Napa Monopoles Project
Napa County, California

Draft Biological Resource Study
May 2021

Prepared for:

Prepared by:

WRECO

May 2021

This page intentionally left blank

SUMMARY

Illumination Technologies Corp (ITC) would enter into a contract with the County of Napa (County), Department of Public Works, to implement the Napa Monopoles Project (Project) and install 23 monopoles and 11 IQ[1] FireWatch poles in select locations within the County's public rights-of-way, and on private property with property owner permission. The purpose of the poles would be to provide 1) early warning fire sensing network covering 90% of the County; and 2) increase cellular communication and broadband wireless connectivity in some locations throughout the County that are currently underserved.

The purpose of this *Biological Resources Study* is to provide technical information and to determine the extent to which the Project may affect special-status species and their habitats, and other natural areas in accordance with the California Environmental Quality Act. To determine the extent to which the Project may affect biological resources, a Biological Study Area (BSA) was established to encompass the 28 locations evaluated, along with a 300-foot buffer zone to determine potential direct and indirect impacts to biological resources, including special-status plant and wildlife species and aquatic resources. The following information summarizes potential impacts to special-status species and aquatic resources.

No aquatic resources, such as wetlands and waters regulated by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or California Department of Fish and Wildlife (CDFW), will be impacted and therefore no permits will be required by those agencies.

A review of species lists from the CDFW, California Native Plant Society, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration Fisheries indicate that 64 special-status plant species and 46 wildlife species, and regulated taxa have potential to occur in the BSA (Appendix D).

Based on habitat requirements for plants and wildlife, biologists determined that the following species could occur at the sites listed in the summary table below.

Summary Table. Special-Status Plant and Wildlife Species with Potential to Occur in BSA

Common Name	Scientific Name	Status	Potential for Occurrence	Site
Plants				
Henderson's bent grass	*Agrositis hendersonii*	CNPS Rank 3.2	Moderate	IQ 7
Napa false indigo	*Amropha californica var. napensis*	CNPS Rank 1B.2	Moderate	IQ 2
Bent-flowered fiddleneck	*Amsinckia lunaris*	CNPS Rank 1.B.2	Low	6/IQ 1 IQ 2
Clara Hunt's milk-vetch	*Astragalus claranus*	FE, SE, CNPS 1.B.1	Low	IQ 19
Narrow-anthered brodiaea	*Brodiaea leptandra*	CNPS Rank 1B.2	Moderate	IQ 2 IQ 7
Rincon Ridge ceanothus	Ceanothus confusus	CNPS Rank 1B.1	Low	IQ 2 IQ 7

[1] IQ Wireless is a company located in Germany that produces the IQ FireWatch technology.

Common Name	Scientific Name	Status	Potential for Occurrence	Site
Plants				
Calistoga ceanothus	*Ceanothus divergens*	CNPS Rank 1B.2	Low	IQ 2 IQ 7
Holly-leaved ceanothus	*Ceanothus purpureus*	CNPS Rank 1B.2	High	IQ 2 IQ 7
Sonoma ceanothus	*Ceanothus sonomensis*	CNPS Rank 1B.2	Low	IQ 2 IQ 7
Greene's narrow-leaved daisy	*Erigeron greenei*	CNPS Rank 1B.2	High	IQ 7
Fragrant fritillary	*Fritillaria liliacea*	CNPS Rank 1B.2	Low	IQ 19
Adobe-lily	*Fritillaria pluriflora*	CNPS Rank 1B.2	Low	6/IQ 1
Hepson's leptosiphon	*Leptosiphon jepsonii*	CNPS Rank 1B.2	Low	6/IQ 1 IQ 2
Sonoma beardtongue	*Penstemon newberryi var. sonomensis*	CNPS Rank 1B.3	Low	IQ 2
California beaked-rush	*Rhynchospora californica*	CNPS Rank 1B.1	High	IQ 7
Napa checkerbloom	*Sidalcea hickmanii ssp. napensis*	CNPS Rank 1B.1	High	IQ 7
Napa bluecurls	*Trichostema ruygtii*	CNPS Rank 1B.2	Low	6/IQ 1 IQ 2 IQ 7 IQ 19
Oval-leaved viburnum	*Viburnum ellipticum*	CNPS Rank 2B.3	Low	IQ 7
Wildlife				
White-tailed kite	*Elanus leucurus*	FP	Low	1, 14, 18, 20, 22, 23
Swainson's hawk	*Buteo swainsonii*	ST	Low	1, 14, 18, 20, 22, 23, 24
Golden eagle	*Aquila chrysaetos*	FP	Low	4, 7, IQ 18
Burrowing owl	*Athene cunicularia*	SSC	Low	3, 24
Peregrine falcon	*Falco peregrinus anatum*	FP	Low	IQ 2, IQ 7
Western red bat	*Lasirus blossevillii*	SSC	Low	1, 2, 4, 19, 20, 22

Acronyms: CNPS – California Native Plant Society; Rank 1 B – Plants rare, threatened or endangered, Rank 2B – Plants rare, threatened, or endangered in California but more common elsewhere, Rank 3 – Plants being evaluated and require more information.
Federal Statuses: FE – Federally Endangered
State Statuses: SE – State Endangered, SSC – Species of Special Concern, FP – Fully Protected, C.F.G.C. – California Fish and Game Code

Other protected wildlife that have potential to occur include:

- Nesting birds protected by the Migratory Bird Treaty Act and the California Fish and Game code; and
- Roosting bats protected under California Fish and Game Code Sections 2000, 2002, 2014 and 4150.

:

Other than the City of Napa and some of the small towns, St. Helena, Yountville, Calistoga, Napa County has wide open spaces that provide wildlife movement corridors through a variety of habitats. Napa River provides a migratory corridor for fish, amphibians and other aquatic species. The Project would have no impact on migratory corridors.

Temporary impacts associated with the Project will be from construction access, building of the pads, and installation of the poles. Permanent impacts will result from construction of the concrete pad that will support the poles. All poles will be placed in upland areas and will not result in permanent fill in any aquatic features.

The following measures will be taken to protect special status-plant and wildlife species:

- Pre-construction surveys will be conducted for plants during the bloom season (February through August) and wildlife listed in the Summary Table, as seen above. If any of these species are found, consultation will occur with the resource agency responsible for enforcing protection of that species.
- Pre-construction surveys will be conducted for nesting birds and roosting bats.
- Minor tree trimming, primarily oaks, will likely be necessary at Sites 1, 2, 4, 19, 20, and 22. Preconstruction surveys for roosting bats would occur prior to trimming.
- Tree trimming will be in compliance with Ordinance No. Section 18.108.020 C of the Napa County Code of Ordinances. Consultation will occur with the County, and if tree removal becomes necessary, replacement planting may be necessary.
- Work at Sites 2, 3, 4, 12, and 20 will occur in close proximity to roadside ditches or similar aquatic resources. Best management practices, such as silt fence or straw wattles will be installed prior to construction in order to protect water quality and other construction related impacts.
- Prior to entering the Sites 6/IQ 1, IQ 2, and IQ 7, all construction related equipment must be washed and free of mud to avoid the spread of invasive plant species.

Table of Contents

Figures

Tables

Appendices

Acronyms

AMSL	above mean sea level
B.A.	Bachelor of Arts
BMP	best management practice
B.S.	Bachelor of Science
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of Napa
DDT	dichlorodiphenyltrichloroethane
°F	degrees Fahrenheit
FESA	Federal Endangered Species Act
GIS	Global Information System
IQ	IQ FireWatch
ITC	Illumination Technologies Corp
MBTA	Migratory Bird Treaty Act
M.S.	Master of Science
NOAA	National Oceanic and Atmospheric Administration
OHWM	Ordinary High Water Mark
Project	Napa Monopoles Project
SSC	Species of Special Concern
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

1 INTRODUCTION

Illumination Technologies Corp (ITC) would enter into a contract with the County of Napa (County), Department of Public Works, to implement the Napa Monopoles Project (Project) to install 23 monopoles and 11 IQ[2] FireWatch (IQ) poles in select locations within the County's public rights-of-way and on private property with property owner permission to provide 1) early warning fire sensing network covering 90% of the County; and 2) increase cellular communication and broadband wireless connectivity in some locations throughout the County that are currently underserved.

The majority of the monopoles would be installed in the public's right-of-way. Some IQ FireWatch poles would be placed on private property with permission from the landowners. The Project location and vicinity maps are included in this report as Figure 1 and Figure 2, respectively.

The purpose of this *Biological Resource Study* is to provide technical information and to determine the extent to which the Project may affect biological resources that occur or have potential to occur within the vicinity of the proposed Project.

[2] IQ Wireless is a company located in Germany that produces the IQ FireWatch technology.

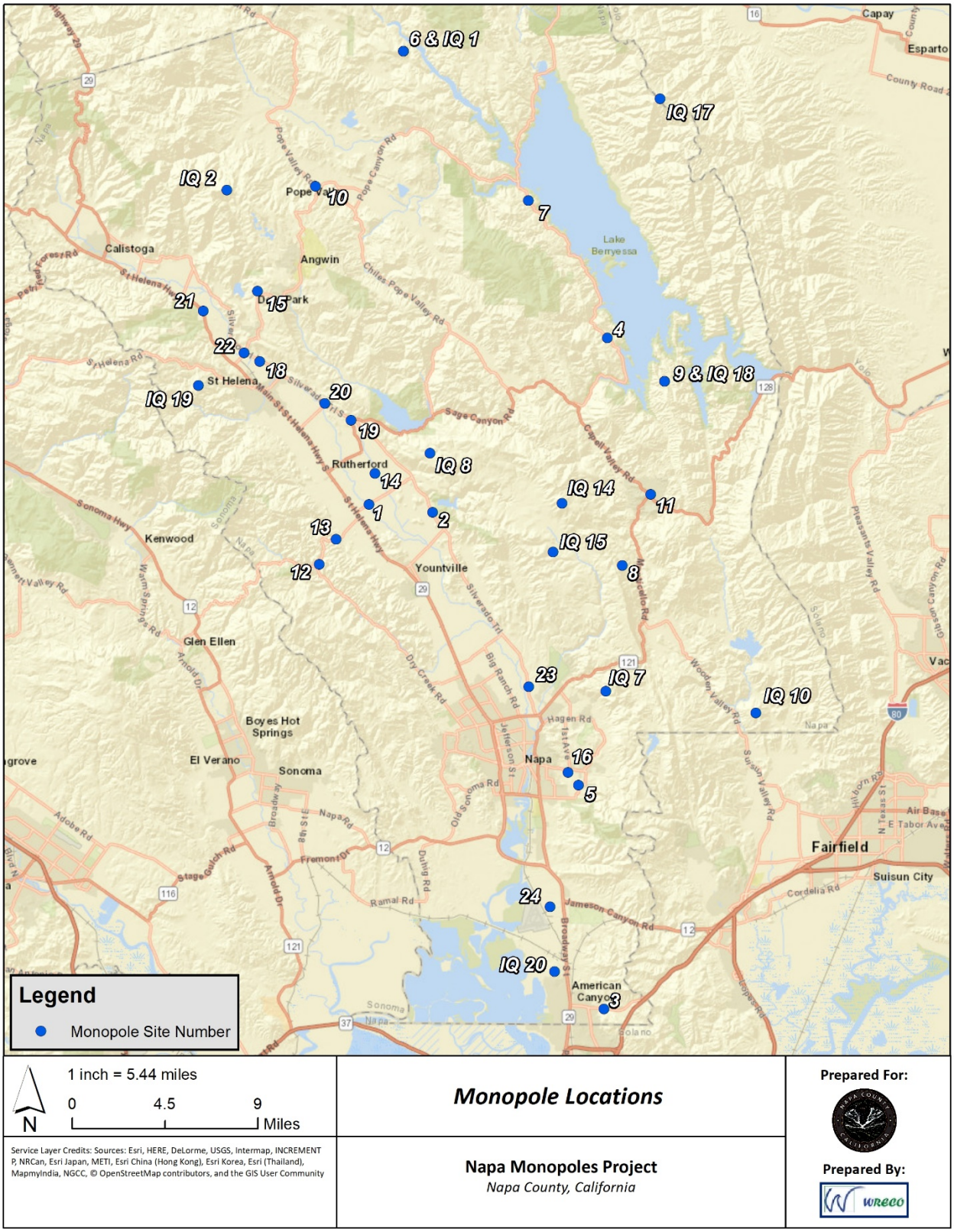


Figure 1. Project Location Map

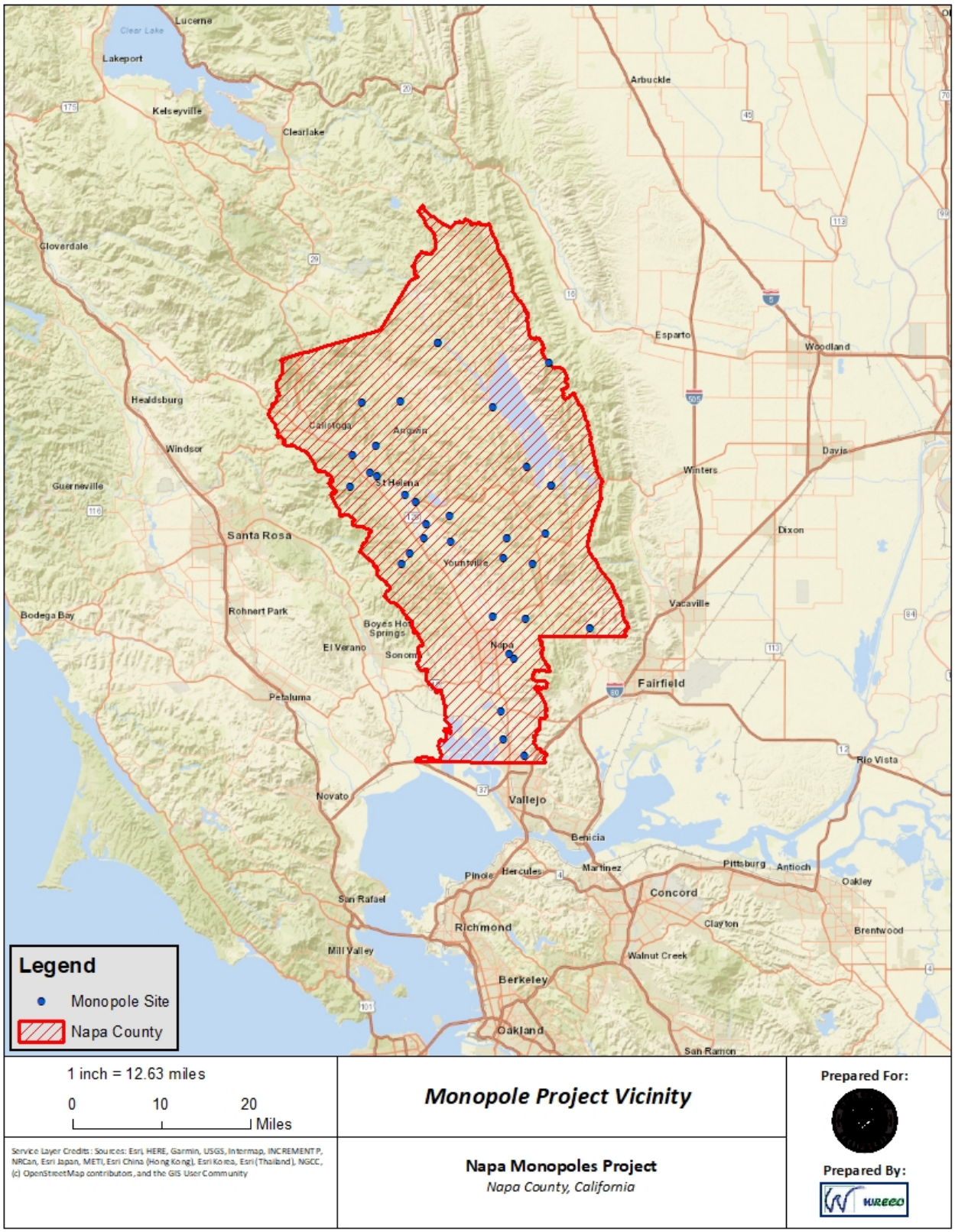


Figure 2. Project Vicinity Map

1.1 Project Description

Elements of the monopoles and IQ installations are as follows.

1.1.1 Broadband and/or Telco Sites (Including co-located with IQ)

1.1.1.1 Monopole

ITC supplies and installs only the "passive" facility infrastructure, including a "stealth" monopole non-guyed tower, generally 60 to 80 feet tall, on an in-ground foundation or pad/block foundation. The tower will be constructed with an approximately 20-foot by 20-foot level compound where the carrier-specific radio equipment cabinet(s), including utility (fiber and electricity) connections will be located. Carrier-specific antennas will be located at the top and possibly other locations on the "stealth" tower. All wireless carrier and/or broadband provider equipment may be subject to potential encroachment permit modification and will be fully compliant with all federal, state, and local regulations and requirements. All equipment is weatherproof and/or sealed and has containment devices included, in the event of a natural disaster.

1.1.1.2 IQ-Only Sites

There are three possible types of towers to deploy and support the fire detection equipment.

Preferred – Trailer mounted tower with solar panels and backup battery.
Towers between 55-feet and 75-feet above ground level (AGL) will be guyed, secured by appropriate soil screws into the ground and/or trailer outriggers and self-contained with solar and battery backup possible outriggers. The IQ camera is mounted at the top of the tower with a microwave dish (a maximum of 36-inches diameter) located on the tower for data connectivity. All communications and power equipment, along with solar panels are located with weatherproof cabinet(s) on the trailer. The trailer dimensions are 10 feet by 25 feet wide.

Optional – Telescoping lattice tower.
The telescoping lattice tower requires the solar battery backup be in weatherproof cabinets placed on the on steel grid platforms. The foundation can be either a small diameter pole inserted into the ground or a small foundational pad approximately 5-feet by 10-feet to 10-feet by 10-feet that will also accommodate the ground equipment cabinet.

Co-locations will be done on existing towers.

1.1.2 Construction Methodology

At most monopole locations, a concrete pad, typically 20 feet by 20 feet, would be excavated, formed, and poured. In some, as will be determined by the results of the geotechnical report that will be done prior to construction, a 5-foot-wide by approximately 17-feet-wide hole would be drilled to insert the pole. At the IQ FireWatch locations with a lattice tower, aconcrete pad, typically 10-feet by 10-feet would be excavated, formed, and poured.

The crew size involved in the pole installations will range from six to 15 people. Equipment that would be used includes a backhoe, excavator, crane, and no more than two haul trucks and concrete trucks.

If groundwater is encountered during the drilling process, the hole would be dewatered by pumping the groundwater into an upland field.

Excess spoils generated from the drill operation would be transported to a landfill.

1.1.3 Construction Schedule

For IQ poles scheduled to be installed during 2021, construction would occur between August and December. Installations average one to three weeks of work depending on installation method and other difficulties that may be encountered. The monopoles would be installed between June and December 2021. However, some monopoles may not be installed for several years depending on telecommunication company leases with ITC.

2 STUDY METHODS

A biological study area (BSA) was established to encompass the Project limits and surrounding areas, which could be affected directly or indirectly by the Project. A BSA is defined as the area (land or water) that may be directly, indirectly, temporarily, or permanently impacted by construction or construction-related activities. Generally, the BSA encompassed a 300-foot buffer around each pole location to take into account an expanded temporary work area utilized by crews installing the structures.

In order to comply with the provisions of various state and federal environmental statutes and regulations, natural resources within the BSA were investigated and documented. A field survey of the BSA was conducted to 1) assess existing natural habitat types; 2) identify and map potential aquatic resources; 3) identify special-status species or their habitat that may be present; and 4) inventory and establish baseline conditions of biological resources. The BSAs for each monopole location are included in Appendix A.

2.1 Database and Literature Searches

Information about special-status species and habitat types that could occur in the BSA was obtained from the following sources:

- California Natural Diversity Database (CNDDB) RareFind 5 query for records of special-status species within a 10-mile radius of the Project limits (California Department of Fish and Wildlife [CDFW], 2021a)
- California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (2021)
- U.S. Fish and Wildlife Services (USFWS) online database for federally threatened and endangered species (2021)
- National Oceanic and Atmospheric Administration (NOAA) Fisheries online database for federally threatened and endangered species (2021)
- Existing literature as cited in the text

The CNDDB and CNPS database searches included a search of the United States Geological Survey 7.5-minute quadrangles encompassing the BSAs and a 5-mile radius. A 5-mile radius was used because the further records for special-status species are from a BSA; the less likely it is to occur in the vicinity. The quadrangles utilized in the searches included Jericho Valley, Knoxville, Mount Saint Helena, Detert Reservoir, Aetna Springs, Walter Springs, Brooks, Mark West Springs, Calistoga, Saint Helena, Chiles Valley, Lake Berryessa, Monticello Dam, Kenwood, Rutherford, Yountville, Capell Valley, Mount Vaca, Glen Ellen, Sonoma, Napa, Mount George, Fairfield North, Cuttings Wharf, Cordelia, Mare Island, and Benicia.

ArcGIS was used to conduct spatial analyses on species, habitat, and biological resources. These results informed the preliminary technical studies regarding special-status species in the BSA.

2.2 Field Surveys

Biological field surveys were conducted to determine the presence or absence of sensitive biological resources such as aquatic resources, and special-status plants and wildlife. The surveys included the identification of potential habitat for special-status species protected under the Federal Endangered Species Act (FESA). On February 26, March 2, 3, 19, and April 1, and May 6, 2021, the BSA at each pole site was surveyed to the extent possible on foot then later examined more closely on aerial imagery. Habitat conditions were photo-documented, and potential habitat for special-status species habitat was assess for each site. General notes were collected, including observed plants and wildlife. Some of the poles will be co-located on existing telecommunications poles. No field surveys were conducted at these locations based on the lack of potential impacts associated with this activity.

The credentials for survey personnel are:

- Sandra Etchell, B.A., Biology; M.S., Environmental Management; 25 years of experience
- Cuyler Stapelmann, B.S., Conservation and Resource Studies; 10 years of experience
- Jon Cox, B.S., Biology; 1 year of experience
- Jillian White, B.A., Environmental Studies; 1 year of experience

Table 1 summarizes the survey types, dates, and Project personnel involved with biological surveys conducted to date within the BSA.

Table 1. Biological Resources Surveys Conducted in BSAs

Survey Type	Date(s)	Sites Surveyed	Personnel
Reconnaissance level survey	February 26, 2021	10, 15, 18, 19, 20, 21, 22, 23	Cuyler Stapelmann, Jon Cox, Jillian White
Reconnaissance level survey	March 2, 2021	1, 4, 7, 11	Cuyler Stapelmann, Jon Cox, Jillian White
Reconnaissance level survey	March 3, 2021	3, 5, 12, 13, 14, 16, 24	Cuyler Stapelmann, Jon Cox, Jillian White
Reconnaissance level survey	March 19, 2021	12, 8, 9/IQ18, 6/IQ 1	Sandra Etchell, Jon Cox, Jillian White
Reconnaissance level survey	March 25, 2021	2, 5, 15, IQ 8, IQ 15	Sandra Etchell, Jon Cox
Reconnaissance level survey	April 1, 2021	IQ 2, IQ 7, IQ 16, IQ 19	Sandra Etchell, Jon Cox
Botanical Survey	May 6, 2021	6/IQ 1, IQ 19	Sandra Etchell, Jon Cox

The methodology utilized for each type of survey is described below. Appendix B provides a brief description of the jurisdictions and regulations specific to the biological resources covered in this document.

