus
- Himalayan blackberry
- Italian thistle
- Milk thistle
- Pampas grass
- Rush skeletonweed
- Stinkwort
- Summer mustard
- Tree of heaven
- Yellow star thistle

3.1.8 Sunset West

Sunset West Preserve sub-sections had 355 counts of invasive species including:

- Black locust
- Bristly ox-tongue
- Bull thistle
- Callery pear
- Chinese tallow
- Common fig/edible fig
- Curly dock
- Himalayan blackberry
- Italian thistle
- Milk thistle
- Pampas grass
- Rose clover
- Rush skeletonweed
- Stinkwort
- Summer mustard
- Yellow star thistle

3.1.9 Whitney Ranch

Whitney Ranch Preserve sub-sections had 154 counts of invasive species including:

- Bristly ox-tongue
- Bull thistle
- Callery pear
- Chinese tallow
- Common fig/edible fig
- Curly dock
- Himalayan blackberry
- Italian thistle
- Milk thistle
- Pampas grass
- Rose clover
- Rush skeletonweed
- Stinkwort
- Summer mustard
- Yellow star thistle

3.2 THATCH MONITORING

Approximately 60 percent of the vegetation communities in the Preserve footprint are composed of annual grassland, which is dominated by non-native annual grasses such as wild oat (*Avena fatua*), Italian ryegrass (*Festuca perennis*), barley (*Hordeum marinum*), brome (*Bromus* sp.), wild rye (*Elymus* sp.), and medusa head (*Elymus caput-medusae*). Other annual grassland plants within the Preserve included croton (*Croton* sp.), vetch (*Vicia* sp.), yellow star-thistle, and tarweed (*Holocarpha* sp.). Oak and riparian woodlands make up approximately 30 percent of the remaining vegetation communities in the Preserve are dominated by a variety of native species including: blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), and interior live oak (*Quercus wislizeni*), with willows (*Salix* sp.) and, Fremont cottonwoods (*Populus fremontii*) in riparian areas. The Claremont, Orchard Creek, Whitney Ranch, and Placer Creek Corporate Center Preserves consist primarily of annual grassland habitats. The Stanford Ranch and Sunset West Preserves contain both annual grassland and woodland habitats. The Parklands North, Garnet Creek, and Brighton Subdivision contain primarily oak woodland and riparian habitats.

RDM falls within the target range at 13% percent of the sampled locations and exceeded the target range at 87% percent of the sampled locations. The amount of Preserves that need to be more intensely grazed increased as compared to results in previous years**.** Tables 5 and 6, below, summarize the RDM data for each of the nine Preserve areas and detailed data is enclosed in Appendix B. Representative photographs are enclosed in Attachment A.

Table 5
SUMMARY OF RDM DATA IN ANNUAL GRASSLANDS

Preserve	Total RDM Points	RDM Range (lbs./acre)	Exceeds Objective >1,200lbs. acre	Meets Objective 800-1,200 lbs./acre	Below Objective <800 lbs./acre
Claremont	1	5,184	100% (1)	—	—
Orchard Creek	2	2,592-3,072	100% (2)	—	—
Stanford Ranch	11	1,152-6,240	91% (10)	9% (1)	—
Sunset West	7	864-4,224	71% (5)	29% (2)	—
Whitney Ranch	9	1,536-3,936	100% (9)	—	—
Placer Creek	1	5,568	100% (1)	—	—
TOTAL	**31**	**-**	**28**	**3**	0

Table 6
SUMMARY OF RDM DATA IN OAK WOODLAND

Preserve	Total RDM Points	RDM Range (lbs./acre)	Exceeds Objective >1,200lbs. acre	Meets Objective 400-1,200 lbs./acre	Below Objective <400 lbs./acre
Claremont	1	4,416	100% (1)	—	—
Stanford Ranch	15	864 — 7,872	87% (13)	13% (2)	—
Sunset West	3	864 — 1,440	33% (1)	67% (2)	—
Whitney Ranch	1	1,632	100% (1)	—	—
Brighton	1	1,344	100% (1)	—	—
Garnet Creek	2	1,440 — 5,568	100% (2)	—	—
Parklands North	1	1,536	100% (1)	—	—
TOTAL	**24**	**—**	**20**	**4**	0

3.3 VERNAL POOL INVERTEBRATES

The individual Preserves were surveyed on January 30, 31, February 1, 5, 22, and 28, and March 13, 2019. A total of 64 pools were surveyed twice in each of the following Preserves: Stanford Ranch, Orchard Creek, Sunset West, and Placer Creek Corporate Center. Both the federally-listed vernal pool fairy shrimp and the non-listed California linderiella (*Linderiella occidentalis*) were found in vernal pools within the Stanford Ranch and Sunset West preserves. A summary of the 2018-2019 sampled vernal pools within the twelve open space preserves areas are detailed in Table 7.

Table 7
SUMMARY OF SAMPLED VERNAL POOLS

Preserve Sub-Section	Number of Sampled Pools
OC-1	4
SR-8	16
SR-12	9
SR-20	2
SW-1	20
SW-2	2
SW-3	4
SW-4	1
SW-5	2
SW-6	2
PCCC-2	1
PCCC-5	1
TOTAL	**64**

The vernal pools in the Preserves are surrounded by annual grassland habitat that supports numerous grasses and herbaceous species. Dominant upland plants within the Preserves include foxtail barley (*Hordeum murinum*), soft chess (*Bromus hordeaceus*), slender oats (*Avena barbata*), and medusahead grass. Wetland plant species observed within the vernal pools within the Preserves include coyote thistle (*Eryngium vaseyi*), Fremont's goldfields (*Lasthenia fremontii*), popcorn flower (*Plagiobothrys stipitatus*), vernal pool buttercup (*Ranunculus bonariensis*), manna grass (*Glyceria* sp.), and common spikerush (*Eleocharis macrostachya*).

A total of 64 vernal pools were sampled twice within the Rocklin Open Space Preserves during the 2018-2019 season. During the first round of surveys, 61 of the 64 vernal pools were inundated. Vernal pool fairy shrimp were found in three vernal pools located in Stanford Ranch (SR-12 vernal pools 138 and 193) and Sunset West Preserves (SW-1 vernal pool 102). California linderiella was found in two pools within Stanford Ranch (SR-12 vernal pools 138 and 190) (Table 8 and Figure 4).

During the second round of surveys, the same 64 pools were surveyed. Sixty-three of the 64 pools were inundated at the time of the second survey. Vernal pool fairy shrimp were found in one pool located in Sunset West (SW-1).

Table 8
VERNAL POOL SAMPLE RESULTS

Preserve Sub-Section	Vernal Pool Fairy Shrimp *B.Lynchi* Vernal Pool ID Number	California Linderiella Vernal Pool ID Number
Stanford Ranch (SR-12)	138* and 193	138* and 190
Sunset West (SW-1)	102	-
TOTAL	**3**	**2**

* Both vernal pool fairy shrimp and California linderiella observed in the same pool.

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). Representative site photographs and invertebrate sampling data sheets are included in Appendices A and C, respectively.

3.4 WETLAND AND RIPARIAN MONITORING

Riparian monitoring was conducted throughout the monitoring period. The riparian areas were examined on foot to evaluate creek conditions and determine areas with restoration potential. Overall, the wetlands and riparian areas are in fair condition throughout the Preserves.

Five beaver dams were observed in five separate locations within the Preserve areas. Beaver activity was observed in the central portion of Parklands North, Stanford Ranch (SR-8) within the box culvert on the north side of West Stanford Ranch Road, Stanford Ranch (SR-11), backing up drainages observed on September 20, 2018, Stanford Ranch (SR-12) along the south end adjacent to Stanford Ranch (SR-8) observed on September 8, 2018, and Stanford Ranch (SR-13), observed on September 8, 2018. Monitoring of the dams will continue, if debris continues to build up in the drainage in Stanford Ranch (SR -11), flooding may occur causing negative impacts.

The greatest threat to the riparian habitat is invasive species. Figures 2-A through 2-I shows the extent of invasive species within the Preserve, which represents potential restoration and rehabilitation sites. The primary invasive species that are impacting culverts and waterways include edible fig, Himalayan blackberry, Chinese tallow saplings and trees, and potentially stinkwort if populations keep increasing.

3.5 VERNAL POOL FLORISTIC MONITORING

Of the 64 pools surveyed within the Preserves, 57 pools have a Prevalence Index of 3 or less. Therefore, 92 percent of the pools meet the performance standards. Overall, the species composition within the vernal pools contain hydrophytic plant species typical of vernal pools within the Central Valley. Vernal pool floristic data sheets are included in Appendix D.

3.5.1 Orchard Creek

Dominant plant species observed in the sampled vernal pools within Orchard Creek Preserve include common spikerush, Carter's buttercup, and stalked popcornflower. All four pools surveyed on Orchard Creek meet the floristics performance standard (100%).

3.5.2 Placer Creek Corporate Center

Two plant species were recorded in at least 75 percent of the sampled pools within the Placer Creek Corporate Center Preserve, these include: common spike rush and coyote thistle. Both pools surveyed on Placer Creek Corporate Center meet the floristics performance standard (100%).

3.5.3 Stanford Ranch

Dominant plants species observed in the sampled pools within Stanford Ranch include common spike rush, white headed navarretia, coyote thistle, horned downingia, stalked popcornflower, Fremont's goldfields, and hawkbit. Twenty-two of the 25 vernal pools surveyed on Stanford Ranch meet the floristic performance standard (92%).

3.5.4 Sunset West

Dominant plants species observed in the sampled pools within Sunset West include common spike rush, white headed navarretia, coyote thistle, horned downingia, stalked popcornflower, Fremont's goldfields, and hawkbit. Twenty- nine of the 31 vernal pools surveyed on Sunset West meet the floristic performance standard (94%).

3.6 SPECIAL-STATUS PLANT SURVEY

During the 2017-2018 survey season, Hispid bird's-beak, a California rare plant with a CNPS rank of 1B.1 was observed and mapped in Stanford Ranch Preserve (SR-12) within the alkali sink.

Verification of the hispid bird's-beak populations during the 2018-2019 survey season took place on July 19, 2019 (Figure 5) in Stanford Ranch (SR-12). Populations have shifted in size, density, and in some cases, location. Overall, the population continues to thrive. However, grazing equipment was placed on a small population in the northeast portion of the Preserve. Luckily plants were not killed by this activity, however, they were stressed and damaged.

3.7 BIOLOGICAL SURVEY

Biological surveys were conducted within the Preserve concurrently with other annual monitoring tasks. Biological surveys evaluated overall condition of the Preserve with special attention to the following factors: erosion and sedimentation, fire hazards, fencing integrity, condition of signage, condition of fencing and gates, trash accumulation, and unauthorized use. Biological surveys focused on overall habitat function, thatch accumulation, and plant and wildlife species.

HELIX biologists surveyed the Preserve several times during the monitoring season, and Preserve conditions were noted in tandem with the invasive plant, RDM, invertebrate, and floristic site surveys. The Preserve was surveyed on foot to ensure total search coverage. Particular attention was paid to entry points, including gates, fences, open access areas, wetlands and waterways, trash accumulation, unauthorized use, and presence of invasive species. Additional, biologist updated plant lists (Appendix F). A summary of findings by Preserve unit is provided below.

3.7.1 Brighton

3.7.1.1 Preserve Function

Brighton Preserve is located west of Granite Drive, south of Pacific Street, and north and east of Dominguez Road. This Preserve is located southwest of the Rocklin Open Space Garnet Creek Preserve, where it is an extension along the same waterway. This Preserve is comprised of dense riparian woodland along Secret Ravine, oak woodland, seasonal wetland, and developed and landscaped areas. The Preserve is functioning well in supporting wildlife species, including black-tailed jack rabbit (*Lepus californicus*) and western meadowlark (*Sturnella neglecta*) (Appendix G). However, invasive plant species were observed throughout the preserve. Himalayan blackberry (*Rubus armeniacus*) was the most dominant invasive species within the Preserve, covering approximately 60% of the total Preserve unit area (Figure 2-A).

3.7.1.2 Erosion and Sedimentation

Erosion and sedimentation were not observed during the 2018-2019 site surveys.

3.7.1.3 Fencing, Signage, and Gates

Fencing and signs occur along the eastern perimeter of the Preserve and fencing occurs along the southwestern perimeter. Fencing types consists of post and cable, wooden fencing, and wrought iron. Fencing is in good condition. There is no fencing along the western perimeter as the Preserve boundary is located within the centerline of the creek and land on the other side of the creek is privately owned which precludes the placement of fencing in this area (Figure 6-A).

3.7.1.4 Trash Accumulation

No trash was observed within the Preserve during the 2018-2019 site surveys.

3.7.2 Claremont

Claremont Preserve, comprised of sub-sections C-1, C-2, C-3, C-4, and C-5, are located along the perimeter of residences along Wykford Boulevard, Kali Place, and Chesterfield Way. This Preserve is comprised of a detention basin, one seasonal pond, several drainages, a seasonal wetland, annual grassland, native and planted oaks, fire access roads, a cement-lined ditch, and public park area with a preserved rock formation.

The Preserve is functioning well and supporting wildlife species, including acorn woodpecker (*Melanerpes formicivorous*), black phoebe (*Sayornis nigricans*), California towhee (*Melozone crissalis*), red-shouldered hawk (*Buteo lineatus*), and wild turkey (*Meleagris gallopavo*) (Appendix G). However, invasive plant species were observed throughout the Preserve including, yellow star thistle, stinkwort, and Chinese tallow (Figure 2-B).

3.7.2.1 Erosion and Sedimentation

During the August 9, 2019 site survey, active construction was observed within portions of unit C-1. The construction activity was permitted by the Army Corps and is authorized. The adjacent subdivision development to the north was constructing a fire access road that extended south through the Preserve and connected to the fire access road at the end of Hedrick Court, in addition to an underground utility tie-in. Fencing, Signage, and Gates

Fencing occurs along the perimeter where the Preserve abuts the backyards of the residential developments. Types of fencing materials include wrought iron and rebar post and wire cable. There are several fire access gates located throughout the Preserve (Figure 6-B). One gate in C-2 along Chesterfield Way approximately 150 feet north of Hanover Place, is broken and missing the latch mechanism and a padlock, which makes it unable to close. All other gates are locked and in good condition. Preserve signs are absent from all Preserve sub-sections.

3.7.2.2 Trash Accumulation

Trash was noted during the 2018-2019 site surveys. Trash accumulation was observed within C-1, C-2, and C-3; C-5; and a large wooden spool was observed in C-4. Trash occurred primarily along areas

immediately abutting residence backyards, and in areas with human disturbance. The primary areas noted included areas adjacent to roadways, within and paved or dirt paths with active vehicular or pedestrian traffic, and areas abutting residential developments (Figure 6-B).

3.7.3 Garnet Creek

3.7.3.1 Preserve Function

Garnet Creek Preserve is located west of Granite Drive, south and east of Pacific Street, and north of Dominguez Road. This Preserve is located northeast of the Rocklin Open Space Brighton Preserve, where the Garnet Creek Preserve extends along the same waterway. This Preserve is comprised of dense riparian woodland along Secret Ravine, oak woodland, and annual grassland. The Preserve is functioning well in supporting wildlife species including, American robin (*Turdus migratorius*), western bluebird (*Sialia mexicana*), yellow warbler (*Setophaga petechia*), and dark-eyed junco (*Junco hyemalis*) (Appendix G). However, invasive plant species were observed throughout the Preserve, primarily Himalayan blackberry and Italian thistle (Figure 2-A).

3.7.3.2 Erosion and Sedimentation

Some sedimentation and erosion were noted along the northwestern portion of the Preserve adjacent to Dovetail Drive. Riprap was previously placed to stabilize the bank of the drainage, some of the rock protection is no longer in place and a cut bank is forming.

3.7.3.3 Fencing, Signage, and Gates

Fencing occurs along the eastern perimeter adjacent to the paved pedestrian path of the Preserve. Fencing types consist of wooden post and wire cable. The fencing is in good condition. Several Preserve signs were observed along the paved pedestrian path and were in good condition (Figure 6-A). No gates were observed within the Preserve

3.7.3.4 Trash Accumulation

No trash was observed within the Preserve during the 2018-2019 site surveys.

3.7.3.5 Unauthorized Use

No unauthorized use was observed within the Preserve during the 2018-2019 site surveys.

3.7.4 Orchard Creek

3.7.4.1 Preserve Function

Orchard Creek Preserve is located to the south of West Ranch View Drive, west of University Avenue, east of Highway 65, and north of Whitney Ranch Parkway. This Preserve is comprised of multiple drainages, seasonal wetlands, annual grassland, and vernal pools. The Preserve is functioning well in supporting wildlife species, including foraging tricolored blackbird. Additionally, black-tailed jack rabbit, western meadowlark and crawfish were observed along the southern drainage (Appendix G). However, invasive plant species were observed throughout the Preserve including, yellow star thistle and stinkwort (Figure 2-C).

3.7.4.2 Erosion and Sedimentation

No erosion or sedimentation was observed during the 2018-2019 site surveys.

3.7.4.3 Fencing, Signage, and Gates

Fencing occurs along the northern and southern perimeters of the Preserve. Fencing types consist of metal T-post and wire cable fencing. Portions of fencing have yet to be installed, these portions will be installed with the completion of development of the adjacent land.

3.7.4.4 Trash Accumulation

Trash was observed within the Preserve during the 2018-2019 site surveys (Figure 6-C). Trash occurred primarily along the southern drainage and consisted of plastic litter and old metal pipes. However, trash was also observed scattered along the northern and eastern borders.

3.7.4.5 Unauthorized Use

No unauthorized use was observed within the Preserve during the 2018-2019 site surveys.

3.7.5 Parklands North

3.7.5.1 Preserve Function

Parklands North Preserve is located east of Aitkin Dairy Road, south of Fenway Circle , west of Delmar Avenue, and north of Pacific Street. This Preserve is comprised of dense riparian woodland along Antelope Creek, and oak woodland. The Preserve is functioning well in supporting wildlife species including acorn woodpecker, black phoebe, bullfrog, California scrub jay (Appendix G). However, invasive plant species were observed throughout the Preserve, primarily Himalayan blackberry (Figure 2-A).

A clump of elderberry (*Sambucus* sp.) shrubs are fenced with signage in the central eastern portion of the Preserve.

3.7.5.2 Erosion and Sedimentation

Erosion and sedimentation were not observed within the Preserve during the 2018-2019 site surveys. However, a beaver dam was noted in the central portion of the preserve.

3.7.5.3 Fencing, Signage, and Gates

Fencing occurs on the eastern border along Fenway Circle. There is no fencing along the northern, southern, or western borders. Fencing adjacent to private preserves is intentionally not installed to allow free movement for wildlife. Fencing types consist of wooden post and wire cable. Remnant barbed wire fencing occurs in the northeastern portion of the Preserve. Three Preserve signs, three along Fenway Circle, and one along Lakebreeze Drive are present in the Preserve (Figure 6-A).

3.7.5.4 Trash Accumulation

No trash was observed within the Preserve during the 2018-2019 site surveys.

3.7.5.5 Unauthorized Use

No unauthorized use was observed within the Preserve during the 2018-2019 site surveys.

3.7.6 Placer Creek Corporate Center

3.7.6.1 Preserve Function

Placer Creek Corporate Center Preserve, comprised of five sub-sections, is located east of Highway 65, south of Whitney Ranch Parkway, west of University Avenue, and north of Sunset Boulevard. This Preserve is comprised of seasonal wetlands, annual grassland, and vernal pools. The Preserve is functioning well in supporting wildlife species, including mourning dove (*Zenaida macroura*), turkey vulture (*Cathartes aura*), and Brewer's blackbird (*Euphagus cyanocephalus*). However, invasive plant species were observed throughout the Preserve including, yellow star thistle, and stinkwort (Figure 2-I).

3.7.6.2 Erosion and Sedimentation

Erosion and sedimentation were not observed during the 2018-2019 site surveys.

3.7.6.3 Fencing, Signage, and Gates

Fencing occurs along the perimeter of the Preserve. Fencing types consist of chain-link, concrete retaining walls, post and cable, and wrought iron. Fencing is in new condition (Figure 6-I). No Preserve signs were present during the biological survey and therefore not graphically represented, however HELIX biologist noted Preserve signs along the pedestrian path during a biological survey conducted on an adjacent site.

3.7.6.4 Trash Accumulation

Trash was not observed within the Preserve during the 2018-2019 site surveys.

3.7.6.5 Unauthorized Use

Unauthorized use was not observed within the Preserve during the 2018-2019 site surveys.

3.7.7 Stanford Ranch

3.7.7.1 Preserve Function

SR Preserve is comprised of 21 sub-sections (e.g., SR-1, SR-2, SR-3, etc.), is 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. This Preserve contains seasonal wetlands, vernal pools, Pleasant Grove Creek, annual grassland, and oak woodlands. The Preserve is functioning well in supporting wildlife species including, acorn woodpecker, black phoebe, bullfrog, California scrub jay, turkey vulture, and wild turkey. Additionally, western pond turtles were observed in SR-12. (Appendix G). However, invasive

plant species were observed throughout the Preserve including, field mustard (*Hirschfeldia incana*), stinkwort, skeletonweed, Himalayan blackberry, fig (*Ficus* sp.), Chinese tallow, and black locust (*Robinia pseudoacacia*) (Figures 2-D through 2-F).

During the August 21, 2019 site survey, it was noted that the City had applied herbicide to the southern portion of Stanford Ranch (SR-7), in order to target Himalayan blackberry along the drainage and an overgrowth of willow (*Salix* sp.) saplings that were causing flooding.

3.7.7.2 Erosion and Sedimentation

Erosion and hydrological impacts were observed within the Preserve during the 2018-2019 surveys. Blocked culverts were noted in SR-3, SR-11, and SR-17. Trash racks are missing from culverts in SR-7, and SR-17 causing debris to pile up and impede water flow. Minor erosion was noted along the access road in SR-9, and along the creek in SR-7 as a result of livestock grazing. Beaver activity (i.e., dam) was observed in SR-8, and SR-17 (Figures 6-D through 6-F).

3.7.7.3 Fencing, Signage, and Gates

Fencing occurs along borders of most of the Preserve sub-sections. Fencing types consist of guard rails, chain-link, wrought iron, concrete retaining walls, wood plank, and wooden post and wire cable fencing. The wrought iron and wood fencing occur primarily where the Preserve abuts the backyards of the adjacent residences. Several Preserve sub-sections including, SR-5, SR-11, SR-17, SR-18, and SR-19, require replacement and some areas have not had fencing installed yet. Preserve signs were observed in SR-2, SR-6, and SR-7. Fire access roads and gates occur in SR-8, and SR-9 (Figure 6-D through 6-F).

3.7.7.4 Trash Accumulation

Trash, was observed within the Preserve primarily along areas adjacent to human activity, and within wetlands or waterways during the 2018-2019 site surveys (Figure 6-D through 6-F).

Trash was not observed in SR-2. Trash was noted in SR-1, SR-3, SR-4, SR-5, SR-9, SR-14, SR-15, SR-16, SR-17, SR-18, SR-19, SR-20, and SR-21. Trash including golf balls, plastic bottles, and wire mesh was observed in SR-6.

3.7.7.5 Unauthorized Use

Several areas of unauthorized use were observed within the Preserve during the 2018-2019 site surveys. Minor dirt paths were observed within most of the Preserve sub-sections (Figures 6-D through 6-F). A sprinkler head and line connection to the adjacent residence was observed in the southwestern portion of SR-3. Man-made bridges crossing waterways were observed in SR-11, SR-18, and SR-20. Within SR-6, several golf balls were observed in the southwest portion of the Preserve, particularly within wetlands and drainages. Vegetation clipping piles were observed in SR-7, and SR-11. Graffiti was noted on the guard rail in SR-7 along Wyckford Boulevard (Figure 6-D). A fire pit was observed in the southeastern portion of SR-12. Several gates along residential backyard fences occur within SR-5, SR-8, SR-9, and SR-17. Furthermore, backyard encroachment, such as tree plantings and home décor (i.e., bird houses), were observed in SR-8, and SR-11.

3.7.8 Sunset West

3.7.8.1 Preserve Function

Sunset West Preserve, comprised of sub-sections SW-1, SW-2, SW-3, SW-4, SW-5, SW-6, SW-7, and SW-8, is located east of Highway 65, south of West Oaks Boulevard, west of Sunset Boulevard, and north of Fairway Drive. This Preserve contains several drainages, historic and seasonal wetlands, riverine wetlands, vernal pools, Pleasant Grove Creek, annual grassland, and oak woodlands. The Preserve is functioning well and supporting wildlife species including great blue heron (*Ardea herodias*), red-winged blackbird, and Canada geese (*Branta canadensis*) (Appendix G). However, invasive plant species were observed throughout the Preserve including yellow star thistle, stinkwort, skeletonweed, water hyacinth (*Eichhornia crassipes*), Chinese tallow, and black locust (Figure 2-G).

3.7.8.2 Erosion and Sedimentation

Minor erosion or sedimentation was observed within the northwestern portion of SW-6 along the drainage (Figure 6-G).

3.7.8.3 Fencing, Signage, and Gates

Fencing some fencing occurs along the perimeters of the Preserve's sub-sections. Fencing types consist of metal post and wire cable, chain-link fencing, wrought iron, concrete retaining wall, wood plank, and wooden post and wire cable fencing. Overall, the fencing is in good condition; however, there are large portions across the Preserve that lack perimeter fencing, and portions in SW-5 need repair. A few locked gates were observed within the Preserve that are in good condition and functioning properly. No Preserve signage was observed during the inspection.

3.7.8.4 Trash Accumulation

Trash was observed within the Preserve, primarily along perimeters, areas adjacent to human activity, and within wetlands or waterways, during the 2018-2019 site surveys (Figure 6-G). Trash was observed within SW-1, SW-3, and SW-7. Windblown trash were observed within SW-2, and SW-8. Trash including rebar, netting, PVC pipe, and plastic litter, located along the main drainage, was observed within SW-4, SW-5, and SW-6.

3.7.8.5 Unauthorized Use

Several areas of unauthorized use were observed within the Preserve during the 2018-2019 site surveys. Several minor dirt paths were observed within all Preserve sub-sections. Human disturbance including, loitering, trash, folding chairs, and a tire swing, were observed along the riparian corridor within the central and eastern portions of SW-3. Additionally, three creek crossings that consisted of strategically positioned rocks, and two wooden plank crossings, were observed along the central and eastern portions of SW-3. A stick bridge was observed across the drainage in the southern portion of SW-6. A pile of vegetation clippings was observed along the eastern border of SW-7.

3.7.8.6 Whitney Ranch

3.7.8.7 Preserve Function

WR Preserve, comprised of sub-sections WR-1, WR-2, WR-3, WR-4, WR-5, and WR-6, is located east of Highway 65, south of Twelve Bridges Drive, west of Old Ranch House Road, and north of West Stanford Ranch Road. This Preserve contains several drainages, seasonal wetlands, vernal pools, annual grassland, marsh, riparian corridors, and oak woodland. In the northwestern portion of W-1, several large limbs from a valley oak tree have fallen on the adjacent wrought iron fence.

The Preserve is functioning well in supporting wildlife species including a nesting tricolored blackbird colony. HELIX biologists observed this species nesting in cattails within Whitney Ranch (WR-2) and foraging in OC and Whitney Ranch (WR-3) during annual surveys (Figures 6-C and 6-H). Additionally, California quail (*Callipepla californica*), house finch (*Haemorphus mexicanus*), Anna's hummingbird (*Calypte anna*), and green heron (*Butorides virescens*) were also observed in the Preserve. However, invasive plant species were observed throughout the Preserve including yellow star thistle, stinkwort, Callery pear (*Pyrus calleryana*), and Himalayan blackberry (Figure 2-H).

3.7.8.8 Erosion and Sedimentation

Erosion and sedimentation were not observed within the Preserve during the 2018-2019 site surveys.

3.7.8.9 Fencing, Signage, and Gates

Fencing occurs along the majority of the perimeters of the Preserve's sub-sections. Fencing type consists of metal post and wire cable, wrought iron, T-post and wire mesh, and wooden post and wire cable fencing (Figure 6-H). Overall, the fencing is in good condition; except along the northern border of WR-1, where portions of the T-post and wire mesh fencing is dilapidated, and a large section of fencing is missing. However, this section of fence is a relic from the old ranching communities and is not intended to act as a perimeter fence. The land adjacent to the Preserve (in Lincoln) is also a preserve so the border is intentionally left unfenced to allow for wildlife movement. No gates were observed within the Preserve. No Preserve signage was observed during the inspection.

3.7.8.10 Trash Accumulation

Trash was observed within the Preserve during the 2018-2019 site surveys.

Trash was observed within WR-2 and WR-3. Trash including, plastic litter, metal car parts, toy balls, windblown trash, and leftover grazing fencing, was observed within WR-1, WR-4, and WR-5. Trash including, toy balls from the adjacent school, and plastic trash, were observed during Preserve inspection. Several balls were removed from the Preserve and returned to the adjacent school property during the survey.

3.7.8.11 Unauthorized Use

Several areas of unauthorized use were observed within the Preserve during the 2018-2019 site surveys. Several minor dirt paths were observed within all Preserve sub-sections. Additionally, in WR-1, human disturbance including, a tree swing, gardening tools, a wood pile, and severe trash, was observed under a large oak tree in the southern portion of the Preserve. In the northeastern portion of the Preserve,

several shotgun shells were observed. In the northwestern corner, a pile of vegetation clippings was observed. In WR-5, human disturbance including, trash, clothing, and a metal fire pit, was observed within the riparian area in the western portion of the Preserve.

3.8 BASELINE SURVEY FOR BURROWING OWL AND SWAINSON'S HAWK

Burrowing Owl

Burrowing owls are a small ground-dwelling owl that occurs in western North America from Canada to Mexico and east to Texas and Louisiana. Although in certain areas of their range, burrowing owls are migratory, these owls are predominantly non-migratory in California. Burrowing owls generally inhabit gently sloping areas, characterized by low, sparse vegetation (Poulin et al. 2011). The breeding season for burrowing owls is from March to August, peaking in April and May (Zeiner et al. 1990). Burrowing owls' nest in burrows in the ground, often in old ground squirrel burrows, and can also utilize artificial burrows including pipes, stockpiles, culverts, and nest boxes.

Swainson's Hawk

Swainson's hawks' nest in the Central Valley and winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Bradbury et al., in prep.). Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July (Zeiner et al., 1990). In the Central Valley, Swainson's hawks' nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. In the Central Valley, the most commonly used trees include Fremont cottonwood, willows, sycamores (*Platanus* sp.), valley oaks, and walnut (*Juglans* sp.), and occasionally gum trees (*Eucalyptus* sp.), pines and redwoods (Woodbridge 1998). Nest locations are usually in close proximity (up to a 10-mile radius) to suitable foraging habitats, which include fallow fields, all types of grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and De Water 1994).

3.8.1 Garnet Creek

The Garnet Creek Preserve had the following determinations regarding habitat for burrowing owls and Swainson's hawk:

- No suitable habitat for burrowing owl
- Suitable nesting habitat for Swainson's hawk
- No suitable foraging habitat for Swainson's hawk

The dense oak woodland and riparian habitat and tall grassland vegetation do not provide suitable foraging habitat for burrowing owls. Ground squirrels were observed onsite, however no suitable underground burrows were observed. No burrowing owls were observed during the April 5, 2019 field survey.

The tall trees within the Preserve provide suitable nesting habitat for Swainson's hawks. The Preserve lacks suitable foraging habitat for this species. No Swainson's hawks were observed during the April 5, 2019 field survey.

3.8.2 Parklands North

The Parklands North Preserve had the following determinations regarding habitat for burrowing owls and Swainson's hawk:

- No suitable habitat for burrowing owl
- Suitable nesting habitat for Swainson's hawk
- No suitable foraging habitat for Swainson's hawk

The dense oak woodland and riparian habitat and tall grassland vegetation does not provide suitable foraging habitat for burrowing owls. Ground squirrels were observed onsite, however no suitable underground burrows were observed. No burrowing owls were observed during the April 5, 2019 field survey.