2.2.1 Wetlands

Potential wetlands were visually inspected for approximate locations of distinct upland/wetland boundaries.

2.2.2 Waters of the U.S.

Other or Navigable Waters of the U.S include the oceans and navigable coastal and inland waters, lakes, rivers, streams (including intermittent streams). U. S. Army Corps of Engineers (USACE) jurisdiction is determined by locating the Ordinary High Tide Line of tidal waters, or the Ordinary High Water Mark (OHWM) of non-tidal waters, which is further defined as the boundary between uplands and Waters of the U.S. along non-tidal riverine systems.

2.2.3 Waters of the State

Locations of all drainages or surface water bodies protected under the Clean Water Act Section 401 Water Quality Certification program were evaluated to determine if they qualified as waters of the state of California based upon the following criteria:

- All federally jurisdiction wetlands and other waters
- Jurisdiction at streams, lakes, and ponds considered as other waters of the US extends beyond the OHWM to the top of bank or to the greatest lateral extent of riparian vegetation, whichever is greater
- Jurisdiction includes isolated, non-navigable, intrastate wetlands that do not qualify as waters of the U.S.

2.2.4 Vegetation Communities and Botanical Surveys

A list of special-status plants generated from the CNDDB, CNPS, and USFWS online databases was compiled along with the bloom season and habitat type for each species. If the BSA lacked suitable habitat for certain plants, they were eliminated from the list. Botanical surveys followed the floristic survey protocol recommended by the CNPS (2001), which correlate with the bloom period for this region. Plants that were not easily identifiable were keyed to genus and species by a botanist utilizing the plant keys available on the Jepson eFlora (2021).

Field surveys were conducted to determine and map the vegetative communities in the BSA and to compile an inventory of plant species present. Wildlife and Wildlife Habitat Surveys
The BSA was surveyed for wildlife and suitable habitat for special-status species known to occur in the region. Using the visual method and high-powered binoculars, all wildlife observed was documented. If special-status species or their habitat (host plants, vernal pools, wetlands, etc.) were observed, their locations were recorded in the field with the use of a hand-held Global Positioning System device and later transferred to a GIS database.

3 RESULTS - ENVIRONMENTAL SETTING

This section discusses the results of the database queries and surveys, and it includes assessments of the potential for special-status plants and wildlife, and the habitats present. Protocol-level bloom season surveys for plants were completed for Site 6/IQ 1 and IQ 19. For all other sites, botanical surveys were limited to plants with a February through early April bloom season. Additional botanical surveys for sites with potential for special-status plants are included in the recommendations below. There were two limitations that influenced botanical surveys. Vegetation on sites that were in areas burned during the 2021 Glass and Hennessey fires are just beginning to emerge and may not yet be fully emerging particularly due to the severe drought conditions from well below average rainfall during the 2020 and 2021 rainy seasons.

No protocol level wildlife surveys were performed, only reconnaissance level surveys. Protocol level surveys require resource agency approval and often require multiple years of survey. In areas burned by the 2021 Glass and Hennessey fires, very few wildlife species were seen due to the reduced vegetation that would normally supply opportunities for foraging and cover.

No wetlands delineations were conducted because no potential wetlands or other waters were delineated since the biologists were able to work with the Project design team to locate the poles away from aquatic resources.

3.1 Climate

The BSA has a Mediterranean climate, characterized by hot, dry summers and mild moist winters (George, 2020). Most precipitation falls as rain between October 15 and April 15. Climate summaries for the nearest NOAA weather stations to the BSA (Western Regional Climate Center, 2021) are summarized in Table 2. The average annual minimum temperature is 45.4 degrees Fahrenheit (°F), and the average annual maximum temperature is 71.9°F. The average of the average total precipitation is 30.44 inches, and the average of the average total snowfall is 0.4 inches.

Table 2. Climate Station Summary

Climate Station (ID)	Period of Record	Annual Minimum Temperature (°F)	Annual Maximum Temperature (°F)	Average Total Precipitation (inches)	Average Total Snowfall (inches)
Yountville (049859)	11/01/2002 to 08/31/2012	44.9	73.5	34.23	0.0
Angwin Pacific Union College (040212)	01/01/1940 to 06/10/2016	45.6	68.6	40.67	2.0
Saint Helena (047643)	10/24/1907 to 05/31/2016	44.2	73.6	34.61	0.3
Berryessa Lake (040705)	11/01/1957 to 06/30/1970	48.8	74.0	24.44	0.0
Napa State Hospital (046074)	01/01/1893 to 06/10/2016	45.9	71.1	24.66	0.1
Napa (046065)	12/01/1903 to 12/31/1965	43.0	70.6	24.02	0.1

Source: Western Regional Climate Center, 2021

3.2 Vegetation Communities and Wildlife Habitat Associations

The plant vegetation community descriptions and nomenclature conventions within this analysis, referenced the CDFW's California Wildlife Habitat Relationships System (2021b). This classification system is based on 59 wildlife habitats described in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer, 1988) and may be used as a model to predict which wildlife species may inhabit specific plant communities. Vegetative communities support a significant ecological balance between plant-wildlife relationships.

Twelve (12) vegetation communities were identified in the 28 BSAs. These include annual grassland, pasture, vineyard, mixed chaparral, blue oak-foothill pine, montane hardwood, oak woodland, riparian, irrigated hayfield, montane hardwood-conifer, fresh emergent wetland, and ruderal. These communities are described below. Aerial maps of the vegetation communities within the BSA of each pole site are included in Appendix A. Appendix C provides representative photos of the BSA at each pole site .

Annual Grassland
Non-native or naturalized annual grasses and forbs have largely replaced pre-colonial grasslands on rolling hills and flat plains in California. Although a rich variety of native species may be present, grasses such as wild oats and barley, brome species, and soft chess dominate (Kie, 2005). Many annual grass species grow alongside other habitats, such as oak woodland, perennial grassland, and vernal pools. Annual grassland habitat was found at the following sites: 1, 2, 3, 4, 5, 10, 11, 12, 14, 16, 22 and IQ 15.

Vineyard
Vineyards consist of cultivated rows of grapes or other crops that grow on vines supported by wire or wood trellises. They are typically planted in alluvial soils on valley floors, in rolling foothill areas, or on relatively steep slopes. Their linear row structure allows for intensive management and ease of harvesting. Grasses or legumes may be planted as cover crops between rows (Schultze, 1999). Vineyard habitat was found at the following sites: 1, 2, 5, 10, 11, 13, 14, 16, 19, 20, 21, 22 23, IQ 8, IQ 15, and IQ 19.

Mixed Chaparral
Mixed chaparral is dominated by shrubs with thick, stiff evergreen leaves and typically consists of dense, nearly impenetrable thickets with greater than 80 percent shrub cover. Shrub height is influenced by a number of environmental factors including precipitation regime, aspect, soil type, and fire frequency. Shrubs range between 3 to 20 feet. When serpentine soils are present, shrub cover and height is much less due to diminished nutrients necessary for vigorous plant growth. Chaparral is sometimes overlaps with other vegetation habitat types including woodlands and conifer forests (England, 1988). Mixed chaparral habitat was found at the following sites: 6/IQ 1 (mixed with blue oak woodland), 12, 15, IQ 2, IQ 7, and IQ 8.

Blue Oak Woodland
Blue oak woodlands typically have an overstory of scattered trees with canopies dominated by broad-leaved trees from 16 to 50 feet tall. Shallow soils and water stress influence the density of

blue oaks, which causes them to form open savanna-like stands on dry ridges and gentle slopes. Few shrubs grow in oak woodlands and the understory vegetation usually consists of annual grasses (Ritter, 1988). Blue oak woodland habitat is present at Sites 4 and IQ 15.

Blue Oak-Foothill Pine
Blue oak (*Quercus douglasii*) and foothill pine (*Pinus sabiniana*) dominate this vegetation community. Either species can become dominant over the other depending on the amount of shading that blue oaks experience in the overall tree canopy. The understory is typically composed of several species of shrubs that tend to be clumped together amongst interspersed patches of annual grassland (Verner, 1988). Blue oak-foothill pine habitat was found at Sites 6/IQ, 1, 7, 9/IQ, 8, and 11.

Montane Hardwood
Montane hardwood habitat is characterized by a hardwood tree layer with an infrequent to sparse shrub and herbaceous layer. Canyon live oak often forms almost pure stands on steep canyon slopes and rocky ridgetops in the Sierra Nevada, while California black oak (*Quercus kelloggii*) tends to dominate on gentler terrain. At higher elevations, associated tree species Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), and California black oak. At lower elevations, associated tree species include foothill pine (*Pinus sabiniana*), Madrone (*Arbutus menziesii*), and California bay (*Umbellularia californica*). Typical understory vegetation coffeeberry (*Frangula californica*), wood rose (*Rosa gymnocarpa*), snowberry (*Symphoricarpose albus*), poison oak (*Toxicodendron diversilobum*), and forbs and grasses (McDonald, 1988). Montane hardwood habitat was found at IQ 19.

Oak Woodland
Oak woodlands grow across valleys and foothills in California at elevations ranging from about 30 to 5,000 ft. More than 20 native oak species characterize widely varying habitats, ranging from widely spaced trees with grassland understory to dense forests. Oak woodlands can be the primary overstory species or occur alongside mixed evergreen species such as California bay laurel and madrone. Valley oak takes over as the dominant tree in oak woodlands adjacent to major lowland valleys (Holland and Keil, 1995). Oak woodland habitat was found at the following sites: 10, 13, 18, and 19.

Riparian
Riparian habitat occupies areas along the banks of rivers, streams, lakes, springs, and floodplains. Riparian areas generally contain nutrient-rich alluvial soils and have high water tables, and the riparian areas are subject to periodic flooding. One or more species of deep-rooted deciduous trees, shrubs, and herbs grow in these habitats. Riparian habitat supports one of the greatest varieties of wildlife in the state. (Holland and Keil, 1995; Barbour et al., 2007). Riparian habitat was found at the following sites: 1, 3, 12, 19 23, and IQ 15.

Riverine
Rivers, creeks, and other riverine habitat exist where water flows downgradient over time, forming channels. These channels are frequently contiguous to lakes and fresh emergent wetland habitats and riparian vegetation typically grows along the banks (Barbour et al., 2007). As elevation and slope decline, the water generally covers a larger surface area and becomes a slow-

moving river. Riverine habitat ranges from continuously flowing rivers to intermittent streams (Grenfell, 2008). Napa River flows from its headwaters on Mt. Saint Helena through the Napa Valley floor on a southerly course to outlet into San Pablo Bay. Site 19 has riverine habitat associated with the Napa River within its BSA, however, it is about 250 feet from the site and will not be impacted during construction.

Ruderal
Ruderal plant communities consist of varied, often temporary, collections of mostly non-native plants along roadsides or other disturbed areas. Shallow soils may be underlain by gravel and compacted or hard-pan surfaces, preventing many plants from establishing. Aggressive, invasive weeds such as brome grasses and thistles typically thrive in ruderal habitats (Holland and Keil, 1995). Ruderal habitat was found at the following sites: 1, 2, 3, 4, 5, 8, 9, 11, 13, 14, 15, 18, 19, 20, 22, and 23.

Urban/Landscaped
The California Wildlife Habitat Relationships (CWHR) System classifies urban vegetation into five areas: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. Urban areas typically have a small diversity of trees, shrubs, and grasses, but greater productivity than natural grasslands due to abundant water and fertilizer (McBride and Reid, 1988). Examples include residential landscapes, golf courses, parks, and school grounds. Non-native landscape species and invasive weeds are common. There is urban/landscaped habitat at Sites 21 and 24.

Irrigated Hayfield
Irrigated hayfield vegetation communities include alfalfa fields and grass hayfields. These types of fields are typically plowed annually and planted to produce monoculture crops, which are harvested between 1 to 3 years after planting depending on the type of crop. Due to the ground disturbance practice and monoculture planting regime, when irrigated hayfields are abandoned, the fields will regenerate invasive exotic species that persist in the soil for long periods of time. Native vegetation is not likely to regenerate due to the competition from invasive plant for water, space, and nutrients (Fitzhugh and Schultze, 1988). Irrigated hayfield habitat was found at Sites 1 and 5.

Freshwater Emergent Wetland
Fresh emergent wetland is a broad term for depressions on level to gently rolling land that is permanently or seasonally inundated with fresh water. This habitat is found throughout California, most commonly at elevations below 7,500 feet. Roots of fresh emergent wetland vegetation thrive in anaerobic environments; the limits of this habitat occur at the boundary of hydric and non-hydric soils. The composition of the plant community depends on the depth and flow rate of the water, but cattails, bulrushes, rushes, sedges, and nutgrasses are characteristic. Fresh emergent wetland provides some of the most productive wildlife habitat in the state (Kramer, 1988). Fresh emergent wetland habitat was found at the following sites: 3 and 20. Fresh emergent wetland vegetation was found across the road from Site 3, and marginal fresh emergent wetland vegetation is present in a swale at Site 20 and across the road from Site 22.

Montane Hardwood - Conifer

Montane hardwood conifer vegetation communities occur in mountain ranges throughout California. Species composition is highly variable depending on location and the amounts of annual precipitation, soil, and a number of other environmental factors. Montane hardwood conifer habitats are composed of a mixture of 4 to 6 conifer tree species occurring in small stands interspersed with one or more species of hardwoods stands (Holland and Keil, 1995). In more pristine areas that undergo very little human disturbance, there is very little understory and tree canopies are dense and bi-layered. In areas where fire, logging, or other anthropogenic disturbance has occurred, tree canopies are more open and considerable ground and shrub cover occur in the understory (Anderson, 1988). Montane hardwood-conifer habitat was found at Site 8. This habitat surrounds the water take pad at Site 8.

3.3 Site Specific Conditions and Recommendations

The pole locations were scattered throughout Napa County therefore the environmental setting for each pole is included below with descriptions of biological resources found, or with potential to occur, at each Site. Soils and hydrology are also included in the environmental setting description for each pole. Sites where tree trimming will occur and site specific recommendations for avoidance and minimization of impacts to plants and wildlife are included.

3.3.1 Oakville Crossroad (Site 1)

This monopole site is located on the south side of Oakville Cross Road in a rural, agricultural area. Site 1 is 0.57 miles east of the unincorporated community of Oakville in the central western portion of Napa County. The latitude of the pole location is 38.441317, and the longitude is -122.393956. The site topography consists of level terrain found in the floor of the Napa Valley. According to the U.S. Department of Agriculture (USDA) Soil Survey, soils at the pole site consist of Yolo loam (181) and yolo loam (182). The pole would be installed in a disturbed graveled area adjacent to the roadway and approximately 242 feet northeast from the Napa River. The habitat in the vicinity of the pole site is primarily agricultural, consisting of an irrigated hay field to the south and a vineyard to the north. The BSA also has a narrow strip of riparian corridor along the banks of the Napa River located to the west of the Site. Numerous coast live oaks (*Quercus agrifolia*) line the roadway in this area, however, the pole would be located in a ruderal, highly disturbed roadside where there is a gap in the trees (see Appendix C). Possible tree trimming may be need overhead of the pole site. Given the disturbed nature of the site from past fill activity, there is no potential for special-status plant species, and none were observed during the March 2, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. Plant and wildlife species observed at Site 1 are listed in Table 3.

Table 3. Species Observed at Site 1

Scientific Name	Common Name	Designation
Plant Species		
Arbutus menziesii	Madrone	Native
Brassica sp.	Brassica species	Non-native
Elymus sp.	Wild rye	Unknown
Galium sp.	Galium species	Native
Lathyrus sp.	Sweet pea	Non-native

Marah sp.	Man-root species	Native
Platanus hispanica	London plane tree	Non-native
Quercus agrifolia	Coast live oak	Native
Raphanus sativus	Wild radish	Non-native
Vicia sativa	Spring vetch	Non-native
Wildlife Species		
Birds		
Baeolophus inornatus	Oak titmouse	-
Corvus brachyrhynchos	American crow	-
Corvus corax	Common raven	-
Haemorhous mexicanus	House finch	-
Setophaga coronata	Yellow-rumped warbler	-
Sturnella neglecta	Western meadowlark	-

Recommendation to Protect Biological Resources at Pole Site 1:

- Preconstruction nesting bird surveys are recommended.
- Roosting bat surveys are recommended if tree trimming occurs.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.2 Silverado Trail Corporation Yard (Site 2)

This monopole site is located on the east side of Silverado Trail on the border of Yountville and Oakville. The latitude is 38.437003, and the longitude is -122.349386. The topography of the area transitions from the level valley floor to foothills of the Vaca Mountain Range. According to the USDA Soil Survey, soils at the pole site consist of Boomer-Forward-Felta-Complex (110). The habitat within the vicinity of the pole site consists of vineyards to the west and open annual grassland to the east and south. A Napa County corporate yard is situated to the north in a paved and ruderal area. The pole would be located on a barren road shoulder and approximately 571 feet southeast from Rector Creek. Given the disturbed nature of the site from past fill activity, there is no potential for special-status plant species and none were observed during the March 25, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. There is a roadside drainage ditch between the road and the pole location (see Appendix C) that would need protection. Also, there is a row of trees along the east side of the road within close proximity to the pole location site, and while no tree removal is anticipated, minor tree trimming may be necessary. Plants and wildlife species observed at Site 2 are listed in Table 4.

Table 4. Species Observed at Site 2

Scientific Name	Common Name	Designation
Plant Species		
Acacia sp.	Acacia species	Non-native
Avena sp.	Wild oats species	Non-native
Carduus pycnocephalus	Italian thistle	Non-native
Convolvulus arvensis	Field bindweed	Non-native

Geranium dissectum	Wild geranium	Non-native
Raphanus sativus	Wild radish	Non-native
Wildlife Species		
Birds		
Cathartes aura	Turkey vulture	-
Zenaida macroura	Mourning dove	-

Recommendation to Protect Biological Resources at Site 2:

- Preconstruction nesting bird surveys are recommended.
- Roosting bat surveys are recommended if tree trimming occurs.
- Silt fence must be installed along the eastern edge of the drainage to prevent construction related debris and sediment laden water from entering the drainage ditch.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.3 American Canyon (Site 3)

This monopole site is located on the north side of American Canyon Road approximately 1.3 miles east of the SR 29/American Canyon Road intersection in American Canyon. The latitude is 38.163875 and the longitude is -122.229336. This pole is approximately 300 feet north of American Canyon Creek, a tributary of the Napa River. The hilly terrain within the vicinity is dominated by annual grasslands. Across the road from the Site, American Canyon Creek flows east to west and supports a sparse mix of riparian vegetation and fresh emergent wetland. This area would be avoided by the Project. The pole would be installed in a disturbed fill slope that may have originated from nearby earthwork done in the past. According to the USDA soil survey, soils at the site consist of Clear Lake Clay (116) and Montara Clay Loam (167), which is described as having serpentine qualities and serpentinite fragments were observed during the March 3, 2021 biological resources survey. The pole site might be on fill material from nearby earthwork. Given the disturbed nature of the site from past fill activity, there is no potential for special-status plant species and none were observed during the biological resources survey. The location does not provide suitable habitat for special-status wildlife species. There is a detention basin with drainage swale along the roadway just below the location where the pole would be installed. The swale drains into American Canyon Creek and would need to be protected during construction activities. Plant and wildlife species observed at Site 3 are listed in Table 5.

Table 5. Species Observed at Site 3

Scientific Name	Common Name	Designation
Plant Species		
Baccharis pilularis	Coyote brush	Native
Eschscholzia californica	California Poppy	Native
Foeniculum vulgare	Fennel	Non-native
Hirschfeldia incana	Mustard	Non-native
Vicia sp.	Vetch species	Non-native
Wildlife Species		
Birds		
Agelaius phoeniceus	Red-winged blackbird	-

Calypte anna	Anna's hummingbird	-
Sturnus vulgaris	European starling	-
Zonotrichia leucophrys	White-crowned sparrow	-
Mammals		
Procyon lotor	Raccoon	-

Recommendation to Protect Biological Resources at Site 3:

- Preconstruction nesting bird surveys are recommended.
- Silt fence must be installed between the pole installation site and the drainage swale to protect water quality.
- Serpentine soil is present at the site and will likely require special handling.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.4 Spanish Flat (Site 4)

This monopole site is located on the west side of Berryessa Knoxville Road in an area known as Spanish Flat. Spanish Flat is located in unincorporated eastern Napa County on the southwestern side of Lake Berryessa. The latitude is 38.532536, and the longitude is -122.226802. This area is situated at 550 feet above sea level and the topography of the site consists of hilly terrain. The pole would be installed in a disturbed roadside shoulder with gravel and compact soil approximately 0.64 miles southwest of Lake Berryessa. According to the USDA Soil Survey, soils at the pole site consist of Bressa-Dibble complex (114) and Millsholm loam (164). The habitat in the vicinity of the pole site consists of ruderal areas and blue oak woodland/annual grassland mosaic however the region burned during the 2020 Hennessey Fire and vegetation is surrounding the area is still recovering. The pole would be located in a ruderal, highly disturbed area, therefore is no potential for special-status plant species, and none were observed during the March 2, 2021 biological resources survey. The location itself does not provide suitable habitat for special-status wildlife species. There are unnamed drainages to the north and south of the pole that must be protected during construction. Potential tree trimming may be required. Plant and wildlife species observed at Site 4 are listed in Table 6.

Table 6. Species Observed at Site 4

Scientific Name	Common Name	Designation
Plant Species		
Amblyopappus pusillus	Pineapple weed	Native
Arctostaphylos sp.	Manzanita species	Native
Claytonia sp.	Spring beauty species	Native
Pinus sabiniana	Gray pine	Native
Populus trichocarpa	Black cottonwood	Native
Quercus douglasii	Blue oak	Native
Ranunculus sp.	Buttercup species	Native
Vicia sp.	Vetch species	Non-native
Wildlife Species		
Birds		
Callipepla californica	California quail	-

Melanerpes formicivorus	Acorn woodpecker	-
Picoides nuttallii	Nuttall's woodpecker	-
Sayornis nigricans	Black phoebe	-

Recommendation to Protect Biological Resources at Site 4:

- Preconstruction nesting bird surveys are recommended.
- During construction, best management practices (BMP) must be installed to protect the unnamed drainage features to the north and south of the pole.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.5 Imola-Skyline – Fouth Avenue (Site 5)

This monopole site is located at a curve on 4th Avenue approximately 0.6 mile north of Imola Avenue in the outskirts of southeast Napa. The latitude is 38.286884, and the longitude is -122.247059. The pole would be installed in a disturbed roadside. This pole is approximately 0.27 miles south of Tulucay Creek and approximately 0.32 miles north of Kreuse Creek. According to the USDA Soil Survey, soils at the pole site consist of Sobrante loam (178). The surrounding habitat is annual grassland, vineyard, and irrigated hayfield. There are no aquatic features associated with this site. Plant and wildlife species observed at Site 5 during the May 6, 2021 survey are listed in Table 7.