The tall trees within the Preserve provide suitable nesting habitat for Swainson's hawks. The Preserve lacks suitable foraging habitat for this species. No Swainson's hawks were observed during the April 5, 2019 field survey.

3.8.3 Placer Creek Corporate Center

The Placer Creek Corporate Center Preserve had the following determinations regarding habitat for burrowing owls and Swainson's hawk:

- Marginal habitat for burrowing owl
- No nesting habitat for Swainson's hawk
- Suitable foraging habitat for Swainson's hawk

The onsite culverts provide marginal nesting habitat and the annual grassland provides marginal foraging habitat for burrowing owls. However, no ground squirrels, few small mammals, and no suitable burrows were observed during the Preserve, therefore, this species has a low potential to occur within the Preserve. No burrowing owls were observed during the April 5, 2019 field survey.

There is no suitable nesting habitat for Swainson's hawk within the Preserve due to the lack of suitable trees. However, there are known nesting sites for Swainson's hawk within the normal foraging distance for this species from the Preserve. The annual grassland habitat and presence of small mammals provides suitable foraging habitat for this species within the Preserve. Therefore, this species has a low potential to occur within the Preserve. No Swainson's hawk were observed during the April 5, 2019 field survey.

3.9 OAK INVENTORY

3.9.1 Parklands North

A total of 85 oak trees were inventoried in the Parklands North Open Space Preserve. These include: 49 valley oaks, 27 interior live oaks, and 9 blue oaks. Additionally, 0.23 acre of oak woodland canopy formed by trees with trunks smaller than 6-inches DBH was mapped. Tree locations and oak woodland canopy mapped within the Preserve are depicted on Figures 9 and 10.

In general, the inventoried trees are in fair health with respect to tree vigor and canopy density. Table 9 identifies the number of surveyed trees by health and structure ratings. The data collected for each inventoried live tree is provided in Appendix E.

Table 9
PARKLANDS NORTH NUMBER OF TREES BY HEALTH AND STRUCTURE RATINGS

		Health					
		Good	**Fair-Good**	**Fair**	**Poor-Fair**	**Poor**	**Total Trees**
Structure	**Good**	2	4	0	0	0	**6**
	Fair-Good	0	21	4	0	0	**25**
	Fair	0	9	19	4	2	**34**
	Poor-Fair	0	2	5	4	1	**12**
	Poor	0	0	1	3	0	**4**
	Total Trees	**2**	**36**	**29**	**11**	**3**	**81**

3.9.2 Garnett Creek

A total of 213 oak trees was inventoried in the Garnet Creek Open Space Preserve. These include: 156 valley oaks, 56 interior live oaks, and 1 blue oak. Additionally, 0.73 acre of oak woodland canopy formed by trees with trunks smaller than 6 inches in DBH was mapped. Tree locations and oak woodland canopy mapped within the Preserve are depicted on Figures 7 and 8.

In general, the inventoried trees are in Fair health with respect to tree vigor and live canopy density. Table 10 identifies the number of surveyed trees by health and structure ratings. The data collected for each inventoried tree is provided in Appendix E.

Table 10
GARNET CREEK NUMBER OF TREES BY HEALTH AND STRUCTURE RATINGS

		Health					
		Good	**Fair-Good**	**Fair**	**Poor-Fair**	**Poor**	**Total Trees**
Structure	**Good**	0	0	0	0	0	**0**
	Fair-Good	1	9	15	1	0	**26**
	Fair	0	25	92	22	0	**139**
	Poor-Fair	0	0	23	14	5	**42**
	Poor	0	0	1	4	1	**6**
	Total Trees	**1**	**34**	**131**	**41**	**6**	**213**

3.9.3 Whitney Ranch

Approximately 2.89 acres of oak canopy were mapped within the Preserve, including 2.46 acres in Section (WR-1), 0.16 acre in section (WR-5), and 0.27 acre in section (WR-6). No oak canopy exists within the boundaries of other portions of the Preserve (WR-2, WR-3 and WR-4).

3.9.4 Sunset West

Approximately 0.19 acre of oak canopy was mapped within section SW-6 of the Preserve. No oak canopy exists within the boundaries of Sections (SW- 1-5 and 7 and 8).

3.10 AMPHIBIAN AND REPTILE SURVEY

Amphibian and reptile surveys were conducted to note amphibian or reptile presence within the Preserve. Surveys were conducted on February 11, and 2 and March 1, 8, and 14, 2019 within all potential habitat for these species within Preserve sub-sections. Additionally, numerous sightings of amphibian and reptiles were made during other annual surveys conducted throughout the monitoring period and are noted below. Emphasis was placed on surveying potential habitat for listed amphibian and reptile species that could potentially occur within the Preserve including California red-legged frog (low potential) and western pond turtle (high potential).

Additionally, Western spadefoot toad (*Spea hammondii*) was surveyed for during the invertebrate surveys within the vernal pools and associated upland grasslands.

California red-legged frog (CRLF)

CRLF is listed as federally threatened. CRLF inhabit ponds, slow-moving creeks, and streams with deep pools that are lined with dense emergent marsh or shrubby riparian vegetation. Submerged root masses and undercut banks are important habitat features for this species. Breeding sites include pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds, lagoons, and artificial impoundments including stock ponds (USFWS 2011). CRLF breed between November and March. Embryos hatch 6 to 14 days after fertilization and larvae require 3.5 to 7 months to attain metamorphosis. CRLF may have been extirpated from the floor of the Central Valley prior to the 1960s (USFWS 2002). All of the extant records for CRLF in the Sierra Nevada range are over 800 feet above mean sea level (MSL) (Rana Resources 2013). Below this elevation, aquatic habitat generally supports stronger populations of non-native predators associated with warm water habitats such as bullfrogs and Centrarchid fish.

The nearest documented CNDDB occurrence is approximately 10 miles southeast along a small drainage feeding directly into the east side of Folsom Lake (Occurrence Number 814), however, the validity of this record is highly questionable due to the low elevation (approximately 500 feet above MSL), the proximity to urban development and to Folsom Lake, and the abundant non-native predators that it supports (Rana Resources 2013). The record states that a juvenile frog was sighted on a small footbridge crossing a drainage leading into Folsom Lake from an adjacent residential development. This frog was most likely a juvenile bullfrog, which, to the untrained eye, can be easily confused with a juvenile CRLF (Rana Resources 2013). Even if this were a valid record, this location is separated from the Preserves by several impassible barriers including major roadways, such as Interstate 80, and urban development. The nearest valid CNDDB occurrences (Occurrence Numbers 1284 and 1317) are over 20 miles northeast of the Preserve. Therefore, this species has a low potential to occur within the Preserve.

Western pond turtle (WPT)

WPT is a California Species of Special Concern. WPT occur in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites (California herps 2019). Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). WPT's nest and overwinter in areas of sparse vegetation comprised of grassland and forbs with less than ten percent slopes, less than 492 feet (150 meters) from aquatic habitat (Rosenberg et al. 2009).

Western spadefoot toad

The Preserve provides suitable habitat for western spadefoot toads. Western spadefoot toad is almost completely terrestrial and only enter water to breed (Dimmitt and Ruibal 1980). Spadefoot toads emerge from burrows to forage and breed following rains in the winter and spring. The Preserves vernal pools and associated grasslands provide habitat for this species; however, no adults or lava were observed during this year's survey efforts or during the four previous years of invertebrate surveys.

3.10.1 Brighton

A summary of habit suitability for CRLF and WPT within the Brighton Preserve is provided below:

- Suitable habitat for CRLF
- Minimally suitable habitat for WPT
- No herpetofauna observed

Suitable habitat is present for CRLF in the channel and associated marsh areas throughout the Preserve. Some areas of slow-moving pools occur within the channel and may provide suitable breeding habitat for CRLF along with marsh areas. Adequate vegetation cover is present throughout the aquatic habitat, and downed woody debris also occurs within the upland habitat which could provide suitable refugia habitat for the species. No CRLFs were observed during the field survey on March 14, 2019.

Minimally suitable habitat is present for WPT in the channel and associated marshy areas. The channel contains some suitable basking sites for WPT but the majority of the channel is very vegetated and few sunning areas occur. The channel may not be large enough to permanently support WPT populations. Associated upland habitat is suitable for WPT. No WPT were observed during the March 13, 2019 field survey.

3.10.2 Garnet Creek

A summary of habit suitability for CRLF and WPT within the Garnet Creek Preserve is provided below:

- Suitable CRLF habitat
- No suitable WPT
- No herpetofauna observed

Minimally suitable aquatic habitat for CRLF is present within Loomis Channel and Sucker Ravine. Adequate vegetation cover is present along both banks, but no slow-moving pools are present that could provide suitable breeding habitat. Suitable breeding habitat is present just outside of the conservation easement boundary within a small permanent pool approximately 100 feet to the

northeast of the Preserve boundary. Suitable upland habitat for CRLF is present within the entire Preserve and an abundance of downed woody debris is present that could serve as upland refugia habitat for CRLF. No CRLFs were observed during the February 27, 2019 field survey.

No suitable WPT habitat is present. The channels are too small and shallow for this species, especially during drier seasons. WPT may utilize the channel as a movement corridor to other more suitable habitat but are not likely to permanently reside within the channel or associated uplands within the Preserve. No WPT were observed during the February 27, 2019 field survey.

3.10.3 Orchard Creek

A summary of habit suitability for CRLF and WPT within the Orchard Creek Preserve is provided below:

- Minimally suitable habitat for CRLF in channel, pools and uplands sub-sections
- Suitable WPT habitat in channel on southern side of the Preserve
- Herpetofauna observed: Pacific chorus frog (*Hyliola regilla*)

The channel, various pools, swales, and vernal pools onsite provide minimally suitable habitat for CRLF. CRLF prefer areas with deep, slow-moving or still pools with dense shrubby or emergent vegetation such as cattails, tules, or willows along the bank. They will sometimes breed in stock ponds or other deep pools void of dense vegetation but are not known to breed in shallow channels such as the one present onsite. The grassland habitat and other aquatic sources onsite could provide habitat for this species outside of the breeding season, although they require areas that stay cool and moist throughout the summer. No CRLFs were observed during the February 11, 2019 field survey.

The channel present on the southern side of the Preserve provides suitable habitat for WPT. Although none were observed during the February 11, 2019 field survey, the channel contains rocky and muddy substrate, abundant vegetation cover along the bank, and provides areas for basking. The channel is also connected by a large culvert to several ponds and marshes directly east of the Preserve that also serve as suitable WPT habitat, and the channel could provide a movement corridor for the species. Grassland habitat adjacent to the channel could also provide suitable upland and nesting habitat for WPT.

3.10.4 Parklands North

A summary of habit suitability for CRLF and WPT within the Parklands North Preserve is provided below:

- Suitable CRLF habitat
- No suitable WPT habitat
- No herpetofauna observed

Suitable aquatic habitat for CRLF is present within Antelope Creek. Adequate vegetation cover is present throughout the length of the creek and deeper pools and slow-moving areas are present that could provide suitable breeding habitat for this species. Other suitable breeding habitat is also likely within the maximum dispersal distance to/from the area. Suitable upland habitat is present throughout the creek corridor and an abundance of downed woody debris and dense shrub cover could serve as upland refugia habitat. No CRLFs were observed during the February 27, 2019 field survey.

No suitable WPT is present. The creek is too small and shallow to support this species, especially during drier seasons. WPT may utilize the channel as a movement corridor to other more suitable habitat but

are not likely to permanently reside within the channel or associated uplands. No WPTs were observed onsite during the February 27, 2019 field survey.

3.10.5 Placer Creek Corporate Center (PCCC 1-5)

A summary of habit suitability for CRLF and WPT within the Placer Creek Corporate Center Preserve is provided below:

- Minimally suitable CRLF and WPT habitat
- No herpetofauna observed

Minimally suitable habitat for CRLF and WPT occurs within the various vernal pools and swales located throughout the Preserve. The site is lacking deeper pools and channels that are ideal for these species, and suitable vegetation cover is absent. The Preserve does provide minimally suitable grassland vegetation cover around the aquatic resources and suitable upland habitat is also present within the grassland onsite. A large nearby pond approximately 500 feet to the northwest of the Preserve unit provides suitable habitat for both of these species and is within known dispersal distance to/from the site, and CRLF and WPT may utilize the swales and vernal pools as movement corridors to/from this pond. No CRLFs or WPTs were observed during the March 8, 2019 field survey.

3.10.6 Stanford Ranch (SR-1 and SR-2)

A summary of habit suitability for CRLF and WPT within the Stanford Ranch Preserve sub-sections SR-1 and SR-2 is provided below:

- Minimally suitable CRLF habitat
- No suitable WPT habitat
- No herpetofauna observed

Minimally suitable habitat is present for CRLF within the channel and associated uplands within each Preserve sub-sections. The channel is small, with an average depth of approximately 3 inches at the time of the field survey on March 8, 2019. While the channel does provide some suitable vegetation cover for CRLF, it may not remain inundated during dry months and may not support the species if it does not remain cool or moist. Grassland habitat adjacent to the channel could provide upland habitat in passing, or if CRLF were to occur within the channel. No CRLFs were observed during the March 8, 2019 field survey

No suitable habitat is present for WPT within the Preserve. The channel is too small and shallow to support this species. WPT may utilize the channel as a movement corridor to other more suitable habitat but are not likely to permanently reside within the channel or associated uplands. No WPT were observed onsite during the March 8, 2019 field survey.

3.10.7 Stanford Ranch (SR-3 and SR-4)

A summary of habit suitability for CRLF and WPT within the Stanford Ranch sub-sections SR-3 and SR-4 is provided below:

- No suitable habitat for CRLF or WPT
- No herpetofauna observed

No suitable habitat is present within the SR-3 and SR-4 sub-sections to support CRLF or WPT. No aquatic habitat is present within either sub-sections. The areas may provide suitable upland habitat for CRLF or WPT in passing, but with the absence of aquatic habitat within the sub-sections upland habitat is not likely to be regularly utilized by these species. No CRLFs or WPTs were observed onsite during the March 8, 2019 field survey.

3.10.8 Stanford Ranch (SR-5, SR-6, and SR-7)

A summary of habit suitability for CRLF and WPT within the Stanford Ranch sub-sections SR-5, SR-6, and SR-7 is provided below:

- Minimally suitable CRLF habitat
- No suitable WPT habitat
- No herpetofauna observed

Minimally suitable habitat is present for CRLF within the channel and associated uplands within each sub-section. The average depth of the channel at the time of the field survey was approximately 4 inches, and some ponding was present at the culvert between SR-6 and SR-7. While the channel does provide suitable vegetation cover for CRLF, it may not remain inundated during dry months and may not support the species if it does not remain cool or moist. Grassland habitat adjacent to the channel could provide upland habitat in passing, or if CRLF were to occur within the channel. No CRLFs were observed during the field survey on March 8, 2019.

No suitable habitat is present for WPT within the sub-sections. The channel is too small and shallow to support this species. WPT may utilize the channel as a movement corridor to other more suitable habitat but are not likely to permanently reside within the channel or associated uplands. No WPTs were observed onsite during the March 8, 2019 field survey.

3.10.9 Stanford Ranch (SR-8, SR-9, SR-10, SR-11 and SR-12)

A summary of habit suitability for CRLF adapt within the Stanford Ranch sub-sections SR-8 through SR-12 is provided below:

- Suitable CRLF habitat
- WPT present

Suitable CRLF aquatic habitat is present in the various vernal pools and channels that occur throughout the sub-sections. Adequate vegetation cover and overhanging trees are present along the channel margins and there are some areas of slow, deeper pools that may be suitable for breeding. The grassland habitat adjacent to these aquatic features may also provide suitable upland habitat for CRLF. No CRLFs were observed during the March 8, 2019 field survey.

WPT habitat is present in the channels and some deeper vernal pools that occur throughout the sub-sections, and suitable upland habitat is present in the adjacent grassland. Suitable vegetation cover and basking areas occur throughout the channels. The channels and vernal pools may become too dry to support a permanent WPT population during warmer months. The soil onsite appears to be compact and estivation may not be possible during these warm periods. No WPTs were observed during the

March 8, 2019 field survey. However, WPTs were observed on two separate occasions basking on the concrete footings of the conspan in the northern portion of SR-12 Preserve.

3.10.10 Stanford Ranch (SR-13 and SR-14)

A summary of habitat suitability for CRLF and WPT within the Stanford Ranch sub-sections SR-13 and SR-14 is provided below:

- Minimally suitable CRLF habitat
- No suitable WPT
- No herpetofauna observed

Minimally suitable habitat is present for CRLF within the channel and associated uplands within each sub-section. The average depth of the channel at the time of the field survey was approximately 6 inches, and a few moderately deep (< 1 foot) pools were also present. While the channel does provide suitable vegetation cover for CRLF, it may not remain inundated during dry months and may not support the species if it does not remain cool or moist. Grassland habitat adjacent to the channel could provide upland habitat in passing, or if CRLF were to occur within the channel. No CRLFs were observed during the field survey on March 8, 2019.

No suitable habitat is present for WPT in either sub-sections. The channel is too small and shallow to support this species. WPT may utilize the channel as a movement corridor to other more suitable habitat but are not likely to permanently reside within the channel or associated uplands. No WPTs were observed onsite during the March 8, 2019 field survey.

3.10.11 Stanford Ranch (SR-15 and SR-16)

A summary of habit suitability for CRLF and WPT within the Stanford Ranch sub-sections SR-15 and SR-16 is provided below:

- No suitable habitat for CRLF or WPT
- No herpetofauna observed

No suitable habitat was observed to support CRLF or WPT. The channel of SR 16 is extremely shallow, and minimal water was observed flowing during the field survey on March 8, 2019. Although a small amount of ponding was observed at the southwest portion of the sub-sections at a culvert crossing, the ponding is too small and intermittent to be suitable habitat for these species. Similarly, a small amount of ponding was observed at a culvert crossing of SR 15 that adjoins with SR 13. The ponding is also too small and intermittent to be suitable habitat for these species. Adjacent grassland habitat may provide suitable upland habitat for these species, but the lack of suitable aquatic habitat highly limits the potential for upland habitat to support CRLF or WPT. No CRLFs or WPTs were observed at either location during the March 8, 2019 field survey.

3.10.12 Stanford Ranch (SR-17)

A summary of habit suitability for CRLF and WPT within the Stanford Ranch sub-section SR-17 is provided below:

- Suitable CRLF habitat
- Suitable WPT habitat
- One (1) Red-eared slider (*Trachemys scripta elegans*) and POTENTIAL WPT observed (2 turtles observed but were too far to positively identify)

Suitable habitat is present for CRLF within the pond and channel onsite. Overhanging trees and other shrubby vegetation are present along the banks, and the pond is deep enough to provide suitable breeding habitat for the species. The annual grassland adjacent to the pond and channel may also provide suitable upland habitat for this species. The pond also likely remains cool and moist throughout the dry season. No CRLFs were observed during the March 8, 2019 field survey, but suitable habitat is present to support this species.

One large pond and smaller pools associated with an attached channel of the pond provide suitable habitat for WPT. The pond is deep, has downed trees and other suitable basking sites, muddy substrate, and is fairly isolated from human disturbance. The annual grassland adjacent to the pond may also provide suitable upland and nesting habitat for WPT. One red-eared slider, and two other unidentifiable turtles were observed basking within the pond during the March 8, 2019 field survey. Although the turtles could not be identified, the habitat appears to be very suitable for WPT and WPT may occur within the site.

3.10.13 Stanford Ranch (SR-18, SR-19, SR-20 and SR-21)

A summary of habit suitability for CRLF and WPT within the Stanford Ranch sub-sections SR-18 through SR-21 is provided below:

- Suitable CRLF habitat
- Minimally suitable WPT habitat
- Pacific chorus frog observed

Suitable CRLF aquatic habitat is present in the various vernal pools and channels that occur throughout the sub-sections. Adequate vegetation cover is present along the channel margins and there are areas of slow, deep, pools that may be suitable for breeding. The annual grassland habitat adjacent to these aquatic features may also provide suitable upland habitat for CRLF. No CRLFs were observed during the March 8, 2019 field survey.

Minimally suitable WPT habitat is present in the channels and some deeper vernal pools that occur throughout the sub-sections. Suitable vegetation cover and areas of open sunny banks occur that could be suitable basking sites, but the channel is lacking rocky or muddy substrate which is preferred by WPT. The channel and vernal pools may also become too dry to support a permanent WPT population during warmer months. The associated grassland may provide suitable upland habitat, but nesting is unlikely due to the compact nature of the soil. No WPTs were observed during the March 8, 2019 field survey.

3.10.14 Sunset West (SW-1)

A summary of habit suitability for CRLF and WPT within the Sunset West sub-sections SW-1 is provided below:

- Suitable habitat for WPT and CRLF
- Pacific chorus frogs vocalizing
- WPT observed

One large marsh and associated channels provide suitable aquatic habitat for WPT and CRLF. Various vernal pools that occur on the site may also provide suitable aquatic habitat for CRLF and WPT. Adequate vegetation cover for both species is present within the marsh and channels, and the marsh appears to contain a muddy substrate which is preferred by WPT. The marsh and channel also likely remain inundated and cool throughout the dry season. The grassland habitat adjacent to the aquatic resources also provides suitable upland habitat for WPT and CRLF. WPTs were observed on numerous occasions within the eastern portion of the Preserve. No CRLFs were observed during the March 13, 2019 field survey.

3.10.15 Sunset West (SW-2 and SW-3)

A summary of habit suitability for CRLF and WPT within the Sunset West sub-sections SW-2 and SW-3 is provided below:

- Minimally suitable CRLF and WPT habitat
- WPT observed in SW-2

Suitable habitat for CRLF and WPT occurs within the channels and various vernal pools located within each sub-section. The channel is fairly small and shallow, but some deeper pools do occur in areas of the channel. Suitable vegetation cover is present along the channel margins, but the channel may not remain inundated throughout the dry season to permanently support these species. A large nearby marsh within SW-1 is suitable for both species and is within known dispersal range to/from the site, and CRLF and WPT may utilize the channels and vernal pools as corridors to/from this pond. Upland habitat is present for these species within the adjacent annual grassland that occurs throughout the sub-sections. No CRLFs or WPTs were observed during the March 13, 2019 field survey. However, WPTs were observed during subsequent surveys within SW-2.

3.10.16 Sunset West (SW-4 and SW-6)

A summary of habit suitability for CRLF and WPT within the Sunset West sub-sections SW-4 and SW-6 is provided below:

- Minimally suitable CRLF habitat
- No suitable WPT habitat
- No herpetofauna observed

Minimally suitable habitat is present for CRLF within the channel, small pools, and associated uplands within each sub-section. The channel is small, with an average depth of approximately 3 inches at the time of the field survey on March 13, 2019. The pools onsite are also fairly shallow (<1.5 feet deep).

While the pools and channel do provide some suitable vegetation cover for CRLF, they may not remain inundated during dry months and may not support the species if they do not remain cool or moist. Annual grassland habitat adjacent to these features could provide upland habitat in passing, or if CRLF were to occur within the area. No CRLFs were observed during the field survey.

No suitable habitat is present for WPT within the sub-sections. The channel and pools are too small and shallow to support this species. WPT may utilize the channel as a corridor to other more suitable habitat but are not likely to permanently reside within the channel or associated uplands. No WPTs were observed onsite during the March 13, 2019 field survey.

3.10.17 Sunset West (SW-5)

A summary of habit suitability for CRLF and WPT within the Sunset West sub-section SW-5 is provided below:

- Minimally suitable CRLF habitat
- No suitable WPT habitat
- No herpetofauna observed

Minimally suitable habitat is present for CRLF within the small channel, small pools, and associated uplands within the sub-sections. The channel is small, with an average depth of approximately 2 inches at the time of the field survey on March 13, 2019. The pools onsite are also fairly shallow (<1 foot deep). While the pools and channel do provide some suitable vegetation cover for CRLF, they may not remain inundated during dry months and may not support CRLF if they do not remain cool or moist. Grassland habitat adjacent to these features could provide upland habitat in passing, or if CRLF were to occur within the area. No CRLF were observed during the field survey.

No suitable habitat is present for WPT within the sub-sections. The channel and pools are too small and shallow to support either of these species. WPT may utilize the channel as a corridor to other more suitable habitat but are not likely to permanently reside within the channel or associated uplands. No WPT were observed onsite during the March 13, 2019 field survey.

3.10.18 Whitney Ranch (WR-1)

A summary of habit suitability for CRLF and WPT within the Whitney Ranch sub-section WR-1 is provided below:

- Suitable CRLF habitat
- Suitable WPT habitat
- Herpetofauna observed: Pacific chorus frog

Suitable habitat is present for CRLF within the pond and pools onsite. Overhanging trees and other shrubby vegetation are present along the banks, and the pond is deep enough to provide suitable breeding habitat for the species. The annual grassland adjacent to the pond and pools also provides suitable upland habitat for the species, and the location of the pond likely remains cool and moist throughout the dry season. No CRLFs were observed during the February 11, 2019 field survey, but suitable habitat is present to support this species.

One large pond and several smaller pools associated with a drainage channel of the large pond provide suitable habitat for WPT. The pond is deep, has downed trees and other suitable basking sites, muddy substrate, and is also isolated from human disturbance. The annual grassland adjacent to the pond may also provide suitable upland and nesting habitat for WPT. Although none were observed during the February 11, 2019 field survey, the habitat appears to be suitable for WPT.

3.10.19 Whitney Ranch (WR-2)

A summary of habit suitability for CRLF and WPT within the Whitney Ranch sub-section WR-2 is provided below:

- Suitable habitat for WPT and CRLF
- No herpetofauna observed

Two large marshes and two large ponds occur within the site and provide suitable habitat for WPT and CRLF. Although neither species was observed on the February 11, 2019 field survey, the aquatic habitats provide adequate vegetation cover, basking sites, and breeding habitat for both species. The grassland habitat adjacent to the aquatic resources also provides suitable upland habitat for WPT and CRLF.

3.10.20 Whitney Ranch (WR-3)

A summary of habit suitability for CRLF and WPT within the Whitney Ranch sub-section WR-3 is provided below:

- Suitable habitat for CRLF
- Minimally suitable habitat for WPT
- No herpetofauna observed

Suitable habitat is present for CRLF in the marsh located on the western portion of the sub-sections, and in deeper portions of the channel connecting to the marsh. Although not ideal habitat for the species, the marsh and channel do contain adequate vegetation cover, deeper areas suitable for breeding, and suitable upland habitat is present adjacent to the marsh. The majority of the marsh and channel were fairly shallow at the time of the field survey, and must remain moist, cool, and inundated throughout the dry season to support CRLF. No CRLFs were observed during the field survey on February 11, 2019.

Minimally suitable habitat is present for WPT in the marsh on the western portion of the sub-sections. The substrate of the marsh is unknown, and no visible basking sites such as logs, rocks, or open spaces were observed. Plenty of cattails and bulrushes are present within the marsh, and the annual grassland habitat adjacent to the marsh could provide suitable upland habitat for WPT. Although some habitat requirements for WPT are unknown or lacking from the site, the habitat could still potentially support this species. No WPTs were observed during the February 11, 2019 field survey.

3.10.21 Whitney Ranch (WR-4)

A summary of habit suitability for CRLF and WPT within the Whitney Ranch sub-section WR-4 is provided below:

- Minimally suitable habitat for CRLF
- No suitable habitat for WPT
- No herpetofauna observed

Minimally suitable habitat is present for CRLF within the channel and associated uplands onsite. The average depth of the channel at the time of the field survey was approximately 3 inches, and a few moderately deep (< 1 foot) pools were also present. While the channel does provide suitable vegetation cover for CRLF, it is likely too small and shallow to support the species. Annual grassland habitat adjacent to the channel could provide upland habitat in passing, or if CRLF were to occur within the channel. No CRLFs were observed during the field survey on February 11, 2019.

No suitable habitat is present for WPT. The channel is too small and shallow to support this species. WPT may utilize the channel as a corridor to move between other more suitable habitat but are not likely to permanently reside within the channel or associated uplands. No WPTs were observed during the February 11, 2019 field survey.

3.10.22 Whitney Ranch (WR-5)

A summary of habit suitability for CRLF and WPT within the Whitney Ranch sub-section WR-5 is provided below:

- Minimally suitable habitat for CRLF
- No suitable habitat for WPT
- No herpetofauna observed

Minimally suitable habitat is present for CRLF in a small, shallow channel present onsite. Annual grassland habitat adjacent to the channel could provide suitable upland habitat. The average depth of the channel at the time of the field survey was approximately 4 inches, and a few moderately deep (< 1 foot) pools were also present. While the channel does provide suitable vegetation cover for CRLF, it is likely too small and shallow to support the species. Annual grassland habitat adjacent to the channel could provide upland habitat in passing, or if CRLF were to occur within the channel. No CRLFs were observed during the field survey on February 11, 2019.

No suitable habitat is present for WPT. The channel onsite is too small and shallow to support this species. WPT may utilize the channel as a corridor to other more suitable habitat, but suitable habitat for WPT does not appear to be within a suitable distance to the site. No WPTs were observed during the February 11, 2019 field survey.

3.10.23 Whitney Ranch (WR-6)

A summary of habit suitability for CRLF and WPT within the Whitney Ranch sub-section WR-6 is provided below:

- No suitable habitat for CRLF or WPT
- No herpetofauna observed

No suitable habitat was observed to support CRLF or WPT. The channel onsite is extremely shallow, and minimal water was observed flowing during the field survey on February 11, 2019. Although a small amount of ponding was observed at the lower portion of the sub-sections at a culvert crossing, the ponding is too small and intermittent to be suitable habitat for these species. No CRLFs or WPTs were observed during the February 11, 2019 site survey.

4.0 BASELINE STUDY RESULTS

4.1 GARNET CREEK

Three major biological communities occur in the Preserve including riparian, mixed oak woodland, and annual grassland. These communities provide habitat for a number of common species of wildlife and may provide suitable habitat for special-status plant and wildlife species Dominant vegetation observed within each biological community is discussed in detail below. The locations and extents of each biological community are depicted on Figure 12.

4.1.1 Riparian

Approximately 0.61 acre of riparian habitat occurs within the southwest portion of the Preserve. This vegetative community is composed of an overstory of valley oaks, Fremont cottonwoods, and arroyo willow (*Salix lasiolepis*), with an understory of mainly large thickets of Himalayan blackberry. This habitat is associated with, and includes 0.09 acre of Sucker Ravine, a perennial drainage. Riparian vegetation is generally absent along the remaining intermittent drainages and swales in the northern portions of the Preserve.

4.1.2 Mixed Oak Woodland

Approximately 1.22 acres of mixed oak woodland occurs throughout the Preserve. This vegetative community is characterized by an overstory of valley oak and interior live oak, with some blue oak, existing in small numbers in the northern portion of the Preserve. The understory is composed of a mix of herbaceous and woody plants including poison oak (*Toxicodendron diversilobum*), Himalayan blackberry, hoary coffeeberry (*Frangula californica*), bristly dogtail grass (*Cynosurus echinatus*), soft brome, and yellow star-thistle. This community is associated with and includes 0.16 acre of intermittent stream and <0.01 acre of ephemeral stream.

4.1.3 Annual Grassland

Approximately 0.45 acre of annual grassland occurs within the Preserve. Dominant plant species within this community include grasses and forbs such as wild oat, ripgut brome, soft chess, yellow star-thistle,

and Italian thistle. Coyote brush (*Baccharis pilularis* ssp. *consanguinea*) is also found scattered throughout this community.

4.2 PARKLANDS NORTH

Two major biological communities occur in the Preserve including riparian and mixed oak woodland. These communities provide habitat for a number of common species of wildlife and may provide suitable habitat for special-status plant and wildlife species. Dominant vegetation observed within each biological community is discussed in detail below. The locations and extents of each biological community are depicted on Figure 13.

4.2.1 Riparian

Approximately 2.00 acres of riparian habitat occurs within and is the dominant community within the Preserve. This acreage includes the 1.12 acres of Antelope Creek that runs through this community. This vegetative community is composed of an overstory of large valley oaks, Fremont cottonwoods, Goodding's black willow (*Salix gooddingii*), and arroyo willow (*Salix lasiolepis*), with an understory dominated by Himalayan blackberry. As previously noted, this habitat is associated with Antelope Creek, a perennial "blue line" feature, which is lined with perennial aquatic plant species such as broad-leaved cattail (*Typha latifolia*), smartweed (*Persicaria hydrpiper*), nutsedge (*Cyperus eragrostis*), and epilobium (*Epilobium* sp.).