Table 7. Species Observed at Site 5

Scientific Name	Common Name	Designation
Plant Species		
Amblyopappus pusillus	Pineapple weed	Native
Cardamine sp.	Bitter cress species	Native
Eschscholzia californica	California Poppy	Native
Poa trivialis	Rough blue grass	Non-native
Vicia sp.	Vetch species	Non-native
Wildlife Species		
Birds		
Agelaius phoeniceus	Red-winged blackbird	-
Haemorhous mexicanus	House finch	-
Spinus psaltria	Lesser goldfinch	-
Zenaida macroura	Mourning dove	-

Recommendation to Protect Biological Resources at Site 5:

- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.6 Berryessa Estates (Site 6/IQ 1)

The pole would be placed on an existing leveled pad surrounding a water tank on a ridgetop above the Berryessa Estates Development, which is located several miles northwest of Lake

Berryessa. The latitude is 38.691072, and the longitude is -122.373688. The hilly topography in the site vicinity consists of mixed chaparral and a blue oak/foothill pine woodland mosaic. A vast expanse of this region was burned during the 2020 Hennessey fire and vegetation is just beginning to recover. According to the USDA Soil Survey, soils at the pole sites consist of Maymen-Millsholm-Lodo association (163). There are no aquatic features in the vicinity; the nearest aquatic features are Putah Creek, located 0.45 miles northeast of the site, and Stone Corral Creek, located 0.48 miles southeast of the site.

The water tank pad was bladed, but there is no gravel layer present, therefore a mix of native and non-native herbaceous plants were present. The potential of special-status herbaceous plants to occur on the pad is high and the western side of the water tank pad should be flagged for avoidance. While no special-status plant were identified during 2021 botanical surveys once the area recovers from drought and fires, special-status plants cover occur in subsequent years therefore pre-construction botanical surveys should be conducted if construction is pushed beyond 2021. There is no suitable habitat for special-status wildlife species. Plant and wildlife species observed at Site 6/IQ 1 during the March 19, 2021 survey are listed in Table 8.

Table 8. Species Observed at Site 6/IQ 1

Scientific Name	Common Name	Designation
Plant Species		
Achillea millefolium	Yarrow	Native
Avena barbata	Wild oats	Non-native
Brodea elegans	Harvest brodea	Native
Bromus rubens	Red brome	Non-native
Calochortus luteus	Yellow mariposa lily	Native
Clarkia gracilis ssp. gracilis	Graceful clarkia	Native
Epilobium species	Willow herb	Native
Eriodictyon californicum	Yerba santa	Native
Eriophyllum lanatum	Woolly sunflower	Native
Hypericum concinnum	Gold wire	Native
Iris macrosiphon	Ground iris	Native
Lysimachia arvensis	Scarlet pimpernel	Non-native
Navarretia pubescens	Purple navarretia	Native
Pseudognaphalium thermale	Small headed cudweed	Native
Trifolium tomentosum	Woolly clover	Non-native
Wildlife Species		
Birds		
Aphelocoma californica	California scrub-jay	-
Cathartes aura	Turkey vulture	-
Elanus leucurus	White-tailed kite	-
Junco hyemalis	Dark-eyed junco	-
Zenaida macroura	Mourning dove	-
Mammals		
Odocoileus hemionus columbianus	Columbian black-tailed deer	-

Recommendation to Protect Biological Resources at Site 6/IQ 1:

- Pre-construction botanical surveys should be conducted if construction occurs beyond 2021. The western portion of the site beyond the water tank should be flagged for avoidance during construction due to the presence of sensitive chaparral habitat.
- Preconstruction nesting bird surveys are recommended.
- Prior to entering the Site, all construction related equipment must be washed and free of mud to avoid the spread of invasive plant species.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.7 Berryessa Pines (Site 7):

This monopole site is located on the east side of Berryessa Knoxville Road between Spanish Flat and Walter Springs along the northwestern edge of Lake Berryessa. The latitude is 38.607933, the longitude is -122.282128, and the elevation is 635 feet Above Mean Sea Level (AMSL). The surrounding hilly terrain consists of a mosaic of blue oak-foothill pine. The area was burned in the 2020 Hennessey Fire, and vegetation is just beginning to re-emerge. According to the USDA Soil Survey, soils at the pole site consist of Henneke gravelly loam (154). The pole would be installed in a highly disturbed, graveled pullout situated on the east side of the road. This pole is approximately 0.51 miles west of Lake Berryessa. While the habitat surrounding the Site is sensitive, given the disturbed nature of the pullout, there is no potential for special-status plant species and none were observed during the March 2, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. There are no aquatic resources in the vicinity of the BSA. Plant and wildlife species observed at Site 7 are listed in Table 9.

Table 9. Species Observed at Site 7

Scientific Name	Common Name	Designation
Plant Species		
Arctostaphylos sp.	Manzanita species	Native
Chlorogalum angustifolium	Narrow leaved soaproot	Native
Eriodictyon californicum	Yerba santa	Native
Erodium sp.	Erodium species	Non-native
Heteromeles arbutifolia	Toyon	Native
Pinus sabiniana	Gray pine	Native
Quercus douglasii	Blue oak	Native
Sisyrinchium bellum	Blue eyes grass	Native
Wyethia sp.	Mule ears	Native
Wildlife Species		
Birds		
Agelaius phoeniceus	Red-winged blackbird	-
Aphelocoma californica	California scrub-jay	-
Branta canadensis	Canada goose	-
Callipepla californica	California quail	-
Calypte anna	Anna's hummingbird	-
Cathartes aura	Turkey vulture	-

Recommendation to Protect Biological Resources at Site 7:

- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.8 Circle Oaks (Site 8)

This monopole site is located next to a water tank in a leveled, graveled pad near a hilltop above Circle Oaks, a rural, residential subdivision located 0.5 miles west of State Route 121 and several miles south of Lake Berryessa. The latitude is 38.407847, and the longitude is -122.216456. The elevation of the site is 1,635 AMSL and within hilly terrain in montane hardwood conifer dominated by madrone. This pole is approximately 0.39 acres southeast of Capell Creek. According to the USDA Soil Survey, soils at the pole site consist of Forward silt loam (140). The pad is mostly devoid of vegetation with the exception of some emerging non-native grasses. Given the disturbed nature of the site from past activity associated with levelling and gravelling of the pad, there is no potential for special-status plant species, and none were observed during the March 19, 2021 biological resources survey. While the habitat surrounding the water tank pad is sensitive, the pole location does not provide suitable habitat for special-status wildlife species. No aquatic resources occur within the BSA or vicinity. Plant and wildlife species observed at Site 8 are listed in Table 10.

Table 10. Species Observed at Site 8

Scientific Name	Common Name	Designation
Plant Species		
Arbutus menziesii	Madrone	Native
Baccharis pilularis	Coyote brush	Native
Cardamine californica	Bitter cress	Native
Cynoglossum grande	Houndstongue	Native
Festuca californica	California fescue	Native
Pseudotsuga menziesii	Douglas fir	Native
Quercus wislizeni	Interior live oak	Native
Wildlife Species		
Birds		
Baeolophus inornatus	Oak titmouse	-
Cyanocitta stelleri	Stellar's jay	-

Recommendation to Protect Biological Resources at Site 8:

- Preconstruction nesting bird surveys are recommended.

3.3.9 Berryessa Highlands Water Tank (Site 9/IQ 18)

These monopole sites are located next to a water tank situated on a leveled pad near a hilltop above a rural, housing development known as Berryessa Highlands in the vicinity of Spanish Flat near the southeast end of Lake Berryessa. This pole is approximately 0.18 miles west of an unknown tributary to Lake Berryessa and approximately 0.74 miles southeast of Lake Berryessa. More specifically the site is on a hilltop east of Rimrock Drive. The latitude is 38.508767, and

the longitude is -122.186729. The habitat surrounding the pad consists of blue oak-foothill pine woodland that was recently burned in the Hennessey Fire. The elevation is 1,030 AMSL, and the topography of the area is hilly. According to the USDA Soil Survey, soils at the pole sites consist of Bressa-Dibble complex (115). The poles would be installed within the leveled footprint around the water tower. Given the disturbed nature of the site from past grading activity, there is no potential for special-status plant species, and none were observed during the March 19, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. There are no aquatic resources within the BSA or vicinity. Plant and wildlife species observed at Site 9/IQ 18 are listed in Table 11.

Table 11. Species Observed at Site 9/IQ 18

Scientific Name	Common Name	Designation
Plant Species		
Calandrinia menziesii	Red maids	Native
Claytonia parviflora	Narrow leaved miner's lettuce	Native
Erodium botrys	Big heron bill	Non-native
Erodium brachycarpum	White stemmed filaree	Non-native
Senecio vulgaris	Common groundsel	Non-native
Silybum marianum	Milk thistle	Non-native
Trifolium sp.	Clover species	Native
Wildlife Species		
Birds		
Cathartes aura	Turkey vulture	-
Corvus corax	Common raven	-

Recommendation to Protect Biological Resources at Site 9/IQ 18:

- Preconstruction nesting bird surveys are recommended.

3.3.10 Pope Valley Corners (Site 10)

This monopole site is located on the north side of Pope Valley Road approximately 0.2 mile west of Pope Valley Road and the intersection of Howell Mountain Road in Pope Valley, a rural, unincorporated community in northern Napa County. The latitude is 38.615556, and the longitude is -122.431389. This pole is located 0.44 miles west of an unnamed tributary to Burton Creek. The elevation is 710 feet AMSL and the terrain in the immediate vicinity transitions of the relatively level valley floor of Pope Valley to the hilly terrain west of the valley. The surrounding habitat is vineyard, remnant oak woodland, and a grassland/oak woodland mosaic; however, the pole site habitat is ruderal. According to the USDA Soil Survey, soils at the pole site consist of Bressa-Dibble complex (114) and Pleasanton loam (171). There is no suitable habitat for special-status plant or wildlife species in the immediate vicinity of the BSA. There are no aquatic features located within or near the BSA. Plant and wildlife species observed at Site 10 during the May 6, 2021 survey are listed in Table 12.

Table 12. Species Observed at Site 10

Scientific Name	Common Name	Designation
Plant Species		
Avena barbata	Wild oats	Non-native
Erodium botrys	Big heron bill	Non-native
Eschscholzia californica	California poppy	Native
Festuca perennis	Italian rye grass	Non-native
Lupinus species	Lupine species	Native
Trifolium hirtum	Rose clover	Non-native
Vicia sativa	Spring vetch	Non-native
Wildlife Species		
Birds		
Sialia mexicana	Western bluebird	Native
Sturnus vulgaris	European starling	Non-native
Euphagus cyanocephalus	Brewer's blackbird	Native
Haemorhous mexicanus	House finch	Native

Recommendation to Protect Biological Resources at Site 10:

- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.11 Moskowite Corners/Steele Canyon (Site 11):

This monopole site is located on the south side of Steele Canyon Road in the Capell Valley region of central eastern Napa County. The latitude is 38.446609, and the longitude is -122.196676. This pole is approximately 0.13 miles southwest of Oak Moss Creek. The elevation is 855 AMSL, and the specific pole location is in an area that transitions from flat valley floor to foothills of Wragg Ridge to the east. The surrounding habitat is annual grassland, vineyard, and blue oak/foothill pine woodland, and the pole would be installed in a paved parking lot. According to the USDA Soil Survey, soils at the pole site consist of Pleasanton loam (170). There is no suitable habitat for special-status plants and wildlife, and there are no aquatic features in the BSA or vicinity. Plant and wildlife species observed at Site 11 during the March 2, 2021 survey are listed in Table 13.

Table 13. Species Observed at Site 11

Scientific Name	Common Name	Designation
Plant Species		
Brassica sp.	Brassica species	Non-native
Erodium sp.	Erodium species	Non-native
Geranium dissectum	Wild geranium	Non-native
Silybum marianum	Milk thistle	Non-native
Vicia tetrasperma	Four seeded vetch	Non-native
Wildlife Species		
Birds		
Baeolophus inornatus	Oak titmouse	-
Euphagus cyanocephalus	Brewer's blackbird	-
Haemorhous mexicanus	House finch	-
Junco hyemalis	Dark-eyed junco	-
Melanerpes formicivorus	Acorn woodpecker	-
Sialia mexicana	Western bluebird	-
Sturnella neglecta	Western meadowlark	-
Zenaida macroura	Mourning dove	-
Mammals		
Otospemophilus beecheyi	California ground squirrel	-

Recommendation to Protect Biological Resources at Site 11:

- Preconstruction nesting bird surveys are recommended.

3.3.12 Dry Creek Fire Station (Site 12)

This monopole site is located on the south side of Oakville Grade in the Mayacamas Mountain foothills. Site 12 is west of the unincorporated community of Oakville in central western Napa County. The latitude is 38.408344, and the longitude is -122.428883. This pole is approximately 0.14 miles northeast of Dry Creek. The topography of the site is hilly, and the elevation is 655 feet AMSL. According to the USDA Soil Survey, soils at the pole site consist of Lodo-Maymen-Felton association (157). The surrounding habitat is annual grassland chaparral on the slopes north of the roadway and annual grassland with oak riparian woodland to the south along the banks of Dry Creek. The pole would be installed on an existing ruderal, graveled road shoulder. While the road shoulder is level, Dry Creek situated downslope of the pole site. Given the disturbed nature of the pole site location from past grading activity, there is no potential for special-status plant species, and none were observed during the March 3, 2021 and March 9, 2021 biological resources surveys. The immediate pole location does not provide suitable habitat for special-status wildlife species. Plant and wildlife species observed at Site 12 are listed below.

Table 14. Species Observed at Site 12

Scientific Name	Common Name	Designation
Plant Species		
Erodium brachycarpum	White stemmed filaree	Non-native
Erodium sp.	Erodium species	Non-native
Lupinus nanus	Valley sky lupine	Native
Trifolium sp.	Clover species	Unknown
Umbellularia californica	California bay	Native
Vicia sp.	Vetch species	Non-native
Wildlife Species		
Birds		
Aphelocoma californica	California scrub-jay	-
Cathartes aura	Turkey vulture	-
Zenaida macroura	Mourning dove	-

Recommendation to Protect Biological Resources at Site 12:

- Silt fence should be established between the pole location and the upper bank of Dry Creek to protect water quality.
- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.13 Oakville Grade (Site 13)

This monopole site is located on the north side of Oakville Grade, approximately 1.3 miles southwest of the SR 29 in Oakville. The latitude is 38.422111, and the longitude is -122.417017. This pole is approximately 0.10 miles north of Lincoln Creek. The elevation is 430 feet AMSL and the topography of the vicinity is hilly. The surrounding habitat is oak woodland along the slopes and a vineyard to the southeast; however, the pole would be installed on an existing disturbed, ruderal, graveled roadside pullout where there is no potential habitat for special-status plants or wildlife. Other vegetation communities in the BSA include a vineyard to the south. According to the USDA Soil Survey, soils at the pole site consist of Felton gravelly loam (136). There is a drainage ditch that parallels the south side of road opposite the pole location, but it should be a safe distance away from construction. Plant and wildlife species observed at Site 13 during the March 3, 2021 survey are listed Table 15.

Table 15. Species Observed at Site 13

Scientific Name	Common Name	Designation
Plant Species		
Acmispon glaber	Deerweed	Native
Aesculus californica	Buckeye	Native
Amblyopappus pusillus	Pineapple weed	Native
Arbutus menziesii sp.	Madrone species	Native
Arctostaphylos sp.	Manzanita species	Native
Claytonia sp.	Spring beauty species	Native
Erodium sp.	Erodium species	Non-native
Lathyrus sp.	Sweet pea	Non-native
Lupinus	Lupine species	Native
Oxalis sp.	Oxalis species	Unknown
Quercus agrifolia	Coast live oak	Native
Quercus douglasii	Blue oak	Native
Umbellularia californica	California bay	Native
Vicia sp.	Vetch species	Non-native
Wildlife Species		
Birds		
Baeolophus inornatus	Oak titmouse	-
Cathartes aura	Turkey vulture	-

Recommendation to Protect Biological Resources at Site 13:

- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.14 Skellenger Lane (Site 14)

This monopole site is located on the south side of Skellenger Lane near Conn Creek Road near the unincorporated community of Rutherford in western Napa County. The latitude is 38.458361 and the longitude is -122.389864. The elevation is 140 feet AMSL, and the topography is flat. According to the USDA Soil Survey, soils at the pole site consist of Clear Lake clay (117). The surrounding habitat is ruderal with strips of landscape trees and annual grassland. The surrounding area consists of vineyards with annual grassland vegetation. The pole would be installed on an existing disturbed roadside pullout consisting of annual grasslands. Conn Creek is located about 470 feet to the west and has a sparse riparian corridor along each bank. Given the disturbed nature of the site from past grading activity, there is no potential for special-status plant species, and none were observed during the March 3, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. No aquatic features were observed in the vicinity. Plant and wildlife species observed at Site 14 are listed in Table 16.

Table 16. Species Observed at Site 14

Scientific Name	Common Name	Designation
Plant Species		
Cardamine sp.	Bitter cress species	Native
Erodium sp.	Erodium species	Non-native
Euphorbia sp.	Euphorbia species	Unknown
Geranium dissectum	Wild geranium	Non-native
Hirschfeldia incana	Mustard	Non-native
Poa trivialis	Rough blue grass	Non-native
Quercus lobata	Valley oak	Native
Vicia sp.	Vetch species	Non-native
Wildlife Species		
Birds		
Haemorhous mexicanus	House finch	-
Mimus polyglottos	Northern mockingbird	-
Setophaga coronata	Yellow-rumped warbler	-
Sturnus vulgaris	European starling	-

Recommendation to Protect Biological Resources at Site 14:

- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.15 Deer Park Road (Site 15)

This monopole site is located on the south side of Deer Park Road in Angwin. The latitude is 38.558175, and the longitude is -122.472242. This pole is approximately 0.64 miles southeast of an unnamed tributary to Bell Canyon Reservoir and approximately 0.37 miles northwest of an unnamed tributary to Cañon Creek. The pole would be installed on a paved road shoulder. According to the USDA Soil Survey, soils at the pole site consist of Boomer gravelly loam (109) and Rock outcrop-Kidd complex (177). The surrounding habitat is a mosaic of annual grassland oak woodland and chaparral. No aquatic resources are in the BSA or vicinity. No special-status plant or wildlife species have potential to occur in the paved area. No plants were observed; wildlife species observed at Site 15 during the May 6, 2021 biological resource surveys are listed in Table 17.

Table 17. Wildlife Species Observed at Site 15

Scientific Name	Common Name	Designation
Birds		
Cathartes aura	Turkey vulture	-
Aphelocoma californica	California scrub-jay	-

Recommendation to Protect Biological Resources at Site 15:

- Preconstruction nesting bird surveys are recommended.

3.3.16 Coombsville (Site 16)

This monopole site is located on the south side of Coombsville Road in eastern Napa. The latitude is 38.294039, and the longitude is -122.254558. This pole is located approximately 482 feet north of an unnamed tributary of Tulucay Creek. The elevation of the site is 85 feet AMSL, and the site is in relatively flat terrain. The surrounding area is predominately vineyards with annual grasslands. According to the USDA Soil Survey, soils at the pole site consist of Hambright-Rock outcrop complex (151) and Sobrante loam (178). The pole would be installed on a previously disturbed roadside colonized by annual grasses and weeds. Given the disturbed nature of the site from past grading activity, there is no potential for special-status plant species, and none were observed during the March 3, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. No aquatic features were observed in the vicinity. Plant and wildlife species observed at Site 16 are listed below.

Table 18. Species Observed at Site 16

Scientific Name	Common Name	Designation
Plant Species		
Acacia sp.	Acacia species	Non-native
Agapanthus sp.	Lily species	Non-native
Amblyopappus pusillus	Pineapple weed	Native
Brassica sp.	Brassica species	Non-native
Bromus diandrus	Ripgut brome	Non-native
Olea europaea	Olive	Non-native
Raphanus sativus	Wild radish	Non-native
Silybum marianum	Milk thistle	Non-native
Symphoricarpos sp.	Snowberry species	Native
Wildlife Species		
Birds		
Buteo jamaicensis	Red-tailed hawk	-
Haemorhous mexicanus	House finch	-
Picoides nuttallii	Nuttall's woodpecker	-
Setophaga coronata	Yellow-rumped warbler	-
Sialia mexicana	Western bluebird	-

Recommendation to Protect Biological Resources at Site 16:

- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.17 Silverado Pratt (Site 18)

This monopole site is located on the east side of Silverado Trail North, 0.8 miles northeast of the town of Saint Helena. The latitude is 38.519722, and the longitude is -122.470497. This pole is located approximately 372 feet north of the Napa River. The elevation is 265 feet above AMSL, and the topography in the location transitions from level valley floor to foothills to the west. According to the USDA Soil Survey, soils at the pole site consist of Bale clay loam (104) and

Forward silt loam (140). The surrounding habitat is oak woodland. Riverine and riparian habitat can be found at the Napa River but is well away from the pole site. The pole would be installed on an existing ruderal graveled roadside lacking vegetation. Given the disturbed nature of the site from past grading activity, there is no potential for special-status plant species, and none were observed during the February 26, 2021 biological resources survey. The pole location does not provide suitable habitat for special-status wildlife species. No aquatic resources were observed in close proximity. Plant and wildlife species observed at Site 18 are listed in Table 19.

Table 19. Species Observed at Site 18

Scientific Name	Common Name	Designation
Plant Species		
Aesculus californica	Buckeye	Native
Arctostaphylos sp.	Manzanita species	Native
Geranium dissectum	Wild geranium	Non-native
Lamium amplexicaule	Henbit	Non-native
Lupinus	Lupine species	Native
Pedicularis densiflora	Indian warrior	Native
Plantago sp.	Plantain species	Unknown
Quercus agrifolia	Coast live oak	Native
Toxicodendron diversilobum	Poison oak	Native
Vicia sp.	Vetch species	Non-native
Wildlife Species		
Reptiles		
Sceloporus occidentalis	Western fence lizard	-

Recommendation to Protect Biological Resources at Site 18:

- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.18 Silverado Conn Creek (Site 19)

This monopole site is located on the south side of Silverado Trail just northwest of the Conn Creek Road/Silverado Trail intersection 2.2 miles north of the unincorporated community of Rutherford. The latitude is 38.487507, and the longitude is -122.406589. The elevation is 185 feet AMSL, and the topography is flat. According to the USDA Soil Survey, soils at the pole site consist of Cortina very gravelly loam (124) and Yolo loam (181). The surrounding habitat is mostly vineyards with a narrow strip of remnant oak woodland vegetation lining the south site of Silverado Trail South. The pole would be installed in an existing roadside pullout that is compacted with gravel. Given the disturbed nature of the pole site from past grading activity, there is no potential for special-status plant species, and none were observed during the February 26, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. Nearby aquatic features include Conn Creek, which is across Silverado Trail to the south. The creek is approximately 319 feet southeast of the site and contains riverine and riparian habitat. There is also a potential ditch/wetland to the east across Silverado Trail, but

neither of these features would be impacted by the pole installation. Plant species observed at Site 19 are listed in Table 20. There were no observed wildlife species at Site 19.

Table 20. Plant Species Observed at Site 19

Scientific Name	Common Name	Designation
Cardamine sp.	Bitter cress species	Native
Heteromeles arbutifolia	Toyon	Native
Olea europaea	Olive	Non-native
Pinus sabiniana	Gray pine	Native
Plantago sp.	Plantain species	Unknown
Quercus agrifolia	Coast live oak	Native

Recommendation to Protect Biological Resources at Site 19:

- Preconstruction nesting bird surveys are recommended.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.
- Trimming of oak trees may be necessary and must comply with the County of Napa's tree ordinance.

3.3.19 Zinfandel Lane (Site 20)

This monopole site is located on the north side of Zinfandel Lane just southwest of Silverado Trail South approximately 1.9 miles southeast of the Town of Saint Helena. The latitude is 38.496758, and the longitude is -122.424828. The elevation is 195 feet AMSL, and the topography is flat. According to the USDA Soil Survey, soils at the pole site consist of Cortina very gravelly loam (124). The surrounding area is dominated by vineyards with annual grasslands. A fresh emergent wetland is located southwest of the pole site. The pole would be installed on an existing graveled roadside. Given the disturbed nature of the site from past grading activity, there is no potential for special-status plant species and none were observed during the February 26, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. There is a swale/ditch that drains into the Napa River, which parallels the pole location site to the immediate northwest and would need protection during construction. Napa River is approximately 509 feet southwest of the site. There were no observed wildlife species observed at Site 20 during the survey. Plant species observed at Site 20 are listed in Table 21.

Table 21. Plant Species Observed at Site 20

Scientific Name	Common Name	Designation
Plant Species		
Amblyopappus pusillus	Pineapple weed	Native
Avena sp.	Avena species	Non-native
Brassica sp.	Brassica species	Non-native
Erodium sp.	Erodium species	Non-native
Hordeum sp.	Hordeum species	Native
Medicago sp.	Medicago species	Non-native
Poa trivialis	Rough blue grass	Non-native
Quercus agrifolia	Coast live oak	Native
Raphanus sativus	Wild radish	Non-native
Vicia sp.	Vetch species	Non-native

Recommendation to Protect Biological Resources at Site 20:

- Preconstruction nesting bird surveys are recommended.
- Silt fence must be installed between the installation site and the swale along the edge of the site.
- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.
- Trimming of oak trees may be necessary and must comply with the County of Napa's tree ordinance.

3.3.20 Big Tree Road (Site 21)

This monopole site is located on the north side of Big Tree Road just east of SR 29, about 3.2 miles north of the Town of Saint Helena. The latitude is 38.547297, and the longitude is -122.510043. This pole is located approximately 0.40 miles southeast of the Napa River. The elevation is 280 feet AMSL, and the immediate surrounding area is flat. According to the USDA Soil Survey, soils at the pole site consist of Bale clay loam (105). The surrounding area consists of vineyards, oak woodland, and landscaped areas. The pole would be installed on a landscaped strip between Big Tree Road and a fire station parking lot. Given the disturbed nature of the site, there is no potential for special-status plant species, and none were observed during the February 26, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. There is a drainage ditch on the south side of road however. it is not likely to be impacted by pole installation activities. Plant and wildlife species observed at Site 21 are listed below.

Table 22. Species Observed at Site 21

Scientific Name	Common Name	Designation
Plant Species		
Daucus sp.	Carrot species	Unknown
Erodium sp.	Erodium species	Non-native
Plantago sp.	Plantain species	Unknown
Rumex sp.	Dock species	Unknown
Quercus agrifolia	Coast live oak	Native
Quercus lobata	Valley oak	Native
Wildlife Species		
Birds		
Haemorhous mexicanus	House finch	-
Melanerpes formicivorus	Acorn woodpecker	-
Setophaga coronata	Yellow-rumped warbler	-
Sturnus vulgaris	European starling	-

Recommendation to Protect Biological Resources at Site 21:

- Preconstruction nesting bird surveys are recommended.

3.3.21 Silverado Deer Park (Site 22)

This monopole site is located on the south side of Deer Park Road near the southeast corner of the Deer Park Road/Silverado Trail North intersection approximately 0.9 miles north of the Town of Saint Helena. The latitude is 38.524442, and the longitude is -122.481475. This pole is located approximately 491 feet northeast of the Napa River. The elevation is 230 feet AMSL, and the topography is flat. According to the USDA Soil Survey, soils at the pole site consist of Bale loam (103), Boomer-Forward-Felta complex (110), and Yolo loam (181). The location is surrounded by vineyards, an orchard, and annual grasslands. A fresh emergent wetland is located opposite of the pole location. A narrow strip of coast live oaks line the southeast side of Deer Park Road and some minor tree trimming may be required. The pole would be installed on an existing disturbed roadside that contains sparse ruderal vegetation. There is a ditch/possible wetland along north side of road, however, it will not be impacted by pole installation activities. Plant and wildlife species observed at Site 22 during the February 26, 2021 biological resources survey are listed in Table 23.

Table 23. Species Observed at Site 22

Scientific Name	Common Name	Designation
Plant Species		
Amblyopappus pusillus	Pineapple weed	Native
Erodium sp.	Erodium species	Non-native
Foeniculum vulgare	Fennel	Non-native
Lamium amplexicaule	Henbit	Non-native
Plantago sp.	Plantain species	Unknown
Rosa rubiginosa	Sweet brier (landscape rose)	Non-native
Quercus agrifolia	Coast live oak	Native
Wildlife Species		
Birds		
Aphelocoma californica	California scrub-jay	-
Haemorhous mexicanus	House finch	-
Mimus polyglottos	Northern mockingbird	-

Recommendation to Protect Biological Resources at Site 22:

- Preconstruction nesting bird surveys are recommended.
- If trimming of oak trees becomes necessary, compliance with the County's tree ordinance is required and surveys for roosting bats would be necessary.

3.3.22 Silverado Hardman (Site 23)

This monopole site is located on the east side of Silverado Trail in eastern Napa. The latitude is 38.341178, and the longitude is -122.282097. This pole is located approximately 166 feet west of an unnamed tributary to Milliken Creek. The elevation is 40 feet AMSL, and the topography is flat. According to the USDA Soil Survey, soils at the pole site consist of Yolo loam (181). Surrounding habitat includes vineyards and barren areas. A narrow strip of oak riparian habitat associated with a drainage lies immediately east of the pole location but the site is otherwise surrounded by vineyards. Pole 23 would be installed on an existing disturbed graveled roadside adjacent to the riparian habitat. Given the disturbed nature of the roadside where the pole would be installed, there is no potential for special-status plant species, and none were observed during the February 26, 2021 biological resources survey. The location does not provide suitable habitat for special-status wildlife species. During the biological resources survey, there were no observed wildlife species at Site 23. Plant species observed at Site 23 are listed below.

Table 24. Plant Species Observed at Site 23

Scientific Name	Common Name	Designation
Brassica sp.	Brassica species	Non-native
Conium maculatum	Poison hemlock	Non-native
Foeniculum vulgare	Fennel	Non-native
Quercus lobata	Valley oak	Native
Vicia sp.	Vetch species	Non-native

Recommendation to Protect Biological Resources at Site 23:

- Preconstruction nesting bird surveys are recommended.

3.3.23 Airport Boulevard (Site 24)

This monopole site is located on the south side of Airport Boulevard in southern Napa. The latitude is 38.220092, and the longitude is -122.267113. This pole is located approximately 0.54 miles south of Sheehy Creek. The elevation is 40 feet AMSL, and the topography is flat. The pole would be installed at a fire station within an urban/commercial development and the vegetation consists entirely of urban landscape species but most of the location is paved. According to the USDA Soil Survey, soils at the pole site consist of Clear Lake clay (116) and Haire loam (146). Observed plant species consisted entirely of landscape vegetation, therefore, no plants were documented. Wildlife species observed during the March 3, 2021 biological resources survey are listed below.

Table 25. Wildlife Species Observed at Site 24

Scientific Name	Common Name	Designation
Birds		
Calypte anna	Anna's hummingbird	-
Haemorhous mexicanus	House finch	-

Recommendation to Protect Biological Resources at Site 24:

- Preconstruction nesting bird surveys are recommended.

3.3.24 Three Peaks (Site IQ 2)

This monopole site is located on the western slope of Three Peaks in the Mayacamas Mountain Range. This location is at latitude 38.613676 and longitude -122.493652. This pole is approximately 682 feet southeast of an unnamed tributary to Swartz Creek. The site was recently graded by the California Department of Forestry and Fire Protection during the 2020 Hennessey Fire. The elevation of the site location is 2,610 feet AMSL, and both are within mountainous terrain. The surrounding habitat consist of montane chaparral, and the site provides highly suitable habitat for special-status plant species. There were no wildlife observed in the area due to the loss of vegetation needed for cover and foraging. The area had recently burned and been bladed, and vegetation was beginning to reemerge during the April 1, 2021 biological resources survey.

Table 26. Species Observed at Site IQ 2

Scientific Name	Common Name	Designation
Plant Species		
Acmispon brachycarpus	Hill lotus	Native
Adenostoma fasciculatum	Chamise	Native
Anisocarpus madiodes	Woodland madia	Native
Claytonia exigua ssp. exigua	Viridis	Native
Cryptantha hispidula	Napa cryptantha	Native
Diplacus kelloggi	Kelloggs monkeyflower	Native
Eriodictyon californicum	Yerba santa	Native
Hordeum sp.	Barley species	Unknown
Pinus ponderosa	Ponderosa Pine	Native
Pseudognaphalium thermale	Small-headed cudweed	Native
Quercus agrifolia	Coast live oak	Native
Wildlife Species		
Birds		
Aphelocoma californica	California scrub-jay	-
Cathartes aura	Turkey vulture	-

Recommendation to Protect Biological Resources at Site IQ 2:

- Preconstruction nesting bird surveys are recommended.
- If any ground disturbance or placement of a concrete pad for installation of the pole is required, botanical surveys must be conducted during the bloom season for each plant with potential to occur at the site.
- Prior to entering the site, all construction-related equipment must be washed and free of mud to avoid the spread of invasive plant species.

3.3.25 Mt. George (Site IQ 7)

This monopole site is located in the Foote Botanical Preserve. which is owned by the Land Trust of Napa County. The latitude is 38.338603, and the longitude is -122.228011. This pole is approximately 0.71 miles south of Sarco Creek and approximately 1.05 miles north of an unnamed tributary to Milliken Creek. The site is situated on the western slope of Mount George in the Howell Mountain Range in southeastern Napa County. The elevation is 1,020 feet, and the site topography is mountainous. The trailer that would support the pole would be parked in a location that was once a home site. There are numerous seeps and wetlands in the area, and the potential for special-status plants and wildlife species to occur there is high. According to the USDA Soil Survey, soils at the pole site consist of Kidd loam (156) and Rock outcrop (175). The surrounding habitat consists of chaparral, but there is combination of wetlands, seeps, and non-native species that were planted for landscaping at the home site. Plant and wildlife species observed at Site IQ 7 during the April 1, 2021 biological resources survey are listed below.

Table 27. Observed Species at Site IQ 7

Scientific Name	Common Name	Designation
Plant Species		
Achillea millefolium	Yarrow	Native
Castilleja affinis	Indian painbrush	Native
Chlorogalum pomeridianum	Soaproot	Native
Erythrantes sp.	Monkeyflower species	Native
Juncus patens	Rush	Native
Lomatium dasycarpus	Lace parsnip	Native
Lysimachia monelli	Flaxleaf pimpernel	Non-Native
Nemophila maculata	Five spot	Native
Quercus berberidifolia	Scrub oak	Native
Vinca major	Vinca	Non-native
Wyethia angustifolia	Narrow leaved mule ears	Native
Zantedeschia aethiopica	Calla lily	Non-native
Wildlife Species		
Birds		
Chamaea fasciata	Wrentit	-
Zenaida macroura	Mourning dove	-

Recommendation to Protect Biological Resources at Site IQ 7:

- Preconstruction nesting bird and wildlife surveys are recommended.
- Seeps and wetlands must be flagged for avoidance otherwise temporary impacts may require permits from the USACE and the Regional Water Quality Control Board.
- The pole should be placed upon an existing concrete pad that remains from the home site.
- Pre-construction botanical surveys should be conducted if any structures are placed in a previously undisturbed area.
- Prior to entering the site, all construction-related equipment must be washed and free of mud to avoid the spread of invasive plant species.

3.3.26Long Ranch Road (Site IQ 8)

This monopole site is located off of Long Ranch Road in the hills east of Rutherford. The latitude is 38.469305, and the longitude is -122.351266. This pole is located approximately 0.36 miles southwest of an unnamed tributary to Lake Hennessey. The elevation is 1,370 feet AMSL, and the topography is hilly. According to the USDA Soil Survey, soils at the pole site consist of Rock outcrop-Hambright complex (176). The surrounding habitat consists of chaparral with vineyards interspersed. The pole would be installed on a disturbed berm adjacent to the vineyard (see representative photos). Special-status plant species could occur in a strip of chaparral habitat immediately adjacent to the pole site. No special-status wildlife species and no aquatic resources were observed in the vicinity. Plant and wildlife species observed at Site IQ 8 during the March 25, 2021 survey are listed below.

Table 28. Species Observed at Site IQ 8

Scientific Name	Common Name	Designation
Plant Species		
Adenostoma fasciculatum	Chamise	Native
Bromus diandrus	Ripgut brome	Non-native
Manzanita sp.	Manzanita	Native
Quercus berberidifolia	Inland scrub oak	Native
Wildlife Species		
Birds		
Callipepla californica	California quail	-
Carthartes aura	Turkey vulture	-

Recommendation to Protect Biological Resources at Site IQ 8:

- Preconstruction nesting bird surveys are recommended.
- If chaparral vegetation removal is required, additional botanical surveys must be conducted.

3.3.27Foss Valley (Site IQ 15)

This monopole site is located off of Long Ranch Road in the rural hills east of Yountville. The address is 3683 Atlas Peak Road. The latitude is 38.413345, and the longitude is -122.254685. This pole is approximately 0.31 miles south of Milliken Creek and 0.21 miles north of an unnamed tributary to Milliken Creek. The elevation is 1,545 feet AMSL, and the topography is hilly. According to the USDA Soil Survey, soils at the pole site consist of Hambright-Rock outcrop complex (151). The surrounding habitat is mixed chaparral and vineyards. However, the pole would be installed in a graded area adjacent to a vineyard road. Given the disturbed nature of the site from past grading activity, there is no potential for special-status plant species, and none were observed during the biological resources survey. The immediate location does not provide suitable habitat for special-status wildlife species. No aquatic resources were observed in the vicinity. No wildlife species were observed during the March 25, 2021 biological resources survey. Plant species observed at Site IQ 15 are listed below.

Table 29. Plant Species Observed at Site IQ 15

Scientific Name	Common Name	Designation
Chlorogalum pomeridianum	Common soaproot	Native
Erodium botrys	Big heron bill	Non-native
Eschscholzi californica	California poppy	Native
Hirschfeldia incana	Mustard	Non-native
Hordeum murinum	Foxtail barley	Non-native
Raphanus sativus	Wild radish	Non-native
Senecio vulgaris	Common groundsel	Non-native
Vicia sp.	Vetch species	Non-native

Recommendation to Protect Biological Resources at Site IQ 15:

- Preconstruction nesting bird surveys are recommended.

- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

3.3.28 Spring Mountain (Site IQ 19)

This monopole site is located on the Spring Mountain Vineyard property south-west of Spring Mountain Road in the rural hills west of Saint Helena. The latitude is 38.50662, and the longitude is -122.5136. This pole is located approximately 0.41 miles southeast of York Creek and approximately 0.24 miles south of an unnamed tributary to York Creek. The elevation is 1,405 feet AMSL, and the topography is hilly. According to the USDA Soil Survey, soils at the pole site consist of Aiken loam (100), Aiken loam (102), and Boomer gravelly loam (108). Surrounding habitat includes vineyards and montane woodland. The pole would be installed in a mixed hardwood forest, which was recently burned during the 2020 Glass Fire. Many trees, a mix of conifers and oaks, were destroyed. Herbaceous vegetation was beginning to emerge during the April 1, 2021 biological resources survey. No wildlife was observed in the area since the burned area offers no foraging or sheltering opportunities. There is potential for special-status plants at this location since it has undergone little disturbance. Plants observed at Site IQ 19 in the mixed hardwood forest and at the road adjacent to the proposed pole site are listed below.

Table 30. Plant Species Observed at Site IQ 19

Scientific Name	Common Name	Designation
Mixed Hardwood Forest		
Arbutus menziesii	Madrone	Native
Chlorogalum parviflorum	Soaproot	Native
Heteromeles arbutifolia	Toyon	Native
Melilotus indicus	Yellow sweetclover	Non-native
Quercus kelloggi	California black oak	Native
Rosa gymnocarpa	Wood rose	Native
Toxicodendron diversilobum	Poison oak	Native
Toxicoscordion sp.	Star lily	Native
Trifolium microcephalum	Small headed clover	Native
Trifolium willdenovii	Tomcat clover	Native
Umbellularia californica	California bay	Native
Road Adjacent to Pole Site		
Avena barbata	Wild oats	Non-native
Bromus diandrus	Ripgut brome	Non-native
Galium sp.	Galium species	Unknown, not flowering
Geranium dissectum	Wild geranium	Non-native
Medicago polymorpha	California burclover	Non-native
Sisyrinchium bellum	Blue eyed grass	Native
Vicia sp.	Vetch species	Non-native

Recommendation to Protect Biological Resources at Site IQ 19:

- Preconstruction nesting bird surveys are recommended.

- All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.
- No special-status plant species were found during 2021 botanical surveys. If construction occurs after 2021, pre-construction botanical surveys are recommended.

3.3.29 Co-Located Poles

The following IQ poles will be co-located, which means they will be attached to existing towers. None of these sites were surveyed since there would be no ground disturbance or permanently added footprint.

Gordon Valley (Site IQ 10): This IQ FireWatch site is located on Okell Hill west of Gordon Valley Road. The latitude is 38.326697, and the longitude is -122.122489. The sensor would be installed on an existing tower located at the top of a ridge.

South Atlas Peak (Site IQ 14): This IQ FireWatch site is located on South Atlas Peak, east of Yountville. The site has no address, but it is due west of 4410 Atlas Peak Road. The latitude is 38.441872, and the longitude is -122.258558. The sensor would be installed on an existing tower located on top of a ridge.

Berryessa Peak (Site IQ 17): This IQ FireWatch site is located on Berryessa Peak. The latitude is 38.66351621, and the longitude is -122.1898831. The sensor would be installed on an existing tower located on top of a ridge.

Oat Hill (Site IQ 20): This IQ FireWatch site is located in American Canyon. The latitude is 38.18451356, and the longitude is -122.26379149. The pole would be installed on top of a hill.

3.4 Special-Status Plant Species

Special-status plants are listed by the USFWS as threatened or endangered. Special-status plants are also listed as endangered, threatened, Species of Special Concern (SSC), or rare by the state or CDFW. The CNDDB provides information regarding the locations where special-status species have been observed. The CNPS has an inventory of rare and endangered plants and has a ranking system to categorize the degrees of concern for each plant in its inventory. In summary, plants are ranked as follows:

- Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
- Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.
- Rank 2A: Plants presumed extirpated in California but common elsewhere.
- Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.

The CDFW validates the CNPS ranking system and includes most plants from the inventory in the CNDDB database. CDFW also encourages protection of these plants by projects subject to review under the California Environmental Quality Act (CEQA).

Combined, the CNDDB, CNPS, and USFWS databases list a total of 64 special-status plants (including federally listed, state-listed, and/or CNPS-ranked plants) that have occurrence records within a 5-mile radius of the BSA. Table 31 lists the special-status plants generated from the databases rational for the potential presence or absence of these plants. Table 31 also provides the names and listed status of each species, descriptions of preferred habitats, and their likelihood of occurrence in the BSA.

The results from all databases queries are presented in Appendix C.

Table 31. Potential for Special-Status Plants to Occur within the Napa Monopoles BSAs

Scientific Name Common Name	*Status*			Blooming Period	Habitat Requirements	Potential for Occurrence - Rationale
	Fed	State	CNPS			
Agrostis hendersonii Henderson's bent grass	--	--	3.2	Apr-Jul	Moist places in grassland or vernal pool habitat. Elev. 213-3340 ft.	**Moderate.** There is potential for this species to occur at the IQ 7 pole location due to the presence of wetlands and a nearby CNDDB record (occurrence 22) for this plant. which is 0.45 miles northeast of the pole location.
Amorpha californica var. napensis Napa false indigo	--	--	1B.2	Apr-Jul	Broadleafed upland forest in openings, chaparral, cismontane woodland. Elev. 390-6600 ft.	**Moderate.** This species occurs in the vicinity of Site IQ 2 (CNDDB 28). Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Amsinckia lunaris Bent-flowered fiddleneck	--	--	1B.2	Mar-Jun	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elev. 10-1640 ft.	**Low.** This species occurs in the vicinities of Site IQ 1 and IQ 2 (CNDDB 17). This species was not observed at either location during 2021 botanical surveys. However, if construction is delayed beyond 2021, pre-construction surveys are recommended prior to the placement of permanent structures.
Arctostaphylos stanfordiana ssp. *decumbens* Rincon Ridge manzanita	--	--	1B.1	Feb-Apr	Chaparral in rhyolititc soil and cismontane woodland. Elev. 245-1215 ft.	**None.** No *Arctostaphylos* species were observed in the BSAs.
Astragalus claranus Clara Hunt's milk-vetch	FE	ST	1B.1	Mar-May	Chaparral openings, cismontane woodland, valley and foothill grassland in serpentinite/volcanic, rocky, or clay soils. Elev. 245-905 ft.	**Low.** This species occurs within the vicinity of Sites 19, 20, and 21 however; these poles will be installed in barren roadside. Suitable habitat for this is present at Site IQ 19 and there is a CNDDB records (#12) approximately 3.2 miles northwest of the IQ 19 BSA. This species was not observed at the IQ 19 BSA nor any other locations during 2021 botanical surveys. However, if construction is delayed, pre-construction surveys are recommended prior to the placement of permanent structures.
Astragalus rattanii var. jepsonianus Jepson's milk-vetch	--	--	1B.2	Mar-Jun	Cismontane woodland, valley and foothill grassland, chaparral. Commonly on serpentine in grassland or openings in chaparral. Elev. 575-3300 ft.	**None.** Only the Site 3 location has serpentine soil present. This species was not observed during botanical surveys.
Astragalus tener var. *tener* Alkali milk-vetch	--	--	1B.2	Mar-Jun	Valley and foothill grassland in adobe clay soil; playas and vernal pools with alkaline soil. Elev. 0-200 ft.	**None.** The only current CNDDB record (#50 in 1993) is not within a 5-mile radius of the any of the BSAs. There are no playas or alkaline vernal pools in or near the BSAs.
Balsamorhiza macrolepis Big-scale balsamroot	--	--	1B.2	Mar-Jun	Chaparral, cismontane woodland, valley and foothill grassland sometimes in serpentinite soil. Elev. 295-5100 ft.	**None.** There are 2 CNDDB records in close proximity to the Site 3 BSA (#6 is 0.3 miles south and #7 is 1.3 miles northeast). However, the pole would be installed on a highly disturbed roadside. The only other records for this species (#37) is 7.7 miles north of the Pole 6/IQ 1 BSA. This species was not observed during 2021 botanical surveys and is not likely to occur due to no known nearby records.
Brodiaea leptandra Narrow-anthered brodiaea	--	--	1B.2	May-Jul	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland in volcanic soil. Elev. 360-3005 ft.	**Moderate.** There are two occurrences of this species in close proximity to the IQ 7 pole location. The nearest record (CNDDB 23) approximately 0.15 miles south. This species also occurs in close proximity to the IQ 2 BSA (CNDDB 12, 18). Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Calystegia collina spp. oxyphylla My. Saint Helena morning-glory	--	--	4.2	Apr-Jun	Chaparral, lower montane coniferous forest, valley and foothill grassland. On serpentine barrens, slopes, and hillsides. Elev. 918-3313 ft.	**None.** Only the Site 3 location has serpentine soil present. This species was not observed during botanical surveys.
Carex lyngbyei	--	--	2B.2	Apr-Aug	Brackish or freshwater marshes and swamps. Elev. 0-35 ft.	**None.** There are no marshes or swamps in or near the BSAs.