4.2.2 Oak Woodland

Approximately 1.53 acres of oak woodland occurs within the Preserve and is entirely situated along the eastern border. This vegetation community is characterized by an overstory of valley oak and interior live oak. The shrub layer is composed of a mix of herbaceous and woody plants including buckbrush (*Ceanothus cuneatus* var. *cuneatus*), California buckeye (*Aesculus californica*), poison oak, and coyote brush. The herbaceous layer is made up of grasses and forbs including wild oat, ripgut brome, soft chess, yellow star-thistle, and prickly lettuce (*Lactuca serriola*). Two stands of blue elderberry (*Sambucus nigra* ssp. *caerulea*) exist along the eastern border of the Preserve within the transition zone from mixed oak woodland to riparian habitats. These have been permanently fenced with signage placed on the fencing to protect them.

4.3 PLACER CREEK CORPORATE CENTER

Two major biological communities occur in the Preserve including vernal pool annual grassland complex and seasonal wetlands. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status plant and wildlife species. Dominant vegetation observed within each biological community is discussed in detail below. The locations and extents of each biological community are depicted on Figure 14.

4.3.1 Annual Grasslands

Approximately 4.75 acres of annual grassland occurs within the Preserve. include wild oats, soft chess, ripgut brome, wild barley, and foxtail fescue. Common forbs include broadleaf filaree (*Erodium botrys*), turkey mullein (*Eremocarpus setigerus*), true clovers (*Trifolium* spp.), bur clover (*Medicago polymorpha*), and many others. California poppy (*Eschscholzia californica*is) is also found in the annual grasslands.

4.3.2 Vernal Pool Complex

Approximately 0.25 acre of seasonal wetlands occur within the Preserve. Seasonal wetlands within the annual grasslands are dominated by coyote thistle, Italian ryegrass, and stalked popcornflower.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Overall, the ±600-acre Preserve was in good condition during the 2018-2019 monitoring year. Vernal pool fairy shrimp were found in three vernal pools located in Stanford Ranch (SR-12 vernal pools 138 and 193) and Sunset West Preserves (SW-1 vernal pool 102). California linderiella were found in two vernal pools within Stanford Ranch (SR-12 vernal pools 138 and 190). Of the combined 64 vernal pools surveyed within the Preserves, 57 vernal pools have a Prevalence Index of 3 or less. Therefore, 92 percent of the vernal pools meet the floristic vernal pool performance standards. Furthermore, known populations of special-status species including WPT, tricolored blackbird, and hispid bird's beak were observed within the Preserve.

Invasive species occur in approximately 19% of the total Preserve acreage. In total, approximately 114 acres of the Preserve were mapped as having some degree of invasive plant species presence in 2018-2019. The most widespread invasive species within the Preserve include yellow star-thistle, which was present in over 30 acres of the Preserve and is found mostly in annual grassland areas, Chinese tallow, which was present in over 26 acres of the Preserve, and stinkwort, which was present in approximately 20 acres of the Preserve, and is found primarily along drainage and wetland margins. Some recommended invasive species control techniques to be implemented within the Preserve include:

- *Yellow Star-Thistle*
    - Often requires management over several years to eliminate.
    - Yellow star-thistle seedlings are sensitive to shading, therefore establishing a new cover of desired plants, such as perennial bunchgrasses and forbs is necessary for long-term management.
    - Focus treatment on small populations or where re-infestation risk is low: Claremont, Whitney Ranch, Stanford Ranch, and western Sunset West.
    - Graze or mow in late May and June during the spiny and early flower stage to reduce seed heads. Sheep are effective earlier in the spring during the bolting phase, but goats are more effective later in the season when the plant has entered the spiny stage.
    - Apply targeted pre- and post-emergent herbicides (aminopyralid or clopyralid) between January and March for season-long control.
- *Chinese Tallow Tree*
    - Seeds are spread by birds and water, so treatment should begin at the upper ends of drainages, if possible, to minimize the recolonization in downstream areas.
    - Chinese tallow trees re-sprout easily, so treatment over multiple years may be required.

  - Cut trees and treat stumps with herbicide; optimally cutting should be done in July to early August during seed formation.
  - Hand pulling of small saplings and girdling of large trees.

- *Stinkwort*
  - Stinkwort has a relatively shallow root system, so it can be hand-pulled. Wear protective clothing as the oils can be irritating to the skin.
  - Mowing can provide partial control, but this plant is low branching so it will likely regrow. Mowing a second time, especially in mid-to-late summer after the soil has dried out may provide improved control.

- *Himalayan Blackberry*
  - Often re-sprouts from vegetative fragments left behind.
  - Sensitive to shade, so planting treated areas with fast-growing native shrubs may reduce re-establishment
  - Mechanical removal by repeated mowing or cutting often followed by digging out the rootstock.
  - Goats browse on Himalayan blackberry and can be effective at reducing and controlling this plant.

In 2019-2020, 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 areas 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 as staging sites for their herds.
- Target invasive species to maintain current extent and approximate number of invasive species within 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 the yellow star-thistle populations. Select areas (such as OC-1, WR-2, WR-3, WR-5, SR-12 to SR-16, SW-4, SW-6, and SW-8) for targeted yellow star-thistle control. Once a successful eradication protocol has been determined, it can be used on other areas of the Preserve that are more prone to re-infestation from adjacent open space areas;

  - To avoid impacts to nesting birds, trees should be removed outside of the nesting season (February 15 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 stinkwork. 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.

- Update the current City of Rocklin Operation and Management (O&M) Plan to include updated recommendations and practices for management of the City of Rocklin Open Spaces. Updates to the O&M Plan will include:

  - Updated special-status species table for plants and wildlife with a potential to occur within City of Rocklin open space areas using the CNDDB, CNPS, and U.S. Fish and Wildlife Service Information for Planning and Consulting (IPac), as well as, the survey data from open space monitoring to date.
  - Revised graphics that more accurately represent current existing conditions, including updated wetland mapping, boundaries of newly acquired Preserves since the preparation of the 2015 O&M Plan, and updated documented special-status species occurrences.
  - Streamlined procedures for conducting biological resources surveys and inventories, and revised goals, and actions to more evenly distribute required survey tasks over all monitoring years.
  - Update reporting due date for the annual report to the Corps from June 30 to December 30 to better accommodate the required schedule for annual data collection and processing of floristic data.

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Appendix A

Representative Site Photos

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Photo 1. Marsh within Whitney Ranch (WR-2), tricolored blackbirds observed in cattails.

Photo 2. Overview of Stanford Ranch (SR-16) during invasive species survey. Stinkwort present in the drainages.

Photo 3. Oak woodland RDM point located within Whitney Ranch (WR-1).

Photo 4. Conducting RDM surveys within Garnet Creek. Photo taken 20 feet from sample location.

Photo 5. Some of the tools used during fall RDM sampling.

Photo 6. Active grazing within Sunset West Preserve.

Photo 7. Post grazing within Sunset West Preserve.

Photo 8. Vernal pool #11 within Stanford Ranch (SR-12). Photo taken during invertebrate monitoring.

Photo 9. Vernal pool #249 within Sunset West (SW-5). Photo taken during invertebrate monitoring.

Photo 10. Ephemeral stream within Garnet Creek Preserve. Photo taken during wetland monitoring.

Photo 11. Typical channel substrate within the Garnet Creek Preserve. Photo taken during wetland and riparian monitoring.

Photo 12. Antelope Creek within Parklands North. Photo taken during the wetlands and riparian monitoring.

Photo 13. Extensive blackberry brambles within the Parklands North Preserve.

Photo 14. Vernal pool #305 within Stanford Ranch (SR-8). Cottonwood tree and rye grass on outer edges of vernal pool.

Photo 15. Vernal pool within Sunset West (SW-1). Vernal pool dominated by coyote thistle and spike rush. Photo taken during floristic monitoring.

Photo 16. Vernal pool #10 within Stanford Ranch (SR-12). Photo taken during floristic monitoring.

Photo 17. Vernal pool #315 within Placer Creek Corporate Center (PCCC-2). Photo taken during floristic monitoring.

Photo 18. Vernal pool #193 in Stanford Ranch (SR-12). Dominant plants observed include common spike rush and navarretia.

Photo 19. Overview of Whitney Ranch (WR-5) during the wetland and riparian monitoring.

Photo 20. Pond located in Whitney Ranch (WR-1).

Photo 21. Overview of Sunset West (SW-1) prior to invasive vegetation removal in waterway.

Photo 22. Overview of Sunset West (SW-8).

Photo 23. Example of types of encroachment in the Preserve. Photo taken in Sunset West (SW-3).

Photo 24. Fallen tree in Sunset West (SW-3). Photo taken during the biological monitoring.

Photo 25. Valley elderberry longhorn beetle avoidance sign located in Parklands North.

Photo 26. Overview of Claremont (C-2), post grazing.

Photo 27. Large oak tree within the Parklands North Preserve. Nesting habitat for raptors.

Photo 28. Overview of Garnet Creek Preserve. Photo taken during baseline surveys for burrowing owl and Swainson's hawk.

Photo 29. Tricolored blackbirds observed foraging in Orchard Creek (OC) and Whitney Ranch (WR-1).

Photo 30. Wooded area in Stanford Ranch (SR-5).

Photo 31. Overview of Whitney Ranch (WR-4).

Photo 32. Culvert in Orchard Creek (OC).

Appendix B

RDM Sampling Datasheets

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Appendix B
RDM Sampling Data Sheet - Brighton

Brighton Subdivision								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
51	B-1	10/29/2018	15	1,400	Exceeds	1		OW

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

Degree of Use:

1 - None Little or no use of surveyed vegetation

2 - Light Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

3 - Moderat Grazing is spotty, but evident. Trampling damage may be evident.

4 - Heavy Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe Surveyed vegetation grubbed. Trampling damage evident.

Appendix B
RDM Sampling Data Sheet - Claremont

Claremont								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/ Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
49	C-3	10/17/2018	46	4,416	Exceeds	1	1	OW
22	C-4	10/17/2018	54	5,184	Exceeds	1	2	AG

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

Degree of Use:

1 - None Little or no use of surveyed vegetation

2 - Light Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

3 - Moderate Grazing is spotty, but evident. Trampling damage may be evident.

4 - Heavy Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe Surveyed vegetation grubbed. Trampling damage evident.

Appendix B
RDM Sampling Data Sheet - Garnet Creek

Garnet Creek								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
52	GC-1	10/29/2018	14	1,344	Exceeds	1	3,4	OW
53	GC-1	10/29/2018	16	1,536	Exceeds	1	4,5	OW

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

Degree of Use:

1 - None Little or no use of surveyed vegetation

2 - Light Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

3 - Moderat Grazing is spotty, but evident. Trampling damage may be evident.

4 - Heavy Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe Surveyed vegetation grubbed. Trampling damage evident.

Appendix B
RDM Sampling Data Sheet - Orchard Creek

Orchard Creek								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
26	OC-1	10/17/2018	32	3,072	Exceeds	1	1	AG
29	OC-1	10/17/2018	27	2,592	Exceeds	1	2	AG

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

Degree of Use:

1 - None Little or no use of surveyed vegetation

2 - Light Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

3 - Moderat Grazing is spotty, but evident. Trampling damage may be evident.

4 - Heavy Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe Surveyed vegetation grubbed. Trampling damage evident.

Appendix B
RDM Sampling Data Sheet - Parklands North

Parkland North								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
55	PN-1	10/29/2018	55	5,280	Exceeds	1		AG

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

Degree of Use:

1 - None Little or no use of surveyed vegetation

2 - Light Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

3 - Moderat Grazing is spotty, but evident. Trampling damage may be evident.

4 - Heavy Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe Surveyed vegetation grubbed. Trampling damage evident.

Appendix B

RDM Sampling Data Sheet - Placer Creek Corporate Center

Placer Creek Corprate Center								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
54	PCCC-1	10/24/2018	58	5,568	Exceeds	1		AG

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

Degree of Use:

1 - None Little or no use of surveyed vegetation

2 - Light Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

3 - Moderat Grazing is spotty, but evident. Trampling damage may be evident.

4 - Heavy Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe Surveyed vegetation grubbed. Trampling damage evident.

Appendix B
RDM Sampling Data Sheet - Stanford Ranch

Stanford Ranch								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
11	SR-12	10/15/2018	19	1,824	Exceeds	2	4	AG
12	SR-12	10/15/2018	24	2,304	Exceeds	1	5	AG
10	SR-13	10/25/2018	65	6,240	Exceeds	1	20	AG
13	SR-14	10/25/2018	20	1,920	Exceeds	2	23	AG
19	SR-16	10/23/2017	17	1,632	Exceeds	3	24	AG
17	SR-17	10/18/2018	26	2,496	Exceeds	1	1	AG
18	SR-19	10/19/2018	23	2,208	Exceeds	1	1	AG
14	SR-21	10/29/2018	51	4,896	Exceeds	1	1-2	AG
4	SR-8	10/15/2018	20	1,920	Exceeds	2	1	AG
15	SR-8	10/15/2018	14	1,344	Exceeds	2	2	AG
16	SR-8	10/15/2018	12	1,152	Meets	3	3	AG
39	SR-13	10/25/2018	30	2,880	Exceeds	2	21	OW
34	SR-15	10/19/2018	19	1,824	Exceeds	2	2	OW
42	SR-17	10/18/2018	32	3,072	Exceeds	1	2	OW
43	SR-17	10/18/2018	26	2,496	Exceeds	2	5	OW
37	SR-21	10/29/2018	82	7,872	Exceeds	3	3-4	OW
46	SR-4	10/17/2108	16	1,563	Exceeds	2	2	OW
47	SR-6	10/17/2018	9	864	Meets	3	3	OW
44	SR-7	10/25/2018	12	1,152	Meets	2	30	OW
45	SR-7	10/17/2018	28	2,688	Exceeds	2	4	OW
41	SR-8	10/25/2018	25	2,400	Exceeds	2	31	OW
38	SR-11	10/19/2018	20	1,920	Exceeds	2	4	RIP
36	SR-13	10/25/2018	24	2,304	Exceeds	2	22	RIP
35	SR-15	10/19/2018	18	1,728	Exceeds	2	5	RIP
40	SR-18	10/19/2018	21	2,016	Exceeds	2	6	RIP
48	SR-2	10/17/2018	17	1,632	Exceeds	2	5	RIP

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

Degree of U Little or no use of surveyed vegetation

1 - None Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

2 - Light Grazing is spotty, but evident. Trampling damage may be evident.

3 - Moderat Surveyed vegetation is closely cropped. Trampling damage should be evident.

4 - Heavy Surveyed vegetation grubbed. Trampling damage evident.

5 - Severe

Appendix B
RDM Sampling Data Sheet - Sunset West

Sunset West								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
7	SW-1	10/18/2018	17	1,632	Exceeds	1	1	AG
9	SW-1	10/18/2018	44	4,224	Exceeds	1	2	AG
8	SW-3	10/18/2018	19	1,824	Exceeds	1	3	AG
6	SW-4	10/15/2018	9	864	Meets	3	0	AG
3	SW-6	10/15/2018	10	960	Meets	1	2	AG
5	SW-7	10/18/2018	42	4,032	Exceeds	1	4	AG
1	SW-8	10/18/2018	29	2,784	Exceeds	3	5	AG
32	SW-4	10/15/2018	9	864	Meets	3	4	OW
31	SW-6	10/15/2018	11	1,056	Meets	3	5	OW
33	SW-5	10/15/2018	15	1,440	Exceeds	3	6	RIP

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

Degree of Use:

1 - None Little or no use of surveyed vegetation

2 - Light Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

3 - Moderat Grazing is spotty, but evident. Trampling damage may be evident.

4 - Heavy Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe Surveyed vegetation grubbed. Trampling damage evident.

Appendix B
RDM Sampling Data Sheet - Whitney Ranch

Whitney Ranch								
Sample Number	**Site Ref. #**	**Date**	**Dried Weight (grams) Sq. Foot**	**RDM (lbs./ac.)**	**Exceeds/Meets/ Under Objective**	**Estimated Degree of Use**	**Photo #**	**Habitat Type**
30	WR-1	10/16/2018	18	1,728	Exceeds	1	20	AG
50	WR-1	10/16/2018	17	1,632	Exceeds	1	23	OW
25	WR-2	10/17/2018	41	3,936	Exceeds	1	31	AG
27	WR-3	10/17/2018	20	1,920	Exceeds	1	30	AG
2	WR-4	10/16/2018	17	1,632	Exceeds	3	21	AG
28	WR-4	10/16/2018	16	1,536	Exceeds	2	22	AG
21	WR-5	10/19/2018	22	2,112	Exceeds	3	40	AG
23	WR-5	10/19/2018	26	2,496	Exceeds	2	41	AG
20	WR-6	10/19/2018	29	2,784	Exceeds	1	42	AG
24	WR-6	10/19/2018	31	2,976	Exceeds	3	43	AG

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

Degree of Use:

1 - None Little or no use of surveyed vegetation

2 - Light Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.

3 - Moderat Grazing is spotty, but evident. Trampling damage may be evident.

4 - Heavy Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe Surveyed vegetation grubbed. Trampling damage evident.

Appendix C

Vernal Pool Invertebrate Survey Datasheets

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Appendix C Invertebrate Sampling Data

Project Site: Rocklin Open Space | Date: January 30, 2019 | Quad: Roseville & Rocklin

County: Placer | Time: 8:00 AM - 2:00 PM | Township: 11 North

Collectors: Marisa Brilts | Temp: 12 to 18 ºC | Range: 6E

Permit #: TE-810380-6 | Weather: Slight cloudy, wind at ~1mph | 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 Flatworms	Insecta				Notes
							Anostraca		Notostraca						Coleoptera		Hemiptera	Diptera	
							Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Cladocera (Water Fleas)	Conchostraca (Clam Shrimps)	Copepoda (Copepods)	Ostracoda (Seed Shrimp)		Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
Stanford Ranch (SR-12)																			
5	16	10	15.24	12x24	80%	1				x		x	x	x	x	x	x	x	chorus frog tadoples and eggs
138	16	8	17.78	12x8	75%	2	100	1000		x		x	x	x	x		x		chorus frog tadoples and eggs
141	16	20	30.48	61x24	80%	3				x		x	x	x	x		x	x	chorus froga tadoples and eggs
11	16	15	20.32	12x6	95%	4				x		x	x	x	x		x	x	chorus frog tadoples and eggs
190	16	15	22.86	12x6	95%	5	100			x			x	x					chorus frog tadoples and eggs
10	DRY					6													
12	DRY					7													
196	16	12	15.00		70%	8				x			x	x				x	chorus frog tadoples and eggs
Sunset West (SW-1)																			
41	16	13	15.24	9x5	95%	8				x		x	x	x					chorus frog tadoples and eggs
42	16	15	20.32	6x5	95%	9				x		x	x	x					chorus frog tadoples and eggs
37	DRY																		
80	16	13	22.86	18x6	75%	10				x		x	x	x					spider
102	13	15	20.32	6x4	85%	11				x		x	x	x					chorus frog tadoples and eggs
47	13	20	25.40	6x6	95%	12				x		x	x	x					chorus frog tadoples and eggs
105	16	15	17.78	9x4	90%	13				x			x	x					chorus frog adoples and eggs, snail
48	16	18	20.32	12x4	90%	0				x		x	x	x					
229	18	20	25.40	18x5	90%	0				x		x	x	x		x	x	x	spider
107	16	20	25.40	15x4	90%	14				x		x	x	x					spider
46	16	15	20.32	6x5	95%	15				x		x	x	x	x				spider
216	18	5	15.24	15x12	50%	16							x	x					spider
76	18	5	5.08	5x5	75%	17							x	x	x				spider
75	18	15	22.86	12x5	80%	18				x		x	x	x	x		x	x	
38	16	13	25.40	6x6	95%	19				x		x	x	x	x			x	
242	10	20	40.64	21x6	100%	1				x		x	x	x	x	x	x	x	chorus frog tadpole, snail

Appendix C Invertebrate Sampling Data

Project Site:	Rocklin Open Space	Date:	January 31, 2019	Quad:	Roseville & Rocklin
County:	Placer	Time:	7:00 AM - 2:45 PM	Township:	11 North
Collectors:	Marisa Brilts	Temp:	12 to 16 ºC	Range:	6E
Permit #:	TE-810380-6	Weather :	Overcast	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 Flatworms	Insecta					Notes
							Anostraca		Notostraca						Coleoptera		Hemiptera	Diptera		
							Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Cladocera (Water Fleas)	Conchostraca (Clam Shrimps)	Copepoda (Copepods)	Ostracoda (Seed Shrimp)		Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)		
Sunset West (SW-1)																				
35	19	5	7.62	2x1	25%	26							x	x				x		spider
49	18	3	5.08	2x1	50%	20				x			x	x						chorus frog tadoples and eggs
34	17	18	25.40	24x6	90%	21				x		x	x	x	x					
212	16	20	30.48	37x5	90%	22				x		x	x	x					x	
Sunset West (SW-5)																				
249	17	10	15.24	6x5	80%	23				x		x	x	x	x	x	x	x	x	chorus frog tadoples and eggs
248	17	13	15.24	3x3	90%	24								x					x	trash
55	16	15	17.78	6x6	90%	25				x			x	x						

Appendix C Invertebrate Sampling Data

Project Site: Rocklin Open Space
County: Placer
Collectors: Marisa Brilts
Permit #: TE-810380-6

Date: February 22, 2019
Time: 9:30 AM - 2:00 PM
Temp: 12 to 15 ºC
Weather: Sunny

Quad: Roseville & Rocklin
Township: 11 North
Range: 6E
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 Flatworms	Insecta				Notes
							Anostraca		Notostraca						Coleoptera		Hemiptera	Diptera	
							Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Cladocera (Water Fleas)	Conchostraca (Clam Shrimps)	Copepoda (Copepods)	Ostracoda (Seed Shrimp)		Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
Sunset West (SW-4)																			
60	13	20	25	6x5	70%	1				x		x	x	x	x	x	x	x	chorus frog tadoples and eggs, snail
Sunset West (SW-3)																			
58	13	18	23	5x5	90%	2							x	x				x	chorus frog tadoples and eggs, bullfrog tadoples
57	14	15	25	6x5	80%	3				x		x	x	x			x	x	chorus frog tadoples
119	13	10	15	12x12	80%	5				x		x	x	x		x			chorus frog tadoples
118	13	15	25	12x12	80%	6				x		x	x	x	x	x	x	x	chorus frog tadoples and eggs
Sunset West (SW-2)																			
131	13	10	15	15x3	90%	0				x		x							chorus frog tadoples and eggs
Sunset West (SW-6)																			
262	12	13	20	5x5	80%	7				x				x	x				chorus frog tadoples and eggs
62	14	3	5	4x4	50%	8				x		x	x	x	x				chorus frog tadoples
Orchard Creek (OC-1)																			
68	13	10	15	6x5	90%	9				x		x	x	x					chorus frog tadoples
2	13	25	48	3x2	95%	10				x		x	x	x	x		x	x	chorus frog tadoples
1	13	10	25	5x2	80%	11				x				x				x	
63	13	25	30	0x2	80%	12				x		x	x	x					chorus frog tadoples
Stanford Ranch (SR-20)																			
15	13	8	15	5x5	70%	15				x			x	x	x				chorus frog tadoples
265	13	10	15	5x6	75%	16				x				x	x	x			chorus frog tadoples

Appendix C Invertebrate Sampling Data

Project Site:	Rocklin Open Space			Date:	February 5, 2019								Quad:	Roseville & Rocklin							
County:	Placer			Time:	10:00 AM - 3:00 PM								Township:	11 North							
Collectors:	Marisa Brilts			Temp:	11 to 13 ºC								Range:	6E							
Permit #:	TE-810380-6			Weather:	Sunny								Section:	1-3, 10-15							

							Crustacea								Insecta					
							Anostraca		Notostraca						Coleoptera		Hemiptera	Diptera		
Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (cm)	Present Surface Area (mxm)	Inundation (%)	Photo #	Vernal Pool Fairy Shrimp	California Linderiella	Vernal Pool Tadpole Shrimp	Cladocera (Water Fleas)	Conchostraca (Clam Shrimps)	Copepoda (Copepods)	Ostracoda (Seed Shrimp)	Turbellaria Flatworms	Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	Notes
Stanford Ranch (SR-8)																				
305	4	20	30.48	15x9	95%	1				x		x	x	x	x			x	chorus frog tadoples and eggs
33	4	15	25.40	21x4	100%	2				x		x	x	x					
18	5	8	10.16	4x3	90%	3						x							chorus frog tadoples and eggs, snail,spider
146	6	10	12.70	4x2	60%	4							x	x				x	
19	6	10	12.70	6x2	80%	5						x		x				x	fly
20	6	10	12.70	5x2	70%	6						x						x	spider
27	6	3	7.62	2x2	40%	7								x					
281	5	3	7.62	3x2	50%	8							x	x				x	
153	5	8	12.70	9x2	100%	9						x	x					x	chorus frog tadoples and eggs
165	5	25	30.48	6x6	10%	10							x	x					chorus frog tadoples and eggs
31	6	5	7.62	3x1	75%	11							x	x					chorus frog tadoples and eggs
30	4	30	40.64	5x5	100%	12				x		x	x	x	x	x	x	x	chorus frog tadoples and eggs
21	4	5	15.24	5x3	25%	13				x				x				x	chorus frog tadoples and eggs
280	5	25	30.48	5x6	100%	14				x		x	x	x				x	
291	5	8	7.67	3x2	90%	15							x	x					
292	5	8	7.67	3x2	90%	16							x	x					

Appendix C Invertebrate Sampling Data

Project Site:	Rocklin Open Space			Date:	February 22, 2019			Quad:	Roseville & Rocklin											
County:	Placer			Time:	8:00 AM - 3:30 PM			Township:	11 North											
Collectors:	Marisa Brilts			Temp:	1 to 7 ºC			Range:	6E											
Permit #:	TE-810380-6			Weahter:	Sunny afnd windy at ~ 3mph			Section:	1-3, 10-15											

							Crustacea								Insecta					
							Anostraca		Notostraca						Coleoptera		Hemiptera	Diptera		
Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (cm)	Present Surface Area (mxm)	Inundation (%)	Photo #	Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Cladocera (Water Fleas)	Conchostraca (Clam Shrimps)	Copepoda (Copepods)	Ostracoda (Seed Shrimp)	Turbellaria Flatworms	Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	Notes	
Stanford Ranch (SR-12)																				
10	4	3	7.62		75%	1						x	x						spider	
196	4	10	15.24		100%	2				x				x				x	chorus frog tadoples and eggs, spider	
11	3	15	20.32		95%	3				x				x					chorus frog tadoples and eggs	
193	3	20	25.40	6x6	95%	4	1000	Likely											chorus frog tadoples and eggs	
190	4	15	20.32	15x6	95%	5				x			x	x					chorus frog tadoples and eggs	
5	6	25	40.64	37x15	80%	6				x		x	x	x	x	x	x	x	chorus frog tadoples and eggs	
10	6	8	15.24	24x4	75%	7A				x		x	x	x			x	x	chorus frog tadoples and eggs	
193	7	10	15.24	6x6	75%	8				x		x					x	x	chorus frog tadoples and eggs	
138	7	10	15.24	6x6	75%	7B				x		x		x			x	x	chorus frog tadoples and eggs	
12		15	20.32	15x6	95%	5				x			x	x					chorus frog tadoples and eggs	
141	7	20	30.48	61x24	90%	9				x		x	x	x	x	x	x	x	chorus frog tadoples and eggs	
Sunset West (SW-5)																				
248	7	13	15.24	6x2	75%	10				x		x	x	x					chorus frog tadoples and eggs	
249	9	18	20.32	5x5	90%	11				x				x					chorus frog tadoples and eggs	
Sunset West (SW-6)																				
262	10	18	20.32	6x5	80%	12				x			x	x		x			chorus frog tadoples and eggs	
62	10	3	5.08	4x5	60%	13				x		x	x	x		x			chorus frog tadoples and eggs	

Appendix C Invertebrate Sampling Data

Project Site:	Rocklin Open Space	Date:	February 25, 2019	Quad:	Roseville & Rocklin
County:	Placer	Time:	8:30 AM - 3:00 PM	Township:	11 North
Collectors:	Marisa Brilts	Temp:	3 to 13 ºC	Range:	6E
Permit #:	TE-810380-6	Weather:	Overcast, sligh wind	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 Flatworms	Insecta				Notes
							Anostraca		Notostraca						Coleoptera		Hemiptera	Diptera	
							Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Cladocera (Water Fleas)	Conchostraca (Clam Shrimps)	Copepoda (Copepods)	Ostracoda (Seed Shrimp)		Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
Sunset West (SW-1)																			
242	10	20	40.64	21x6	100%	1				x		x	x	x	x	x	x	x	chorus frog tadpole, snail
38	11	20	25.40	5x5	100%	2				x		x	x	x	x	x	x	x	mosquito (all life phases) chorus frog tadpole
76	11	3	7.62	6x5	80%	3				x			x	x		x			mosquito (all life phases) chorus frog tadpole
75	11	20	27.94	11x5	90%	4				x				x		x		x	mosquito (all life phases) chorus frog tadpole
216	11	8	15.24	9x9	75%	5				x				x	x	x		x	mosquito (all life phases) chorus frog tadpole
37	11	5	12.70	12x6	75%	6				x		x		x	x				mosquito (all life phases) chorus frog tadpole
80	11	15	20.32	18x5	80%	7				x			x	x	x			x	mosquito (all life phases) chorus frog tadpole
42	11	10	15.24	12x6	100%	8				x				x				x	mosquito (all life phases) chorus frog tadpole
41	11	15	22.86	12x9	100%	9				x				x				x	mosquito (all life phases) chorus frog tadpole
46	11	15	20.32	6x5	95%	10				x		x	x	x	x				mosquito (all life phases) chorus frog tadpole
102	11	15	20.32	6x5	95%	11	10			x		x	x	x					
47	11	20	25.40	6x6	100%	12				x		x	x	x					
105	11	15	17.78	6x5	95%	13				x		x	x	x					
107	11	20	25.40	15x5	100%	14				x		x	x	x	x			x	
48	11	18	20.32	12x5	100%	15				x		x	x	x					
229	11	20	25.40	18x5	90%	16				x		x	x	x				x	
35	13	5	7.62	6x6	25%	17				x			x	x				x	chorus frog tadpole, snail
212	11	20	30.48	37x5	95%	18				x		x	x	x	x	x	x	x	chorus frog tadpole, snail
34	11	18	25.40	24x6	90%	19				x		x	x			x			
49	12	3	5.08	2x2	90%	20				x			x	x	x				