Scientific Name **Common Name**	***Status***			**Blooming Period**	**Habitat Requirements**	**Potential for Occurrence - Rationale**
	Fed	**State**	**CNPS**			
Lyngbye's sedge						
Castilleja affinis var. neglecta Tiburon paintbrush	FE	ST	1B.2	Apt-Jun	Valley and foothill grassland. Rocky serpentine soils. Elev. 394-1312 ft.	**None.** Only the Site 3 location has serpentine soil present. This species was not observed during botanical surveys.
Castilleja ambigua var. *meadii* Mead's owl's-clover	--	--	1B.1	Apr-May	Meadows and seeps and vernal pools in gravelly, volcanic, or clay soils. Elev. 1475-1560 ft.	**None.** Sites 15 and 8 are within a 0.9 to 1.8 mile radius of the 3 CNDDB records for Napa County (#1, #2, and #3). However, the pole at Site 15 will be installed in a previously disturbed area adjacent to a vineyard road, and pole at Site 8 will be installed on a graveled water tank pad.
Ceanothus confuses Rincon Ridge ceanothus	--	--	1B.1	Feb-Jun	Closed-cone coniferous forest, chaparral, cismontane woodland in volcanic or serpentinite soil. Elev. 245- 3500 ft.	**Low.** Suitable habitat for this species is present at Site 6/IQ 1 however no *Ceanothus* species were present within the BSA. Suitable habitat is also present at Site IQ 2. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Ceanothus divergens Calistoga ceanothus	--	--	1B.2	Feb-Apr.	Chaparral in serpentinite/volcanic or rocky soils. Elev. 555-3120 ft.	**Low.** Suitable habitat for this species is present at Site 6/IQ 1 however no *Ceanothus* species were present within the BSA. Suitable habitat is also present at Site IQ 2. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Ceanothus purpureus Holly-leaved ceanothus	--	--	1B.2	Feb-Jun	Chaparral and cismontane woodland in volcanic or rocky soils. Elev. 390-2100 feet	**High.** This species is abundantly present at Site IQ 7. Prior to the placement of permanent structures, it is recommended that a qualified botanist flag this species for avoidance. Suitable habitat for this species is present at Site 6/IQ 1 however no *Ceanothus* species were present within the BSA. Suitable habitat is also present at Site IQ 2. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Ceanothus sonomensis Sonoma ceanothus	--	--	1B.2	Feb-Apr	Chaparral in sandy, serpentinite, or volcanic soil. Elev. 705-2625 ft.	**Low.** Suitable habitat for this species is present at Site 6/IQ 1 however no *Ceanothus* species were present within the BSA. Suitable habitat is also present at Sites IQ 2 and IQ 7. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Centromadia parryi ssp. parryi Pappose tarplant	--	--	1B.2	May-Nov	Chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernally mesic valley and foothill grassland often in alkaline soil. Elev. 0-1380 ft.	**None.** There are only 3 records for this species in Napa County. CNDDB records #14 and #15 are for Pappose tarplant populations found in Calistoga where no monopoles are proposed. This species occurs in the vicinities of Site 6/IQ 1 and IQ 2 (CNDDB 17) however, there are no mesic conditions at either site.
Chloropyron molle ssp. molle Soft Salty bird's beak	FE	SR	1B.2	Jun-Nov	Coastal salt marshes and wetlands. Elev. 0-20 ft.	**None.** There are no coastal salt marshes in or near the BSAs.
Downingia pusilla Dwarf downingia	--	--	2B.2	Mar-May	Mesic valley and foothill grassland, vernal pools. Elev. 0-1460 ft.	**None.** There are no mesic valley and foothill grasslands or vernal pools in or near the BSAs.
Erigeron greenei Greene's narrow-leaved daisy	--	--	1B.2	May-Sep	Chaparral in serpentinite or volcanic soil. Elev. 260-3300 ft.	**High.** This species could occur in the vicinity of the IQ 7 pole site and access road. There are 3 CNDDB occurrences within close proximity to the pole location with the nearest (CNDDB 15) being .09 miles to the south. Pre-construction botanical surveys are recommended prior to the placement of permanent structures. If this species is present, a qualified botanist should flag it for avoidance. Suitable habitat is also present at Sites IQ 1 and IQ 2, however there are no CNDDB records within 5 miles of these sites nor were they present during botanical surveys.
Eryngium constancei Loch Lomond button-celery	FE	SE	1B.1	Apr-Jun	Vernal pools. Elev. 1510-2805 ft.	**None.** There are no vernal pools present in or near the BSAs.

Scientific Name **Common Name**	***Status***			**Blooming Period**	**Habitat Requirements**	**Potential for Occurrence - Rationale**
	Fed	**State**	**CNPS**			
Eryngium jepsonii Jepson's coyote thistle	--	--	1B.2	Apr-Aug	Valley and foothill grassland, vernal pools in clay soil. Elev. 10-985 ft.	**None.** This species occurs in the vicinities of the IQ 1 and IQ 2 pole locations (CNDDB 18). However, valley and foothill grassland and vernal pool habitat is not present in or near either BSA.
Extriplex joaquinana San Joaquin spearscale	--	--	1B.2	Apr-Oct	Chenopod scrub, meadows and seeps, playas, and valley and foothill grassland in alkaline soil. Elev. 0-2740 ft.	**None.** Site 3 is 2.1 miles (CNDDB #58) and 2.9 miles (CNDDB #37) east of populations of this species and Pole 5 is in similar proximity, however both poles will be installed in previously disturbed areas.
Fritillaria liliacea Fragrant fritillary	--	--	1B.2	Feb-Apr	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland often in serpentinite soil. Elev. 10-1345 ft.	**Low.** Suitable habitat is present at Site IQ 19, however it was not found during 2021 botanical surveys. However, if construction is delayed beyond 2021, pre-construction surveys are recommended prior to the placement of permanent structures.
Fritillaria pluriflora Adobe-lily	--	--	1B.2	Feb-Apr	Chaparral, cismontane woodland, valley and foothill grassland. Usually on clay soils; sometimes serpentine. Elev. 148-3100 ft.	**Low.** There is suitable habitat present for this species at Site Pole 6/IQ 1 however this species was not observed during 2021 botanical surveys. If construction is delayed beyond 2021, pre-construction surveys are recommended prior to the placement of permanent structures. None of the other CNDDB records for this species was within a 5 mile radius of the BSAs.
Harmonia hallii Hall's harmonia	--	--	1B.2	Apr-Jun	Chaparral. Serpentine hills and ridges. Open, rocky areas within chaparral. Elev. 1099-3100 ft.	**None.** Only the Site 3 location has serpentine soil present. This species was not observed during botanical surveys.
Hesperolinon bicarpellatum Two-carpellate western flax	--	--	1B.2	May-Jul	Chaparral in serpentinite soil. Elev. 195-3300 ft.	**None.** Only the pole 3 location has serpentine soil present. This species was not observed during botanical surveys.
Hesperolinon breweri Brewer's western flax	--	--	1B.2	May-Jul	Chaparral, cismontane woodland, valley and foothill grassland. Often in rocky serpentine soil in serpentine chaparral and serpentine grassland. Elev. 640-2985 ft.	**None.** Only the pole 3 location has serpentine soil present and the roadside where the pole will be situated is devoid of vegetation.
Hesperolinon sharsmithiae Sharsmith's western flax	--	--	1B.2	May-Jul	Chaparral in serpentinite soil. Elev. 885-985 ft.	**None.** Only the Site 3 location has serpentine soil present. This species was not observed during botanical surveys.
Juncus luciensis Santa Lucia dwarf rush	--	--	1B.2	Apr-Jul	Vernal pools, meadows and seeps, lower montane coniferous forest, chaparral, Great Basin scrub. Vernal pools, ephemeral drainages, wet meadow habitats and streamsides. Elev. 918-6677 ft.	**None.** The only CNDDB record for this species in Napa County (#13) is for a location 4 miles northwest of the Site IQ 2 BSA. This site does not have vernal pools, seeps, drainages or other mesic conditions necessary for this plant.
Lasthenia burkei Burke's goldfields	FE	SE	1B.1	Apr-Jun	Mesic meadows and seeps, vernal pools. Elev. 45-1970 ft.	None. The only CNDDB record for this species in Napa County (#36) is for a plant specimen collected in 1929 with a vague collection location listed as near the Calistoga Geyser. Mesic meadows, seeps, and vernal pools are not present in or near the BSAs with the exception of IQ 7 however, there are no nearby records for this area.
Lasthenia conjugens Contra Costa goldfields	FE	--	1B.1	Mar-Jun	Cismontane woodland, playas in alkaline soil, mesic valley and foothill grassland, vernal pools, swales, and low depressions in open grassy areas. Elev. 0-1545 ft.	**None.** Mesic depressions and vernal pools are absent from the BSAs and vicinities.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	--	--	1B.2	May-Sep	Freshwater and brackish marshes and swamps. Elev. 0-20 ft.	**None.** There are no marshes or swamps in the BSAs or nearby.

Scientific Name Common Name	*Status*			Blooming Period	Habitat Requirements	Potential for Occurrence - Rationale
	Fed	State	CNPS			
Layia septentrionalis Colusa layia	--	--	1B.2	Apr-May	Chaparral, cismontane woodland, serpentinite soils in valley and foothill grassland. Elev. 325-3600 ft.	**None.** This species occurs in the vicinity of Site IQ 2 (CNDDB 17, 23, 38). This species was not observed during 2021 botanical surveys. However, if construction is delayed beyond 2021, pre-construction surveys are recommended prior to the placement of permanent structures
Legenere limosa Legenere	--	--	1B.1	Apr-Jun	Vernal pools, and vernally mesic wetlands. Elev. 0-2890 ft.	**None.** There are no vernal pools in the BSAs or within close proximity.
Leptosiphon jepsonii Jepson's leptosiphon	--	--	1B.2	Mar-May	Chaparral, cismontane woodland, Valley and foothill grassland usually in volcanic soil. Elev. 325-1640 ft.	**Low.** This species occurs in the vicinity the Site IQ 2 (CNDDB 22, 29) and Site 6/IQ 1. *L. bicolor* was found during botanical surveys at the latter. The presence of *L. jepsonii* cannot be ruled out based on the near lack of dimorphism of these two species. The west side of the water tank should be flagged off for protection during construction. For Site IQ 2 pre-construction surveys are recommended prior to the placement of permanent structures.
Lilaeopsis masonii Mason's lilaeopsis	--	SR	1B.1	Apr-Nov	Riparian scrub, brackish or freshwater marshes and swamps. Elev. 0-35 ft.	**None.** There are no marshes, swamps, or riparian scrub habitat within or near the BSAs.
Limnanthes floccosa spp. floccosa woolly meadowfoam	--	--	4.2	Mar-May	Chaparral, cismontane woodland, valley and foothill grassland, vernal pools. Vernally wet areas, ditches, and ponds. Elev. 197-4380 ft.	**None**. This species occurs 3.4 miles northwest of Site IQ 1 (CNDDB #1); however there are no vernally mesic conditions within the BSA for this pole location.
Limnanthes vinculans Sebastopol meadowfoam	FE	SE	1B.1	Apr-May	Meadows and seeps, valley and foothill grassland, vernally mesic vernal pools. Occurs in swales, wet meadows and marshy areas in oak savanna. Elev. 45-1000 ft.	**None.** There are no vernally mesic meadows, seeps, or swales in or near the BSAs.
Lupinus sericatus Cobb Mountain lupine	--	--	1B.2	Mar-Jun	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Elev. 900-5005 ft.	**None.** This species occurs in the vicinity of (CNDDB 11, 19, 26, 32, 45) the IQ 2 pole location. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Navarretia leucocephala ssp. bakeri Baker's navarretia	--	--	1B.1	Apr-Jul	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland in vernally mesic vernal pools and swales. Elev. 15-5710 ft.	**None.** There are no vernally mesic meadows, seeps, or swales in or near the BSAs.
Navarretia leucocephala ssp. *pauciflora* Few-flowered navarretia	FE	FT	1B.1	May-Jun	Vernal pools in volcanic ash flow. Elev. 1310-2805 ft.	**None.** There are no vernal pools in or near the BSAs.
Navarretia paradoxinota Porter's navarretia	--	--	1B.3	May-Jul	Closed-cone coniferous forest, chaparral. Dry, open rocky places; can occur on serpentine. Elev. 607-2100 ft.	**None.** Only the pole at Site 3 has serpentine soil present. The roadside where the pole would be located is devoid of vegetation.
Navarretia rosulate Marin County navarretia	--	--	1B.2	May-Jul	Closed-cone coniferous forest, chaparral in serpentinite, rocky, and ultramafic soils. Elev. 655-2085 ft.	**None.** Only the pole at Site 3 has serpentine soil present. The roadside where the pole would be located is devoid of vegetation.
Penstemon newberryi var. sonomensis	--	--	1B.3	Apr-Aug	Chaparral. Crevices in rock outcrops and talus slopes. Elev. 1394-4610 ft.	**Low.** This species occurs in the vicinity of the IQ 2 pole location (CNDDB 7, 12, 16). Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

Scientific Name Common Name	*Status*			Blooming Period	Habitat Requirements	Potential for Occurrence - Rationale
	Fed	State	CNPS			
Sonoma beardtongue						
Plagiobothrys strictus Calistoga popcornflower	FE	ST	1B.1	Mar-Jun	Meadows and seeps, valley and foothill grassland, vernal pools. Alkaline sites near thermal springs on margins of vernal pools in heavy, dark, adobe-like clay. Elev. 295-410 ft.	**None.** There are no thermal springs or vernal pools in or near the BSAs.
Poa napensis Napa blue grass	FE	SE	1B.1	May-Aug	Meadows and seeps, valley and foothill grassland in moist alkaline meadows fed by runoff from nearby thermal springs. Elev. 325-660 ft.	**None.** There are no thermal springs in or near the BSAs.
Polygonum marinense Marin knotweed	--	--	3.1	Apr-Oct	Coastal salt or brackish marshes and swamps. Elev. 0-35 ft.	**None.** There are no marshes or swamps in or near the BSAs.
Puccinellia simplex California alkali grass	--	--	1B.2	Mar-May	Occurs in vernally mesic sinks, flats and lake margins in chenopod scrub, meadows and seeps, and valley and foothill grassland. Elev. 5-3050 ft.	**None.** There are no vernally mesic pools or lakes in or near the BSAs.
Rhynchospora californica California beaked-rush	--	--	1B.1	May-Jul	Bogs and fens, marshes and swamps, lower montane coniferous forest, meadows and seeps. Freshwater seeps and open marshy areas. Elev. 148-886 ft.	**High.** This species occurs 0.45 miles north (CNDDB 10) of the IQ 7 pole location. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Sagittaria sanfordii Sanford's arrowhead	--	--	1B.2	May-Nov	Assorted shallow freshwater marshes and swamps. Elev. 0-2135 ft.	**None.** There are no marshes or swamps in or near the BSAs.
Sidalcea hickmanii ssp. *napensis* Napa checkerbloom	--	--	1B.1	Apr-Jun	Chaparral in rhyolitic soil. Elev. 1360-2005 ft.	**High.** CNDDB 1 for this species is approximately 1-mile northeast of the IQ 7 pole location. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Sidalcea keckii Keck's checkerbloom	FE	--	1B.1	Apr-May	Cismontane woodland, valley and foothill grassland. Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. Elev. 279-1657 ft.	**None.** This species occurs 4.3 miles northeast of Site IQ 1 (CNDDB 33) however, this species was not observed during 2021 botanical surveys. Occurrence 28 is for plants observed 1.8 miles west of Site IQ 8; however; this site was graded to develop the pad for the water tank too disturbed to support this species.
Sidalcea oregana ssp. hydrophila marsh checkerbloom	--	--	1B.2	Jul-Aug	Meadows and seeps, riparian forest. Wet soil of streambanks, meadows. Elev. 1493-6660 ft.	**None**. The only CNDDB record for this species is from a plant collected in 1893 from a swampy meadow in the vicinity of Angwin. There are no mesic meadows in or near the BSAs.
Spergularia macrotheca var. *longistyla* Long-styled sand-spurrey	--	--	1B.2	Feb-May	Alkaline, meadows and seeps, marshes and swamps. Elev. 0-840 ft.	**None.** There are only two CNDDB records for this species in Napa County and both are in Calistoga. There are no poles planned for that area.
Streptanthus brachiatus ssp. brachiatus Socrates Mine jewelflower	--	--	1B.2	May-Jun	Chaparral, closed-cone coniferous forest. Serpentine areas and serpentine chaparral. Elev. 1985-6398 ft.	**None.** Only the pole at the Site 3 location has serpentine soil present. This species was not observed during botanical surveys.
Streptanthus hesperidis	--	--	1B.2	May-Jul	Chaparral openings and cismontane woodland in serpentinite and rocky soil.	**None.** Only the pole at the Site 3 location has serpentine soil present. This species was not observed during botanical surveys.

Scientific Name **Common Name**	***Status***			**Blooming Period**	**Habitat Requirements**	**Potential for Occurrence - Rationale**
	Fed	**State**	**CNPS**			
Green jewelflower					Elev. 425-2495 ft.	
Streptanthus morrisonii ssp. elatus Three Peaks jewelflower	--	--	1B.2	Jun-Sep	Chaparral. Serpentine barrens, outcrops, and talus. Elev. 787-2411 ft.	**None.** Only the pole at the Site 3 location has serpentine soil present. This species was not observed during botanical surveys.
Symphyotrichum lentum Suisun Marsh aster	--	--	1B.2	Apr-Nov	Brackish and freshwater marshes and swamps. Elev. 0-10 ft.	**None.** There are no marshes or swamps in or near the BSAs.
Trichostema ruygtii Napa bluecurls	--	--	1B.2	Jun-Oct	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools. Elev. 100-2235 ft.	**Low.** There is suitable habitat for this species at Site Pole 6/IQ 1 and IQ 19, however it was not observed during 2021 botanical surveys. There is also suitable habitat at Sites IQ 2 and IQ 7. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.
Trifolium amoenum Two-fork clover	FE	--	1B.1	Apr-Jun	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elev. 15-1365 ft.	**None.** The only CNDDB records for this species in Napa County are from 1952 and later searches for this plant in Napa County were unsuccessful. It is thought to have been extirpated from the County (CNDDB #s 7, 23, and 24).
Trifolium hydrophilum Saline clover	--	--	1B.2	Apr-Jun	Occurs in mesic, alkaline marshes and swamps, valley and foothill grassland and vernal pools. Elev. 0-985 ft.	**None.** There are no vernally mesic marshes, swamps or grasslands in or near the BSAs.
Viburnum ellipticum Oval-leaved viburnum	--	--	2B.3	May-Jun	Chaparral, cismontane woodland, and lower montane coniferous forest. Elev. 705-4595 ft.	**Low.** Site IQ 7 provides suitable habitat for this species and there is a CNDDB occurrence (#6). Pre-construction botanical surveys are recommended prior to the placement of permanent structures. There is also suitable habitat present at Sites 6/IQ 1, and IQ 19 however there are no nearby records nor was this species observed during 2021 botanical surveys.

Notes: General Habitat Descriptions are based upon definitions utilized by the CNPS online Inventory of Rare and Endangered Plants (2021).
Habitats present within the study area are emphasized with bold print.
BSA = Biological Study Area
CNPS = California Native Plant Society

Status Legend
-- = No status, or not applicable
FE = Listed as endangered under the FESA
FT = Listed as threatened under FESA
SE = Listed as endangered under the California Endangered Species Act (CESA)
ST = Listed as endangered under the CESA
SR = Listed as rare under the CESA

CNPS Ranking
1B = Rare, threatened, or endangered in California and elsewhere.
2B = Rare, threatened, or endangered in California and but more common elsewhere.

Threat Ranks
0.1 = Seriously threatened in California (more than 80% of occurrences threatened/high degree and immediacy of threat).
0.2 = Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat).

Potential to Occur Definitions
None = No possibility for occurrence.

Low = Suitable habitat present; not likely to occur due to environmental constraints but cannot be ruled as absent.
Moderate = Potential to occur based on habitat suitability and documented records in the study area region.
High = Species has been documented within the study area.

3.5 Special-Status Wildlife

Special-status wildlife are those listed by the USFWS or NOAA Fisheries as endangered or threatened, or wildlife that are listed by the state or CDFW as endangered, threatened, an SSC, or rare. A total of 46 special-status wildlife species with the potential to occur within the BSA was generated from the CNDDB and USFWS and NOAA Fisheries online databases. Table 32 lists the special-status wildlife generated from the database searches and provides descriptions for their potential presence or absence, listed status, required habitats; and their likelihood of occurrence in the BSA.

The results from all databases queries are presented in Appendix D

Table 32. Potential for Special-Status Wildlife to Occur within the Napa Monopole BSAs

Scientific Name **Common Name**	**Status Federal/State**		**Habitat Description**	**Impacts Determination**
Branchinecta lynchi Vernal pool fairy shrimp	FT	--	Endemic to the grasslands of the Central Valley, Central Coast, and South Coast mountains, in astatic rain-filled pools. Inhabits small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**None.** There are no vernal pools, mesic depressions, swales, or slumps within or near the BSAs.
Syncaris pacifica California freshwater shrimp	FE	SE	Endemic to Marin, Napa, and Sonoma counties. Found in low-elevation, low-gradient streams where riparian cover is moderate to heavy; in shallow pools away from main streamflow.	**None.** The poles will not be located in any aquatic resources.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	--	Occurs in riparian scrub only in the Central Valley. Requires blue elderberry (*Sambucus mexicana*) for breeding. Lays eggs in elderberries 2 to 8 inches in diameter. Often prefers "stressed" elderberries.	**None.** No blue elderberry shrubs were identified at any of the BSAs. Vegetation disturbance will be minimal.
Bombus crotchii Crotch bumble bee	--	CE	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	**None.** The poles will be located in disturbed grassland, ruderal, paved or graveled roadside pullouts. Vegetation clearing will be minimal. The most recent CNDDB record for this species is for an occurrence in 1980 at Monticello Dam.
Bombus occidentalis Western bumble bee	--	CE	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	**None.** The poles will be located in disturbed grassland, ruderal, paved or graveled roadside pullouts. Vegetation clearing will be minimal. The most recent CNDDB record for this species is for an occurrence in 1962 at a location generally noted as Cordelia.
Speyeria callippe callippe Callippe silverspot butterfly	FE	--	Restricted to the northern coastal scrub of the San Francisco peninsula. Host plant is *Viola pedunculata*. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	**None.** There is no coastal scrub habitat present in the BSAs.
Acipenser medirostris Green sturgeon – southern DPS	FT	SSC	These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, and Trinity Rivers at temperatures between 8 and 14 degrees Celsius. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	**None.** The poles will not be located in any aquatic resources.
Oncorhynchus kisutch Coho salmon – central California coast ESU	FE	SE	Occurs between Punta Gorda and San Lorenzo River (federal listing) and south of Punta Gorda (state listing). Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	**None.** The poles will not be located in any aquatic resources.
Oncorhynchus mykiss irideus Steelhead – south-central California coast DPS	FT	--	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	**None.** The poles will not be located in any aquatic resources.
Oncorhynchus mykiss irideus	FT	--	Populations in the Sacramento and San Joaquin rivers and their tributaries.	**None.** The poles will not be located in any aquatic resources.

Scientific Name **Common Name**	**Status Federal/State**		**Habitat Description**	**Impacts Determination**
Steelhead – Central Valley DPS				
Oncorhynchus mykiss irideus Steelhead – northern California DPS	FT	--	Occurs in coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead. Habitat includes Sacramento and San Joaquin flowing waters.	**None.** The poles will not be located in any aquatic resources.
Oncorhynchus tshawytscha Chinook salmon – Central Valley spring-run ESU	FT	--	Populations in the Sacramento and San Joaquin rivers and their tributaries. Requires beds of loose, silt-free, well-oxygenated coarse gravel for spawning. After hatching, juveniles spend at least one summer in the freshwater rearing areas, so the stream must have either perennial flow or cool intermittent pools with subsurface flow, shade, food, and shelter during the dry season. Spring-run Chinook migrate far upstream in the spring and shelter in deep, cool pools, waiting to spawn until fall when temperatures decrease.	**None.** The poles will not be located in any aquatic resources.
Onchorynchus tshawytscha Chinook salmon – Sacramento River Winter Run ESU	FE	--	Migrate through Sacramento River to spawning grounds from December to July. Spawning is limited to the river from between the Red Bluff Diversion Dam and Keswick Dam (Redding).	**None.** The poles will not be located in any aquatic resources.
Onchorynchus tshawytscha Chinook salmon – California coastal	FT	--	Includes naturally spawned Chinook salmon originating from rivers and streams south of the Klamath River to and including the Russian River.	**None.** The poles will not be located in any aquatic resources.
Hypomesus transpacificus Delta smelt	FT	SE	Inhabits Sacramento-San Joaquin Delta, seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Seldom found at salinities greater than 10 ppt. Most often at salinities less than 2 ppt.	**None.** The poles will not be located in any aquatic resources.
Spirinchus thaleichthys Longfin smelt	Candidate	ST	Euryhaline, nektonic, and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefers salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	**None.** The poles will not be located in any aquatic resources.
Pogonichthys macrolepidotus Sacramento splittail	--	SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes. Requires flooded vegetation for spawning and foraging for young.	**None.** The poles will not be located in any aquatic resources.
Dicamptodon ensatus California giant salamander	--	SSC	Known from wet coastal forests near streams and seeps from Mendocino County, south to Monterey County and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**None.** The poles will not be located in wet coastal forest or aquatic habitat.
Taricha rivularis Red-bellied newt	--	SSC	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County.	**None.** Napa County is not within the range of this species.

Scientific Name **Common Name**	**Status Federal/State**		**Habitat Description**	**Impacts Determination**
			Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	
Rana draytonii California red-legged frog	FT	SSC	Found in lowlands and foothills in or near-permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Must have access to estivation habitat.	**None.** There is a CNDDB record (739) from 2003 for frogs found in a tributary approximately 0.13 miles south of Site 11. There is also a CNDDB record (738) for frogs observed in 2004 in springs and man-made ponds along Howell Mountain Road at a location approximately 0.35 miles southwest of Site 10. The pole at Site 11 will be installed in a gravel roadside pullout and the pole at Site 10 will be installed in a ruderal roadside strip. Neither location provides suitable upland habitat.
Rana boylii Foothill yellow-legged frog	--	SE, SSC	Inhabits partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of water to attain metamorphosis.	**None.** While this species occurs at locations throughout Napa County, the poles will not be located in any aquatic habitat.
Emys marmorata Western pond turtle	--	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6000 feet elevation. Needs basking sites and sandy banks or grassy open fields for egg-laying.	**None.** While this species occurs at locations throughout Napa County, the poles will not be located in any aquatic habitat.
Cypseloides niger Black swift	--	SSC	Found in coastal belt of Santa Cruz and Monterey counties, central and southern Sierra Nevada, and San Bernardino and San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	**None.** There is no suitable nesting habitat for this species within close proximity to the BSAs.
Rallus longirostris obsoletus Ridgway's rail	FE	SE, FP	Found in salt and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	**None.** There are no salt or brackish marshes in the BSAs or in close proximity.
Laterallus jamaicensis coturniculus California black rail	--	ST, FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	**None.** There are no salt or brackish marshes in the BSAs or in close proximity.
Charadrius 50lexandrines nivosus Western snowy plover	FT	SSC	Found at sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**None.** There are no beaches, salt pond levees, or alkali lakes in the BSAs nor in close proximity.
Elanus leucurus White-tailed kite	--	FP	Found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Forages in open grasslands, meadows, or marshes close to isolated, dense-topped trees for nesting and perching.	**Low.** Suitable nesting habitat is present in the BSAs and their vicinities. There are only three CNDDB records for this species in Napa County, however kites are known to nest along the Napa River and could nest in the vicinity of Sites 1, 14, 18, 20, 22, and 23.
Haliaeetus leucocephalus Bald eagle	--	SE, FP	Ocean shore, lake margins, & rivers for both nesting & wintering. Most nests within 1 mi of water.	**None.** Suitable nesting habitat is present near the more remote BSAs and their vicinities. There are only four CNDDB records for bald eagle nests in Napa County; one at Lake Hennessey and three on the northeastern shores of Lake Berryessa. None of the records are near the BSAs.

Scientific Name **Common Name**	**Status Federal/State**		**Habitat Description**	**Impacts Determination**
Circus hudsonius Northern harrier	--	SSC	Found in coastal salt and freshwater marsh. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nests built of a large mound of sticks in wet areas.	**None.** There are only two CNDDB records for this species in Napa County and those are in the marshes near the mouth of the Napa River.
Buteo swainsoni Swainson's hawk	--	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranchlands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Low.** This species routinely nests in the vicinity of the Napa Airport, Wastewater Treatment Plant and Sheehy Creek in close proximity to Site 24. CDFW typically requires a 0.5-mile nest buffer for Swainson's hawk. They also are known to nest at various locations along the Napa River and could nest in the vicinity of Sites 1, 14, 18, 20, 22, 23.
Aquila chrysaetos Golden eagle	--	FP	Found in rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**Low.** Golden Eagles are known to nest at various locations around Lake Berryessa and could nest in close proximity to Sites 4, 7, and IQ 18.
Athene cunicularia Burrowing owl	--	SSC	Occurs in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Low.** There is a CNDDB record (#935) for a burrowing owl nesting in grasslands approximately 0.6 miles north of Site 24. There is a low likelihood that this species would nest in the vicinity but the possibility cannot be ruled out. There is also suitable habitat north of Site 3; however, there are no nearby CNDDB records.
Falco peregrinus anatum American peregrine falcon	--	FP	Found near wetlands, lakes, rivers or other water; on cliffs, banks, dunes, mounds; also human-made structures. Nests consist of a scrape or a depression or ledge in an open site.	**Low.** Location information of Peregrine falcon nests are considered sensitive and CNDDB records for this species are suppressed. Suitable nesting habitat is present near Sites IQ 2 and IQ 7.
Geothlypis trichas sinuosa San Francisco (saltmarsh) common yellowthroat	--	SSC	Resides in fresh and saltwater marshes and tidal creeks of the San Francisco Bay region, Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**None.** There are no freshwater or saltwater marshes are tidal creeks within or near the BSAs.
Melospiza melodia samuelis Samuels (San Pablo) song sparrow	--	SSC	Resides in salt marshes along the north side of San Francisco and San Pablo bays. Inhabits tidal sloughs in *Salicornia* marshes; nests in *Grindelia* bordering slough channels.	**None.** There are no freshwater or saltwater marshes are tidal creeks within or near the BSAs.
Melospiza melodia maxillaris Suisun song sparrow	--	SSC	Resides in brackish-water marshes surrounding Suisun Bay. Inhabits cattails, tules, and other sedges, and *Salicornia*; also known to frequent tangles bordering sloughs.	**None.** There are no freshwater or saltwater marshes are tidal creeks within or near the BSAs. There are no CNDDB records for this species in Napa County.
Agelaius tricolor Tricolored blackbird	--	ST	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey near the colony.	**None.** This species requires marshy areas for nesting. Most colonies recorded are near the mouth of the Napa River. There a few records for tricolored blackbird nest colonies along the edges of vineyard or cattle stock ponds that have sufficient vegetation along the edges but there are none in close proximity to the BSAs.
Sorex ornatus sinuosus Suisun shrew	--	SSC	Found in tidal marshes of the northern shores of San Pablo and Suisun bays. Requires dense low-lying cover and driftweed and other litter above the mean high tide line for nesting and foraging.	**None.** There are no tidal marshes within or near the BSAs.

Scientific Name **Common Name**	**Status Federal/State**		**Habitat Description**	**Impacts Determination**
Lasiurus blossevillii Western red bat	--	SSC	Roosts primarily in trees, 2 to 40 ft. above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Low.** No trees, tall vegetation, or structures will be removed for this Project. However. some tree trimming will occur at Sites 1, 2, 4, 19, 20, and 22.
Corynorhinus townsendii Townsend's big-eared bat	--	SSC	Roosts in man-made structures such as old buildings and bridge crevices.	**None.** No structures will be removed for this Project.
Antrozous pallidus Pallid bat	--	SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	**None.** No structures will be removed for this Project.
Myotis thysanodes Fringed myotis		F.G.C.§2124,§2126	Found in a variety of habitats; optimally pinyon-juniper, valley foothill hardwood, and hardwood conifer. Use caves, mines, buildings or crevices for maternity colonies and roosts.	**None.** No structures will be removed for this Project.
Myotis yumanensis Yuma myotis		F.G.C. §2124, §2126	Forages for insects in open forests and woodlands with nearby water bodies. Forms maternity colonies in caves, mines, buildings, and crevices.	**None.** No structures will be removed for this Project.
Taxidea taxus American badger	--	SSC	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**None.** The poles will be located in disturbed grassland, ruderal, paved or graveled roadside pullouts. Vegetation clearing will be minimal.
Reithrodontomys raviventris Salt-marsh harvest mouse	FE	SE, FP	Occurs only in the saline emergent wetlands of San Francisco Bay and its tributaries. Primary habitat is pickleweed.	**None.** None of the BSAs are located in or near saline emergent wetlands.

Notes:
- In this report, evaluation of potential presence is based upon the types of habitat that each listed species occupies and on observations made during site surveys.
- General Habitat Description taken from the California Natural Diversity Database (CDFW 2021a) unless otherwise noted.
- Bats are protected under nongame mammal provisions in the California Fish and Game Code.

DPS = Distinct Population Segment
ESU = Evolutionarily Significant Unit

Status Legend
FE = Listed as endangered under FESA
FT = Listed as threatened under FESA
SE = Listed as endangered under CESA
ST = Listed as threatened under CESA
SSC = State Species of special concern
FP = State Fully Protected
Candidate = Candidate under consideration for threatened or endangered status

Rationale Definitions
None = No possibility for occurrence.
Low = Suitable habitat present; not likely to occur due to environmental constraints, but cannot be ruled as absent.
Moderate = Potential to occur based on habitat suitability and documented records in the BSA region.
High = Species has been documented within the BSA.

4 RESULTS: BIOLOGICAL RESOURCES EVALUATIONS AND DISCUSSION

Results described in this section are based on data collected during the site survey, biological resources evaluations, and various database searches. All plant and wildlife species observed during the February, March, April, and May 2021 surveys are included in the discussion of each site. Project-related impacts and avoidance measures are discussed for each resource.

4.1 Wetlands and Other Waters of the U.S.

The Project biologists worked with ITC to avoid wetlands and other waters of the U.S. If initial site locations were in a wetlands or waters, the location was moved to an upland area.

4.1.1 Impact Analysis and Avoidance Measures

Work at Sites 2, 3, 4, 12, and 20 will occur in close proximity to roadside ditches or similar aquatic resources. BMPs, such as silt fence or straw wattles, will be installed prior to construction in order to protect water quality and other construction-related impacts.

4.2 Special-Status Plant Species

Potentially suitable habitat exists in the BSA for 18 of the 64 special-status plants evaluated (Table 31). A description of each species, their listing status, and the sites where they have potential to occur are described below.

4.2.1 Henderson's Bent-grass

Henderson's bent-grass (*Agrostis hendersonii)* is a CNPS 3.2 plant with no state or federal special-status listing. This grass occurs in moist depressions in grasslands or vernal pools. It blooms between April and July and is found at elevations ranging from 210 to 3,340 feet. There is a moderate potential for this species to occur Site IQ 7 due to the presence of wetlands and a nearby CNDDB record (occurrence 22) for this plant, which is 0.45 miles northeast of the pole location. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.2 Napa False Indigo

Napa false indigo (*Amorpha californica* var. *napensis*) is a CNPS 1B.2 plant with no state or federal special-status listing. This herbaceous plant occurs in broadleafed upland forest in openings, chaparral, and cismontane woodland. It blooms between April and July and is found at elevations ranging from 390 to 6,600 feet. There is moderate potential for this species to occur in the vicinity of Site IQ 2 (CNDDB 28). Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.3 Bent-flowered Fiddleneck

Bent-flowered fiddleneck (*Amsinckia lunaris*) is a CNPS 1B.2 plant with no state or federal special-status listing. This herbaceous plant occurs in coastal bluff scrub, cismontane woodland, and valley and foothill grassland. It blooms between March and June and is found at elevations ranging from 10 to 1,640 feet. There is a low potential for this species to occur due to a CNDDB

record (#17) in the vicinities of Site 6/IQ 1 and IQ 2. This species was not observed at either location during 2021 botanical surveys. However, if construction is delayed beyond 2021, pre-construction surveys are recommended prior to the placement of permanent structures.

4.2.4 Clara Hunt's Milk-vetch

Clara Hunt's milk-vetch (*Astragalus claranus*) is a federally endangered, state threatened, and a CNPS List 1B.1 species. This herbaceous plant occurs in chaparral openings, cismontane woodlands, valley and foothill grassland in serpentine or volcanic, rocky, or clay soils. It blooms between March and May and is found at elevations ranging from 245 to 905 feet. There is a low potential for this species to occur within the vicinity of Sites 19, 20, and 21; however, these poles will be installed in barren roadside. Suitable habitat for this is present at Site IQ 19, and there is a CNDDB records (#12) approximately 3.2 miles northwest of the IQ 19 BSA. This species was not observed at the IQ 19 BSA nor any other locations during 2021 botanical surveys. However, if construction is delayed, pre-construction surveys are recommended prior to the placement of permanent structures.

4.2.5 Narrow-anthered Brodiaea

Narrow-anthered brodiaea (*Brodiaea leptandra*) is a CNPS 1B.2 plant with no state or federal special-status listing. This herbaceous plant occurs in a wide variety of habitats where volcanic soils are present, including broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grasslands. It blooms between May and July and is found at elevations ranging from 360 to 3,005 feet. There is a moderate potential for this species to occur within Sites IQ 2 and IQ 7. This species occurs in close proximity to the IQ 2 BSA (CNDDB 12, 18). There are also two occurrences of this species in close proximity to the IQ 7 pole location. The nearest record (CNDDB 23) approximately 0.15 miles south. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.6 Rincon Ridge Ceanothus

Rincon Ridge ceanothus (*Ceanothus confusus*) is a CNPS 1B.2 plant with no state or federal special-status listing. This shrub occurs in volcanic or serpentine soils in closed-cone coniferous forest, chaparral, and cismontane woodland. It blooms between February and June and is found at elevations ranging from 245 to 3,500 feet. There is a low potential for at Site IQ 2 and IQ 7 due to an abundance of ceanothus species. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.7 Calistoga Ceanothus

Calistoga ceanothus (*Ceanothus divergens*) is a CNPS 1B.2 plant with no state or federal special-status listing. This shrub occurs in volcanic or serpentine soils in chaparral habitat. It blooms between February and April and is found at elevations ranging from 555 to 3,120 feet. There is a low potential for at Site IQ 2 and IQ 7 due to an abundance of ceanothus species. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.8 Holly-leaved Ceanothus

Holly-leaved ceanothus (*Ceanothus purpureus*) is a CNPS 1B.2 plant with no state or federal special-status listing. This shrub occurs in volcanic or rocky soils in chaparral and cismontane woodland. It blooms between February and June and is found at elevations ranging from 390 to 2,100 feet. This species is abundantly present within the IQ 7 BSA. Prior to the placement of permanent structures, it is recommended that a qualified botanist flag this species for avoidance. Suitable habitat for this species is present at Site 6/IQ 1; however, no *Ceanothus* species were present within the BSA. Suitable habitat is also present at Site IQ 2. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.9 Sonoma Ceanothus

Sonoma ceanothus (*Ceanothus sonomensis*) is a CNPS 1B.2 plant with no State or federal special-status listing. This shrub occurs in sandy, volcanic or serpentine soils habitat. It blooms between February and April and is found at elevations ranging from 705 to 2,625 feet. There is a low potential for this species to occur, because suitable habitat and abundant *Ceanothus* are present at Sites IQ 2 and IQ 7. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.10 Greene's Narrow-leaved Daisy

Greene's narrow-leaved daisy (*Erigeron greenei*) is a CNPS 1B.2 plant with no state or federal special-status listing. This daisy occurs in serpentine or volcanic soils in chaparral habitats. It blooms between May and September and is found at elevations ranging from 260 to 3,300 feet. There is a high potential for this species to occur in the vicinity of the IQ 7 pole site and access road. There are three CNDDB occurrences within close proximity to the pole location with the nearest (CNDDB 15) being .09 miles to the south. Pre-construction botanical surveys are recommended prior to the placement of permanent structures. If this species is present, a qualified botanist should flag it for avoidance. Suitable habitat is also present at Sites 6/IQ 1 and IQ 2; however, there are no CNDDB records within 5 miles of these sites nor were they present during botanical surveys.

4.2.11 Fragrant Fritillary

Fragrant fritillary (*Fritillaria liliacea*) a CNPS 1B.2 plant with no state or federal special-status listing. This herbaceous plant occurs in cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, often in serpentine soils. It blooms between February and April and is found at elevations ranging from 10 to 1,345 feet. There is a low potential for this species to occur, due to the presence of suitable habitat, at Site IQ 19. While this species was not found during 2021, botanical surveys, its potential presence cannot be ruled out entirely due to the 2020 Glass Fire and the 2020-2021 drought conditions. If construction is delayed beyond 2021, pre-construction surveys are recommended prior to the placement of permanent structures.

4.2.12 Adobe-lily

Adobe-lily (*Fritillaria pluriflora*) a CNPS 1B.2 plant with no state or federal special-status listing. This herbaceous plant occurs in chaparral, cismontane woodland, and valley and foothill grassland, usually on clay soils that sometimes have serpentine soils present. It blooms between

February and April and is found at elevations ranging from 145 to 3,100 feet. There is a low potential for this species to occur, due to the presence of suitable habitat, at Site 6/IQ 1. While this species was not found during 2021 botanical surveys, its potential presence cannot be ruled out entirely due to the 2020 Hennessey Fire and the 2020-2021 drought conditions. If construction is delayed beyond 2021, pre-construction surveys are recommended prior to the placement of permanent structures.

4.2.13 Jepson's Leptosiphon

Jepson's leptosiphon (*Leptosiphon jepsonii*) a CNPS 1B.2 plant with no state or federal special-status listing. This herbaceous plant occurs in chaparral, cismontane woodland, and valley and foothill grassland, usually on volcanic soil. It blooms between March and May and is found at elevations ranging from 325 to 1,640 feet. There is a low potential for this species to occur at Site IQ 2 due to CNDDB occurrences (#22 and 29) in the vicinity. *L. bicolor* was found during botanical surveys at the latter. The presence of *L. jepsonii* cannot be ruled out based on the near lack of dimorphism of these two species. The west side of the water tank should be flagged off for protection during construction. For Site IQ 2 pre-construction surveys are recommended prior to the placement of permanent structures.

4.2.14 Sonoma Beardtongue

Sonoma beardtongue (*Penstemon newberryi* var. *sonomensis*) is a CNPS 1B.3 plant with no state or federal special-status listing. This herbaceous plant occurs in chaparral and grows in crevices in rock outcrops and talus slopes. It blooms between April and August and is found at elevations ranging from 1,390 to 4,610 feet. There is a low potential for this species to occur at Site IQ 2 due to the presence of three CNDDB records (#7, 12, and 16) nearby. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.15 California Beaked-rush

California beaked-rush (*Rhynchospora californica*) is a CNPS 1B.1 plant with no state or federal special-status listing. This rush occurs in bogs and fens, marshes and swamps, lower montane coniferous forest, and freshwater meadows and seeps. It blooms between May and July and is found at elevations ranging from 145 to 890 feet. There is a high potential for this species to occur at Site IQ 7 due to the presence of plants found approximately 0.45 miles north (CNDDB 10). Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.16 Napa Checkerbloom

Napa checkerbloom (*Sidalcea hickmanni* spp. *napensis*) is a CNPS 1B.1 plant with no state or federal special-status listing. This herbaceous plant occurs in rhyolitic soil in chaparral habitat. It blooms between April and June and is found at elevations ranging from 1,360 to 2,005 feet. There is a high potential for this species to occur at Site IQ 7 due to a CNDDB record (#1) for a population found 1-mile northeast of the BSA. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.17 Napa Bluecurls

Napa bluecurls (*Trichostema ruygtii*) is a CNPS 1B.2 plant with no state or federal special-status listing. This herbaceous plant occurs in chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, and vernal pool habitats. It blooms between June and October and is found at elevations ranging from 100 to 2,235 feet. There is a low potential for this species to occur at Sites 6/IQ 1 and IQ 19, however it was not observed during 2021 botanical surveys. There is also suitable habitat at Sites IQ 2 and IQ 7. Pre-construction botanical surveys are recommended prior to the placement of permanent structures.

4.2.18 Oval-leaved Viburnum

Oval-leaved viburnum (*Viburnum ellipticum*) is a CNPS 2B.3 plant with no state or federal special-status listing. This herbaceous plant occurs in chaparral, cismontane woodland, and lower montane coniferous forest. It blooms between May and June and is round at elevations ranging from 705 to 4,595 feet. There is a low potential for this species to occur at Site IQ 7. Site IQ 7 provides suitable habitat for this species and there is a CNDDB occurrence (#6). Pre-construction botanical surveys are recommended prior to the placement of permanent structures. There is also suitable habitat present at Sites 6/IQ 1, and IQ 19 however there are no nearby records nor was this species observed during 2021 botanical surveys.

4.3 Wildlife

Species were evaluated for their potential to occur in the BSA. Table 32 presents this evaluation, including wildlife species by their scientific and common names; their federal and state status; a brief description of the habitat in which they occur; and an evaluation of their potential to occur in the BSA.

Based upon the types of habitat that each listed species occupies, and on observations made during the February, March and April 2021 site surveys, each wildlife species was evaluated for its potential to occur in the vicinity of the BSA. Based upon these evaluations, eight special-status bird species could potentially nest in the BSAs. Each species, their current listing status, and the Sites were they may occur are described in this Section.

4.3.1 White-tailed kite

The white-tailed kite (*Elanus leucurus*) is a state fully protected species and is also protected under the federal Migratory Bird Treaty Act. This white hawk can be observed hovering above open grasslands, agricultural fields, and wetlands foraging for rodents. In California, the white-tailed kite ranges from the coastline west to the Sierras and is patchily distributed from Eureka to the southern border. White-tailed kites take cover and build nests in trees and tall shrubs with dense canopies. Their nests are situated near open foraging areas and are constructed of loosely piled sticks and twigs in the fork near the top of a tree or bush.