Appendix C Invertebrate Sampling Data

Project Site: Rocklin Open Space | Date: February 28, 2019 | Quad: Roseville & Rocklin
County: Placer | Time: 7:45 AM - 2:45 PM | Township: 11 North
Collectors: Marisa Brilts | Temp: 7 to 11 ºC | Range: 6E
Permit #: TE-810380-6 | Weather: Overcast, slight rain | Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (cm)	Present Surface Area (mxm)	Inundation (%)	Photo #	Crustacea: Anostraca: Vernal Pool Fairy Shrimp (B. lynchi)	Crustacea: Anostraca: California Linderiella	Crustacea: Notostraca: Vernal Pool Tadpole Shrimp	Crustacea: Cladocera (Water Fleas)	Crustacea: Conchostraca (Clam Shrimps)	Crustacea: Copepoda (Copepods)	Crustacea: Ostracoda (Seed Shrimp)	Turbellaria Flatworms	Insecta: Coleoptera: Dytiscidae (Diving Water Beetles)	Insecta: Coleoptera: Haliplidae (Crawling Water Beetles)	Insecta: Hemiptera: Notonectidae (Backswimmers)	Insecta: Diptera: Chironomidae (Midge)	Notes
Orchard Creek (OC-1)																			
68	10	15	20.32	11x8	100%	1				x		x	x	x	x	x	x	x	chorus frog tadpole, snail
2	10	28	50.80	3x3	100%	2				x		x	x	x		x		x	chorus frog tadpole, snail
1	11	13	27.94	5x2	100%	3				x		x	x	x					chorus frog tadpole, snail
63	11	28	33.02	5x2	100%	4				x		x		x				x	chorus frog tadpole, snail
Stanford Ranch (SR-20)																			
15	11	10	17.78	6x6	100%	5				x			x	x	x				chorus frog tadpole, snail
256	11	13	17.78	6x8	100%	6				x			x	x	x		x		chorus frog tadpole, snail
Sunset West (SW-2)																			
55	11	15	30.48	6x6	100%	8				x				x					
131	11			5x5	100%	9				x				x					
Sunset West (SW-3)																			
58	11	18	22.86	5x5	90%	10							x	x				x	
57	11	15	25.40	6x5	80%	11				x		x	x	x			x	x	
119	11	10	15.24	12x12	80%	10				x		x	x	x		x			
118	11	15	25.40	12x12	80%	12				x		x	x	x	x	x	x	x	
Stanford Ranch (SR-8)																			
305	11	20	30.48	15x9	95%	13				x		x	x	x				x	
33	11	15	25.40	21x4	100%	14				x		x	x	x					
18	12	8	10.16	4x3	95%	15						x		x					
146	11	10	12.70	4x3	80%	16								x					
19	11	10	12.70	6x3	90%	17								x				x	
20	12	10	12.70	5x3	85%	18								x					
27	12	3	7.62	2x2	80%	19								x					
281	12	3	10.16	3x3	75%	20							x	x				x	
153	11	10	15.24	9x2	100%	21						x	x	x					
165	11	25	50.80	6x6	100%	22							x	x					
31	11	8	10.16	3x2	75%	23				x			x	x					
30	11	30	40.64	5x5	100%	24				x		x	x	x	x	x	x	x	chorus frog tadpole, snail
291	11	8	15.24	5x2	100%	25							x	x					
292	11	8	15.24	5x2	100%	26							x	x					
21	11	3	5.00	4x6	90%	27				x			x	x					chorus frog tadpole
280	11	3	5.00	5x5	90%	28				x			x	x					
Sunset West (SW-4)																			
60	11	20	30.48	6x3	95%	29				x		x	x	x					chorus frog tadpole
Placer Creek Corporate Center (PCCC 2 and 5)																			

Appendix C Invertebrate Sampling Data

Project Site:	Rocklin Open Space	Date:	February 28, 2019	Quad:	Roseville & Rocklin
County:	Placer	Time:	7:45 AM - 2:45 PM	Township:	11 North
Collectors:	Marisa Brilts	Temp:	7 to 11 ºC	Range:	6E
Permit #:	TE-810380-6	Weather:	Overcast, slight rain	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 Flatworms	Insecta				Notes
							Anostraca		Notostraca						Coleoptera		Hemiptera	Diptera	
							Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Cladocera (Water Fleas)	Conchostraca (Clam Shrimps)	Copepoda (Copepods)	Ostracoda (Seed Shrimp)		Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
315	11	3	5.00	4x6	90%	30				x			x	x					chorus frog tadpole
318	11	3	5.00	5x5	90%	31				x			x	x					

Appendix C Invertebrate Sampling Data

Project Site:	Rocklin Open Space	Date:	March 13, 2019	Quad:	Roseville & Rocklin
County:	Placer	Time:	8:30 AM - 10:45 AM	Township:	11 North
Collectors:	Marisa Brilts	Temp:	23 ºC	Range:	6E
Permit #:	TE-810380-6	Weahter:	Sunny afnd windy at ~ 3mph	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 Flatworms	Insecta				Notes
							Anostraca		Notostraca						Coleoptera		Hemiptera	Diptera	
							Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Cladocera (Water Fleas)	Conchostraca (Clam Shrimps)	Copepoda (Copepods)	Ostracoda (Seed Shrimp)		Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
Placer Creek Corparate Center (PCCC- 2 and 5)																			
315	21	1	2.54	1x1	2%	1								x					
318	NS					2													

Appendix D

Vernal Pool Floristic Datasheets

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Appendix D 2019 Plant Species Frequency for Rocklin - Orchard Creek

Species	Frequency
Crassula aquatica	25.00%
Downingia bicornuta	25.00%
Downingia ornatissima	50.00%
Eleocharis macrostachya	75.00%
Eryngium vaseyi	100.00%
Gratiola ebracteata	25.00%
Lasthenia californica	25.00%
Lasthenia fremontii	25.00%
Lythrum hyssopifolia	100.00%
Pilularia americana	75.00%
Plagiobothrys stipitatus	100.00%
Psilocarphus brevissimus	25.00%
Ranunculus bonariensis	100.00%
Trifolium depauperatum	25.00%
Triteleia hyacinthina	25.00%

2019 Monitoring Summary for Rocklin - Orchard Creek

Wetland	Cover	PI	CVVP Species		CVVP Cover	Species Richness	Native Species	Non-Native Species	Non-Native Cover
VP-001	75%	1.01	6	85.71%	99.42%	7	6	1	0.58%
VP-002	98%	1.01	4	80.00%	99.46%	5	4	1	0.54%
VP-063	50%	1.18	5	71.43%	91.24%	7	6	1	4.38%
VP-068	85%	1.12	11	84.62%	96.65%	13	11	2	3.35%

Wetland: VP-001

Species	Cover Class
Downingia bicornuta	1
Eleocharis macrostachya	3
Eryngium vaseyi	0
Lythrum hyssopifolia	0
Pilularia americana	1
Plagiobothrys stipitatus	1
Ranunculus bonariensis	3

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.01
CRAM RIchness:	6
CRAM Cover:	99.42%
% CVVP Species:	85.71%
CVVP Cover:	99.42%
Species Richness:	7
Native Species:	6
Non-Native Species:	1
Non-Native Cover:	0.58%

Wetland: VP-002

Species	Cover Class
Eleocharis macrostachya	3
Eryngium vaseyi	0
Lythrum hyssopifolia	0
Plagiobothrys stipitatus	2
Ranunculus bonariensis	3

Statistics	
Vegetative Cover:	98%
Prevalence Index:	1.01
CRAM RIchness:	4
CRAM Cover:	99.46%
% CVVP Species:	80.00%
CVVP Cover:	99.46%
Species Richness:	5
Native Species:	4
Non-Native Species:	1
Non-Native Cover:	0.54%

Wetland: VP-063

Species	Cover Class
Downingia ornatissima	1
Eryngium vaseyi	1
Lythrum hyssopifolia	1
Pilularia americana	1
Plagiobothrys stipitatus	2
Ranunculus bonariensis	3
Trifolium depauperatum	1

Statistics	
Vegetative Cover:	50%
Prevalence Index:	1.18
CRAM RIchness:	5
CRAM Cover:	91.24%
% CVVP Species:	71.43%
CVVP Cover:	91.24%
Species Richness:	7
Native Species:	6
Non-Native Species:	1
Non-Native Cover:	4.38%

Wetland: VP-068

Species	Cover Class
Crassula aquatica	1
Downingia ornatissima	0
Eleocharis macrostachya	1
Eryngium vaseyi	1
Gratiola ebracteata	1
Lasthenia californica	1
Lasthenia fremontii	1
Lythrum hyssopifolia	0
Pilularia americana	2
Plagiobothrys stipitatus	4
Psilocarphus brevissimus	1
Ranunculus bonariensis	1
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	85%
Prevalence Index:	1.12
CRAM RIchness:	10
CRAM Cover:	96.17%
% CVVP Species:	84.62%
CVVP Cover:	96.65%
Species Richness:	13
Native Species:	11
Non-Native Species:	2
Non-Native Cover:	3.35%

Appendix D 2019 Plant Species Frequency for Rocklin - Placer Creek Corporate Center

Species	Frequency
Alopecurus saccatus	50.00%
Briza minor	50.00%
Brodiaea elegans	50.00%
Croton setiger	50.00%
Eleocharis macrostachya	100.00%
Elymus caput-medusae	50.00%
Eryngium vaseyi	50.00%
Festuca perennis	100.00%
Holocarpha virgata	50.00%
Lasthenia fremontii	50.00%
Leontodon saxatilis	50.00%
Plagiobothrys stipitatus	50.00%
Pogogyne zizyphoroides	50.00%
Psilocarphus brevissimus	50.00%
Rumex crispus	50.00%

2019 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-315	95%	2.06	6	50.00%	80.66%	12	9	3	3.77%
VP-318	90%	1.12	2	40.00%	94.12%	5	2	3	5.88%

Wetland: VP-315

Species	Cover Class
Briza minor	0
Brodiaea elegans	0
Croton setiger	2
Eleocharis macrostachya	3
Elymus caput-medusae	0
Eryngium vaseyi	3
Festuca perennis	1
Holocarpha virgata	0
Lasthenia fremontii	1
Plagiobothrys stipitatus	1
Pogogyne zizyphoroides	0
Psilocarphus brevissimus	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	2.06
CRAM RIchness:	6
CRAM Cover:	80.66%
% CVVP Species:	50.00%
CVVP Cover:	80.66%
Species Richness:	12
Native Species:	9
Non-Native Species:	3
Non-Native Cover:	3.77%

Wetland: VP-318

Species	Cover Class
Alopecurus saccatus	0
Eleocharis macrostachya	4
Festuca perennis	1
Leontodon saxatilis	0
Rumex crispus	0

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.12
CRAM RIchness:	2
CRAM Cover:	94.12%
% CVVP Species:	40.00%
CVVP Cover:	94.12%
Species Richness:	5
Native Species:	2
Non-Native Species:	3
Non-Native Cover:	5.88%

Appendix D 2019 Plant Species Frequency for Rocklin - Stanford Ranch

Species	Frequency
Aira caryophyllea	20.00%
Alopecurus saccatus	8.00%
Briza minor	28.00%
Brodiaea elegans	12.00%
Brodiaea minor	16.00%
Bromus hordeaceus	4.00%
Convolvulus arvensis	24.00%
Crassula aquatica	8.00%
Croton setiger	4.00%
Deschampsia danthonioides	4.00%
Downingia bicornuta	20.00%
Downingia ornatissima	16.00%
Downingia sp.	4.00%
Eleocharis macrostachya	52.00%
Elymus caput-medusae	12.00%
Eryngium vaseyi	88.00%
Festuca bromoides	12.00%
Festuca perennis	48.00%
Hordeum marinum	32.00%
Juncus sp.	20.00%
Lasthenia fremontii	52.00%
Lasthenia glaberrima	12.00%
Layia fremontii	8.00%
Leontodon saxatilis	48.00%
Lupinus bicolor	4.00%
Lythrum hyssopifolia	44.00%
Navarretia intertexta	4.00%
Navarretia leucocephala	28.00%
Pilularia americana	8.00%
Plagiobothrys stipitatus	56.00%
Plantago elongata	4.00%
Pogogyne zizyphoroides	4.00%
Polypogon monspeliensis	4.00%
Populus fremontii	4.00%
Psilocarphus brevissimus	36.00%
Ranunculus bonariensis	28.00%

Rumex crispus	20.00%
Rumex pulcher	16.00%
Trifolium depauperatum	4.00%
Trifolium variegatum	4.00%
Triteleia hyacinthina	28.00%
Typha sp.	4.00%
Veronica peregrina	4.00%

2019 Monitoring Summary for Rocklin - Stanford Ranch

Wetland	Cover	PI	CVVP Species		CVVP Cover	Species Richness	Native Species	Non-Native Species	Non-Native Cover
VP-005	80%	1.30	9	60.00%	91.40%	15	9	6	8.60%
VP-010	95%	1.65	6	50.00%	88.55%	12	9	3	5.73%
VP-011	85%	1.04	9	81.82%	96.39%	11	10	1	1.81%
VP-012	95%	1.27	7	58.33%	87.26%	12	8	4	12.10%
VP-015	15%	1.16	6	60.00%	92.43%	10	6	4	7.57%
VP-019	80%	2.96	0	0.00%	0.00%	5	1	4	88.00%
VP-020	25%	1.77	4	66.67%	77.30%	6	4	2	22.70%
VP-021	90%	1.47	3	50.00%	86.26%	6	4	2	9.16%
VP-027	65%	3.71	1	14.29%	5.36%	7	2	5	89.29%
VP-030	90%	1.75	3	33.33%	92.62%	9	4	5	6.71%
VP-031	80%	2.18	3	75.00%	81.66%	4	4	0	0.00%
VP-033	85%	1.78	4	44.44%	63.09%	9	4	5	36.91%
VP-041	80%	1.07	7	63.64%	92.51%	11	8	3	4.28%
VP-138	85%	2.98	3	37.50%	13.98%	8	3	5	86.02%
VP-153	90%	3.34	2	28.57%	46.33%	7	3	4	50.28%
VP-165	75%	1.36	2	50.00%	68.91%	4	2	2	31.09%
VP-190	90%	1.63	7	77.78%	92.55%	9	9	0	0.00%
VP-193	70%	1.19	6	75.00%	97.30%	8	6	2	2.70%
VP-196	90%	1.26	9	60.00%	95.32%	15	10	5	4.26%
VP-256	80%	1.79	9	75.00%	79.12%	12	11	1	3.30%
VP-280	75%	1.94	3	60.00%	88.00%	5	3	2	12.00%
VP-281	50%	3.00	1	14.29%	14.29%	7	2	5	71.43%
VP-291	90%	1.69	4	66.67%	79.56%	6	4	2	20.44%
VP-292	90%	2.02	4	44.44%	90.38%	9	5	4	8.65%
VP-305	60%	1.58	3	42.86%	86.81%	7	5	2	6.59%

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Wetland: VP-005

Species	Cover Class
Briza minor	0
Convolvulus arvensis	1
Downingia bicornuta	0
Eleocharis macrostachya	4
Eryngium vaseyi	1
Festuca perennis	1
Lasthenia fremontii	1
Lasthenia glaberrima	1
Leontodon saxatilis	0
Plagiobothrys stipitatus	1
Psilocarphus brevissimus	1
Ranunculus bonariensis	1
Rumex crispus	0
Rumex pulcher	0
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	80%
Prevalence Index:	1.30
CRAM RIchness:	8
CRAM Cover:	88.17%
% CVVP Species:	60.00%
CVVP Cover:	91.40%
Species Richness:	15
Native Species:	9
Non-Native Species:	6
Non-Native Cover:	8.60%

Wetland: VP-010

Species	Cover Class
Aira caryophyllea	1
Brodiaea elegans	1
Eryngium vaseyi	3
Festuca perennis	1
Hordeum marinum	0
Lasthenia fremontii	1
Lupinus bicolor	0
Navarretia intertexta	1
Navarretia leucocephala	3
Psilocarphus brevissimus	2
Trifolium variegatum	1
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.65
CRAM RIchness:	5
CRAM Cover:	85.90%
% CVVP Species:	50.00%
CVVP Cover:	88.55%
Species Richness:	12
Native Species:	9
Non-Native Species:	3
Non-Native Cover:	5.73%

Wetland: VP-011

Species	Cover Class
Crassula aquatica	1
Downingia ornatissima	3
Eleocharis macrostachya	2
Eryngium vaseyi	1
Lasthenia fremontii	1
Lythrum hyssopifolia	1
Navarretia leucocephala	2
Plagiobothrys stipitatus	4
Psilocarphus brevissimus	2
Ranunculus bonariensis	1
Veronica peregrina	1

Statistics	
Vegetative Cover:	85%
Prevalence Index:	1.04
CRAM RIchness:	10
CRAM Cover:	98.19%
% CVVP Species:	81.82%
CVVP Cover:	96.39%
Species Richness:	11
Native Species:	10
Non-Native Species:	1
Non-Native Cover:	1.81%

Wetland: VP-012

Species	Cover Class
Alopecurus saccatus	1
Brodiaea elegans	0
Downingia bicornuta	1
Eleocharis macrostachya	3
Eryngium vaseyi	1
Hordeum marinum	1
Lasthenia fremontii	2
Leontodon saxatilis	0
Lythrum hyssopifolia	1
Ranunculus bonariensis	1
Rumex crispus	1
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.27
CRAM RIchness:	6
CRAM Cover:	83.44%
% CVVP Species:	58.33%
CVVP Cover:	87.26%
Species Richness:	12
Native Species:	8
Non-Native Species:	4
Non-Native Cover:	12.10%

Wetland: VP-015

Species	Cover Class
Briza minor	1
Downingia ornatissima	1
Eleocharis macrostachya	3
Eryngium vaseyi	1
Festuca perennis	1
Hordeum marinum	0
Lasthenia fremontii	3
Leontodon saxatilis	0
Ranunculus bonariensis	1
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	15%
Prevalence Index:	1.16
CRAM RIchness:	5
CRAM Cover:	91.89%
% CVVP Species:	60.00%
CVVP Cover:	92.43%
Species Richness:	10
Native Species:	6
Non-Native Species:	4
Non-Native Cover:	7.57%

Wetland: VP-019

Species	Cover Class
Briza minor	0
Brodiaea minor	1
Elymus caput-medusae	1
Leontodon saxatilis	1
Lythrum hyssopifolia	2

Statistics	
Vegetative Cover:	80%
Prevalence Index:	2.96
CRAM RIchness:	1
CRAM Cover:	12.00%
% CVVP Species:	0.00%
CVVP Cover:	0.00%
Species Richness:	5
Native Species:	1
Non-Native Species:	4
Non-Native Cover:	88.00%

Wetland: VP-020

Species	Cover Class
Briza minor	0
Deschampsia danthonioides	0
Eryngium vaseyi	3
Festuca bromoides	2
Lasthenia fremontii	2
Plagiobothrys stipitatus	0

Statistics	
Vegetative Cover:	25%
Prevalence Index:	1.77
CRAM RIchness:	4
CRAM Cover:	77.30%
% CVVP Species:	66.67%
CVVP Cover:	77.30%
Species Richness:	6
Native Species:	4
Non-Native Species:	2
Non-Native Cover:	22.70%

Wetland: VP-021

Species	Cover Class
Eleocharis macrostachya	3
Eryngium vaseyi	2
Juncus sp.	1
Leontodon saxatilis	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	1

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.47
CRAM RIchness:	3
CRAM Cover:	86.26%
% CVVP Species:	50.00%
CVVP Cover:	86.26%
Species Richness:	6
Native Species:	4
Non-Native Species:	2
Non-Native Cover:	9.16%

Wetland: VP-027

Species	Cover Class
Elymus caput-medusae	2
Festuca perennis	2
Hordeum marinum	1
Lasthenia fremontii	1
Leontodon saxatilis	2
Polypogon monspeliensis	0
Trifolium depauperatum	1

Statistics	
Vegetative Cover:	65%
Prevalence Index:	3.71
CRAM RIchness:	1
CRAM Cover:	5.36%
% CVVP Species:	14.29%
CVVP Cover:	5.36%
Species Richness:	7
Native Species:	2
Non-Native Species:	5
Non-Native Cover:	89.29%

Wetland: VP-030

Species	Cover Class
Aira caryophyllea	0
Briza minor	0
Brodiaea minor	0
Convolvulus arvensis	1
Eleocharis macrostachya	2
Eryngium vaseyi	3
Festuca perennis	0
Lythrum hyssopifolia	0
Plagiobothrys stipitatus	2

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.75
CRAM RIchness:	4
CRAM Cover:	93.29%
% CVVP Species:	33.33%
CVVP Cover:	92.62%
Species Richness:	9
Native Species:	4
Non-Native Species:	5
Non-Native Cover:	6.71%

Wetland: VP-031

Species	Cover Class
Downingia sp.	2
Eryngium vaseyi	3
Layia fremontii	2
Psilocarphus brevissimus	2

Statistics	
Vegetative Cover:	80%
Prevalence Index:	2.18
CRAM RIchness:	2
CRAM Cover:	63.31%
% CVVP Species:	75.00%
CVVP Cover:	81.66%
Species Richness:	4
Native Species:	4
Non-Native Species:	0
Non-Native Cover:	0.00%

Wetland: VP-033

Species	Cover Class
Convolvulus arvensis	1
Eleocharis macrostachya	3
Eryngium vaseyi	1
Festuca perennis	2
Lasthenia fremontii	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	1
Rumex crispus	1
Rumex pulcher	1

Statistics	
Vegetative Cover:	85%
Prevalence Index:	1.78
CRAM RIchness:	4
CRAM Cover:	63.09%
% CVVP Species:	44.44%
CVVP Cover:	63.09%
Species Richness:	9
Native Species:	4
Non-Native Species:	5
Non-Native Cover:	36.91%

Wetland: VP-041

Species	Cover Class
Briza minor	0
Convolvulus arvensis	0
Downingia ornatissima	0
Eleocharis macrostachya	4
Eryngium vaseyi	0
Lasthenia glaberrima	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	2
Ranunculus bonariensis	1
Triteleia hyacinthina	0
Typha sp.	1

Statistics	
Vegetative Cover:	80%
Prevalence Index:	1.07
CRAM RIchness:	6
CRAM Cover:	91.98%
% CVVP Species:	63.64%
CVVP Cover:	92.51%
Species Richness:	11
Native Species:	8
Non-Native Species:	3
Non-Native Cover:	4.28%

Wetland: VP-138

Species	Cover Class
Convolvulus arvensis	1
Eryngium vaseyi	1
Festuca perennis	1
Hordeum marinum	2
Leontodon saxatilis	1
Plagiobothrys stipitatus	0
Pogogyne zizyphoroides	1
Rumex pulcher	2

Statistics	
Vegetative Cover:	85%
Prevalence Index:	2.98
CRAM RIchness:	3
CRAM Cover:	13.98%
% CVVP Species:	37.50%
CVVP Cover:	13.98%
Species Richness:	8
Native Species:	3
Non-Native Species:	5
Non-Native Cover:	86.02%

Wetland: VP-153

Species	Cover Class
Aira caryophyllea	0
Elymus caput-medusae	3
Eryngium vaseyi	3
Festuca perennis	1
Hordeum marinum	1
Juncus sp.	1
Plagiobothrys stipitatus	1

Statistics	
Vegetative Cover:	90%
Prevalence Index:	3.34
CRAM RIchness:	2
CRAM Cover:	46.33%
% CVVP Species:	28.57%
CVVP Cover:	46.33%
Species Richness:	7
Native Species:	3
Non-Native Species:	4
Non-Native Cover:	50.28%

Wetland: VP-165

Species	Cover Class
Festuca bromoides	1
Lythrum hyssopifolia	2
Plantago elongata	1
Psilocarphus brevissimus	3

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.36
CRAM RIchness:	2
CRAM Cover:	68.91%
% CVVP Species:	50.00%
CVVP Cover:	68.91%
Species Richness:	4
Native Species:	2
Non-Native Species:	2
Non-Native Cover:	31.09%

Wetland: VP-190

Species	Cover Class
Alopecurus saccatus	0
Brodiaea minor	1
Croton setiger	0
Downingia ornatissima	1
Eryngium vaseyi	2
Lasthenia fremontii	1
Navarretia leucocephala	1
Pilularia americana	1
Psilocarphus brevissimus	2

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.63
CRAM RIchness:	8
CRAM Cover:	98.94%
% CVVP Species:	77.78%
CVVP Cover:	92.55%
Species Richness:	9
Native Species:	9
Non-Native Species:	0
Non-Native Cover:	0.00%

Wetland: VP-193

Species	Cover Class
Downingia bicornuta	1
Eleocharis macrostachya	3
Eryngium vaseyi	2
Lasthenia fremontii	1
Leontodon saxatilis	1
Lythrum hyssopifolia	0
Navarretia leucocephala	1
Psilocarphus brevissimus	4

Statistics	
Vegetative Cover:	70%
Prevalence Index:	1.19
CRAM RIchness:	6
CRAM Cover:	97.30%
% CVVP Species:	75.00%
CVVP Cover:	97.30%
Species Richness:	8
Native Species:	6
Non-Native Species:	2
Non-Native Cover:	2.70%

Wetland: VP-196

Species	Cover Class
Aira caryophyllea	0
Brodiaea elegans	0
Downingia bicornuta	1
Eleocharis macrostachya	2
Eryngium vaseyi	2
Festuca perennis	0
Hordeum marinum	1
Lasthenia fremontii	2
Leontodon saxatilis	0
Navarretia leucocephala	3
Plagiobothrys stipitatus	1
Psilocarphus brevissimus	2
Ranunculus bonariensis	1
Rumex crispus	0
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.26
CRAM RIchness:	8
CRAM Cover:	92.77%
% CVVP Species:	60.00%
CVVP Cover:	95.32%
Species Richness:	15
Native Species:	10
Non-Native Species:	5
Non-Native Cover:	4.26%

Wetland: VP-256

Species	Cover Class
Crassula aquatica	1
Downingia bicornuta	1
Eleocharis macrostachya	3
Eryngium vaseyi	1
Festuca perennis	1
Juncus sp.	0
Lasthenia glaberrima	2
Layia fremontii Pilularia	2
americana	1
Plagiobothrys stipitatus	1
Ranunculus bonariensis	1
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	80%
Prevalence Index:	1.79
CRAM RIchness:	8
CRAM Cover:	78.57%
% CVVP Species:	75.00%
CVVP Cover:	79.12%
Species Richness:	12
Native Species:	11
Non-Native Species:	1
Non-Native Cover:	3.30%

Wetland: VP-280

Species	Cover Class
Eryngium vaseyi	3
Festuca perennis	1
Lythrum hyssopifolia	1
Navarretia leucocephala	1
Plagiobothrys stipitatus	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.94
CRAM RIchness:	3
CRAM Cover:	88.00%
% CVVP Species:	60.00%
CVVP Cover:	88.00%
Species Richness:	5
Native Species:	3
Non-Native Species:	2
Non-Native Cover:	12.00%

Wetland: VP-281

Species	Cover Class
Briza minor	1
Brodiaea minor	1
Eryngium vaseyi	1
Festuca bromoides	1
Festuca perennis	1
Hordeum marinum	1
Leontodon saxatilis	1

Statistics	
Vegetative Cover:	50%
Prevalence Index:	3.00
CRAM RIchness:	2
CRAM Cover:	28.57%
% CVVP Species:	14.29%
CVVP Cover:	14.29%
Species Richness:	7
Native Species:	2
Non-Native Species:	5
Non-Native Cover:	71.43%

Wetland: VP-291

Species	Cover Class
Eryngium vaseyi	3
Lasthenia fremontii	2
Leontodon saxatilis	1
Lythrum hyssopifolia	2
Navarretia leucocephala	1
Plagiobothrys stipitatus	2

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.69
CRAM RIchness:	4
CRAM Cover:	79.56%
% CVVP Species:	66.67%
CVVP Cover:	79.56%
Species Richness:	6
Native Species:	4
Non-Native Species:	2
Non-Native Cover:	20.44%

Wetland: VP-292

Species	Cover Class
Aira caryophyllea	0
Bromus hordeaceus	0
Convolvulus arvensis	0
Eleocharis macrostachya	1
Eryngium vaseyi	3
Juncus sp.	0
Leontodon saxatilis	1
Plagiobothrys stipitatus	1
Psilocarphus brevissimus	1

Statistics	
Vegetative Cover:	90%
Prevalence Index:	2.02
CRAM RIchness:	4
CRAM Cover:	90.38%
% CVVP Species:	44.44%
CVVP Cover:	90.38%
Species Richness:	9
Native Species:	5
Non-Native Species:	4
Non-Native Cover:	8.65%

Wetland: VP-305

Species	Cover Class
Eleocharis macrostachya	3
Eryngium vaseyi	3
Juncus sp.	1
Lasthenia fremontii	1
Populus fremontii	1
Rumex crispus	1
Rumex pulcher	1

Statistics	
Vegetative Cover:	60%
Prevalence Index:	1.58
CRAM RIchness:	3
CRAM Cover:	86.81%
% CVVP Species:	42.86%
CVVP Cover:	86.81%
Species Richness:	7
Native Species:	5
Non-Native Species:	2
Non-Native Cover:	6.59%

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Appendix D 2019 Plant Species Frequency for Rocklin - Sunset West

Species	Frequency
Agoseris sp.	3.23%
Aira caryophyllea	12.90%
Alopecurus saccatus	6.45%
Briza minor	22.58%
Brodiaea minor	6.45%
Bromus hordeaceus	9.68%
Centaurea solstitialis	3.23%
Cicendia quadrangularis	3.23%
Convolvulus arvensis	9.68%
Crassula aquatica	19.35%
Croton setiger	12.90%
Cynosurus echinatus	6.45%
Downingia bicornuta	19.35%
Downingia cuspidata	3.23%
Downingia sp.	3.23%
Eleocharis macrostachya	90.32%
Elymus caput-medusae	12.90%
Eryngium vaseyi	90.32%
Festuca bromoides	6.45%
Festuca perennis	38.71%
Gratiola ebracteata	3.23%
Hordeum marinum	6.45%
Juncus bufonius	3.23%
Juncus sp.	3.23%
Lasthenia californica	12.90%
Lasthenia fremontii	48.39%
Lasthenia glaberrima	6.45%
Leontodon saxatilis	54.84%
Lupinus bicolor	3.23%
Lythrum hyssopifolia	41.94%
Mentha pulegium	3.23%
Navarretia leucocephala	16.13%
Pilularia americana	25.81%
Plagiobothrys stipitatus	67.74%
Pogogyne zizyphoroides	3.23%
Populus fremontii	3.23%

Psilocarphus brevissimus	29.03%
Ranunculus aquatilis	19.35%
Ranunculus bonariensis	16.13%
Rumex crispus	25.81%
Rumex pulcher	9.68%
Salix exigua	3.23%
Trifolium depauperatum	6.45%
Trifolium dubium	3.23%
Triteleia hyacinthina	22.58%

2019 Monitoring Summary for Rocklin - Sunset West

Wetland	Cover	PI	CVVP Species		CVVP Cover	Species Richness	Native Species	Non-Native Species	Non-Native Cover
VP-034	95%	2.40	3	42.86%	81.37%	7	3	4	18.63%
VP-035	85%	3.30	5	35.71%	28.09%	14	6	8	65.17%
VP-037	37%	1.99	9	64.29%	71.26%	14	10	4	10.92%
VP-038	95%	1.10	5	71.43%	94.83%	7	5	2	5.17%
VP-041	95%	1.25	8	66.67%	88.68%	12	8	4	11.32%
VP-042	95%	1.07	7	70.00%	96.68%	10	9	1	0.41%
VP-046	95%	1.53	10	83.33%	86.50%	12	10	2	13.50%
VP-047	60%	1.91	2	50.00%	84.58%	4	3	1	2.50%
VP-048	95%	1.37	2	33.33%	91.86%	6	2	4	8.14%
VP-049	15%	2.02	1	25.00%	95.63%	4	1	3	4.37%
VP-055	90%	1.47	3	50.00%	93.37%	6	4	2	6.12%
VP-057	87%	1.20	4	66.67%	93.41%	6	5	1	3.30%
VP-058	95%	1.14	6	75.00%	86.32%	8	7	1	0.43%
VP-060	60%	1.21	7	70.00%	93.19%	10	8	2	3.66%
VP-062	95%	1.48	5	50.00%	92.68%	10	6	4	6.83%
VP-075	95%	1.71	4	50.00%	79.44%	8	4	4	20.56%
VP-076	98%	1.13	5	62.50%	96.43%	8	6	2	3.13%
VP-080	95%	1.62	8	72.73%	81.86%	11	8	3	18.14%
VP-102	50%	1.27	4	80.00%	97.01%	5	5	0	0.00%
VP-105	90%	3.13	3	33.33%	34.00%	9	3	6	66.00%
VP-107	75%	1.64	2	25.00%	93.25%	8	3	5	6.13%
VP-118	75%	1.09	2	66.67%	95.68%	3	2	1	4.32%
VP-119	80%	1.40	5	55.56%	94.51%	9	8	1	2.35%
VP-131	90%	1.34	5	62.50%	95.53%	8	6	2	3.91%
VP-212	75%	1.78	4	33.33%	80.95%	12	5	7	14.97%
VP-216	98%	1.38	2	40.00%	75.57%	5	2	3	24.43%
VP-229	95%	1.42	5	83.33%	94.83%	6	5	1	5.17%
VP-242	75%	1.29	3	60.00%	95.91%	5	3	2	4.09%
VP-248	95%	1.12	7	58.33%	95.88%	12	9	3	3.29%
VP-249	45%	1.09	4	66.67%	90.84%	6	5	1	4.58%
VP-262	75%	1.21	6	66.67%	89.66%	9	7	2	6.90%