The white-tailed kite was near extinction in the 1930s (Pickwell, 1930) probably due to shooting, and egg collection (Waian and Stendell, 1970). Kite populations began to increase between 1940 and 1970 due to protection from shooting and possibly agricultural expansion, which increased the rodent population, a preferred food item (Moore, 2008).

There is a low potential for white-tailed kite to nest in or near some of the BSAs due to the presence of suitable nesting habitat. There are only three CNDDB records for this species in Napa County; however, kites are known to nest along the Napa River and could nest in the vicinity of Sites 1, 14, 18, 20, 22, and 23.

4.3.2 Swainson's hawk

The Swainson's hawk (*Buteo swainsoni*) is a state-threatened species with no federal special-status listing. The historical breeding grounds for this species included the Southern Transverse Ranges, Central Coast Ranges, Central Valley, Great Basin, and Mojave-Colorado Desert (RHJV, 2004). The breeding range has greatly reduced to the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and the Mojave Desert. Very limited breeding occurs outside of these territories. This large hawk breeds in stands with few trees in open habitats in desert, juniper-sage flats, riparian areas, oak savannah, grassland, and agricultural habitats (Polite, 2006).

There is a low potential for this species to nest in the vicinity of some of the BSAs located near open habitats with few trees. This species routinely nests in the vicinity of the Napa Airport, Wastewater Treatment Plant, and Sheehy Creek in close proximity to Site 24. The CDFW typically requires a 0.5-mile nest buffer for Swainson's hawk. They also are known to nest at various locations along the Napa River and could nest in the vicinity of Sites 1, 14, 18, 20, 22, 23.

4.3.3 Golden eagle

The golden eagle (*Aquila chrysaetos*) is a state fully protected species. The golden eagle has a wide range; inhabiting most of western North America, as well as, parts of Asia, northern Africa, and Europe. These birds occur in a wide variety of habitats, such as forest, canyons, shrub lands, grasslands, and oak woodlands. While some golden eagles migrate, others, such as those in California, are year round residents. A mating pair will build their nests on high cliffs, trees, and human-made structures and may continue to return to that nest for multiple years (Battistone, 2021).

There is a low potential for this species to nest in the vicinity of some of the BSAs located near tall cliffs, trees, or man-made structures. Golden eagles are known to nest at various locations around Lake Berryessa and could nest in close proximity to Sites 4, 7, and IQ 18.

4.3.4 Burrowing owl

The burrowing owl (*Athene cunicularia*) is listed as a state species of special concern and a fully protected species. Burrowing owls have a wide distribution in western North America but populations are declining in California (Shuford and Gardali, 2008). This species lives in areas with low vegetation and burrows that have been abandoned by ground squirrels, or other rodents. Ideal nesting locations would be in native grassland or bare soil; however, their native habitat has becoming scarcer and they are known to nest in more urbanized areas such as airports, golf courses, and vacant lots. They maintain a year-round residence in most of the state and their breeding months are from March to August (Bates, 2006).

There is a low potential for this species to nest in the vicinity of some of the BSAs located near open grassland with little vegetation. There is a CNDDB record (#935) for a burrowing owl nesting in grasslands approximately 0.6 miles north of Site 24. There is a low likelihood that this species would nest in the vicinity, but the possibility cannot be ruled out. There is also suitable habitat north of Site 3; however, there are no nearby CNDDB records.

4.3.5 Peregrine falcon

The peregrine falcon (*Falco peregrinus anatum*) is state fully protected species. Peregrines prefer coastal cliffs and bluffs for nesting in California, but they are also found in urban settings using tall buildings and bridges for nesting (Comrack and Logsdon, 2008). Their main food source comes from eating mostly shorebirds and songbirds. The peregrine falcon population became severely threatened due to the release of the chemical dichlorodiphenyltrichloroethane (DDT) and other pesticides into their environment and entering the food chain in the mid-90s. Toxic DDT levels lead to thinning of egg shells, which resulted in frequent nesting failures (Comrack and Logsdon, 2008). Thanks to successful rehabilitation strategies, the Peregrine falcon population is on the rise, but pesticide and DDT levels still remain a threat to this species reproductive success.

There is a low potential for this species to nest in the vicinity of some of the BSAs located near costal cliffs or tall buildings. Location information of peregrine falcon nests are considered to be sensitive and CNDDB records for this species are suppressed. Suitable nesting habitat is present near Sites IQ 2 and IQ 7.

4.3.6 Migratory Birds

The federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (F.G.C.) Sections 3503 and 3800 protect active nests structures and eggs of migratory and non-game bird species. All birds are protected under these regulations except for non-native species such as the European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and rock pigeon (*Columbia livia*), as well as game species who are subject to limited protection. Also, the Federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) prohibits the take of bald or golden eagles (or any part of these birds of prey) and their nests. Preferred nesting habitat varies among species and may include, trees, shrubs, man-made structures, and the ground. During construction activities, work buffers zones must be established around migratory nesting birds to minimize impacts to protected bird species. Incidental Take Permits are not issued under the MBTA, and therefore, any and all proposed projects must take measures to avoid the “taking” of migratory and non-game birds, nests, or eggs.

4.3.6.1 Impact Analysis and Avoidance Measures

Birds protected by the MBTA and California F.G.C. Sections 3503 and 3800 were observed in the BSA. No focused nesting bird surveys have been conducted for the purposes of this report; however, there is abundant suitable nesting habitat in the BSA.

Prior to construction, a pre-construction survey for nesting birds should be conducted no more than 48 hours prior to construction. Nest searches for raptors (birds of prey) should be performed within a 250-feet radius of the BSA. Nest searches for passerines (small perching songbirds)

nests should be performed within a 50-feet radius of the Project limits. If active nests are found within these areas, the Project biologist will establish protective buffer zones around the nest and will prepare a nest monitoring plan to describe measures that will be taken to ensure the Project does not result in nest failure or take of this species.

4.3.7 Bats

Several species of bats are considered species of special concern by the state, including: pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), spotted bat (*Euderma maculatum*), western red bat (*Lasiurus blossevillii*), and western mastiff bat (*Eumops perotis*). In addition to bat species listed as sensitive by the resource agencies, state laws protect bats and their occupied roosts from harassment and destruction. Protection under California Law is found in the F.G.C. Sections 2000, 2002, 2014 and 4150, and under California Code of Regulations Section 251.1.

Bats are commonly found in association with many habitats, often with a source of water nearby that attract insects upon which bats forage. Many bats found in California may roost in man-made structures including bridges, buildings, crevices of box culverts, and mines. Bats that may utilize bridges, structures, and occasionally trees for roosting, and raising pups include:

- Pallid bat
- Townsend's big-eared bat
- Big brown bat (*Eptesicus fuscus*)
- California myotis (*Myotis californicus*)
- Small-footed myotis (*M. ciliolabrum*)
- Long-eared myotis (*M. evotis*)
- Little brow bat (*M. lucifugus*)
- Fringed myotis (*M. thysanodes*)
- Long-legged myotis (*M. volans*)
- Yuma myotis (*M. yumanensis*)
- Mexican free-tailed bat (*Tadarida brasliensis*)

Some species of bats almost exclusively roost in hollowed trees, peeling bark, and tree foliage. These species require trees for some or all of the following activities, depending on the species: thermal regulation, predator avoidance, maternity roosting, and for resting between foraging flights. Bat species that almost exclusively depend on trees for roosting include:

- Western red bat
- Hoary bat (*Lasiurus cinereus*)
- Silver-haired bat (*Lasionycteris noctivagans*)

4.3.7.1 Impact Analysis and Avoidance Measures

Minor tree trimming, primarily oaks, will likely be necessary at Sites 1, 2, 4, 19, 20, and 22. Preconstruction surveys for roosting bats would be conducted by a qualified biologist no more than one week prior to the commencement of trimming. The survey would include visual inspection of vegetation that requires removal. If an active roost is found and it is determined

that construction-related activities could impact roosting bats, exclusionary measures and methods will be implemented by the qualified biologist. Maternity roosts would require protection until no longer active.

4.3.8 Wildlife Corridors

Other than the City of Napa and some of the small towns, St. Helena, Yountville, Calistoga, Napa County has wide-open spaces that provide wildlife movement corrdors through a variety of habitats. Napa River provides a migratory corridor for fish, amphibians and other aquatic species. The Project would have no impact on migratory corridors.

4.3.9 Napa County Tree Ordinance

Section 18.108.020 C of the Napa County Code of Ordinances requires that in the Agricultural Watershed (AW) zoning district, a minimum of seventy percent vegetation canopy cover as configured on an AW zoned parcel exisiting on June 16, 2016 shall be maintained as part of any use involving earth-disturbing activity. Further requirements to regulate vegetation removal are included in this Chapter including Section 18.108.020 D titled Vegetation Removal Mitigation which requires replacement planting of removed canopy cover at a 3:1 ratio.

4.3.9.1 Impact Analysis and Avoidance Measures

Minor tree trimming, primarily oaks, will likely be necessary at Sites 1, 2, 4, 19, 20, and 22. Consultation will occur with the County, and if tree removal becomes necessary, replacement planting may be necessary.

5 RECOMMENDATIONS

Recommendations in below in Table 33 are intended as guidance for compliance with federal and state laws and regulations protecting biological resources.

Table 33. Biological Resources Avoidance and Minimization Measures

Avoidance and Minimization Measures	Description
Water Quality	• Work at Sites 2, 3, 4, 12, and 20 will occur in close proximity to roadside ditches or similar aquatic resources. BMPs, such as silt fence or straw wattles will be installed prior to construction in order to protect water quality and other construction-related impacts. • Hazardous materials such as fuels, oils, solvents, etc. would be stored in sealable containers in a designated location that is at least 100 ft. from aquatic habitats.
Trees	• Minor tree trimming, primarily oaks, will likely be necessary at Sites 1, 2, 4, 19, 20, and 22. Tree trimming must be in compliance with Napa County Code of Ordinances Chapter 18 (Zoning) Section 18.108.020. Removal of tree canopy must be kept to a minimum. If tree removal occurs, replacement planting may be required. . • Preserve trees in place to the extent practicable.
Implement Project Schedule Windows and Pre-Construction Surveys	• Bats: To the extent practicable, trees will be trimmed from September 1 to March 1, outside of the breeding season, so as not to disturb maternal colonies or roosts. • Bats: Prior to construction visual surveys of the trees scheduled for trimming or removal in the Project area should be conducted for bat roosts. If bats are found, the Project biologist will determine if they could be affected by the Project. If it is determined that bats must be passively or actively excluded, the Project biologist must prepare an exclusion plan. • Birds: CDFW typically requires that if projects take place between February 1 and October 15 of any year, a qualified biologist would conduct pre-construction nesting surveys within 48 hours of construction for nesting passerines (small songbirds) and raptors. If nests are located, the biologist, would establish a buffer around the nest to remain in place until the young have fledged. Typically, a 50-ft buffer is recommended for passerines and a 250-ft buffer for raptors.
Protection of Sensitive Botanical Areas	• Pre-construction botanical surveys are recommended for Sites 6/IQ 1, IQ 2, IQ 7, and IQ 19. • Prior to entering Sites 6/IQ 1, IQ 2, IQ 7, and IQ 19, all construction related equipment must be washed and free of mud to avoid the spread of invasive plant species.
Restoration	• All disturbed areas must be hydroseeded with a seed mix consisting of native herbaceous species.

6 REFERENCES

$Anderson, R. 1988. Montane Hardwood-Conifer *In* California Wildlife Habitat Relationships System. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67336&inlineCDFW. (Last accessed: April 22, 2021).

Barbour, M., T. Keeler-Wolf, and A. A. Schoenherr, editors. 2007. Terrestrial vegetation of California. Third edition. University of California Press, Berkeley, California.

Barbour, P. J., S. W. Martin, and L. W. Burger. 2007. Estimating economic impact of conservation field borders on farm revenue. Online. Crop Manage, doi:10.1094/CM-2007-0614-01-RS.

Bates, C. 2006. Burrowing Owl (*Athene cunicularia*). In The Draft Desert Bird Conservation Plan: a strategy for reversing the decline of desert-associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/desert.html (Last accessed: April 26, 2021).

Battistone, C. 2021. Golden Eagles in California. CDFW. https://wildlife.ca.gov/Conservation/Birds/Golden-Eagles (Last accessed: April 26, 2021).

California Department of Fish and Wildlife. 2021. California Natural Diversity Database. RareFind 5. Government Version dated June 1, 2018. https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. (Last accessed: April 25, 2021).

California Department of Fish and Wildlife. 2021. Wildlife Habitats – California Wildlife Habitat Relationships System. A Guide to Wildlife Habitats of California.https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats (Last accessed: April)

California Native Plant Society. 2021. Inventory of Rare and Endangered Plants of California. http://www.rareplants.cnps.org/ (Last accessed: April 22, 2021).

Comrack L.A. and Logsdon R.J. 2008. Status Review of the American Peregrine Falcon (*Falco peregrinus anatum*) in California. California Fish and Game Commission.

England, S.A. 1988. Mixed Chaparral In California Wildlife Habitat Relationships System. CDFW. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67370&inline (Last accessed: April 22, 2021.

Fitzhugh, E.L. and R. Schultze. 1988. Fresh Emergent Wetland *In* California Wildlife Habitat Relationships System. CDFW. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67408&inline (Last accessed: April 25, 2021).

George, M.R. 2020. *University of California Agriculture and Natural Resources*. "Ecology and Management of Annual Rangelands: Mediterranean Climate." Accessed April 28, 2021. Available from https://anrcatalog.ucanr.edu/pdf/8540.pdf

Grenfell, Jr., W. E. 2008. Riverine. In California Wildlife Habitat Relationships Systems. Life History Accounts and Range Maps. California Department of Fish and Game. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67396&inline (Last accessed: May 11, 2021)

Holland, V.L. and D. J. Keil. 1995. California Vegetation. Kendall/Hunt Publishing Company. Dubuque, Iowa.

Jepson Flora Project (eds.) 2021. Jepson eFlora, http://ucjeps.berkeley.edu/eflora/ (Last accessed: April 22, 2021).

Kie, J. G. 2005. Annual Grassland *In* California Wildlife Habitat Relationships System. CDFW. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67384&inline=1 (Last accessed: April 22, 2021).

Kramer, G. 1988. Fresh Emergent Wetland In California Wildlife Habitat Relationships System. CDFW. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67390&inline (Last accessed: April 25, 2021).

Mayer, K. and W. Laudenslayer, Jr., eds. 1988. A Guide to Wildlife Habitats of California. Sacramento: State of California, Resources Agency, Department of Fish and Game.

McBride, J. R. and C. Reid. 2008. Urban *In* California Wildlife Habitat Relationships Systems. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67420&inline (Last accessed: May 11, 2021).

McDonald, P.M. (1988). "Montane Hardwood." *Wildlife Habitat Relationships System*. California Interagency Wildlife Task Group Database. Version 8.1. California Department of Fish and Wildlife. < https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67338&inline > (Last accessed: April 28, 2021).

Moore, J. 2008. Version 1.0. White-tailed Kite In the Grassland Bird Conservation Plan. California Partners in Flight (CPIF). http://www.prbo.org/calpif/htmldocs/species/grassland/wtkiacct.html (Last accessed: April 26, 2021).

Polite, C. 2006. Swainson's hawk. *In* California Wildlife Habitat Relationships Systems. Life History Accounts and Range Maps. CDFW. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1673&inline=1 (Last accessed: April 26, 2021).

Pickwell, G. 1930. The White-tailed kite. Condor 32:221-239.

Riparian Habitat Joint Venture (RHJV). 2004. The Riparian Bird Conservation Plan: A Strategy for Reversing the Decline of Riparian Associated Birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v-2.html (Last accessed: April 26, 2021).

Ritter, L.V. 1988. Blue Oak Woodland *In* California Wildlife Habitat Relationships System. CDFW. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67340&inline (Last accessed: May 11, 2021.

Schultze, R.F. 1999. Vineyard In California Wildlife Habitat Relationships System. CDFW. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67418&inline (Last accessed: April 25, 2021).

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

U.S. Department of Agriculture. 1978. *Soil Survey of Napa County, California*. Soil Conservation Service. https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/napaCA1978/napaCA1978.pdf (Last accessed: April 22, 2021).

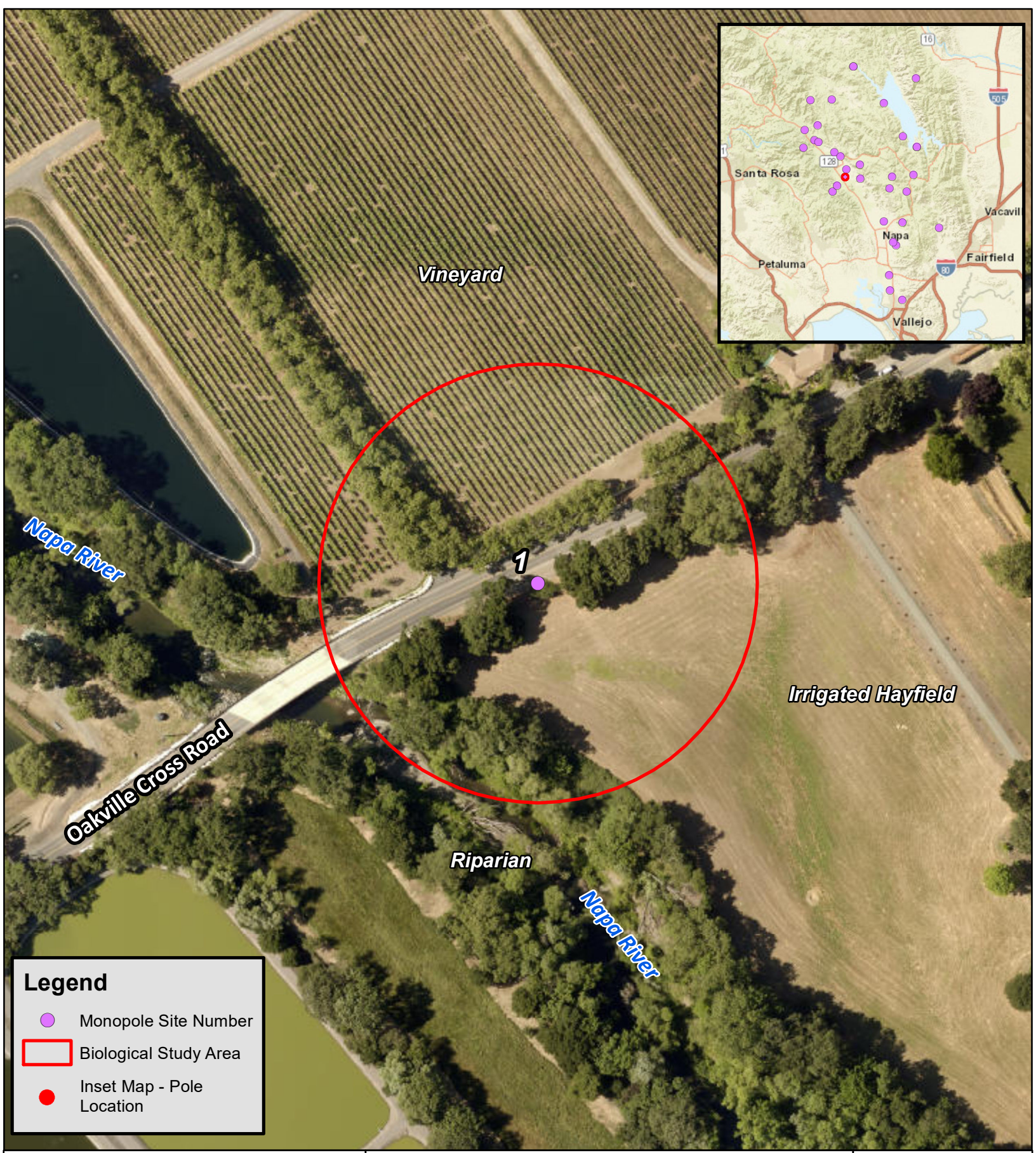
Verner J. 1988. Blue Oak-Foothill Pine *In* California Wildlife Habitat Relationships System. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67346&inline. (Last accessed: April 22, 2021).

Waian, L. B. 1973. The behavioral ecology of the Northern American White-tailed kite (Elanus leucurus majusculus) of the Santa Barbara coastal plain. Dissertation. Univ. of Calif. at Santa Barbara, Santa Barbara, CA

Western Regional Climate Center. 2021. Cooperative Climatological Data Summaries. <https://wrcc.dri.edu/Climate/west_coop_summaries.php> (Last accessed: April 28, 2021).

Zeiner, D.C. 1988. Pasture *In* California Wildlife Habitat Relationships System. CDFW. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67394&inline (Last accessed: April 25, 2021).