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Wetland: VP-034

Species	Cover Class
Aira caryophyllea	1
Briza minor	0
Elymus caput-medusae	1
Eryngium vaseyi	3
Lasthenia fremontii	1
Leontodon saxatilis	1
Plagiobothrys stipitatus	0

Statistics	
Vegetative Cover:	95%
Prevalence Index:	2.40
CRAM RIchness:	3
CRAM Cover:	81.37%
% CVVP Species:	42.86%
CVVP Cover:	81.37%
Species Richness:	7
Native Species:	3
Non-Native Species:	4
Non-Native Cover:	18.63%

Wetland: VP-035

Species	Cover Class
Aira caryophyllea	2
Alopecurus saccatus	1
Briza minor	0
Convolvulus arvensis	0
Croton setiger	1
Eleocharis macrostachya	1
Elymus caput-medusae	0
Eryngium vaseyi	1
Festuca perennis	1
Lasthenia fremontii	0
Leontodon saxatilis	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	1
Rumex crispus	1

Statistics	
Vegetative Cover:	85%
Prevalence Index:	3.30
CRAM RIchness:	5
CRAM Cover:	28.09%
% CVVP Species:	35.71%
CVVP Cover:	28.09%
Species Richness:	14
Native Species:	6
Non-Native Species:	8
Non-Native Cover:	65.17%

Wetland: VP-037

Species	Cover Class
Agoseris sp.	2
Briza minor	0
Crassula aquatica	1
Downingia bicornuta	1
Eleocharis macrostachya	1
Eryngium vaseyi	1
Hordeum marinum	1
Lasthenia fremontii	3
Leontodon saxatilis	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	1
Psilocarphus brevissimus	1
Ranunculus bonariensis	1
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	37%
Prevalence Index:	1.99
CRAM RIchness:	8
CRAM Cover:	67.82%
% CVVP Species:	64.29%
CVVP Cover:	71.26%
Species Richness:	14
Native Species:	10
Non-Native Species:	4
Non-Native Cover:	10.92%

Wetland: VP-038

Species	Cover Class
Eleocharis macrostachya	2
Eryngium vaseyi	1
Festuca perennis	1
Lasthenia glaberrima	3
Plagiobothrys stipitatus	2
Ranunculus bonariensis	3
Rumex crispus	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.10
CRAM RIchness:	5
CRAM Cover:	94.83%
% CVVP Species:	71.43%
CVVP Cover:	94.83%
Species Richness:	7
Native Species:	5
Non-Native Species:	2
Non-Native Cover:	5.17%

Wetland: VP-041

Species	Cover Class
Briza minor	1
Downingia bicornuta	1
Eleocharis macrostachya	3
Eryngium vaseyi	1
Lasthenia californica	1
Lasthenia fremontii	1
Leontodon saxatilis	1
Lythrum hyssopifolia	1
Navarretia leucocephala	1
Pilularia americana	1
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.25
CRAM RIchness:	8
CRAM Cover:	88.68%
% CVVP Species:	66.67%
CVVP Cover:	88.68%
Species Richness:	12
Native Species:	8
Non-Native Species:	4
Non-Native Cover:	11.32%

Wetland: VP-042

Species	Cover Class
Cicendia quadrangularis	1
Crassula aquatica	1
Downingia bicornuta	1
Eleocharis macrostachya	4
Juncus bufonius	0
Lasthenia fremontii	1
Leontodon saxatilis	0
Pilularia americana	1
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.07
CRAM RIchness:	7
CRAM Cover:	96.68%
% CVVP Species:	70.00%
CVVP Cover:	96.68%
Species Richness:	10
Native Species:	9
Non-Native Species:	1
Non-Native Cover:	0.41%

Wetland: VP-046

Species	Cover Class
Downingia bicornuta	1
Downingia cuspidata	1
Eleocharis macrostachya	1
Eryngium vaseyi	2
Lasthenia californica	2
Lasthenia fremontii	2
Navarretia leucocephala	1
Pilularia americana	1
Plagiobothrys stipitatus	2
Psilocarphus brevissimus	1
Ranunculus bonariensis	3
Rumex crispus	0

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.53
CRAM RIchness:	10
CRAM Cover:	86.50%
% CVVP Species:	83.33%
CVVP Cover:	86.50%
Species Richness:	12
Native Species:	10
Non-Native Species:	2
Non-Native Cover:	13.50%

Wetland: VP-047

Species	Cover Class
Croton setiger	2
Eleocharis macrostachya	4
Eryngium vaseyi	3
Leontodon saxatilis	1

Statistics	
Vegetative Cover:	60%
Prevalence Index:	1.91
CRAM RIchness:	2
CRAM Cover:	84.58%
% CVVP Species:	50.00%
CVVP Cover:	84.58%
Species Richness:	4
Native Species:	3
Non-Native Species:	1
Non-Native Cover:	2.50%

Wetland: VP-048

Species	Cover Class
Briza minor	0
Eleocharis macrostachya	4
Eryngium vaseyi	2
Festuca bromoides	0
Festuca perennis	1
Leontodon saxatilis	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.37
CRAM RIchness:	2
CRAM Cover:	91.86%
% CVVP Species:	33.33%
CVVP Cover:	91.86%
Species Richness:	6
Native Species:	2
Non-Native Species:	4
Non-Native Cover:	8.14%

Wetland: VP-049

Species	Cover Class
Bromus hordeaceus	0
Eryngium vaseyi	5
Leontodon saxatilis	0
Lythrum hyssopifolia	1

Statistics	
Vegetative Cover:	15%
Prevalence Index:	2.02
CRAM RIchness:	1
CRAM Cover:	95.63%
% CVVP Species:	25.00%
CVVP Cover:	95.63%
Species Richness:	4
Native Species:	1
Non-Native Species:	3
Non-Native Cover:	4.37%

Wetland: VP-055

Species	Cover Class
Briza minor	1
Brodiaea minor	0
Eleocharis macrostachya	3
Eryngium vaseyi	3
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	2

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.47
CRAM RIchness:	4
CRAM Cover:	93.88%
% CVVP Species:	50.00%
CVVP Cover:	93.37%
Species Richness:	6
Native Species:	4
Non-Native Species:	2
Non-Native Cover:	6.12%

Wetland: VP-057

Species	Cover Class
Alopecurus saccatus	1
Eleocharis macrostachya	4
Eryngium vaseyi	2
Lythrum hyssopifolia	1
Pilularia americana	1
Ranunculus aquatilis	1

Statistics	
Vegetative Cover:	87%
Prevalence Index:	1.20
CRAM RIchness:	4
CRAM Cover:	93.41%
% CVVP Species:	66.67%
CVVP Cover:	93.41%
Species Richness:	6
Native Species:	5
Non-Native Species:	1
Non-Native Cover:	3.30%

Wetland: VP-058

Species	Cover Class
Eleocharis macrostachya	4
Eryngium vaseyi	2
Lasthenia fremontii	1
Pilularia americana	1
Psilocarphus brevissimus	2
Ranunculus aquatilis	2
Rumex crispus	0
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.14
CRAM RIchness:	5
CRAM Cover:	85.90%
% CVVP Species:	75.00%
CVVP Cover:	86.32%
Species Richness:	8
Native Species:	7
Non-Native Species:	1
Non-Native Cover:	0.43%

Wetland: VP-060

Species	Cover Class
Eleocharis macrostachya	4
Eryngium vaseyi Gratiola	2
ebracteata	1
Lasthenia californica	0
Lasthenia fremontii	0
Lythrum hyssopifolia	1
Pilularia americana	1
Plagiobothrys stipitatus	1
Ranunculus aquatilis	1
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	60%
Prevalence Index:	1.21
CRAM RIchness:	6
CRAM Cover:	92.67%
% CVVP Species:	70.00%
CVVP Cover:	93.19%
Species Richness:	10
Native Species:	8
Non-Native Species:	2
Non-Native Cover:	3.66%

Wetland: VP-062

Species	Cover Class
Crassula aquatica	2
Eleocharis macrostachya	0
Eryngium vaseyi	3
Festuca perennis	1
Lasthenia fremontii	3
Leontodon saxatilis	0
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	1
Ranunculus aquatilis	0
Rumex crispus	0

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.48
CRAM RIchness:	5
CRAM Cover:	92.68%
% CVVP Species:	50.00%
CVVP Cover:	92.68%
Species Richness:	10
Native Species:	6
Non-Native Species:	4
Non-Native Cover:	6.83%

Wetland: VP-075

Species	Cover Class
Aira caryophyllea	2
Convolvulus arvensis	0
Crassula aquatica	1
Eleocharis macrostachya	4
Eryngium vaseyi	1
Festuca perennis	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	2

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.71
CRAM RIchness:	4
CRAM Cover:	79.44%
% CVVP Species:	50.00%
CVVP Cover:	79.44%
Species Richness:	8
Native Species:	4
Non-Native Species:	4
Non-Native Cover:	20.56%

Wetland: VP-076

Species	Cover Class
Eleocharis macrostachya	4
Eryngium vaseyi	1
Festuca perennis	1
Lasthenia fremontii	3
Lupinus bicolor	0
Plagiobothrys stipitatus	0
Rumex crispus	0
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	98%
Prevalence Index:	1.13
CRAM RIchness:	4
CRAM Cover:	93.75%
% CVVP Species:	62.50%
CVVP Cover:	96.43%
Species Richness:	8
Native Species:	6
Non-Native Species:	2
Non-Native Cover:	3.13%

Wetland: VP-080

Species	Cover Class
Aira caryophyllea	1
Downingia bicornuta	4
Eleocharis macrostachya	1
Eryngium vaseyi	1
Lasthenia californica	2
Lasthenia fremontii	2
Leontodon saxatilis	1
Plagiobothrys stipitatus	1
Psilocarphus brevissimus	1
Ranunculus bonariensis	1
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.62
CRAM RIchness:	7
CRAM Cover:	79.32%
% CVVP Species:	72.73%
CVVP Cover:	81.86%
Species Richness:	11
Native Species:	8
Non-Native Species:	3
Non-Native Cover:	18.14%

Wetland: VP-102

Species	Cover Class
Croton setiger	1
Eleocharis macrostachya	4
Eryngium vaseyi	2
Lasthenia fremontii	2
Plagiobothrys stipitatus	1

Statistics	
Vegetative Cover:	50%
Prevalence Index:	1.27
CRAM RIchness:	4
CRAM Cover:	97.01%
% CVVP Species:	80.00%
CVVP Cover:	97.01%
Species Richness:	5
Native Species:	5
Non-Native Species:	0
Non-Native Cover:	0.00%

Wetland: VP-105

Species	Cover Class
Bromus hordeaceus	0
Eleocharis macrostachya	2
Elymus caput-medusae	0
Eryngium vaseyi	2
Festuca perennis	0
Hordeum marinum	0
Leontodon saxatilis	4
Navarretia leucocephala	1
Rumex pulcher	0

Statistics	
Vegetative Cover:	90%
Prevalence Index:	3.13
CRAM RIchness:	3
CRAM Cover:	34.00%
% CVVP Species:	33.33%
CVVP Cover:	34.00%
Species Richness:	9
Native Species:	3
Non-Native Species:	6
Non-Native Cover:	66.00%

Wetland: VP-107

Species	Cover Class
Briza minor	0
Brodiaea minor	0
Eleocharis macrostachya	3
Eryngium vaseyi	3
Festuca perennis	0
Leontodon saxatilis	1
Rumex crispus	0
Rumex pulcher	0

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.64
CRAM RIchness:	3
CRAM Cover:	93.87%
% CVVP Species:	25.00%
CVVP Cover:	93.25%
Species Richness:	8
Native Species:	3
Non-Native Species:	5
Non-Native Cover:	6.13%

Wetland: VP-118

Species	Cover Class
Downingia sp. Eleocharis	1
macrostachya	4
Festuca perennis	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.09
CRAM RIchness:	1
CRAM Cover:	91.37%
% CVVP Species:	66.67%
CVVP Cover:	95.68%
Species Richness:	3
Native Species:	2
Non-Native Species:	1
Non-Native Cover:	4.32%

Wetland: VP-119

Species	Cover Class
Eleocharis macrostachya	4
Eryngium vaseyi	3
Juncus sp.	1
Leontodon saxatilis	1
Plagiobothrys stipitatus	1
Populus fremontii	0
Psilocarphus brevissimus	2
Salix exigua	0
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	80%
Prevalence Index:	1.40
CRAM RIchness:	4
CRAM Cover:	94.12%
% CVVP Species:	55.56%
CVVP Cover:	94.51%
Species Richness:	9
Native Species:	8
Non-Native Species:	1
Non-Native Cover:	2.35%

Wetland: VP-131

Species	Cover Class
Convolvulus arvensis	0
Cynosurus echinatus	1
Eleocharis macrostachya	4
Eryngium vaseyi	2
Lasthenia glaberrima	1
Mentha pulegium	0
Plagiobothrys stipitatus	1
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.34
CRAM RIchness:	4
CRAM Cover:	94.97%
% CVVP Species:	62.50%
CVVP Cover:	95.53%
Species Richness:	8
Native Species:	6
Non-Native Species:	2
Non-Native Cover:	3.91%

Wetland: VP-212

Species	Cover Class
Bromus hordeaceus	0
Croton setiger	1
Cynosurus echinatus	1
Eleocharis macrostachya	3
Elymus caput-medusae	0
Eryngium vaseyi	2
Festuca perennis	0
Leontodon saxatilis	1
Lythrum hyssopifolia	1
Navarretia leucocephala	1
Pogogyne zizyphoroides	1
Trifolium dubium	0

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.78
CRAM RIchness:	4
CRAM Cover:	80.95%
% CVVP Species:	33.33%
CVVP Cover:	80.95%
Species Richness:	12
Native Species:	5
Non-Native Species:	7
Non-Native Cover:	14.97%

Wetland: VP-216

Species	Cover Class
Centaurea solstitialis	1
Lasthenia fremontii	4
Ranunculus bonariensis	1
Rumex crispus	2
Rumex pulcher	1

Statistics	
Vegetative Cover:	98%
Prevalence Index:	1.38
CRAM RIchness:	2
CRAM Cover:	75.57%
% CVVP Species:	40.00%
CVVP Cover:	75.57%
Species Richness:	5
Native Species:	2
Non-Native Species:	3
Non-Native Cover:	24.43%

Wetland: VP-229

Species	Cover Class
Eleocharis macrostachya	3
Eryngium vaseyi	2
Leontodon saxatilis	1
Navarretia leucocephala	0
Plagiobothrys stipitatus	0
Psilocarphus brevissimus	0

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.42
CRAM RIchness:	5
CRAM Cover:	94.83%
% CVVP Species:	83.33%
CVVP Cover:	94.83%
Species Richness:	6
Native Species:	5
Non-Native Species:	1
Non-Native Cover:	5.17%

Wetland: VP-242

Species	Cover Class
Eleocharis macrostachya	4
Eryngium vaseyi	2
Leontodon saxatilis	1
Lythrum hyssopifolia	0
Plagiobothrys stipitatus	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.29
CRAM RIchness:	3
CRAM Cover:	95.91%
% CVVP Species:	60.00%
CVVP Cover:	95.91%
Species Richness:	5
Native Species:	3
Non-Native Species:	2
Non-Native Cover:	4.09%

Wetland: VP-248

Species	Cover Class
Downingia bicornuta	0
Eleocharis macrostachya	1
Eryngium vaseyi	1
Festuca perennis	0
Lasthenia fremontii	2
Leontodon saxatilis	1
Lythrum hyssopifolia	0
Pilularia americana	4
Plagiobothrys stipitatus	2
Psilocarphus brevissimus	2
Ranunculus aquatilis	0
Trifolium depauperatum	0

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.12
CRAM RIchness:	7
CRAM Cover:	95.88%
% CVVP Species:	58.33%
CVVP Cover:	95.88%
Species Richness:	12
Native Species:	9
Non-Native Species:	3
Non-Native Cover:	3.29%

Wetland: VP-249

Species	Cover Class
Crassula aquatica	1
Eleocharis macrostachya	2
Eryngium vaseyi	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	3
Ranunculus aquatilis	1

Statistics	
Vegetative Cover:	45%
Prevalence Index:	1.09
CRAM RIchness:	4
CRAM Cover:	90.84%
% CVVP Species:	66.67%
CVVP Cover:	90.84%
Species Richness:	6
Native Species:	5
Non-Native Species:	1
Non-Native Cover:	4.58%

Wetland: VP-262

Species	Cover Class
Crassula aquatica	1
Eleocharis macrostachya	1
Eryngium vaseyi	1
Festuca bromoides	1
Festuca perennis	1
Lasthenia fremontii	3
Pilularia americana	2
Plagiobothrys stipitatus	2
Trifolium depauperatum	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.21
CRAM RIchness:	6
CRAM Cover:	89.66%
% CVVP Species:	66.67%
CVVP Cover:	89.66%
Species Richness:	9
Native Species:	7
Non-Native Species:	2
Non-Native Cover:	6.90%

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Appendix E

Tree Inventory

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Appendix E

Oak Tree Inventory - Garnet Creek

Tree #	Scientific Name	Common Name	# of Trunks	DBH (in.)	DLR	Height	Health	Structure	Vigor	Remove	Comments
1	*Quercus wislizeni*	Interior Live Oak	2	7, 5	18	32	Fair	Fair	Fair	No	codominant, poison oak, dieback, no tag
4	*Quercus lobata*	Valley Oak	1	35	30	50	Fair	Fair	Fair	No	dieback, no tag
6	*Quercus lobata*	Valley Oak	2	16, 11	25	45	Fair	Fair	Fair	No	dieback, no tag, blackberry
7	*Quercus lobata*	Valley Oak	1	7	13	35	Fair	Fair	Fair	No	dieback, blackberry, no tag
259	*Quercus lobata*	Valley Oak	1	14	28	40	Fair	Fair	Fair	No	lean, dieback
260	*Quercus lobata*	Valley Oak	1	16	25	40	Fair	Fair	Fair	No	dieback
262	*Quercus lobata*	Valley Oak	1	8	14	30	Fair	Fair	Fair	No	dieback
264	*Quercus lobata*	Valley Oak	1	8	17	32	Fair	Fair	Fair	No	lean, dieback
265	*Quercus lobata*	Valley Oak	1	7	15	34	Fair	Fair	Fair	No	lean, dieback
266	*Quercus lobata*	Valley Oak	1	8	13	30	Fair	Fair	Fair	No	dieback
268	*Quercus lobata*	Valley Oak	1	8	23	35	Fair	Fair	Fair	No	lean, dieback
269	*Quercus lobata*	Valley Oak	3	8, 4, 4	20	35	Fair	Fair	Fair	No	codominant, included bark, dieback
272	*Quercus lobata*	Valley Oak	1	9	20	35	Fair	Fair	Fair	No	dieback
296	*Quercus lobata*	Valley Oak	1	8	25	40	Fair	Fair	Fair	No	lean, dieback, poison oak
303	*Quercus wislizeni*	Interior Live Oak	3	9, 6, 5	17	30	Fair	Fair	Fair	No	codominant, included bark, lean, dieback
304	*Quercus lobata*	Valley Oak	2	13, 7	25	32	Fair	Fair	Fair-Good	No	codominant, included bark, lean, dieback
306	*Quercus lobata*	Valley Oak	1	8	15	40	Fair	Fair	Fair	No	dieback
311	*Quercus wislizeni*	Interior Live Oak	2	9, 9	17	35	Fair	Fair	Fair	No	codominant, dieback
312	*Quercus wislizeni*	Interior Live Oak	1	7	15	32	Fair	Fair	Fair	No	dieback, poison oak

314	*Quercus lobata*	Valley Oak	1	11	25	36	Fair	Fair	Fair	No	lean, dieback
315	*Quercus wislizeni*	Interior Live Oak	1	11	23	32	Fair	Fair	Fair	No	lean, dieback
316	*Quercus wislizeni*	Interior Live Oak	1	6	16	30	Fair	Fair	Fair	No	lean, dieback
318	*Quercus wislizeni*	Interior Live Oak	1	6	14	25	Fair	Fair	Fair	No	lean, dieback
319	*Quercus wislizeni*	Interior Live Oak	1	6	12	25	Fair	Fair	Poor-Fair	No	included bark, dieback
323	*Quercus wislizeni*	Interior Live Oak	3	7, 4, 3	14	26	Fair	Fair	Fair	No	codominant, included bark, dieback
324	*Quercus wislizeni*	Interior Live Oak	1	7	13	32	Fair	Fair	Fair	No	dieback
329	*Quercus wislizeni*	Interior Live Oak	1	6	14	25	Fair	Fair	Fair-Good	No	dieback
330	*Quercus wislizeni*	Interior Live Oak	1	7	12	26	Fair	Fair	Fair	No	lean, dieback
331	*Quercus wislizeni*	Interior Live Oak	5	6, 5, 4, 4	15	25	Fair	Fair	Fair	No	codominant, included bark, dieback
335	*Quercus lobata*	Valley Oak	1	7	12	25	Fair	Fair	Fair	No	dieback
336	*Quercus lobata*	Valley Oak	1	15	30	45	Fair	Fair	Fair	No	lean, dieback
337	*Quercus lobata*	Valley Oak	1	15	20	37	Fair	Fair	Fair	No	lean, dieback
341	*Quercus wislizeni*	Interior Live Oak	3	12, 9, 5	25	35	Fair	Fair	Fair	No	codominant, included bark, dieback, lean
342	*Quercus wislizeni*	Interior Live Oak	2	9, 3	16	30	Fair	Fair	Fair	No	codominant, included bark, dieback
343	*Quercus wislizeni*	Interior Live Oak	2	7, 5	17	30	Fair	Fair	Fair	No	codominant, included bark, dieback, poison oak
345	*Quercus lobata*	Valley Oak	1	11	15	35	Fair	Fair	Fair	No	dieback, pruning cuts
346	*Quercus wislizeni*	Interior Live Oak	1	7	14	26	Fair	Fair	Fair	No	lean, dieback
351	*Quercus lobata*	Valley Oak	1	16	35	50	Fair	Fair	Fair	No	lean, dieback
354	*Quercus wislizeni*	Interior Live Oak	2	6, 6	16	26	Fair	Fair	Fair	No	codominant, included bark, dieback
355	*Quercus wislizeni*	Interior Live Oak	1	6	13	17	Fair	Fair	Fair	No	trunk wound, dieback

360	*Quercus wislizeni*	Interior Live Oak	1	7	15	26	Fair	Fair	Fair	No	dieback
361	*Quercus lobata*	Valley Oak	1	30	35	55	Fair	Fair	Fair	No	dieback, included bark
364	*Quercus wislizeni*	Interior Live Oak	1	6	12	25	Fair	Fair	Fair	No	lean, dieback
365	*Quercus wislizeni*	Interior Live Oak	3	6, 5, 4	14	26	Fair	Fair	Fair	No	codominant, included bark, dieback, poison oak
367	*Quercus wislizeni*	Interior Live Oak	1	7	20	28	Fair	Fair	Fair	No	lean, dieback
370	*Quercus lobata*	Valley Oak	2	13, 6	25	40	Fair	Fair	Fair	No	codominant, included bark, dieback
371	*Quercus wislizeni*	Interior Live Oak	4	6, 5, 4, 3	17	30	Fair	Fair	Fair	No	codominant, included bark, dieback
374	*Quercus wislizeni*	Interior Live Oak	1	10	15	27	Fair	Fair	Fair	No	dieback, lean
375	*Quercus lobata*	Valley Oak	1	7	16	35	Fair	Fair	Fair	No	dg, lean, asymmetrical canopy
377	*Quercus lobata*	Valley Oak	1	9	17	35	Fair	Fair	Fair	No	dieback, lean
379	*Quercus wislizeni*	Interior Live Oak	2	8, 6	16	26	Fair	Fair	Fair	No	codominant, dieback
381	*Quercus lobata*	Valley Oak	1	18	27	40	Fair	Fair	Fair	No	dieback
382	*Quercus lobata*	Valley Oak	1	6	13	30	Fair	Fair	Fair	No	dieback
383	*Quercus wislizeni*	Interior Live Oak	1	6	13	26	Fair	Fair	Fair	No	dieback, lean, sparse canopy
384	*Quercus wislizeni*	Interior Live Oak	1	7	14	26	Fair	Fair	Fair	No	lean, dieback
387	*Quercus lobata*	Valley Oak	1	12	22	40	Fair	Fair	Fair	No	dieback
389	*Quercus lobata*	Valley Oak	1	6	12	30	Fair	Fair	Fair	No	dieback
390	*Quercus lobata*	Valley Oak	1	6	12	28	Fair	Fair	Fair	No	dieback, lean
391	*Quercus lobata*	Valley Oak	1	9	18	35	Fair	Fair	Fair	No	dieback, sparse canopy
392	*Quercus lobata*	Valley Oak	1	6	13	30	Fair	Fair	Fair	No	lean, dieback
395	*Quercus lobata*	Valley Oak	1	10	22	37	Fair	Fair	Fair	No	lean, dieback

396	*Quercus lobata*	Valley Oak	1	8	16	36	Fair	Fair	Fair	No	dieback
399	*Quercus wislizeni*	Interior Live Oak	2	8, 6	16	30	Fair	Fair	Fair	No	codominant, lean, included bark, dieback
1065	*Quercus wislizeni*	Interior Live Oak	1	6	12	20	Fair	Fair	Fair	No	lean, dieback
1067	*Quercus lobata*	Valley Oak	1	7	14	45	Fair	Fair	Fair	No	dieback
1068	*Quercus lobata*	Valley Oak	1	7	15	38	Fair	Fair	Fair	No	dieback
1070	*Quercus lobata*	Valley Oak	1	8	23	45	Fair	Fair	Fair	No	lean, dieback
1072	*Quercus lobata*	Valley Oak	1	11	25	45	Fair	Fair	Fair	No	lean, asymmetrical canopy, dieback
1239	*Quercus lobata*	Valley Oak	1	8	25	45	Fair	Fair	Fair	No	dieback, dead limb
1240	*Quercus lobata*	Valley Oak	1	6	15	30	Fair	Fair	Fair	No	dieback, lean, sprouting
1241	*Quercus lobata*	Valley Oak	1	6	13	30	Fair	Fair	Fair	No	dieback
1242	*Quercus lobata*	Valley Oak	1	7	17	35	Fair	Fair	Fair	No	curve trunk, dieback
1244	*Quercus lobata*	Valley Oak	1	10	20	35	Fair	Fair	Fair	No	lean, dieback
1245	*Quercus lobata*	Valley Oak	1	7	16	30	Fair	Fair	Fair	No	dieback
1247	*Quercus lobata*	Valley Oak	1	10	23	35	Fair	Fair	Fair	No	lean, dieback
1252	*Quercus lobata*	Valley Oak	1	7	14	30	Fair	Fair	Fair	No	dieback, shaded
1256	*Quercus lobata*	Valley Oak	2	6, 2	13	25	Fair	Fair	Fair	No	codominant, included bark, dieback
1257	*Quercus lobata*	Valley Oak	1	12	22	35	Fair	Fair	Fair	No	shaded, lean, dieback, asymmetrical canopy
1261	*Quercus wislizeni*	Interior Live Oak	2	7, 5	13	20	Fair	Fair	Fair	No	codominant, included bark, dieback, shaded
1262	*Quercus lobata*	Valley Oak	1	6	12	25	Fair	Fair	Fair	No	dieback
1263	*Quercus wislizeni*	Interior Live Oak	5	8, 7, 4, 3	16	25	Fair	Fair	Fair	No	codominant, included bark, dieback
1264	*Quercus lobata*	Valley Oak	1	6	16	30	Fair	Fair	Fair	No	lean, dieback

1266	*Quercus wislizeni*	Interior Live Oak	2	9, 5	17	30	Fair	Fair	Fair	No	codominant, included bark, dieback
1270	*Quercus lobata*	Valley Oak	3	6, 5, 4	12	25	Fair	Fair	Fair	No	codominant, included bark, dieback
1274	*Quercus lobata*	Valley Oak	1	6	10	25	Fair	Fair	Fair	No	lean, dieback
1276	*Quercus lobata*	Valley Oak	1	7	14	30	Fair	Fair	Fair	No	lean, dieback
1281	*Quercus lobata*	Valley Oak	1	11	23	35	Fair	Fair	Fair	No	lean, dieback
1283	*Quercus wislizeni*	Interior Live Oak	1	7	14	28	Fair	Fair	Fair	No	shaded, dieback
1285	*Quercus lobata*	Valley Oak	2	7, 4	15	30	Fair	Fair	Fair	No	codominant, included bark, poison oak, dieback
1286	*Quercus lobata*	Valley Oak	1	11	23	35	Fair	Fair	Fair	No	lean, dieback
1290	*Quercus lobata*	Valley Oak	1	6	13	30	Fair	Fair	Fair	No	lean, dieback, sprouting
1300	*Quercus lobata*	Valley Oak	1	6	12	32	Fair	Fair	Fair	No	dieback, blackberry
270	*Quercus lobata*	Valley Oak	1	22	28	45	Fair-Good	Fair	Fair-Good	No	lean, dieback
273	*Quercus lobata*	Valley Oak	1	13	30	45	Fair-Good	Fair	Fair	No	lean, dieback
298	*Quercus lobata*	Valley Oak	1	16	25	45	Fair-Good	Fair	Fair	No	lean, dieback
305	*Quercus lobata*	Valley Oak	1	14	26	40	Fair-Good	Fair	Fair-Good	No	lean, dieback
320	*Quercus lobata*	Valley Oak	1	13	26	40	Fair-Good	Fair	Fair-Good	No	dieback, lean
327	*Quercus lobata*	Valley Oak	1	8	15	30	Fair-Good	Fair	Fair-Good	No	dieback
328	*Quercus lobata*	Valley Oak	3	12, 9, 7	26	36	Fair-Good	Fair	Fair-Good	No	codominant, included bark, dieback
333	*Quercus lobata*	Valley Oak	1	10	20	40	Fair-Good	Fair	Fair-Good	No	dieback
334	*Quercus lobata*	Valley Oak	1	7	14	30	Fair-Good	Fair	Fair	No	dieback
357	*Quercus wislizeni*	Interior Live Oak	2	8, 6	12	25	Fair-Good	Fair	Fair	No	codominant, included bark, dieback
362	*Quercus lobata*	Valley Oak	2	21, 20	30	55	Fair-Good	Fair	Fair-Good	No	codominant, included bark, trunk wound, dieback

378	*Quercus lobata*	Valley Oak	1	11	25	45	Fair-Good	Fair	Fair	No	dieback
380	*Quercus lobata*	Valley Oak	1	13	20	35	Fair-Good	Fair	Fair	No	dieback, lean
1075	*Quercus lobata*	Valley Oak	1	14	23	40	Fair-Good	Fair	Fair-Good	No	lean, dieback
1250	*Quercus lobata*	Valley Oak	2	19, 10	30	55	Fair-Good	Fair	Fair-Good	No	codominant, included bark, dieback
1254	*Quercus lobata*	Valley Oak	1	7	14	32	Fair-Good	Fair	Fair	No	dieback
1260	*Quercus lobata*	Valley Oak	1	6	13	25	Fair-Good	Fair	Fair-Good	No	lean, dieback, shaded
1273	*Quercus lobata*	Valley Oak	1	11	20	40	Fair-Good	Fair	Fair	No	
1284	*Quercus lobata*	Valley Oak	2	16, 6	22	40	Fair-Good	Fair	Fair-Good	No	codominant, included bark, dieback
1288	*Quercus lobata*	Valley Oak	1	6	10	30	Fair-Good	Fair	Fair	No	lean, dieback
1289	*Quercus lobata*	Valley Oak	1	10	17	32	Fair-Good	Fair	Fair-Good	No	lean, dieback
1293	*Quercus lobata*	Valley Oak	1	10	20	35	Fair-Good	Fair	Fair	No	lean, dieback
1294	*Quercus lobata*	Valley Oak	2	12, 7	20	35	Fair-Good	Fair	Fair	No	codominant, included bark, dieback, blackberry
1296	*Quercus lobata*	Valley Oak	3	6, 5, 2	10	26	Fair-Good	Fair	Fair-Good	No	codominant, included bark, dieback
1297	*Quercus lobata*	Valley Oak	1	6	7	20	Fair-Good	Fair	Fair	No	lean, dieback
257	*Quercus lobata*	Valley Oak	1	6	12	28	Poor-Fair	Fair	Fair	No	trunk wound, dieback
263	*Quercus lobata*	Valley Oak	1	8	14	36	Poor-Fair	Fair	Poor-Fair	No	sparse canopy, lean, dieback
267	*Quercus lobata*	Valley Oak	1	8	20	35	Poor-Fair	Fair	Poor-Fair	No	lean, dieback
277	*Quercus lobata*	Valley Oak	1	6	12	30	Poor-Fair	Fair	Poor-Fair	No	dieback, sparse canopy
278	*Quercus lobata*	Valley Oak	1	7	16	35	Poor-Fair	Fair	Fair	No	lean, dieback
299	*Quercus lobata*	Valley Oak	1	6	14	35	Poor-Fair	Fair	Poor-Fair	No	sparse canopy, dieback
302	*Quercus lobata*	Valley Oak	1	9	14	27	Poor-Fair	Fair	Poor-Fair	No	dieback, sparse canopy

308	*Quercus douglasii*	Blue Oak	1	11	18	50	Poor-Fair	Fair	Fair	No	dieback, sapsucker
325	*Quercus wislizeni*	Interior Live Oak	1	6	10	23	Poor-Fair	Fair	Poor-Fair	No	dieback
366	*Quercus wislizeni*	Interior Live Oak	1	9	17	30	Poor-Fair	Fair	Fair-Good	No	lean, dieback
368	*Quercus lobata*	Valley Oak	1	7	15	30	Poor-Fair	Fair	Poor-Fair	No	dieback
369	*Quercus lobata*	Valley Oak	2	12, 5	20	35	Poor-Fair	Fair	Fair	No	codominant, included bark, dieback
373	*Quercus wislizeni*	Interior Live Oak	1	7	14	30	Poor-Fair	Fair	Fair	No	dieback
385	*Quercus lobata*	Valley Oak	1	8	15	30	Poor-Fair	Fair	Poor-Fair	No	sparse canopy, dieback
1061	*Quercus lobata*	Valley Oak	1	8	14	35	Poor-Fair	Fair	Poor-Fair	No	lean, dieback
1064	*Quercus lobata*	Valley Oak	1	8	16	40	Poor-Fair	Fair	Poor-Fair	No	sparse canopy, dieback
1071	*Quercus lobata*	Valley Oak	1	8	18	45	Poor-Fair	Fair	Poor-Fair	No	sparse canopy, dieback
1243	*Quercus lobata*	Valley Oak	1	8	14	35	Poor-Fair	Fair	Poor-Fair	No	dieback, sprouting
1277	*Quercus wislizeni*	Interior Live Oak	1	7	14	35	Poor-Fair	Fair	Poor-Fair	No	sparse canopy, dieback
1278	*Quercus lobata*	Valley Oak	1	7	15	35	Poor-Fair	Fair	Poor-Fair	No	lean, dieback
1279	*Quercus lobata*	Valley Oak	1	6	16	35	Poor-Fair	Fair	Fair	No	lean, dieback, tree leaning against
1291	*Quercus lobata*	Valley Oak	1	6	12	30	Poor-Fair	Fair	Poor-Fair	No	dieback, sprouting
2	*Quercus lobata*	Valley Oak	1	6	12	28	Fair	Fair-Good	Fair-Good	No	dieback, poison oak, no tag
317	*Quercus lobata*	Valley Oak	1	12	18	36	Fair	Fair-Good	Fair-Good	No	dieback
339	*Quercus lobata*	Valley Oak	1	18	25	45	Fair	Fair-Good	Fair	No	dieback
363	*Quercus lobata*	Valley Oak	1	8	18	35	Fair	Fair-Good	Fair	No	dieback
1248	*Quercus lobata*	Valley Oak	1	8	18	35	Fair	Fair-Good	Fair	No	dieback
1253	*Quercus lobata*	Valley Oak	1	9	15	30	Fair	Fair-Good	Fair	No	dieback

1259	*Quercus lobata*	Valley Oak	1	32	45	55	Fair	Fair-Good	Fair	No	dieback, overmature
1267	*Quercus lobata*	Valley Oak	1	9	16	32	Fair	Fair-Good	Fair	No	dieback
1271	*Quercus lobata*	Valley Oak	1	8	14	30	Fair	Fair-Good	Fair	No	lean, dieback
1272	*Quercus lobata*	Valley Oak	1	8	20	40	Fair	Fair-Good	Fair	No	dieback
1280	*Quercus lobata*	Valley Oak	1	8	20	35	Fair	Fair-Good	Fair	No	dieback
1282	*Quercus lobata*	Valley Oak	1	8	15	35	Fair	Fair-Good	Fair	No	dieback
1292	*Quercus lobata*	Valley Oak	1	6	12	26	Fair	Fair-Good	Fair	No	dieback
1298	*Quercus lobata*	Valley Oak	1	6	10	26	Fair	Fair-Good	Fair	No	dieback
1299	*Quercus lobata*	Valley Oak	1	7	12	30	Fair	Fair-Good	Fair	No	dieback
3	*Quercus lobata*	Valley Oak	1	46	30	42	Fair-Good	Fair-Good	Fair	No	codominant, included bark, dieback, no tag
5	*Quercus lobata*	Valley Oak	1	20	20	45	Fair-Good	Fair-Good	Fair-Good	No	dieback, no tag, blackberry
8	*Quercus lobata*	Valley Oak	1	8	20	36	Fair-Good	Fair-Good	Fair	No	lean, dieback, blackberry, no tag
9	*Quercus lobata*	Valley Oak	1	21	25	45	Fair-Good	Fair-Good	Fair-Good	No	dieback, blackberry, no tag
372	*Quercus lobata*	Valley Oak	1	18	25	45	Fair-Good	Fair-Good	Fair	No	dieback
388	*Quercus lobata*	Valley Oak	1	6	12	26	Fair-Good	Fair-Good	Fair-Good	No	dieback
1269	*Quercus lobata*	Valley Oak	1	7	12	22	Fair-Good	Fair-Good	Fair-Good	No	dieback
1287	*Quercus lobata*	Valley Oak	1	6	14	30	Fair-Good	Fair-Good	Fair	No	dieback
1295	*Quercus lobata*	Valley Oak	1	12	17	30	Fair-Good	Fair-Good	Fair-Good	No	dieback, blackberry
349	*Quercus lobata*	Valley Oak	1	20	30	50	Good	Fair-Good	Fair-Good	No	
393	*Quercus lobata*	Valley Oak	1	7	17	35	Poor-Fair	Fair-Good	Poor-Fair	No	dieback, sparse canopy
332	*Quercus wislizeni*	Interior Live Oak	5	6, 5, 5, 4	13	23	Fair	Poor	Fair	No	codominant, included bark, dieback

256	*Quercus wislizeni*	Interior Live Oak	1	8	14	25	Poor	Poor	Poor-Fair	No	lean, dieback, sparse canopy
310	*Quercus lobata*	Valley Oak	4	8, 5, 5, 4	17	35	Poor-Fair	Poor	Poor-Fair	No	codominant, poison oak, dieback
321	*Quercus lobata*	Valley Oak	1	10	20	30	Poor-Fair	Poor	Fair-Good	No	heavy lean, dieback
348	*Quercus lobata*	Valley Oak	1	13	8	20	Poor-Fair	Poor	Poor-Fair	No	broken top, dieback
1275	*Quercus lobata*	Valley Oak	1	6	12	25	Poor-Fair	Poor	Poor-Fair	No	lean, asymmetrical canopy, dieback
246	*Quercus lobata*	Valley Oak	1	12	23	35	Fair	Poor-Fair	Fair	No	lean, dieback
258	*Quercus lobata*	Valley Oak	1	6	16	28	Fair	Poor-Fair	Poor-Fair	No	lean, dieback
271	*Quercus wislizeni*	Interior Live Oak	1	13	23	30	Fair	Poor-Fair	Fair	No	heavy lean, dieback
309	*Quercus lobata*	Valley Oak	4	8, 8, 7, 6	22	40	Fair	Poor-Fair	Fair	No	codominant, included bark, dieback
322	*Quercus lobata*	Valley Oak	1	10	22	36	Fair	Poor-Fair	Fair-Good	No	lean, dieback
326	*Quercus wislizeni*	Interior Live Oak	1	9	22	28	Fair	Poor-Fair	Fair	No	lean, dieback, sloughing
340	*Quercus wislizeni*	Interior Live Oak	1	10	17	20	Fair	Poor-Fair	Fair	No	dieback, asymmetrical canopy
344	*Quercus wislizeni*	Interior Live Oak	4	6, 4, 3, 2	16	30	Fair	Poor-Fair	Fair	No	codominant, included bark, lean, dieback
356	*Quercus wislizeni*	Interior Live Oak	2	7, 5	10	20	Fair	Poor-Fair	Fair	No	codominant, included bark, dieback
358	*Quercus wislizeni*	Interior Live Oak	1	7	15	25	Fair	Poor-Fair	Fair	No	lean, dieback
359	*Quercus lobata*	Valley Oak	1	11	25	40	Fair	Poor-Fair	Fair-Good	No	lean, dieback
376	*Quercus wislizeni*	Interior Live Oak	1	8, 5, 3	20	35	Fair	Poor-Fair	Fair	No	lean, codominant, dieback
386	*Quercus lobata*	Valley Oak	1	6	14	30	Fair	Poor-Fair	Fair-Good	No	lean, curved trunk, dieback
394	*Quercus lobata*	Valley Oak	1	6	15	30	Fair	Poor-Fair	Fair-Good	No	lean, dieback
397	*Quercus lobata*	Valley Oak	1	6	18	35	Fair	Poor-Fair	Fair	No	poison oakor taper, lean, dieback
400	*Quercus lobata*	Valley Oak	1	6	18	28	Fair	Poor-Fair	Fair	No	lean, dieback

1069	*Quercus lobata*	Valley Oak	1	6	14	30	Fair	Poor-Fair	Fair	No	lean, dieback
1074	*Quercus lobata*	Valley Oak	1	9	22	40	Fair	Poor-Fair	Fair-Good	No	lean, dieback
1251	*Quercus lobata*	Valley Oak	2	10, 4	25	40	Fair	Poor-Fair	Fair	No	codominant, included bark, dieback, lean
1255	*Quercus lobata*	Valley Oak	1	9	16	30	Fair	Poor-Fair	Fair	No	lean, dieback, vines
1258	*Quercus lobata*	Valley Oak	1	8	16	30	Fair	Poor-Fair	Fair	No	lean, dieback, asymmetrical canopy
1265	*Quercus lobata*	Valley Oak	1	6	14	25	Fair	Poor-Fair	Fair	No	dieback, poison oak, growing into live oak
1268	*Quercus lobata*	Valley Oak	1	7	20	30	Fair	Poor-Fair	Fair	No	lean, dieback
249	*Quercus lobata*	Valley Oak	1	14	30	45	Poor	Poor-Fair	Poor	No	major dieback, broken limbs, lean
261	*Quercus lobata*	Valley Oak	1	13	18	30	Poor	Poor-Fair	Poor-Fair	No	dying, lean
274	*Quercus lobata*	Valley Oak	1	6	13	35	Poor	Poor-Fair	Poor	No	poison oakor taper, dieback. sparse canopy
1062	*Quercus lobata*	Valley Oak	1	6	13	35	Poor	Poor-Fair	Poor-Fair	No	sparse canopy, lean, dieback
1249	*Quercus lobata*	Valley Oak	1	13	30	40	Poor	Poor-Fair	Poor	No	lean, dieback, sprouting
276	*Quercus wislizeni*	Interior Live Oak	3	7, 5, 3	15	26	Poor-Fair	Poor-Fair	Poor-Fair	No	codominant, included bark, lean, dieback
301	*Quercus lobata*	Valley Oak	1	10	16	27	Poor-Fair	Poor-Fair	Fair	No	lean, dieback, sprouting
307	*Quercus wislizeni*	Interior Live Oak	1	6	10	20	Poor-Fair	Poor-Fair	Poor-Fair	No	lean, dieback, sparse canopy
313	*Quercus wislizeni*	Interior Live Oak	2	9, 5	22	30	Poor-Fair	Poor-Fair	Poor-Fair	No	lean, codominant, dieback
338	*Quercus wislizeni*	Interior Live Oak	2	8, 4	10	23	Poor-Fair	Poor-Fair	Poor-Fair	No	codominant, dieback
347	*Quercus wislizeni*	Interior Live Oak	1	6	15	25	Poor-Fair	Poor-Fair	Poor-Fair	No	dieback, trunk wound, lean
350	*Quercus wislizeni*	Interior Live Oak	3	6, 6, 5	17	26	Poor-Fair	Poor-Fair	Poor-Fair	No	codominant, included bark, dieback
352	*Quercus wislizeni*	Interior Live Oak	1	7	9	18	Poor-Fair	Poor-Fair	Fair	No	dieback, poison oak, trunk wound
353	*Quercus wislizeni*	Interior Live Oak	2	6, 3	15	22	Poor-Fair	Poor-Fair	Poor-Fair	No	codominant, included bark, lean, dieback

398	*Quercus lobata*	Valley Oak	1	8	20	35	Poor-Fair	Poor-Fair	Poor-Fair	No	lean, dieback, sparse canopy
1063	*Quercus lobata*	Valley Oak	1	7	12	30	Poor-Fair	Poor-Fair	Poor-Fair	No	lean, sparse canopy, dieback
1066	*Quercus lobata*	Valley Oak	1	6	13	30	Poor-Fair	Poor-Fair	Poor-Fair	No	lean, dieback
1073	*Quercus lobata*	Valley Oak	1	8	22	40	Poor-Fair	Poor-Fair	Poor-Fair	No	sparse canopy, lean, dieback
1246	*Quercus lobata*	Valley Oak	1	6	15	30	Poor-Fair	Poor-Fair	Fair	No	dieback, lean

Appendix -E

Oak Tree Inventory - Parklands North

Tree #	Scientific Name	Common Name	# of Trunks	DBH (in.)	DLR	Height	Health	Structure	Vigor	Remove	Comments
10	*Quercus lobata*	Valley Oak	1	20	20	45	Dead	Dead	Dead	No	no tag
11	*Quercus lobata*	Valley Oak	1	18	20	35	Dead	Dead	Dead	No	no tag
21	*Quercus douglasii*	Blue Oak	3	20, 18, 14	25	45	Dead	Dead	Dead	No	blackberry, no tag
24	*Quercus douglasii*	Blue Oak	1	17	25	55	Dead	Dead	Dead	No	blackberry, no tag
2	*Quercus lobata*	Valley Oak	1	8	10	25	Fair	Fair	Fair	No	trunk wound, dieback, blackberry, no tag
4	*Quercus lobata*	Valley Oak	1	8	9	30	Fair	Fair	Fair	No	blackberry, no tag
12	*Quercus lobata*	Valley Oak	1	18	22	38	Fair	Fair	Fair	No	lean, dieback, blackberry, no tag
18	*Quercus wislizeni*	Interior Live Oak	1	11	20	30	Fair	Fair	Fair	No	blackberry, dieback, no tag
32	*Quercus lobata*	Valley Oak	1	13	12	30	Fair	Fair	Fair	No	dieback, blackberry, no tag
206	*Quercus lobata*	Valley Oak	1	16	25	40	Fair	Fair	Fair	No	lean, dieback
208	*Quercus lobata*	Valley Oak	1	15	25	50	Fair	Fair	Fair	No	lean, dieback
210	*Quercus wislizeni*	Interior Live Oak	5	6, 5, 3, 3, 1	12	20	Fair	Fair	Fair	No	codominant, included bark, dieback
211	*Quercus lobata*	Valley Oak	2	8, 4	13	25	Fair	Fair	Fair	No	codominant, included bark, dieback
213	*Quercus wislizeni*	Interior Live Oak	2	14, 12	20	30	Fair	Fair	Fair	No	codominant, included bark, trunk wound, dieback
216	*Quercus wislizeni*	Interior Live Oak	3	7, 7, 6	16	30	Fair	Fair	Fair	No	codominant, included bark, dieback, shaded
217	*Quercus lobata*	Valley Oak	2	6, 5	16	35	Fair	Fair	Fair	No	codominant, included bark, dieback, blackberry
218	*Quercus lobata*	Valley Oak	1	11	22	35	Fair	Fair	Fair	No	lean, dieback, blackberry
219	*Quercus lobata*	Valley Oak	1	9	20	35	Fair	Fair	Fair	No	lean, dieback, blackberry
223	*Quercus wislizeni*	Interior Live Oak	1	8	12	20	Fair	Fair	Fair	No	pc, dieback, blackberry

227	*Quercus wislizeni*	Interior Live Oak	1	8	18	25	Fair	Fair	Fair	No	lean, dieback, blackberry
229	*Quercus wislizeni*	Interior Live Oak	1	8	20	30	Fair	Fair	Fair	No	lean, dieback, blackberry
245	*Quercus wislizeni*	Interior Live Oak	1	18	25	35	Fair	Fair	Fair	No	trunk wound, dieback, sign on tree
250	*Quercus wislizeni*	Interior Live Oak	2	12, 8	18	30	Fair	Fair	Fair	No	codominant, lean, dieback
23	*Quercus lobata*	Valley Oak	2	7, 4	13	30	Fair-Good	Fair	Fair	No	codominant, included bark, blackberry, dieback, no tag
201	*Quercus wislizeni*	Interior Live Oak	6	14, 10, 10,	20	38	Fair-Good	Fair	Fair	No	codominant, included bark, dieback
207	*Quercus lobata*	Valley Oak	2	16, 10	37	50	Fair-Good	Fair	Fair-Good	No	codominant, lean, dieback
233	*Quercus douglasii*	Interior Live Oak	3	13, 10, 9	20	40	Fair-Good	Fair	Fair	No	codominant, included bark, dieback, lean
235	*Quercus wislizeni*	Interior Live Oak	2	7, 6	15	30	Fair-Good	Fair	Fair-Good	No	codominant, included bark, dieback, blackberry
236	*Quercus wislizeni*	Interior Live Oak	2	10, 7	20	35	Fair-Good	Fair	Fair	No	codominant, included bark, dieback
240	*Quercus wislizeni*	Interior Live Oak	3	6, 3, 2	10	25	Fair-Good	Fair	Fair	No	codominant, included bark, dieback, blackberry
251	*Quercus lobata*	Valley Oak	1	15	23	45	Fair-Good	Fair	Fair	No	lean, dieback, embedded fence
252	*Quercus lobata*	Valley Oak	1	28	30	55	Fair-Good	Fair	Fair	No	lean, dieback, blackberry
3	*Quercus lobata*	Valley Oak	1	13	22	35	Poor	Fair	Poor	No	dying, blackberry, no tag
30	*Quercus lobata*	Valley Oak	1	17	22	45	Poor	Fair	Poor	No	dying, blackberry, no tag
1	*Quercus lobata*	Valley Oak	1	15	20	45	Poor-Fair	Fair	Fair	No	sparse canpy, dieback, blackberry, no tag
5	*Quercus lobata*	Valley Oak	1	12	23	45	Poor-Fair	Fair	Poor-Fair	No	dying, blackberry, no tag
220	*Quercus lobata*	Valley Oak	1	7	14	30	Poor-Fair	Fair	Poor-Fair	No	dieback, blackberry, shaded
230	*Quercus wislizeni*	Interior Live Oak	1	8	19	25	Poor-Fair	Fair	Poor-Fair	No	sparsae canopy, dieback, lean, blackberry, ants
15	*Quercus wislizeni*	Interior Live Oak	1	22	20	35	Fair	Fair-Good	Fair	No	dieback, blackberry, no tag

20	*Quercus lobata*	Valley Oak	1	36	30	50	Fair	Fair-Good	Fair	No	dieback, om, blackberry, no tag
248	*Quercus lobata*	Valley Oak	1	15	25	50	Fair	Fair-Good	Fair	No	dieback
249	*Quercus lobata*	Valley Oak	1	11	15	35	Fair	Fair-Good	Fair	No	dieback
9	*Quercus lobata*	Valley Oak	1	6	9	25	Fair-Good	Fair-Good	Fair-Good	No	dieback, blackberry, no tag
14	*Quercus lobata*	Valley Oak	2	21, 10	26	50	Fair-Good	Fair-Good	Fair-Good	No	codominant, dieback, blackberry, no tag
17	*Quercus lobata*	Valley Oak	1	36	35	55	Fair-Good	Fair-Good	Fair-Good	No	dieback, limb brakout, blackberry, no tag
19	*Quercus douglasii*	Blue Oak	1	32	30	55	Fair-Good	Fair-Good	Fair	No	lean, dieback, blackberry, no tag
31	*Quercus lobata*	Valley Oak	1	34	30	60	Fair-Good	Fair-Good	Fair-Good	No	dieback, blackberry, no tag
209	*Quercus lobata*	Valley Oak	1	27	30	50	Fair-Good	Fair-Good	Fair	No	dieback, blackberry, lean
214	*Quercus wislizeni*	Interior Live Oak	1	39	30	55	Fair-Good	Fair-Good	Fair-Good	No	dieback
215	*Quercus lobata*	Valley Oak	1	31	40	55	Fair-Good	Fair-Good	Fair-Good	No	dieback, blackberry
222	*Quercus douglasii*	Blue Oak	1	20	25	50	Fair-Good	Fair-Good	Fair-Good	No	dieback, dieback
226	*Quercus wislizeni*	Interior Live Oak	1	24	25	50	Fair-Good	Fair-Good	Fair-Good	No	lean, trunk wound, dieback
231	*Quercus lobata*	Valley Oak	1	17	20	40	Fair-Good	Fair-Good	Fair-Good	No	lean, dieback
232	*Quercus lobata*	Valley Oak	2	13, 6	22	40	Fair-Good	Fair-Good	Fair-Good	No	dieback
234	*Quercus lobata*	Valley Oak	1	17	23	45	Fair-Good	Fair-Good	Fair-Good	No	dieback
237	*Quercus lobata*	Valley Oak	1	11	25	40	Fair-Good	Fair-Good	Fair-Good	No	dieback
238	*Quercus wislizeni*	Interior Live Oak	1	13	22	35	Fair-Good	Fair-Good	Fair	No	dieback, blackberry
239	*Quercus lobata*	Valley Oak	1	6	8	30	Fair-Good	Fair-Good	Fair-Good	No	blackberry, dieback
241	*Quercus wislizeni*	Interior Live Oak	1	10	16	30	Fair-Good	Fair-Good	Fair	No	dieback, blackberry
242	*Quercus lobata*	Valley Oak	1	35	35	50	Fair-Good	Fair-Good	Fair-Good	No	dieback

243	*Quercus lobata*	Valley Oak	1	37	35	55	Fair-Good	Fair-Good	Fair-Good	No	dieback
244	*Quercus wislizeni*	Interior Live Oak	1	13	20	35	Fair-Good	Fair-Good	Fair-Good	No	dieback, sign on tree
246	*Quercus lobata*	Valley Oak	1	18	20	40	Fair-Good	Fair-Good	Fair-Good	No	dieback
22	*Quercus wislizeni*	Interior Live Oak	1	23	25	45	Fair-Good	Good	Fair-Good	No	dieback, blackberry, no tag
202	*Quercus lobata*	Valley Oak	1	26	25	50	Fair-Good	Good	Fair-Good	No	dieback
224	*Quercus douglasii*	Blue Oak	1	23	35	55	Fair-Good	Good	Fair-Good	No	dieback, blackberry
247	*Quercus lobata*	Valley Oak	1	25	35	55	Fair-Good	Good	Fair-Good	No	dieback, trunk wound
16	*Quercus douglasii*	Blue Oak	1	15	26	50	Good	Good	Fair-Good	No	blackberry, elderberry, no tag
212	*Quercus lobata*	Valley Oak	1	25	30	55	Good	Good	Fair-Good	No	dieback
6	*Quercus lobata*	Valley Oak	1	15	20	28	Fair	Poor	Fair	No	heavy lean, dieback, no tag
33	*Quercus wislizeni*	Interior Live Oak	1	6	12	20	Poor-Fair	Poor	Poor-Fair	No	downed, no tag
225	*Quercus wislizeni*	Interior Live Oak	2	18, 10	20	28	Poor-Fair	Poor	Poor-Fair	No	lean, trunk wound, dieback
228	*Quercus wislizeni*	Interior Live Oak	2	7, 6	16	20	Poor-Fair	Poor	Poor-Fair	No	growing on ground, dieback, blackberry
8	*Quercus lobata*	Valley Oak	3	18, 17, 15	25	45	Fair	Poor-Fair	Fair	No	codominant, included bark, dieback, dead stem, blackberry, no tag
13	*Quercus lobata*	Valley Oak	2	13, 9	22	35	Fair	Poor-Fair	Fair	No	codominant, included bark, dieback, lean, blackberry, no tag
25	*Quercus douglasii*	Blue Oak	1	16	22	45	Fair	Poor-Fair	Fair	No	lean, dieback, blackberry, no tag
204	*Quercus lobata*	Valley Oak	1	11	17	26	Fair	Poor-Fair	Fair	No	lean, dieback
205	*Quercus lobata*	Valley Oak	1	10	20	30	Fair	Poor-Fair	Fair	No	lean, dieback
203	*Quercus lobata*	Valley Oak	1	19	35	50	Fair-Good	Poor-Fair	Fair-Good	No	lean, dieback
221	*Quercus wislizeni*	Interior Live Oak	1	8	15	25	Fair-Good	Poor-Fair	Fair	No	lean, dieback, blackberry

27	*Quercus wislizeni*	Interior Live Oak	1	13	15	30	Poor	Poor-Fair	Poor	No	dieback, blackberry, broken top, no tag
7	*Quercus lobata*	Valley Oak	1	21	25	50	Poor-Fair	Poor-Fair	Poor-Fair	No	lean, dieback, blackberry, no tag
26	*Quercus douglasii*	Blue Oak	1	15	22	40	Poor-Fair	Poor-Fair	Poor-Fair	No	dieback, lean, blackberry, no tag
28	*Quercus lobata*	Valley Oak	1	13	13	35	Poor-Fair	Poor-Fair	Poor-Fair	No	lean, broken top, sprouting, dieback, blackberry, no tag
29	*Quercus douglasii*	Blue Oak	1	20	23	45	Poor-Fair	Poor-Fair	Poor-Fair	No	lean, dieback, blackberry, no tag

Appendix F

Plant Species Observed

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Appendix F
Plant Species Observed-Brighton

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Dicots			
Amaranthaceae	*Amaranthus californicus*	California amaranth	N
Anacardiaceae	*Toxicodendron diversilobum*	poison oak	N
Apiaceae	*Torilis arvensis*	field hedge parsley	NN, I
Araceae	*Lemna* sp.	duckweed	N
Asteraceae	*Artemisia douglasiana*	California mugwort	N
Asteraceae	*Artemisia dracunculus*	tarragon	N
Asteraceae	*Baccharis pilularis ssp. consanguinea*	coyote brush	N
Asteraceae	*Carduus pycnocephalus ssp. pycnocephalus*	Italian thistle	NN, I
Asteraceae	*Erigeron canadensis*	Canada horseweed	N
Asteraceae	*Euthamia occidentalis*	Western goldenrod	N
Asteraceae	*Heterotheca grandiflora*	telegraph weed	N
Asteraceae	*Hypochaeris glabra*	smooth cat's 'ear	NN, I
Asteraceae	*Lactuca serriola*	prickly lettuce	NN
Brassicaceae	*Brassica nigra*	black mustard	NN, I
Brassicaceae	*Hirschfeldia incana*	short podded mustard	NN, I
Brassicaceae	*Raphanus sativus*	cultivated radish	NN, I
Fabaceae	*Acmispon americanus var. americanus*	Spanish lotus	N
Fabaceae	*Trifolium hirtum*	rose clover	I
Fagaceae	*Quercus douglasii*	blue oak	N
Fagaceae	*Quercus lobata*	valley oak	N
Fagaceae	*Quercus wislizeni* var. *wislizeni*	interior live oak	N
Haloragaceae	*Myriophyllum aquaticum*	parrot's feather	NN
Hydrocharitaceae	*Hydrilla verticillata*	hydrilla	NN, I
Juglandaceae	*Juglans hindsii*	Northern California black walnut	N
Onagraceae	*Epilobium brachycarpum*	autumn willowweed	N
Onagraceae	*Epilobium ciliatum* cf. ssp. *ciliatum*	fringed willowherb	N
Polygonaceae	*Persicaria* cf. *hydropiper*	waterpepper	NN
Polygonaceae	*Polygonum aviculare* ssp. *depressum*	prostrate knotweed	NN
Polygonaceae	*Rumex crispus*	curly dock	NN, I
Portulacaceae	*Portulaca oleracea*	common purslane	NN
Rosaceae	*Heteromeles arbutifolia*	toyon	N
Rosaceae	*Pyrus calleryana*	callery pear	NN, I
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	NN, I
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	N
Salicaceae	*Salix exigua* var. *hindsiana*	sandbar willow	N
Salicaceae	*Salix laevigata*	red willow	N
Salicaceae	*Salix lasiandra*	Pacific willow	N
Salicaceae	*Salix lasiolepis*	Arroyo willow	N
Scrophulariaceae	*Verbascum blattaria*	moth mullein	NN

Appendix F
Plant Species Observed-Brighton (cont.)

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Monocots			
Cyperaceae	*Schoenoplectus acutus* var. *occidentalis*	tule	N
Juncacea	*Juncus effusus* ssp. *pacificus*	Pacific rush	N
Poaceae	Bromus hordeaceus	soft chess	NN, I
Poaceae	*Festuca perennis*	rye grass	NN, I
Poaceae	*Avena barbata*	slender oat	NN, I
Typhaceae	*Typha* sp.	cattail	N

Appendix F
Plant Species Observed-Claremont

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Dicots			
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	N
Amaranthaceae	*Amaranthus californicus*	California amaranth	N
Anacardiaceae	*Pistacia chinensis*	Chinese pistachio	NN
Apiaceae	*Eryingium* sp.	button celery	N
Apiaceae	*Torilis arvensis*	field hedge parsley	NN, I
Apocynaceae	*Nerium oleander*	oleander	NN
Araceae	*Lemna* sp.	duckweed	N
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	coyote brush	N
Asteraceae	*Carduus pycnocephalus* ssp. *pycnocephalus*	Italian thistle	NN
Asteraceae	*Centaurea solstitialis*	yellow star thistle	NN, I
Asteraceae	*Centromadia fitchii*	spikeweed	N
Asteraceae	*Chondrilla juncea*	skeleton weed	NN, I
Asteraceae	*Cichorium intybus*	chicory	NN
Asteraceae	*Ditttrichia graveolens*	stinkwort	NN, I
Asteraceae	*Erigeron canadensis*	Canada horseweed	N
Asteraceae	*Euthamia occidentalis*	Western goldenrod	N
Asteraceae	*Helminthotheca echioides*	bristly ox-tongue	NN, I
Asteraceae	*Heterotheca grandiflora*	telegraph weed	N
Asteraceae	*Holocarpha virgata* ssp. *virgata*	narrow tarplant	N
Asteraceae	*Hypochaeris radicata*	hairy cat's ear	NN, I
Asteraceae	*Lactuca serriola*	prickly lettuce	NN
Asteraceae	*Lessingia virgata* var. *glomerata*	wand lessingia	N
Asteraceae	*Silybum marianum*	milk thistle	NN, I
Asteraceae	*Sonchus* sp.	sowthistle	NN
Boraginaceae	*Amsinckia intermedia*	common fiddleneck	N
Boraginaceae	*Plagiobothrys fulvus* var. *campestris*	field popcornflower	N
Brassicaceae	*Brassica nigra*	black mustard	NN, I
Brassicaceae	*Raphanus sativus*	jointed charlock	NN, I
Convolvulaceae	*Cuscuta howelliana*	boggs lake dodder	N
Euphorbiaceae	*Croton setiger*	turkey-mullein	N
Euphorbiaceae	*Euphorbia ocellata* ssp. *ocellata*	valley spurge	N
Euphorbiaceae	*Triadica sebifera*	Chinese tallowtree	NN, I
Fabaceae	*Acmispon americanus* var. *americanus*	American bird's foot trefoil	N
Fabaceae	*Cercis occidentalis*	Western redbud	N
Fabaceae	*Lupinus bicolor*	miniature lupine	N
Fabaceae	*Medicago polymorpha*	bur clover	NN, I
Fabaceae	*Trifolium depauperatum*var. *Depauperatum*	dwarf sack clover	N
Fabaceae	*Trifolium fragiferum*	strawberry clover	NN
Fabaceae	*Trifolium hirtum*	rose clover	NN, I
Fagaceae	*Quercus douglasii*	blue oak	N
Fagaceae	*Quercus wislizeni* var. *wislizeni*	interior live oak	N
Geraniaceae	*Erodium botrys*	big heron bill	NN
Geraniaceae	*Geranium dissectum*	cut leaved geranium	NN, I
Geraniaceae	*Geranium molle*	crane's bill geranium	NN
Hypericaceae	*Hypericum perforatum* ssp. *perforatum*	common st. johnswort	NN, I

Appendix F
Plant Species Observed-Claremont (cont.)

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Lamiaceae	*Mentha pulegium*	pennyroyal	NN, I
Lamiaceae	*Trichostema lanceolatam*	vinegarweed	N
Lythraceae	*Lythrum hyssopifolia*	hyssop loosestrife	NN, I
Molluginaceae	*Glinus lotoides*	lotus sweetjuice	NN
Montiaceae	*Claytonia parviflora* var. *parviflora*	miner's lettuce	N
Onagraceae	*Epilobium brachycarpum*	autumn willowweed	N
Onagraceae	*Epilobium ciliatum* cf. ssp. *ciliatum*	fringed willowherb	N
Orobanchaceae	*Triphysaria eriantha*	butter 'n' eggs	N
Plantaginaceae	*Kickxia* sp.	fluellin	NN
Plantaginaceae	*Plantago lanceolata*	English plantain	NN, I
Platanaceae	*Platanus racemosa*	California sycamore	N
Polygonaceae	*Rumex crispus*	curly dock	NN, I
Polygonaceae	*Rumex pulcher*	fiddle dock	NN
Ranunculaceae	*Ranunculus boneriensis*var. *trisepalus*	vernal pool buttercup	N
Rosaceae	*Heteromeles arbutifolia*	toyon	N
Rosaceae	*Pyrus calleryana*	Callery pear	NN, I
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	NN, I
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	N
Salicaceae	*Salix exigua* var. *hindsiana*	sandbar willow	N
Salicaceae	*Salix googingii*	Gooding's willow	N
Salicaceae	*Salix laevigata*	red willow	N
Salicaceae	*Salix lasiolepis*	Arroyo willow	N
Themidaceae	*Dichelostemma capitatum* ssp. *capitatum*	bluedicks	N
Monocots			
Cyperaceae	*Cyperus eragrostis*	tall cyperus	N
Cyperaceae	*Eleocharis macrostachya*	common spikerush	N
Juncaceae	*Juncus* cf. *balticus* ssp. *ater*	Baltic rush	N
Juncaceae	*Juncus effusus* ssp. *pacificus*	Pacific rush	N
Poaceae	*Avena barbata*	slender oat	NN, I
Poaceae	*Bromus diandrus*	ripgut grass	NN, I
Poaceae	*Cynodon dactylon*	Bermuda grass	NN, I
Poaceae	*Deschampsia danthonioides*	annual hairgrass	N
Poaceae	*Elymus* cf. *ponticus*	tall wheat grass	NN
Poaceae	*Festuca bromoides*	brome fescue	NN
Poaceae	*Festuca perennis*	rye grass	NN, I
Poaceae	*Gastridium phleoides*	nit grass	NN
Poaceae	*Hordeum murinum*	foxtail barley	NN, I
Poaceae	*Muhlenbergia rigens*	deergrass	N
Poaceae	*Polypogon monspeliensis*	rabbitsfoot grass	NN, I
Poaceae	*Stipa* sp.	needlegrass	N
Poaceae	*Briza minor*	little quaking grass	NN
Poaceae	*Elymus caput-medusae*	Medusahead	NN, I
Poaceae	*Paspalum dilatatum*	Dallis grass	NN
Themadaceae	*Triteleia laxa*	ithuriel's spear	N
Typhaceae	*Typha* sp.	cattail	N

Appendix F
Plant Species Observed-Garnet Creek

Family	Scientific Name	Common Name	Native(N), Non - native (NN), Invasive (I)
Dicots			
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	NN
Apiaceae	*Anthriscus caucalis*	bur-chervil	NN
Apiaceae	*Foeniculum vulgare*	sweet fennel	NN
Apiaceae	*Torilis arvensis*	field hedge-parsley	NN
Apocynaceae	*Vinca major*	periwinkle	NN, I
Asteraceae	*Artemisia douglasiana*	California mugwort	N
Asteraceae	*Baccharis pilularis*	coyote brush	N
Asteraceae	*Carduus pycnocephalus*	Italian thistle	NN, I
Asteraceae	*Centaurea solstitialis*	yellow starthistle	NN, I
Asteraceae	*Chondrilla juncea*	skeleton weed	NN, I
Asteraceae	*Cichorium intybus*	chicory	NN
Asteraceae	*Lactuca serriola*	prickly lettuce	NN, I
Asteraceae	*Xanthium strumarium*	cocklebur	N
Boraginaceae	*Amsinckia menziesii*	common fiddlneck	N
Brassicaceae	*Cardamine oligosperma*	few-seed bitter cress	N
Brassicaceae	*Hirschfeldia incana*	short-podded mustard	NN. I
Caprifoliaceae	*Lonicera interrupta*	chaparral honeysuckle	N
Convolvulaceae	*Convolvulus arvensis*	bindweed	N
Euphorbiaceae	*Croton setigerus*	turkey mullein	N
Fabaceae	*Lotus purshianus var. purshianus*	Spanish-clover	N
Fabaceae	*Lupinus bicolor*	lupin	N
Fabaceae	*Trifolium hirtum*	rose clover	NN
Fabaceae	*Vicia villosa*	winter vetch	NN, I
Fagaceae	*Quercus douglasii*	blue oak	N
Fagaceae	*Quercus lobata*	valley oak	N
Fagaceae	*Quercus wislizeni var. wislizeni*	interior live oak	N
Geraniaceae	*Erodium botrys*	broad-leaf filaree	NN
Geraniaceae	*Erodium cicutarium*	red-stem filaree	NN
Geraniaceae	*Geranium dissectum*	cut-leaf geranium	NN
Geraniaceae	*Geranium molle*	dove's-foot geranium	NN
Juglandaceae	*Juglans hindsii*	Northern California black walnut	N
Lamiaceae	*Lamium amplexicaule*	deadnettle	NN
Lamiaceae	*Mentha pulegium*	pennyroyal	NN
Myrsinaceae	*Anagalis arvensis*	scarlet pimpernel	NN
Orobanchaceae	*Triphysaria eriantha*	butter-and-eggs	N
Papaveraceae	*Eschscholzia californica*	California poppy	N
Plantaginaceae	*Plantago lanceolata*	English plantain	NN
Polemoniaceae	*Navarretia tagetina.*	navarretia	N
Polygonaceae	*Polygonum aviculare*	common knotweed	NN
Polygonaceae	*Rumex acetosella*	sheep sorrel	NN
Polygonaceae	*Rumex crispus*	curly dock	NN
Polygonaceae	*Rumex pulcher*	fiddle dock	NN
Salicaceae	*Populus fremontii*	Fremont cottonwood	N
Salicaceae	*Salix exigua*	narrow-leaved willow	N
Salicaceae	*Salix gooddingii*	Goodding's black willow	N
Salicaceae	*Salix laevigata*	red willow	N

Appendix F
Plant Species Observed-Garnet Creek (cont.)

Family	Scientific Name	Common Name	Native(N), Non - native (NN), Invasive (I)
Salicaceae	*Salix lasiolepis*	Arroyo willow	N
Scrophulariaceae	*Verbascum blattaria*	moth mullein	NN
Vitaceae	*Vitis californica*	California grape	N
Monocots			
Agavaceae	*Agave* sp.	agave	N
Cyperaceae	*Cyperus eragrostis*	tall flatsedge	N
Cyperaceae	*Eleocharis macrostachya*	creeping spikerush	N
Juncaceae	*Juncus bufonius*	toad rush	N
Juncaceae	*Juncus xiphioides*	iris-leaf rush	N
Poaceae	Avana fatua	wild oat	NN
Poaceae	*Bromus diandrus*	ripgut brom	NN, I
Poaceae	*Bromus hordeaceus*	soft chess	NN
Poaceae	*Festuca perennis*	Italian ryegrass	NN
Poaceae	*Elmus caput-medusae*	Medusahead	NN, I

Appendix F
Plant Species Observed-Orchard Creek

Family	Scientific Name	Common Name	Native(N), Non-native (NN), Invasive (I)
Dicots			
Adoxaceae	*Alopecurus saccatus*	Pacific foxtail	N
Apiaceae	*Eryingium* sp.	button celery	N
Apiaceae	Eryngium vaseyi	coyote thistle	N
Asteraceae	*Lasthenia californica*	California goldfields	N
Asteraceae	*Lasthenia fremontii*	Fremont's goldfields	N
Asteraceae	*Carduus pycnocephalus* ssp. *pycnocephalus*	Italian thistle	NN
Asteraceae	*Centaurea solstitialis*	yellow star thistle	NN, I
Asteraceae	*Centromadia fitchii*	spikeweed	N
Asteraceae	*Cichorium intybus*	chicory	NN
Asteraceae	*Ditttrichia graveolens*	stinkwort	NN, I
Asteraceae	*Helminthotheca echioides*	bristly ox-tongue	NN, I
Asteraceae	*Lactuca serriola*	prickly lettuce	NN
Asteraceae	Lasthenia fremontii	Fremont's goldfields	N
Asteraceae	Lasthenia glaberrima	smooth goldfields	N
Asteraceae	Leontodon saxatilis	hawkbit	NN
Asteraceae	Psilocarphus brevissimus	short woollyheads	N
Asteraceae	*Silybum marianum*	milk thistle	NN, I
Asteraceae	*Sonchus* sp.	sowthistle	NN
Boraginaceae	*Plagiobothrys fulvus* var. *campestris*	field popcornflower	N
Boraginaceae	Plagiobothrys stipitatus	stalked popcornflowe	N
Brassicaceae	*Brassica nigra*	black mustard	NN, I
Campanulaceae	*Downingia bicornuta*	bristled downingia	N
Campanulaceae	*Downingia ornatissima*	horned downingia	N
Crassulaceae	*Crassula aquatica*	aquatic pygmy weed	N
Euphorbaceae	*Euphorbia ocellata* ssp. *ocellata*	valley spurge	N
Euphorbiaceae	*Croton setiger*	turkey-mullein	N
Fabaceae	*Medicago polymorpha*	bur clover	NN, I
Fabaceae	*Trifolium depauperatum*var. *Depauperatum*	dwarf sack clover	N
Fabaceae	*Trifolium fragiferum*	strawberry clover	NN
Fabaceae	*Trifolium hirtum*	rose clover	NN, I
Fabaceae	*Vicia villosa*	hairy vetch	NN
Geraniaceae	*Erodium botrys*	big heron bill	NN
Geraniaceae	*Geranium dissectum*	cut leaved geranium	NN, I
Geraniaceae	*Geranium molle*	crane's bill geranium	NN
Hypericaceae	*Hypericum perforatum* ssp. *perforatum*	common st. johnswort	NN, I
Lytheraceae	*Lythrum hyssopifolia*	hyssop loosestrife	N
Marsileace	*Pilularia americana*	American pillwort	N
Molluginaceae	*Glinus lotoides*	lotus sweetjuice	NN
Orobanchaceae	*Triphysaria eriantha*	butter 'n' eggs	N
Plantaginaceae	*Plantago lanceolata*	English plantain	NN, I
Plantaginaceae	*Gratiola ebracteata*	common hedge hyssop	N
Plantaginaceae	*Polypogon monspeliensis*	rabbitsfoot grass	NN, I

Appendix F
Plant Species Observed-Orchard Creek (cont.)

Family	Scientific Name	Common Name	Native(N), Non-native (NN), Invasive (I)
Ranunculaceae	*Ranunculus bonariensis*	Carter's buttercup	N
Renunculaceae	Ranunculus aquatilis	whitewater crowfoot	N
Renunculaceae	*Ranunculus boneriensis*var. *trisepalus*	vernal pool buttercup	N
Monocots			
Cyperaceae	Eleocharis macrostachya	common spikerush	N
Juncaceae	Juncus bufonius	common toad rush	N
Juncaceae	Juncus sp.	rush	N
Lamiaceae	*Mentha pulegium*	pennyroyal	NN, I
Limiaceae	*Trichostema lanceolatam*	vinegarweed	N
Poaceae	*Avena barbata*	slender oat	NN, I
Poaceae	*Briza minor*	little quaking grass	NN
Poaceae	*Bromus diandrus*	ripgut grass	NN, I
Poaceae	*Bromus hordeaceus*	soft chess	NN, I
Poaceae	*Deschampsia danthonioides*	annual hairgrass	N
Poaceae	*Elymus caput-medusae*	Medusahead	NN, I
Poaceae	*Festuca bromoides*	brome fescue	NN
Poaceae	*Festuca perennis*	rye grass	NN, I
Poaceae	*Hordeum murinum*	foxtail barley	NN, I
Poaceae	*Muhlenbergia rigens*	deergrass	N
Poaceae	*Paspalum dilatatum*	Dallis grass	NN
Themidaceae	*Dichelostemma capitatum* ssp. *capitatum*	bluedicks	N
Themidaceae	Triteleia hyacinthina	white brodiaea	N

Appendix F
Plant Species Observed–Parklands North

Family	Scientific Name	Common Name	Native (N), Non - Native (NN), Invasive (I)
Dicots			
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	N
Asteraceae	*Carduus pycnocephalus*	Italian thistle	NN, I
Asteraceae	*Centaurea solstitialis*	yellow star thistle	NN, I
Fagaceae	*Quercus douglasii*	blue oak	N
Fagaceae	*Quercus wislizeni* var. *wislizeni*	interior live oak	N
Phytolaccaceae	*Phytolacca americana var. americana*	American pokeweed	NN, I
Pinaceae	*Pinus* sp.	pine	~
Polygonaceae	*Persicaria* sp.	smartweed	(N)
Roasaceae	*Rubus armeniacus*	Himalayan blackberry	NN, I
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	N
Salicaceae	*Salix* sp.	willow	~
Sapindaceae	*Aesculus californica*	California buckeye	N
Vitaceae	*Vitis californica*	wild grape	N
Monocots			
Poaceae	*Avena* sp.	oat	~
Poaceae	*Cynodon dactylon*	Bermuda grass	NN, I
Poaceae	*Hordeum murinum*	wall barley	NN, I
Typhaceae	*Typha* sp.	cattail	N

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Appendix F
Plant Species Observed-Placer Creek Corporate Center

Family	Scientific Name	Common Name	Native (N), Non-Native (NN), Invasive (I)
Dicots			
Asteraceae	*Baccharis pilularis*	coyote brush	N
Asteraceae	*Blennosperma nanum*	yellow carpet	N
Asteraceae	*Ditttrichia graveolens*	stinkwort	NN, I
Asteraceae	*Holocarpha virgata ssp. virgata*	narrow tarplant	NN
Asteraceae	*Hypochaeris glabra*	smooth cat's ear	NN, I
Asteraceae	*Lasthenia californica*	California goldfields	N
Asteraceae	*Leontodon saxatilis*	hawkbit	NN
Asteraceae	*Senecio vulgaris*	common groundsel	NN
Asteraceae	*Eryngium vaseyi*	coyote thistle	N
Asteraceae	*Lasthenia fremontii*	Fremont's goldfields	N
Asteraceae	*Psilocarphus brevissimus*	woolly marbles	N
Boraginaceae	*Amsinckia* sp.	fiddleneck	~
Boraginaceae	*Plagiobothrys stipitatus*	stalked popcornflower	N
Euphorbaceae	*Croton setiger*	turkey-mullein	N
Fabaceae	*Lupinus* sp.	lupine	~
Fabaceae	*Vicia* sp.	vetch	~
Geraniaceae	*Erodium botrys*	big heron bill	NN
Geraniaceae	*Geranium dissectum*	cut leaved geranium	NN, I
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento mesamint	N
Orobancaceae	*Triphysaria eriantha*	butter 'n' eggs	N
Polygonaceae	*Rumex crispus*	curly dock	NN, I
Ranunculaceae	*Ranunculus bonariensis*	Carter's buttercup	N
Monocots			
Cyperaceae	*Eleocharis macrostachya*	common spikerush	N
Poacea	*Festuca* sp.	fescue	~
Poaceae	*Avena* sp.	oat	~
Poaceae	*Elymus caput-medusae*	Medusahead	NN, I
Poaceae	*Alopecurus saccatus*	Pacific foxtail	N
Poaceae	*Briza minor*	little quaking grass	NN
Poaceae	*Festuca perennis*	Italian rye grass	N
Themedaceae	*Brodiaea elegans*	harvest brodiaea	N

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Appendix F
Plant Species Observed-Stanford Ranch

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Dicots			
Adoxaceae	*Sambucus nigra ssp. caerule*	blue elderberry	N
Alismataceae	*Alisma lanceolatum*	Lanceleaf water plantain	NN
Amaranthaceae	*Amaranthus californicus*	California amaranth	N
Anacardaceae	*Toxicodendron diversilobum*	poison oak	N
Apiaceae	*Sanicula bipinnatifida*	purple sanicle	N
Apocynaceae	*Asclepias fascicularis*	narrow leaf milkweed	N
Araceae	*Lemna sp.*	duckweed	N
Asteraceae	*Silybum marianum*	blessed milkthistle	NN, I
Asteraceae	*Carduus pycnocephalus ssp. pycnocephalus*	Italian thistle	NN, I
Asteraceae	*Centaurea solstitialis*	yellow star thistle	NN, I
Asteraceae	*Chondrilla juncea*	skeleton weed	NN, I
Asteraceae	*Cichorium intybus*	chicory	NN
Asteraceae	*Cirsium vulgare*	bull thistle	NN, I
Asteraceae	*Dittrichia graveolens*	stinkwort	NN, I
Asteraceae	*Erigeron canadensis*	Canada horseweed	N
Asteraceae	*Eryngium vaseyi*	coyote thistle	N
Asteraceae	*Helminthotheca echioides*	bristly ox-tongue	NN, I
Asteraceae	*Holocarpha virgata ssp. virgata*	narrow tarplant	NN
Asteraceae	*Hypochaeris glabra*	smooth cat's ear	NN, I
Asteraceae	*Lactuca serriola*	prickly lettuce	NN
Asteraceae	*Lasthenia californica*	California goldfields	N
Asteraceae	*Lasthenia fremontii*	Fremont's goldfields	N
Asteraceae	*Lasthenia glaberrima*	smooth goldfields	N
Asteraceae	*Layia fremontii*	Fremont layia	N
Asteraceae	*Leontodon saxatilis ssp. longirostris*	hawkbit	NN
Asteraceae	*Psilocarphus brevissimus*	sdhort woollyheads	N
Asteraceae	*Sonchus oleraceus*	sow thistle	NN
Asteraceae	*Xanthium strumarium*	rough cockleburr	N
Betulaceae	*Alnus rhombifolia*	white alder	N
Bignoniaceae	*Catalpa speciosa*	Northern catalpa	NN
Boragenaceae	*Plagiobothrys fulvus*	fulvous popcorn flower	N
Boragenaceae	*Plagiobothrys greenei*	greene's allocarya	N
Boragenaceae	*Plagiobothrys stipitatus*	stalked popcornflower	N
Boraginaceae	*Amsincki intermdia*	comman fiddleneck	N
Brassicaceae	*Brassica nigra*	black mustard	NN, I
Brassicaceae	*Hirschfeldia incana*	short podded mustard	NN, I
Campanulaceae	*Downingia cuspidata*	toothed downingia	N
Campanulaceae	*Downingia bicornuta*	bristled downingia	N
Campanulaceae	*Downingia ornatissima*	horned downingia	N

Appendix F
Plant Species Observed-Stanford Ranch (cont.)

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Convolvulaceae	*Convolvulus arvensis*	field bindweed	NN
Crassulaceae	*Crassula aquatica*	aquatic pygmy weed	N
Euphorbiaceae	*Croton setiger*	turkey-mullein	N
Euphorbiaceae	*Euphorbia ocellata ssp. ocellata*	valley spurge	N
Euphorbiaceae	*Triadica sebifera*	Chinese tallowtree	NN, I
Fabaceae	*Acmispon americanus var. americanus*	American bird's foot trefoil	N
Fabaceae	*Medicago polymorpha*	California burclover	NN, I
Fabaceae	*Robinia pseudoacacia*	black locust	NN, I
Fabaceae	*Trifolium depauperatum*	cowbag clover	N
Fabaceae	*Trifolium dubium*	shamrock clover	NN
Fabaceae	*Trifolium hirtum*	rose clover	NN, I
Fabaceae	*Trifolium sp.*	clover	~
Fabaceae	*Vicia sp.*	vetch	~
Fabaceae	*Vicia villosa*	hairy vetch	NN
Fagaceae	*Quercus douglasii*	blue oak	N
Fagaceae	*Quercus lobata*	valley oak	N
Fagaceae	*Quercus wislizeni var. wislizeni*	interior live oak	N
Gentianaceae	*Zeltnera muehlenbergii*	muehlenberg's centaury	N
Geraniaceae	*Erodium botrys*	big heron bill	NN
Geraniaceae	*Geranium dissectum*	wild geranium	NN, I
Geraniaceae	*Geranium molle*	crane's bill geranium	NN
Juncaginaceae	*Triglochin scilloides*	flowering-quillwort	N
Lamiaceae	*Marrubium vulgare*	white horehound	NN, I
Lamiaceae	*Mentha pulegium*	pennyroyal	NN, I
Lamiaceae	*Mentha spicata*	spearmint	NN
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento mint	N
Lamiaceae	*Rosmarinus officinalis*	rosemary	NN
Lythraceae	*Lythrum hyssopifolia*	hyssop loosestrife	NN, I
Lythraceae	*Punica granatum*	pomegranate	NN
Marsileaceae	*Pilularia americana*	American pillwort	N
Myrsinaceae	*Lysmachia arvensis*	scarlet pimpernel	NN
Myrtaceae	*Eucalyptus sp.*	eucalyptus	NN
Oleaceae	*Olea europaea*	olive	NN, I
Onagraceae	*Epilobium brachycarpum*	autumn willowweed	N
Onagraceae	*Epilobium ciliatum*	willowherb	NN
Orobanchaceae	*Castilleja attenuata*	narrow leaved owl's clover	N
Orobanchaceae	*Castilleja campestris*	vernal pool indian paintbrush,	N
Orobanchaceae	*Cordylanthus mollis ssp. hispidus*	Hispid bird's-beak	N RARE
Papaveraceae	*Eschscholzia californica*	California poppy	N
Phytolaccaceeae	*Phytolacca americana var. americana*	American pokeweed	NN, I

Appendix F
Plant Species Observed-Stanford Ranch (cont.)

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Plantaginaceae	*Plantago elongata*	annual coast plantago	N
Plantaginaceae	*Plantago lanceolata*	English plantain	NN, I
Plantaginaceae	*Veronica peregrina*	hairy purslane speedwell	N
Polemoniaceae	*Navarretia intertexta*	interwoven navarretia	N
Polemoniaceae	*Navarretia leucocephala*	white headed navarretia	N
Polygonaceae	*Persicaria sp.*	smartweed	(N)
Polygonaceae	*Polygonum aviculare ssp. depressum*	prostrate knotweed	NN
Polygonaceae	*Polygonum sp.*	smartweed	N
Polygonaceae	*Polypogon monspeliensis*	rabbitsfoot grass	NN, I
Polygonaceae	*Rumex crispus*	curly dock	NN, I
Polygonaceae	*Rumex pulcher*	fiddle dock	NN
Ranunculaceae	*Ranunculus bonariensis*	vernal pool indian paintbrush	N
Rosaaceae	*Rubus armeniacus*	Himalayan blackberry	NN, I
Rosaceae	*Pyracantha sp.*	firethorn	NN
Rosaceae	*Pyrus calleryana*	callery pear	NN, I
Rosaceae	*Rosa sp.*	rose	NN
Rubiaceae	*Cephalanthus occidentalis*	common buttonbush	N
Rubiaceae	*Galium aparine*	cleavers	N
Salicaceae	*Populus fremontii ssp. fremontii*	Fremont cottonwood	N
Salicaceae	*Salix babylonica*	weeping willow	NN
Salicaceae	*Salix cf. lasiandra var. lasiandra*	Pacific willow	N
Salicaceae	*Salix exigua var. hindsiana*	sandbar willow	N
Salicaceae	*Salix goodingii*	Gooding's willow	N
Salicaceae	*Salix lasiolepis*	Arroyo willow	N
Sapindaceae	*Acer macrophyllum*	bigleaf maple	N
Sapindaceae	*Aesculus californica*	California buckeye	N
Typhaceae	*Typha sp.*	cattail	N
Verbenaceae	*Phyla nodiflora*	lippia	N
Viscaceae	*Phoradendron leucarpum ssp. macrophyllum*	mistletoe	N
Vitaceae	*Vitis californica*	California grape	N
Monocots			
Arecaceae	*Washingtonia cf. robusta*	Mexican fan palm	NN, I
Cyperaceae	*Schoenoplectus acutus var. occidentalis*	tule	N
Cyperaceae	*Cyperus eragrostis*	tall cyperus	N
Cyperaceae	*Eleocharis acicularis*	needle spike rush	N

Appendix F
Plant Species Observed-Stanford Ranch (cont.)

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Cyperaceae	*Eleocharis macrostachya*	spikerush	N
Juncaceae	*Juncus bufonius*	common toad rush	N
Juncaceae	*Juncus cf. balticas ssp. ater*	Baltic rush	N
Juncaceae	*Juncus effusus ssp. pacificus*	Pacific rush	N
Juncaceae	*Juncus sp.*	rush	N
Poacea	*Andropogon virginicus var. virginicus*	broomsedge bluestem	NN
Poaceae	*Alopecurus saccatus*	Pacific foxtail	N
Poaceae	*Avena barbata*	slender oat	NN, I
Poaceae	*Brachypodium distachyon*	false brome	NN, I
Poaceae	*Briza minor*	little quaking grass	N
Poaceae	*Bromus diandrus*	ripgut grass	NN, I
Poaceae	*Bromus hordeaceus*	soft chess	NN, I
Poaceae	*Cortaderia sp.*	pampas grass	NN, I
Poaceae	*Cynodon dactylon*	Bermuda grass	NN, I
Poaceae	*Cynosurus echinatus*	annual dogtail	NN, I
Poaceae	*Deschampsia danthonioides*	annual hairgrass	N
Poaceae	*Digitaria sanguinalis*	hairy crabgrass	NN
Poaceae	*Echinochloa cf. crus -galli*	barnyard grass	NN
Poaceae	*Elymus caput-medusae*	medusa head	NN, I
Poaceae	*Elymus cf. ponticus*	tall wheat grass	NN
Poaceae	*Elymus glaucus*	blue wild rye	N
Poaceae	*Aira caryophyllea*	shiver grass	NN
Poaceae	*Festuca bromoides*	brome fescue	NN
Poaceae	*Festuca perennis*	rye grass	NN, I
Poaceae	*Ficus carica*	edible fig	NN, I
Poaceae	*Glyceria sp.*	mannagrass	(NN)
Poaceae	*Hordeum marinum*	seaside barley	NN
Poaceae	*Hordeum murinum*	foxtail barley	NN, I
Poaceae	*Muhlenbergia rigens*	deergrass	N
Poaceae	*Panicum cf. capillare*	witchgrass	N
Poaceae	*Paspalum dilatatum*	dallis grass	NN
Poaceae	*Phalaris cf. minor*	little seed canarygrass	NN
Poaceae	*Phyllostachys sp.*	bamboo	NN
Poaceae	*Sorghum halepense*	johnsongrass	NN
Poaceae	*Stipa sp.*	needlegrass	N
Themidaceae	*Brodiaea elegans*	harvest brodiaea	N
Themidaceae	*Brodiaea minor*	dwarf brodiaea	N
Themidaceae	*Dichelostema capitatum*	blue dicks	N
Themidaceae	*Triteleia hyacinthina*	white brodiaea	N

Appendix F
Plant Species Observed-Sunset West

Family	Scientific Name	Common Name	Native (N), Non-Native (NN), Invasive (I)
Dicots			
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	N
Alismataceae	*Alisma lanceolatum*	lanceleaf water plantain	NN
Amaranthaceae	*Amaranthus californicus*	California amaranth	N
Anacardaceae	*Toxicodendron diversilobum*	poison oak	N
Apaceae	*Torilis arvensis*	field hedge parsley	NN, I
Apiaceae	*Sanicula bipinnatifida*	purple sanicle	N
Apocynaceae	*Asclepias fascicularis*	narrow leaf milkweed	N
Araceae	*Lemna sp.*	duckweed	N
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	coyote brush	N
Asteraceae	*Centromadia fitchii*	Spikeweed	N
Asteraceae	*Eryngium sp.*	button celery	~
Asteraceae	*Euthamia occidentalis*	Western goldenrod	N
Asteraceae	*Heterotheca grandiflora*	Telegraph weed	N
Asteraceae	*Silybum marianum*	blessed milkthistle	NN, I
Asteraceae	*Carduus pycnocephalus ssp. pycnocephalus*	Italian thistle	NN, I
Asteraceae	*Centaurea solstitialis*	yellow star thistle	NN, I
Asteraceae	*Chondrilla juncea*	skeleton weed	NN, I
Asteraceae	*Cichorium intybus*	chicory	NN
Asteraceae	*Cirsium vulgare*	bull thistle	NN, I
Asteraceae	*Dittrichia graveolens*	stinkwort	NN, I
Asteraceae	*Erigeron canadensis*	Canada horseweed	N
Asteraceae	*Eryngium vaseyi*	coyote thistle	N
Asteraceae	*Helminthotheca echioides*	bristly ox-tongue	NN, I
Asteraceae	*Holocarpha virgata ssp. virgata*	narrow tarplant	NN
Asteraceae	*Hypochaeris glabra*	smooth cat's ear	NN, I
Asteraceae	*Lactuca serriola*	prickly lettuce	NN
Asteraceae	*Lasthenia californica*	California goldfields	N
Asteraceae	*Lasthenia fremontii*	Fremont's goldfields	N
Asteraceae	*Lasthenia glaberrima*	smooth goldfields	N
Asteraceae	*Layia fremontii*	Fremont layia	N
Asteraceae	*Leontodon saxatilis ssp. longirostris*	hawkbit	NN
Asteraceae	*Psilocarphus brevissimus*	sdhort woollyheads	N
Asteraceae	*Sonchus oleraceus*	sow thistle	NN
Asteraceae	*Xanthium strumarium*	rough cockleburr	N
Betulaceae	*Alnus rhombifolia*	white alder	N
Bignoniaceae	*Catalpa speciosa*	northern catalpa	NN
Boragenaceae	*Plagiobothrys fulvus*	fulvous popcorn flower	N
Boragenaceae	*Plagiobothrys greenei*	greene's allocarya	N
Boragenaceae	*Plagiobothrys stipitatus*	stalked popcornflower	N
Boraginaceae	*Amsincki intermdia*	comman fiddleneck	N
Brassicaceae	*Brassica nigra*	black mustard	NN, I
Brassicaceae	*Hirschfeldia incana*	short podded mustard	NN, I
Campanulaceae	*Downingia sp.*	downingia	N
Campanulaceae	*Downingia cuspidata*	toothed downingia	N
Campanulaceae	*Downingia bicornuta*	bristled downingia	N

Appendix F
Plant Species Observed-Sunset West (cont.)

Family	Scientific Name	Common Name	Native (N), Non-Native (NN), Invasive (I)
Campanulaceae	*Downingia ornatissima*	horned downingia	N
Caryopyllaceae	*Spergularia rubra*	Purple sand spurry	NN
Chenopodiaceae	*Salsola tragus*	Prickly russian thistle	NN
Convolvulaceae	*Cuscuta sp.*	California dodder	N
Convolvulaceae	*Convolvulus arvensis*	field bindweed	NN
Crassulaceae	*Crassula aquatica*	aquatic pygmy weed	N
Cyperaceae	*Cyperus difformis*	variable flatsedge	NN
Euphorbiaceae	*Croton setiger*	turkey-mullein	N
Euphorbiaceae	*Euphorbia ocellata ssp. ocellata*	valley spurge	N
Euphorbiaceae	*Triadica sebifera*	Chinese tallowtree	NN, I
Fabaceae	*Lathyrus angulatus*	angled pea vine	NN
Fabaceae	*Acmispon americanus var. americanus*	American bird's foot trefoil	N
Fabaceae	*Medicago polymorpha*	California burclover	NN, I
Fabaceae	*Robinia pseudoacacia*	black locust	NN, I
Fabaceae	*Trifolium depauperatum*	cowbag clover	N
Fabaceae	*Trifolium dubium*	shamrock clover	NN
Fabaceae	*Trifolium hirtum*	rose clover	NN, I
Fabaceae	*Trifolium sp.*	clover	~
Fabaceae	*Vicia sp.*	vetch	~
Fabaceae	*Vicia villosa*	hairy vetch	NN
Fagaceae	*Quercus douglasii*	blue oak	N
Fagaceae	*Quercus lobata*	valley oak	N
Fagaceae	*Quercus wislizeni var. wislizeni*	interior live oak	N
Gentianaceae	*Cicendia quadrangularis*	cicendia	N
Gentianaceae	*Zeltnera muehlenbergii*	muehlenberg's centaury	N
Geraniaceae	*Erodium cicutarium*	Coastal heron's bill	NN, I
Geraniaceae	*Erodium botrys*	big heron bill	NN
Geraniaceae	*Geranium dissectum*	wild geranium	NN, I
Geraniaceae	*Geranium molle*	crane's bill geranium	NN
Juncaceae	*Juncus cf. balticus ssp. ater*	Baltic rush	N
Juncaceae	*Juncus oxymeris*	pointed rush	N
Juncaginaceae	*Triglochin scilloides*	flowering-quillwort	N
Lamiaceae	*Marrubium vulgare*	white horehound	NN, I
Lamiaceae	*Mentha pulegium*	pennyroyal	NN, I
Lamiaceae	*Mentha spicata*	spearmint	NN
Lamiaceae	*Pogogyne zizyphoroides*	Sacramento mint	N
Lamiaceae	*Rosmarinus officinalis*	rosemary	NN
Lythraceae	*Ammania robusta*	grand ammania	N
Lythraceae	*Lythrum hyssopifolia*	hyssop loosestrife	NN, I
Lythraceae	*Punica granatum*	pomegranate	NN
Marsileaceae	*Pilularia americana*	American pillwort	N
Myrsinaceae	*Lysmachia arvensis*	scarlet pimpernel	NN
Myrtaceae	*Eucalyptus sp.*	eucalyptus	NN
Oleaceae	*Olea europaea*	olive	NN, I
Onagraceae	*Oenothera sp.*	desert lantern	N
Onagraceae	*Epilobium brachycarpum*	autumn willowweed	N
Onagraceae	*Epilobium ciliatum*	willowherb	NN

Appendix F
Plant Species Observed-Sunset West (cont.)

Family	Scientific Name	Common Name	Native (N), Non-Native (NN), Invasive (I)
Oragraceae	*Epilobium densiflorum*	dense boisduvalia	N
Orobanchaceae	*Castilleja attenuata*	narrow leaved owl's clover	N
Orobanchaceae	*Castilleja campestris*	vernal pool indian paintbrush,	N
Orobanchaceae	*Cordylanthus mollis ssp. hispidus*	Hispid bird's-beak	N RARE
Papaveraceae	*Eschscholzia californica*	California poppy	N
Phrymaceae	*Mimulus guttatus*	yellow monkey flower	N
Phytolaccaceeae	*Phytolacca americana var. americana*	American pokeweed	NN, I
Plantaginaceae	*Gratiola ebracteata*	bractless hedge hyssop	N
Plantaginaceae	*Plantago elongata*	annual coast plantago	N
Plantaginaceae	*Plantago lanceolata*	English plantain	NN, I
Plantaginaceae	*Veronica peregrina*	hairy purslane speedwell	N
Polemoniaceae	*Navarretia intertexta*	interwoven navarretia	N
Polemoniaceae	*Navarretia leucocephala*	white headed navarretia	N
Polygonaceae	*Persicaria sp.*	smartweed	(N)
Polygonaceae	*Polygonum aviculare ssp. depressum*	prostrate knotweed	NN
Polygonaceae	*Polygonum sp.*	smartweed	N
Polygonaceae	*Polypogon monspeliensis*	rabbitsfoot grass	NN, I
Polygonaceae	*Rumex crispus*	curly dock	NN, I
Polygonaceae	*Rumex pulcher*	fiddle dock	NN
Pontederiaceae	*Eichhornia crassipes*	water hyacinth	NN, I
Ranunculaceae	*Agoseris sp.*	water Buttercup	N
Ranunculaceae	*Ranunculus aquatilis*	water-crowfoot	N
Ranunculaceae	*Ranunculus bonariensis*	vernal pool indian paintbrush	N
Rosaaceae	*Rubus armeniacus*	Himalayan blackberry	NN, I
Rosaceae	*Pyracantha sp.*	firethorn	NN
Rosaceae	*Pyrus calleryana*	callery pear	NN, I
Rosaceae	*Rosa sp.*	rose	NN
Rubiaceae	*Cephalanthus occidentalis*	common buttonbush	N
Rubiaceae	*Galium aparine*	cleavers	N
Salicaceae	*Salix exigua*	narrow leaved willow	N
Salicaceae	*Salix laevigata*	red willow	N
Salicaceae	*Salix lasiandra* var. *lasiandra*	Pacific willow	N
Salicaceae	*Salix* sp.	willow	(N)
Salicaceae	*Populus fremontii ssp. fremontii*	Fremont cottonwood	N
Salicaceae	*Salix babylonica*	weeping willow	NN
Salicaceae	*Salix cf. lasiandra var. lasiandra*	Pacific willow	N
Salicaceae	*Salix exigua var. hindsiana*	sandbar willow	N
Salicaceae	*Salix goodingii*	Gooding's willow	N
Salicaceae	*Salix lasiolepis*	Arroyo willow	N
Sapindaceae	*Acer macrophyllum*	bigleaf maple	N
Sapindaceae	*Aesculus californica*	California buckeye	N
Tamaricaceae	*Tamarix* sp.	saltcedar	NN
Typhaceae	*Typha sp.*	cattail	N
Verbenaceae	*Phyla nodiflora*	lippia	N
Viscaceae	*Phoradendron leucarpum ssp. macrophyllum*	mistletoe	N

Appendix F
Plant Species Observed-Sunset West (cont.)

Family	Scientific Name	Common Name	Native (N), Non-Native (NN), Invasive (I)
Vitaceae	*Vitis californica*	California grape	N
Moncot			
Arecaceae	*Washingtonia cf. robusta*	Mexican fan palm	NN, I
Cyperaceae	*Schoenoplectus acutus var. occidentalis*	tule	N
Cyperaceae	*Cyperus eragrostis*	tall cyperus	N
Cyperaceae	*Eleocharis acicularis*	needle spike rush	N
Cyperaceae	*Eleocharis macrostachya*	spikerush	N
Juncaceae	*Juncus bufonius*	common toad rush	N
Juncaceae	*Juncus cf. balticas ssp. ater*	Baltic rush	N
Juncaceae	*Juncus effusus ssp. pacificus*	Pacific rush	N
Juncaceae	*Juncus sp.*	rush	N
Poacea	*Andropogon virginicus var. virginicus*	broomsedge bluestem	NN
Poaceae	*Alopecurus saccatus*	Pacific foxtail	N
Poaceae	*Avena barbata*	slender oat	NN, I
Poaceae	*Brachypodium distachyon*	false brome	NN, I
Poaceae	*Briza minor*	little quaking grass	N
Poaceae	*Bromus diandrus*	ripgut grass	NN, I
Poaceae	*Bromus hordeaceus*	soft chess	NN, I
Poaceae	*Cortaderia sp.*	pampas grass	NN, I
Poaceae	*Cynodon dactylon*	Bermuda grass	NN, I
Poaceae	*Cynosurus echinatus*	annual dogtail	NN, I
Poaceae	*Deschampsia danthonioides*	annual hairgrass	N
Poaceae	*Digitaria sanguinalis*	hairy crabgrass	NN
Poaceae	*Echinochloa cf. crus -galli*	barnyard grass	NN
Poaceae	*Elymus caput-medusae*	medusa head	NN, I
Poaceae	*Elymus cf. ponticus*	tall wheat grass	NN
Poaceae	*Elymus glaucus*	blue wild rye	N
Poaceae	*Festuca bromoides*	brome fescue	NN
Poaceae	*Festuca perennis*	rye grass	NN, I
Poaceae	*Ficus carica*	edible fig	NN, I
Poaceae	*Glyceria sp.*	mannagrass	(NN)
Poaceae	*Hordeum marinum*	seaside barley	NN
Poaceae	*Hordeum murinum*	foxtail barley	NN, I
Poaceae	*Muhlenbergia rigens*	deergrass	N
Poaceae	*Panicum cf. capillare*	witchgrass	N
Poaceae	*Paspalum dilatatum*	dallis grass	NN
Poaceae	*Phalaris cf. minor*	little seed canarygrass	NN
Poaceae	*Phyllostachys sp.*	bamboo	NN
Poaceae	*Sorghum halepense*	johnsongrass	NN
Poaceae	*Stipa sp.*	needlegrass	N
Themidaceae	*Brodiaea elegans*	harvest brodiaea	N
Themidaceae	*Brodiaea minor*	dwarf brodiaea	N
Themidaceae	*Dichelostema capitatum*	blue dicks	N
Themidaceae	*Triteleia hyacinthina*	white brodiaea	N

Appendix F
Plant Species Observed-Sunset West (cont.)

Family	Scientific Name	Common Name	Native (N), Non-Native (NN), Invasive (I)
Pteridophyte			
Azollaceae	*Azolla filiculoides*	American water fern	N
Perridaceae	*Adiantum jordanii*	California maidenhair fern	N

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Appendix F
Plant Species Observed–Whitney Ranch

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Dicots			
Amaranthaceae	*Amaranthus californicus*	California amaranth	N
Anacardiaceae	*Toxicodendron diversilobum*	poison oak	N
Apiaceae	*Torilis arvensis*	field hedge parsley	NN, I
Araceae	*Lemna* sp.	duckweed	N
Asteraceae	*Artemisia douglasiana*	California mugwort	N
Asteraceae	*Artemisia dracunculus*	tarragon	N
Asteraceae	*Baccharis pilularis ssp. consanguinea*	coyote brush	N
Asteraceae	*Carduus pycnocephalus ssp. pycnocephalus*	Italian thistle	NN, I
Asteraceae	*Erigeron canadensis*	Canada horseweed	N
Asteraceae	*Euthamia occidentalis*	Western goldenrod	N
Asteraceae	*Heterotheca grandiflora*	telegraph weed	N
Asteraceae	*Hypochaeris glabra*	smooth cat's 'ear	NN, I
Asteraceae	*Lactuca serriola*	prickly lettuce	NN
Brassicaceae	*Brassica nigra*	black mustard	NN, I
Brassicaceae	*Hirschfeldia incana*	short podded mustard	NN, I
Brassicaceae	*Raphanus sativus*	cultivated radish	NN, I
Fabaceae	*Acmispon americanus var. americanus*	Spanish lotus	N
Fabaceae	*Trifolium hirtum*	rose clover	I
Fagaceae	*Quercus douglasii*	blue oak	N
Fagaceae	*Quercus lobata*	valley oak	N
Fagaceae	*Quercus wislizeni* var. *wislizeni*	interior live oak	N
Haloragaceae	*Myriophyllum aquaticum*	parrot's feather	NN
Hydrocharitaceae	*Hydrilla verticillata*	hydrilla	NN, I
Juglandaceae	*Juglans hindsii*	Northern California black walnut	N
Onagraceae	*Epilobium brachycarpum*	autumn willowweed	N
Onagraceae	*Epilobium ciliatum* cf. ssp. *ciliatum*	fringed willowherb	N
Polygonaceae	*Persicaria* cf. *hydropiper*	waterpepper	NN
Polygonaceae	*Polygonum aviculare* ssp. *depressum*	prostrate knotweed	NN
Polygonaceae	*Rumex crispus*	curly dock	NN, I
Portulacaceae	*Portulaca oleracea*	common purslane	NN
Rosaceae	*Heteromeles arbutifolia*	toyon	N
Rosaceae	*Pyrus calleryana*	callery pear	NN, I
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	NN, I
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	N
Salicaceae	*Salix exigua* var. *hindsiana*	sandbar willow	N
Salicaceae	*Salix laevigata*	red willow	N
Salicaceae	*Salix lasiandra*	Pacific willow	N
Salicaceae	*Salix lasiolepis*	Arroyo willow	N
Scrophulariaceae	*Verbascum blattaria*	moth mullein	NN

Appendix F
Plant Species Observed–Whitney Ranch (cont.)

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Monocots			
Arecaceae	*Washingtonia cf. robusta*	Mexican fan palm	NN, I
Cyperaceae	*Schoenoplectus acutus var. occidentalis*	tule	N
Cyperaceae	*Cyperus eragrostis*	tall cyperus	N
Cyperaceae	*Eleocharis acicularis*	needle spike rush	N
Cyperaceae	*Eleocharis macrostachya*	spikerush	N
Juncaceae	*Juncus bufonius*	common toad rush	N
Juncaceae	*Juncus cf. balticas ssp. ater*	Baltic rush	N
Juncaceae	*Juncus effusus ssp. pacificus*	Pacific rush	N
Juncaceae	*Juncus sp.*	rush	N
Poacea	*Andropogon virginicus var. virginicus*	broomsedge bluestem	NN
Poaceae	*Alopecurus saccatus*	Pacific foxtail	N
Poaceae	*Avena barbata*	slender oat	NN, I
Poaceae	*Brachypodium distachyon*	false brome	NN, I
Poaceae	*Briza minor*	little quaking grass	N
Poaceae	*Bromus diandrus*	ripgut grass	NN, I
Poaceae	*Bromus hordeaceus*	soft chess	NN, I
Poaceae	*Cortaderia sp.*	pampas grass	NN, I
Poaceae	*Cynodon dactylon*	Bermuda grass	NN, I
Poaceae	*Cynosurus echinatus*	annual dogtail	NN, I
Poaceae	*Deschampsia danthonioides*	annual hairgrass	N
Poaceae	*Digitaria sanguinalis*	hairy crabgrass	NN
Poaceae	*Echinochloa cf. crus -galli*	barnyard grass	NN
Poaceae	*Elymus caput-medusae*	medusa head	NN, I
Poaceae	*Elymus cf. ponticus*	tall wheat grass	NN
Poaceae	*Elymus glaucus*	blue wild rye	N
Poaceae	*Festuca bromoides*	brome fescue	NN
Poaceae	*Festuca perennis*	rye grass	NN, I
Poaceae	*Ficus carica*	edible fig	NN, I
Poaceae	*Glyceria sp.*	mannagrass	(NN)
Poaceae	*Hordeum marinum*	seaside barley	NN
Poaceae	*Hordeum murinum*	foxtail barley	NN, I
Poaceae	*Muhlenbergia rigens*	deergrass	N
Poaceae	*Panicum cf. capillare*	witchgrass	N
Poaceae	*Paspalum dilatatum*	dallis grass	NN
Poaceae	*Phalaris cf. minor*	little seed canarygrass	NN
Poaceae	*Phyllostachys sp.*	bamboo	NN
Poaceae	*Sorghum halepense*	johnsongrass	NN
Poaceae	*Stipa sp.*	needlegrass	N
Themidaceae	*Brodiaea elegans*	harvest brodiaea	N
Themidaceae	*Brodiaea minor*	dwarf brodiaea	N
Themidaceae	*Dichelostema capitatum*	blue dicks	N
Themidaceae	*Triteleia hyacinthina*	white brodiaea	N

Appendix F
Plant Species Observed–Whitney Ranch (cont.)

Family	Scientific Name	Common Name	Native (N), Non-native (NN), Invasive (I)
Pteridophyte			
Azollaceae	*Azolla filiculoides*	American water fern	N
Perridaceae	*Adiantum jordanii*	California maidenhair fern	N

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Appendix G

Animal Species Observed or Detected

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Appendix G
Animal Species Observed or Detected-Brighton

Taxon		Scientific Name†	Common Name
Order	**Family**		
VERTEBRATES			
Amphibians and Reptiles			
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	Western fence lizard
VERTEBRATES			
Birds			
Accipititriformes	Accipitridae	*Buteo lineatus*	Red-shouldered hawk
Accipititriformes	Cathartidae	*Cathartes aura*	Turkey vulture
Apodiformes	Trochilidae	*Calypte anna*	Anna's hummingbird
Columbiformes	Columbidae	*Columba livia*	Rock pigeon
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
Galliformes	Phasianidae	*Meleagris gallopavo*	Wild turkey
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
Passeriformes	Fringillidae	*Haemorhous mexicanus*	House finch
Passeriformes	Passerellidae	*Melozone crissalis*	California towhee
Passeriformes	Mimidae	*Mimus polyglottos*	Northern mockingbird
Passeriformes	Aegithalidae	*Psaltriparus minimus*	Bushtit
Passeriformes	Tyrannidae	*Sayornis nigricans*	Black phoebe
Piciformes	Picidae	*Melanerpes formicivorus*	Acorn woodpecker
Mammals			
Lagomorpha	Leporidae	*Lepus californicus*	Black-tailed jackrabbit
Rodentia	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

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Appendix G
Animal Species Observed or Detected-Claremont

Taxon		Scientific Name†	Common Name
Order	**Family**		
INVERTEBRATES			
Hymenoptera	Apidae	*Apis* sp.	Honey bee
VERTEBRATES			
Amphibians and Reptiles			
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	Western fence lizard
Birds			
Accipititriformes	Accipitridae	*Buteo lineatus*	Red-shouldered hawk
Accipititriformes	Cathartidae	*Cathartes aura*	Turkey vulture
Apodiformes	Trochilidae	*Calypte anna*	Anna's hummingbird
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
Columbiformes	Columbidae	*Columba livia*	Rock pigeon
Galliformes	Phasianidae	*Meleagris gallopavo*	Wild turkey
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
Passeriformes	Tyrannidae	*Sayornis nigricans*	Black phoebe
Passeriformes	Aegithalidae	*Psaltriparus minimus*	Bushtit
Passeriformes	Passerellidae	*Melozone crissalis*	California towhee
Passeriformes	Fringillidae	*Haemorhous mexicanus*	House finch
Passeriformes	Mimidae	*Mimus polyglottos*	Northern mockingbird
Piciformes	Picidae	*Melanerpes formicivorus*	Acorn woodpecker
Mammals			
Lagomorpha	Leporidae	*Lepus californicus*	Black-tailed jackrabbit
Rodentia	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

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Appendix G
Animal Species Observed or Detected–Garnet Creek

Taxon		Scientific Name†	Common Name
Order	**Family**		
VERTEBRATES			
Birds			
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
Passeriformes	Fringillidae	*Haemorhous mexicanus*	House finch
Passeriformes	Passerellidae	*Junco hyemalis*	Dark-eyed Junco
Passeriformes	Passerellidae	*Melozone crissalis*	California towhee
Passeriformes	Tyrannidae	*Sayornis nigricans*	Black phoebe
Passeriformes	Parulidae	*Setophaga petechia*	Yellow warbler
Passeriformes	Turdidae	*Sialia mexicana*	Western bluebird
Passeriformes	Sturnidae	*Sturnella vulgaris*	European starling
Passeriformes	Turdidae	*Turdus migratorius*	American robin
Passeriformes	Passerellidae	*Zonotrichia leucophrys*	White-crowned sparrow
Pelecaniformes	Ardeidae	*Ardea alba*	Great egret
Piciformes	Picidae`	*Colaptes auratus*	Northern flicker
Piciformes	Picidae	*Melanerpes formicivorus*	Acorn woodpecker
Mammals			
Lagomorpha	Leporidae	*Lepus californicus*	Black-tailed jackrabbit
Rodentia	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

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Appendix G
Animal Species Observed or Detected–Orchard Creek

Taxon		Scientific Name†	Common Name
Order	**Family**		
INVERTEBRATES			
Hymenoptera	Apidae	*Apis* sp.	Honey bee
VERTEBRATES			
Birds			
Accipitriformes	Accipitridae	*Buteo jamaicensis*	Red-tailed hawk
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
Passeriformes	Fringillidae	*Haemorhous mexicanus*	House finch
Passeriformes	Passerellidae	*Junco hyemalis*	Dark-eyed Junco
Passeriformes	Passerellidae	*Melozone crissalis*	California towhee
Passeriformes	Tyrannidae	*Sayornis nigricans*	Black phoebe
Passeriformes	Parulidae	*Setophaga petechia*	Yellow warbler
Passeriformes	Turdidae	*Sialia mexicana*	Western bluebird
Passeriformes	Sturnidae	*Sturnella vulgaris*	European starling
Passeriformes	Turdidae	*Turdus migratorius*	American robin
Passeriformes	Passerellidae	*Zonotrichia leucophrys*	White-crowned sparrow
Pelecaniformes	Ardeidae	*Ardea alba*	Great egret
Piciformes	Picidae	*Colaptes auratus*	Northern flicker
Piciformes	Picidae	*Melanerpes formicivorus*	Acorn woodpecker
Passeriformes	Icteridae	†*Agelaius tricolor*	Tricolored blackbird
Mammals			
Lagomorpha	Leporidae	*Lepus californicus*	Black-tailed jackrabbit

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Appendix G
Animal Species Observed or Detected–Parklands North

Taxon		Scientific Name†	Common Name
Order	**Family**		
VERTEBRATES			
Birds			
Accipitriformes	Accipitridae	*Buteo jamaicensis*	Red-tailed hawk
Anseriformes	Anatidae	*Anas platrhynchos*	Mallard
Anseriformes	Anatidae	*Branta canadensis*	Canada goose
Galliformes	Phasianidae	*Meleagris gallopavo*	Wild turkey
Passeriformes	Icteridae	*Agelaius phoeniceus*	Red-winged blackbird
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
Passeriformes	Passerellidae	*Junco hyemalis*	Dark-eyed Junco
Passeriformes	Tyrannidae	*Sayornis nigricans*	Black phoebe
Passeriformes	Passerellidae	*Zonotrichia leucophrys*	White-crowned sparrow
Piciformes	Picidae	*Melanerpes formicivorus*	Acorn woodpecker
Mammals			
Rodentia	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel
Rodentia	Castoridae	*Castror canadensis*	Beaver

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Appendix B
Animal Species Observed or Detected–Placer Creek Corporate Center

Taxon		Scientific Name†	Common Name
Order	**Family**		
VERTEBRATES			
Birds			
Accipititriformes	Cathartidae	*Cathartes aura*	Turkey vulture
Anseriformes	Anatidae	*Anas acuta*	Northern pintail
Anseriformes	Anatidae	*Anas platrhynchos*	Mallard
Charadriiformes	Charadriidae	*Charadrius vociferus*	Killdeer
Charadriiformes	Recurvirostridae	*Himantopus mexicanus*	Black-necked stilt
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
Gruiformes	Rallidae	*Fulica americana*	American coot
Passeriformes	Icteridae	*Agelaius phoeniceus*	Red-winged blackbird
Passeriformes	Corvidae	*Corvus brachyrhynchos*	American crow
Passeriformes	Corvidae	*Corvus corax*	Common raven
Passeriformes	Icteridae	*Euphagus cyanocephalus*	Brewer's blackbird
Passeriformes	Passerellidae	*Passerculus sandwichensis*	Savannah sparrow
Mammals			
Carnivora	Canidae	*Canis lupus familiaris*	Domestic dog

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Appendix B
Animal Species Observed or Detected–Stanford Ranch

Taxon		Scientific Name†	Common Name
Order	**Family**		
INVERTEBRATES			
Hymenoptera	Apidae	*Apis* sp.	Honey bee
Lepidoptera	Nymphalidae	*Danaus plexippus*	Monarch butterfly
VERTEBRATES			
Amphibians and Reptiles			
Anura	Hylidae	*Hyliola sierra* (formerly *Pseudacris sierra*)	Sierran tree frog
Anura	Ranidae	*Lithobates catesbeianus*	American bullfrog
Testudines	Emydidae	†*Actinemys marmorata*	Western pond turtle
Testudines	Emydidae	*Trachemys scripta elegans*	Red-eared slide
Birds			
Accipititriformes	Accipitridae	*Buteo jamaicensis*	Red-tailed hawk
Accipititriformes	Accipitridae	*Buteo lineatus*	Red-shouldered hawk
Accipititriformes	Cathartidae	*Cathartes aura*	Turkey vulture
Anseriformes	Anatidae	*Anas platrhynchos*	Mallard
Anseriformes	Anatidae	*Branta canadensis*	Canada goose
Apodiformes	Trochilidae	*Calypte anna*	Anna's hummingbird
Columbiformes	Columbidae	*Columba livia*	Rock pigeon
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
Galliformes	Odontophoridae	*Callipepla californica*	California quail
Galliformes	Phasianidae	*Meleagris gallopavo*	Wild turkey
Galliformes	Phasianidae	*Phasianus colchicus*	Ring-necked pheasant
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
Passeriformes	Corvidae	*Corvus brachyrhynchos*	American crow
Passeriformes	Icteridae	*Euphagus cyanocephalus*	Brewer's blackbird
Passeriformes	Passerellidae	*Melozone crissalis*	California towhee
Passeriformes	Icteridae	*Agelaius phoeniceus*	Red-winged blackbird
Passeriformes	Mimidae	*Mimus polyglottos*	Northern mockingbird
Passeriformes	Passeridae	*Passer domesticus*	House sparrow
Passeriformes	Regulidae	*Regulus calendula*	Ruby-crowned kinglet
Passeriformes	Tyrannidae	*Sayornis nigricans*	Black phoebe
Passeriformes	Tyrannidae	*Sayornis saya*	Say's phoebe
Passeriformes	Icteridae	*Sturnella neglecta*	Western meadowlark
Passeriformes	Troglodytidae	*Thryomanes bewickii*	Bewick's wren
Passeriformes	Turdidae	*Turdus migratorius*	American robin
Passeriformes	Passerellidae	*Zonotrichia leucophrys*	white-crowned sparrow
Pelecaniformes	Ardeidae	*Ardea herodias*	Great blue heron
Piciformes	Picidae	*Colaptes auratus*	Northern flicker
Piciformes	Picidae	*Melanerpes formicivorus*	Acorn woodpecker
Strigiformes	Tytonidae	*Tyto alba*	Barn owl

Appendix B (cont.)
Animal Species Observed or Detected–Stanford Ranch

Taxon		Scientific Name[†]	Common Name
Order	**Family**		
Mammals			
Carnivora	Canidae	*Canis latrans*	Coyote
Carnivora	Canidae	*Canis lupus familiaris*	Domestic dog
Carnivora	Felidae	*Felis catus*	Domestic cat
Lagomorpha	Leporidae	*Lepus californicus*	black-tailed jackrabbit
Carnivora	Mustelidae	*Lontra canadensis*	North American river otter
Artiodactyla	Cervidae	*Odocoileus hemionus*	Black-tailed mule deer
Rodentia	Sciuridae	*Sciurus griseus*	Western gray squirrel
Rodentia	Castoridae	*Castror canadensis*	Beaver

[†] Sensitive

Appendix G
Animal Species Observed or Detected–Sunset West

Taxon		Scientific Name†	Common Name
Order	**Family**		
INVERTEBRATES			
Hymenoptera	Apidae	*Apis* sp.	Honey bee
VERTEBRATES			
Amphibians and Reptiles			
Anura	Hylidae	*Hyliola sierra* (formerly *Pseudacris sierra*)	Sierran tree frog
Anura	Ranidae	*Lithobates catesbeianus*	American bullfrog
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	Western fence lizard
Testudines	Emydidae	†*Actinemys marmorata*	Western pond turtle
Birds			
Accipititriformes	Accipitridae	*Buteo lineatus*	Red-shouldered hawk
Accipititriformes	Accipitridae	*Buteo jamaicensis*	Red-tailed hawk
Accipititriformes	Cathartidae	*Cathartes aura*	Turkey vulture
Anseriformes	Anatidae	*Branta canadensis*	Canada goose
Charadriiformes	Charadriidae	*Charadrius vociferus*	Killdeer
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
Galliformes	Phasianidae	*Phasianus colchicus*	Ring-necked pheasant
Passeriformes	Icteridae	*Agelaius phoeniceus*	Red-winged blackbird
Passeriformes	Corvidae	*Corvus brachyrhynchos*	American crow
Passeriformes	Tyrannidae	*Sayornis nigricans*	Black phoebe
Passeriformes	Icteridae	*Euphagus cyanocephalus*	Brewer's blackbird
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
Passeriformes	Passerellidae	*Junco hyemalis*	Dark-eyed Junco
Passeriformes	Mimidae	*Mimus polyglottos*	Northern mockingbird
Passeriformes	Icteridae	*Sturnella neglecta*	Western meadowlark
Passeriformes	Parulidae	Setophaga coronata	Yellow-rumped warbler
Pelecaniformes	Ardeidae	*Ardea herodias*	Great blue heron
Pelecaniformes	Ardeidae	*Ardea alba*	Great egret
Piciformes	Picidae	*Colaptes auratus*	Northern flicker
Mammals			
Carnivora	Felidae	*Felis catus*	Domestic cat
Lagomorpha	Leporidae	*Lepus californicus*	Black-tailed jackrabbit

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Appendix G
Animal Species Observed or Detected–Whitney Ranch

Taxon		Scientific Name[†]	Common Name
Order	**Family**		
INVERTEBRATES			
Lepidoptera	Nymphalidae	*Danaus plexippus*	Monarch butterfly
VERTEBRATES			
Amphibians and Reptiles			
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	Western fence lizard
Birds			
Accipititriformes	Accipitridae	*Buteo jamaicensis*	Red-tailed hawk
Accipititriformes	Cathartidae	*Cathartes aura*	Turkey vulture
Apodiformes	Trochilidae	*Calypte anna*	Anna's hummingbird
Charadriiformes	Charadriidae	*Charadrius vociferus*	Killdeer
Columbiformes	Columbidae	*Columba livia*	Rock pigeon
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
Galliformes	Odontophoridae	*Callipepla californica*	California quail
Galliformes	Phasianidae	*Phasianus colchicus*	Ring-necked pheasant
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
Passeriformes	Corvidae	*Corvus brachyrhynchos*	American crow
Passeriformes	Fringillidae	*Haemorhous mexicanus*	House finch
Passeriformes	Passerellidae	*Melozone crissalis*	California towhee
Passeriformes	Mimidae	*Mimus polyglottos*	Northern mockingbird
Passeriformes	Tyrannidae	*Sayornis nigricans*	Black phoebe
Pelecaniformes	Ardeidae	*Ardea alba*	Great egret
Pelecaniformes	Ardeidae	*Butorides virescens*	Green Heron
Piciformes	Picidae	*Melanerpes formicivorus*	Acorn woodpecker
Passeriformes	Icteridae	*Agelaius tricolor*	Tricolored blackbird
Mammals			
Artiodactyla	Bovidae	*Ovis aries*	Domestic sheep
Lagomorpha	Leporidae	*Lepus californicus*	Black-tailed jackrabbit

[†] Sensitive

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