Appendix A Biological Study Area Maps



1 inch = 166.67 feet

0 150 300 Feet

N

Biological Study Area

Monopole Site 1 - Habitat Types

(38.441317, -122.393956)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

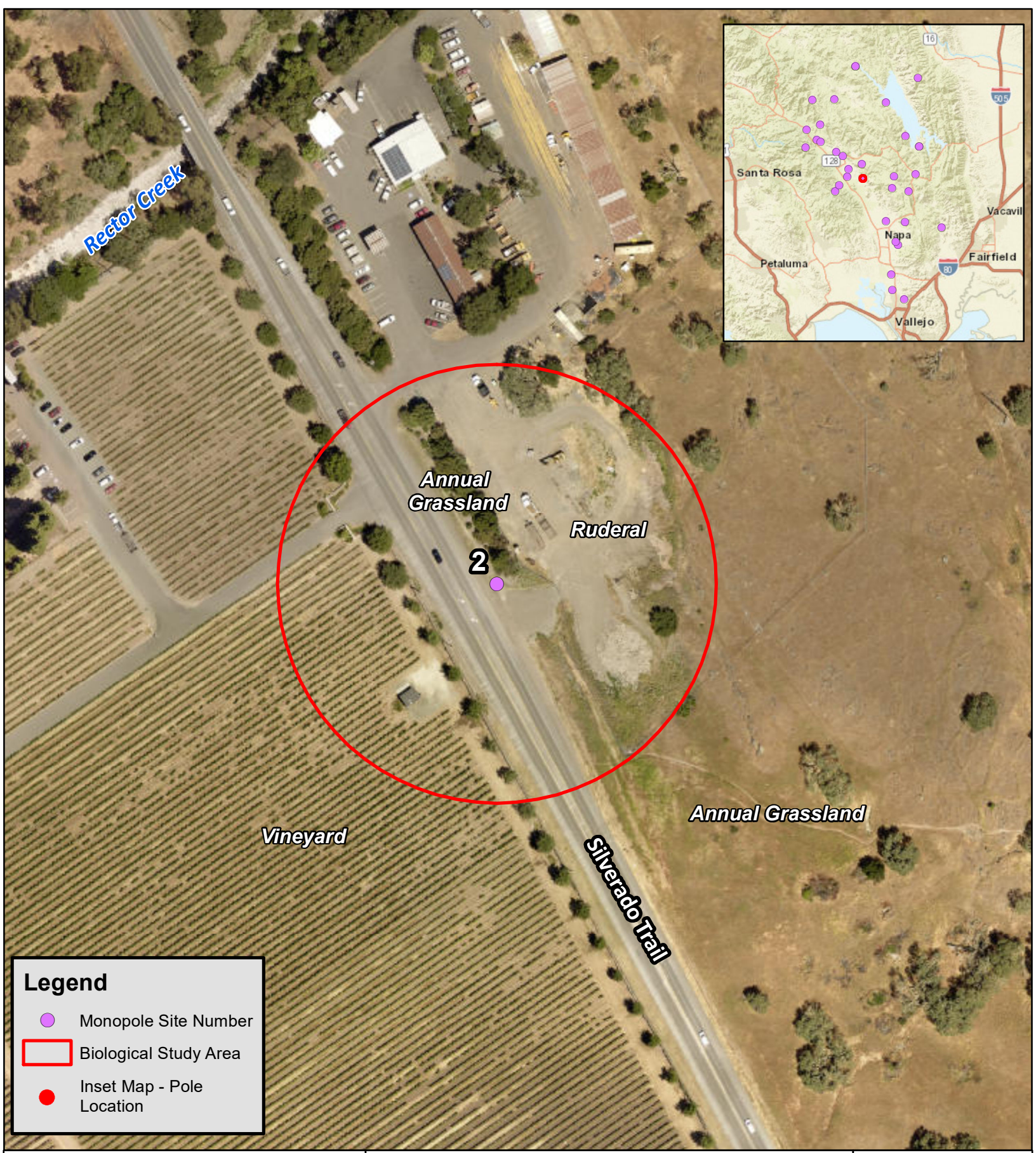
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

1 inch = 166.67 feet

0 150 300 Feet

N

Biological Study Area

Monopole Site 2 - Habitat Types

(38.437003, -122.349386)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

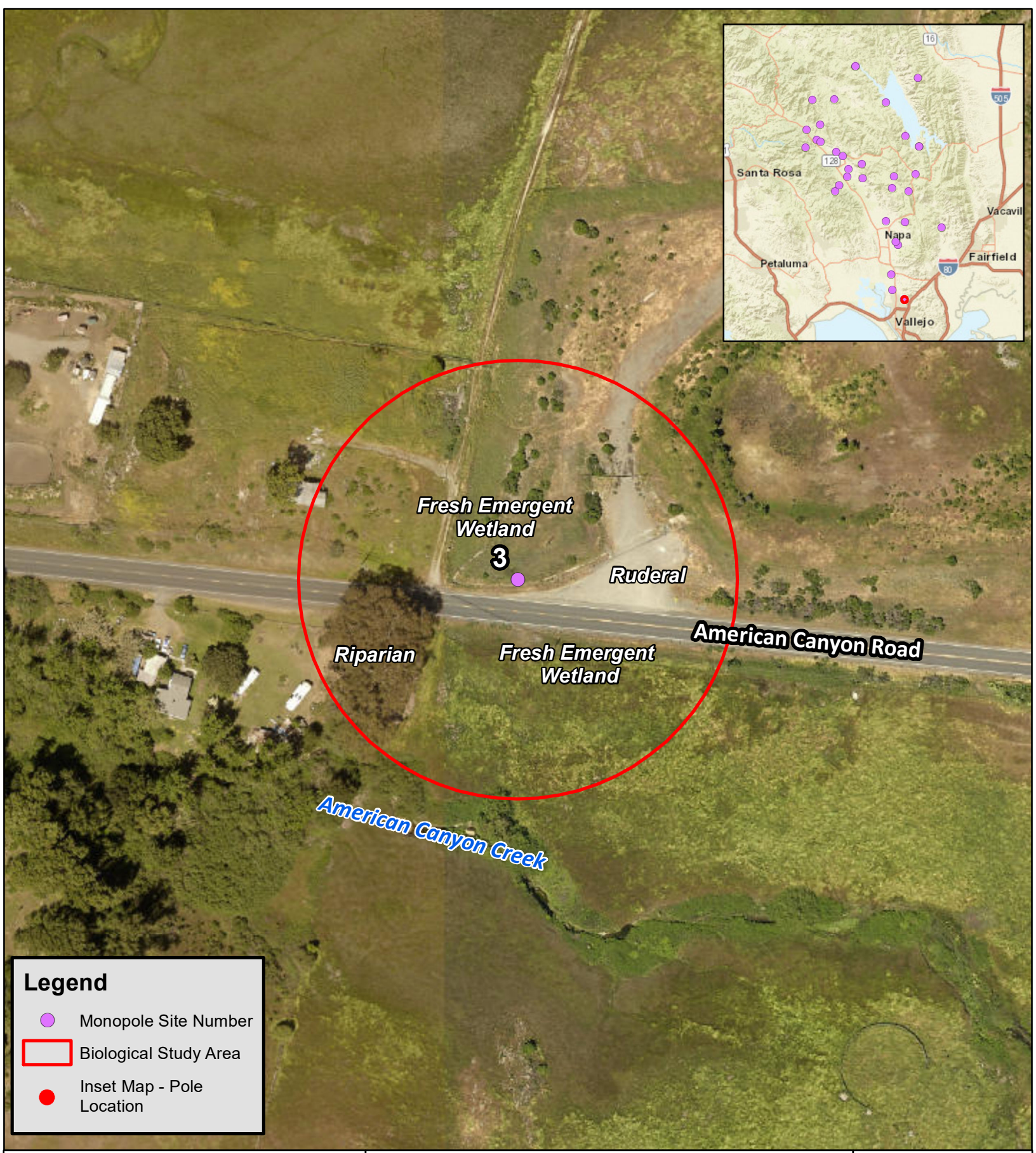
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



N

1 inch = 166.67 feet

0 150 300 Feet

Biological Study Area

Monopole Site 3 - Habitat Types

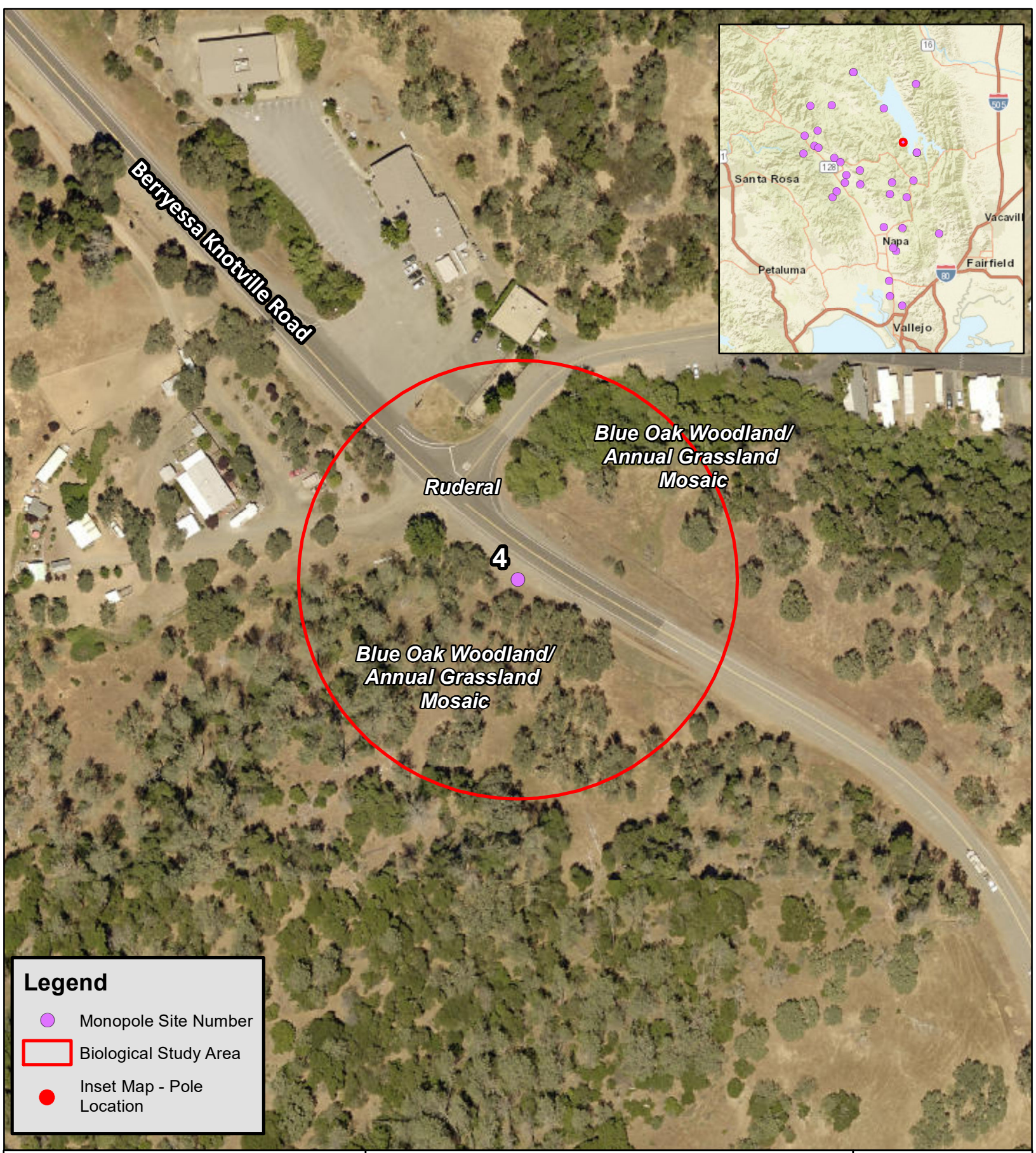
(38.163875, -122.229336)

Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:



1 inch = 166.67 feet

0 150 300 Feet

N

Biological Study Area

Monopole Site 4 - Habitat Types

(38.5325363, -122.2268017)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

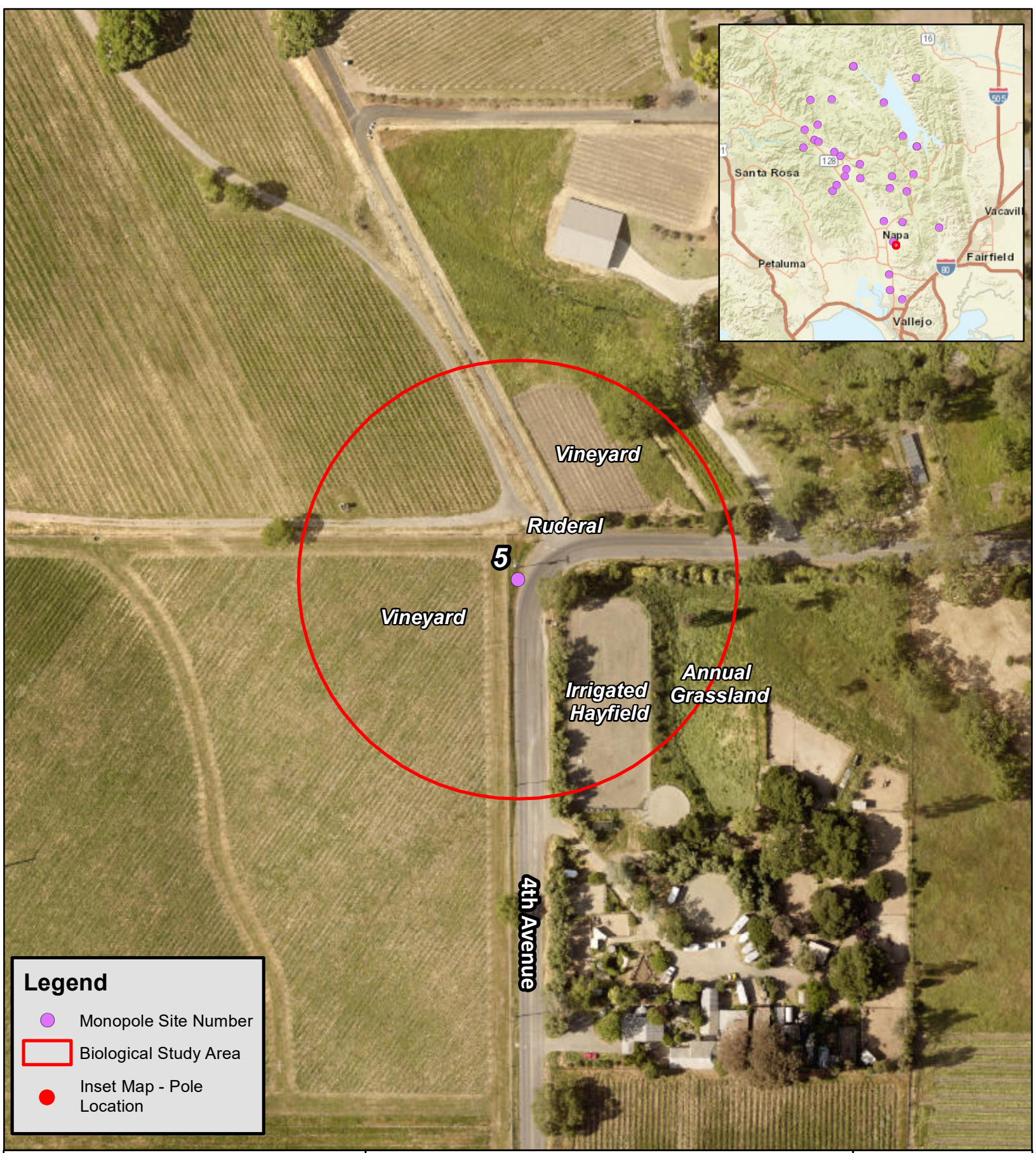
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



1 inch = 166.67 feet

0 150 300 Feet

N

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 5 - Habitat Types

(38.286912, -122.247088)

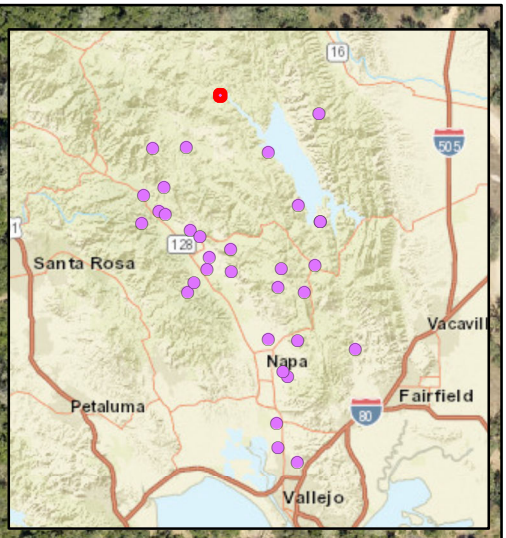
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

Note:
The site is at the Berryessa Estates water tank east of Spur Street.



Mixed Chaparral

6/IQ 1

Blue Oak/Foothill Pine Woodland

Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

N

1 inch = 269.25 feet

0 225 450 Feet

Biological Study Area

Monopole Sites 6 and IQ 1 - Habitat Types

(38.689508, -122.369920)

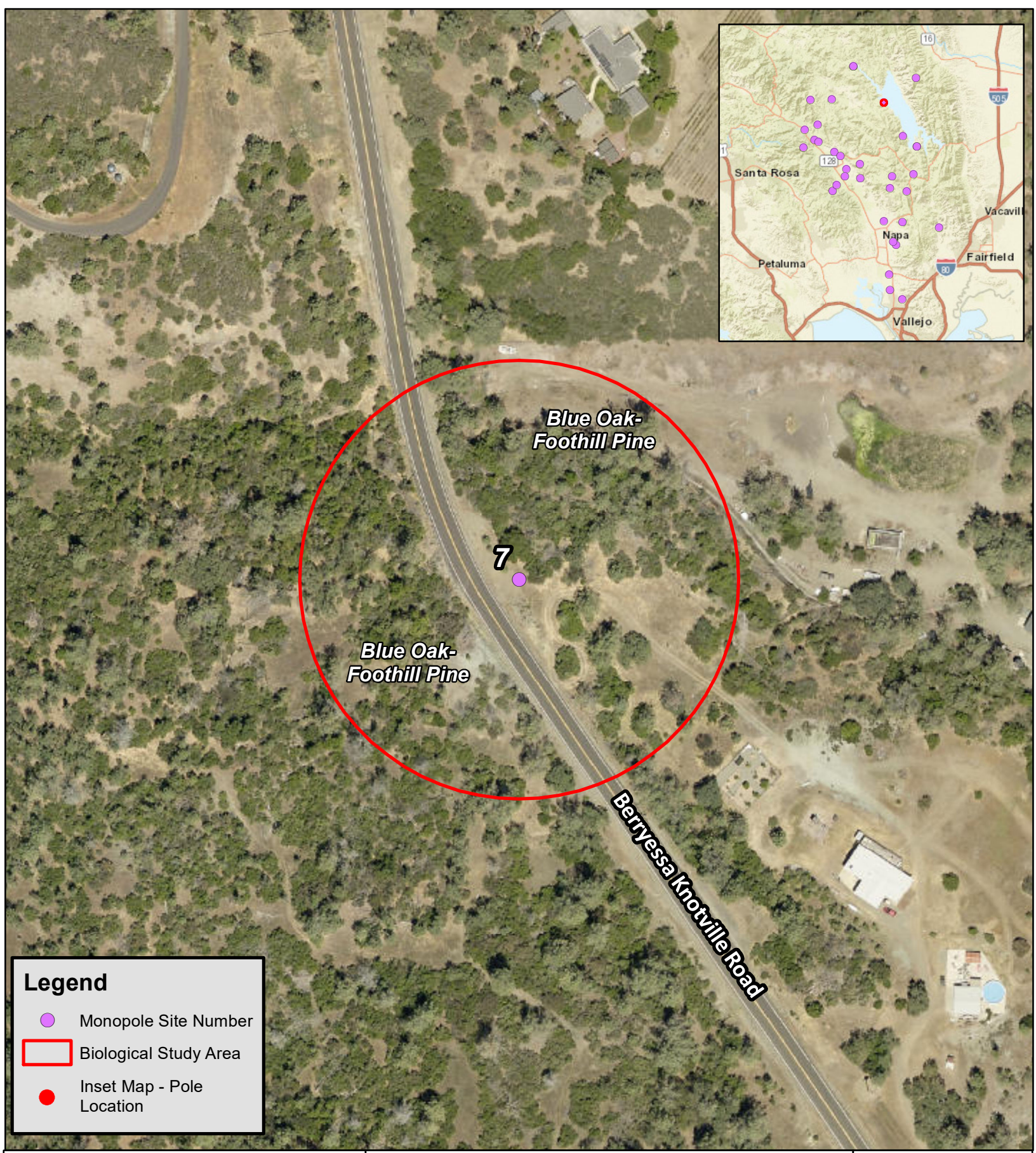
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



Biological Study Area

Monopole Site 7 - Habitat Types

(38.607933, -122.282128)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

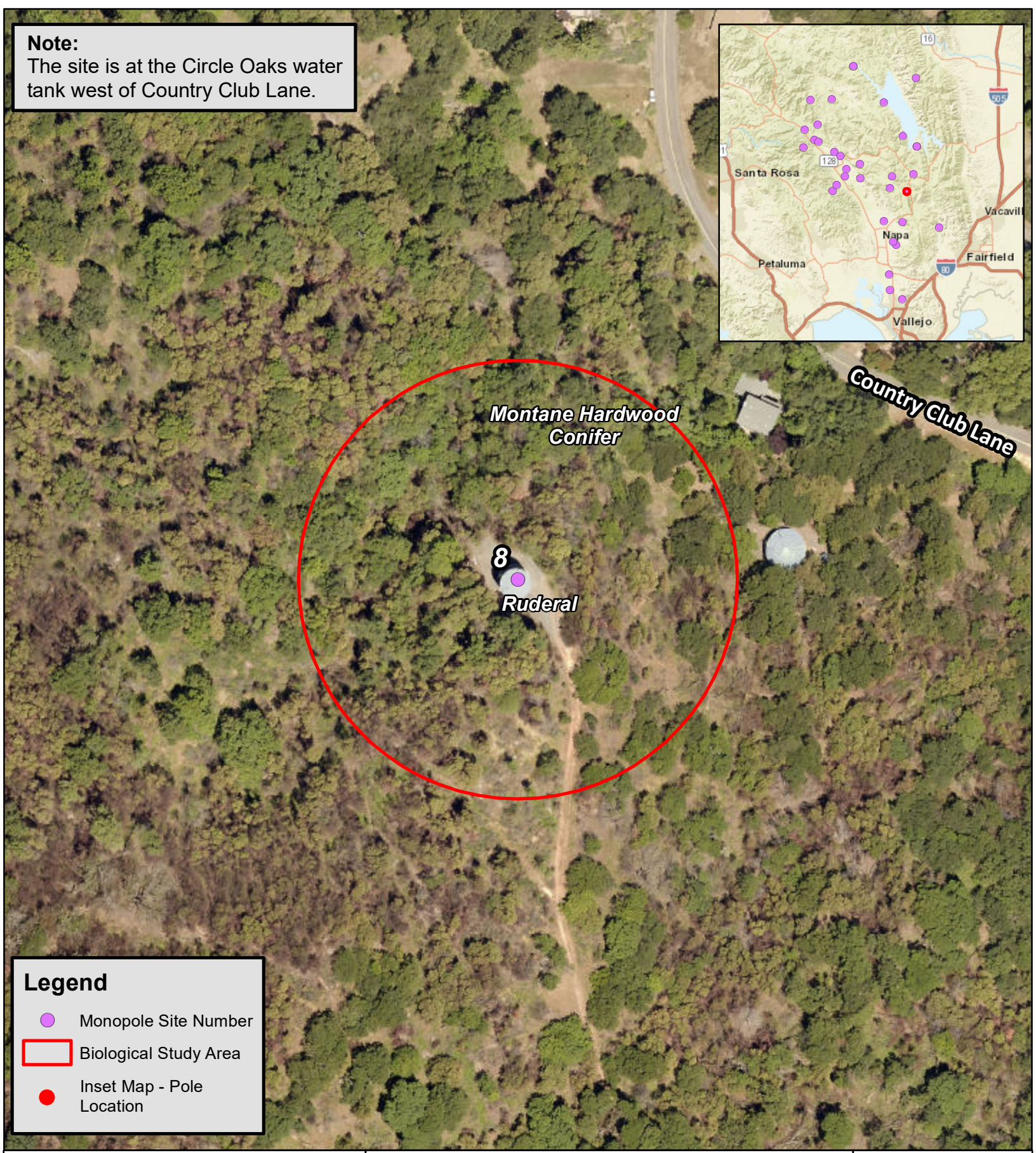
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



1 inch = 166.67 feet

0 150 300 Feet

N

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 8 - Habitat Types

(38.407847, -122.216456)

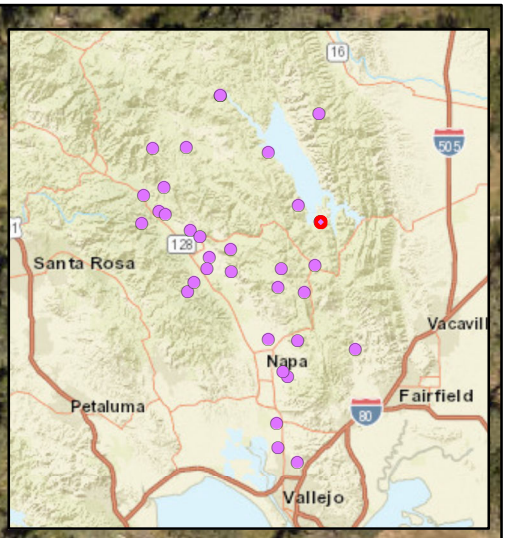
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

Note:
The site is at the Berryessa Highlands water tank east of Rimrock Drive.



Blue Oak-
Foothill Pine

9/IQ 18

Ruderal

Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

1 inch = 166.67 feet

0 150 300 Feet

N

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 9/IQ 18 - Habitat Types

(38.508767, -122.186729)

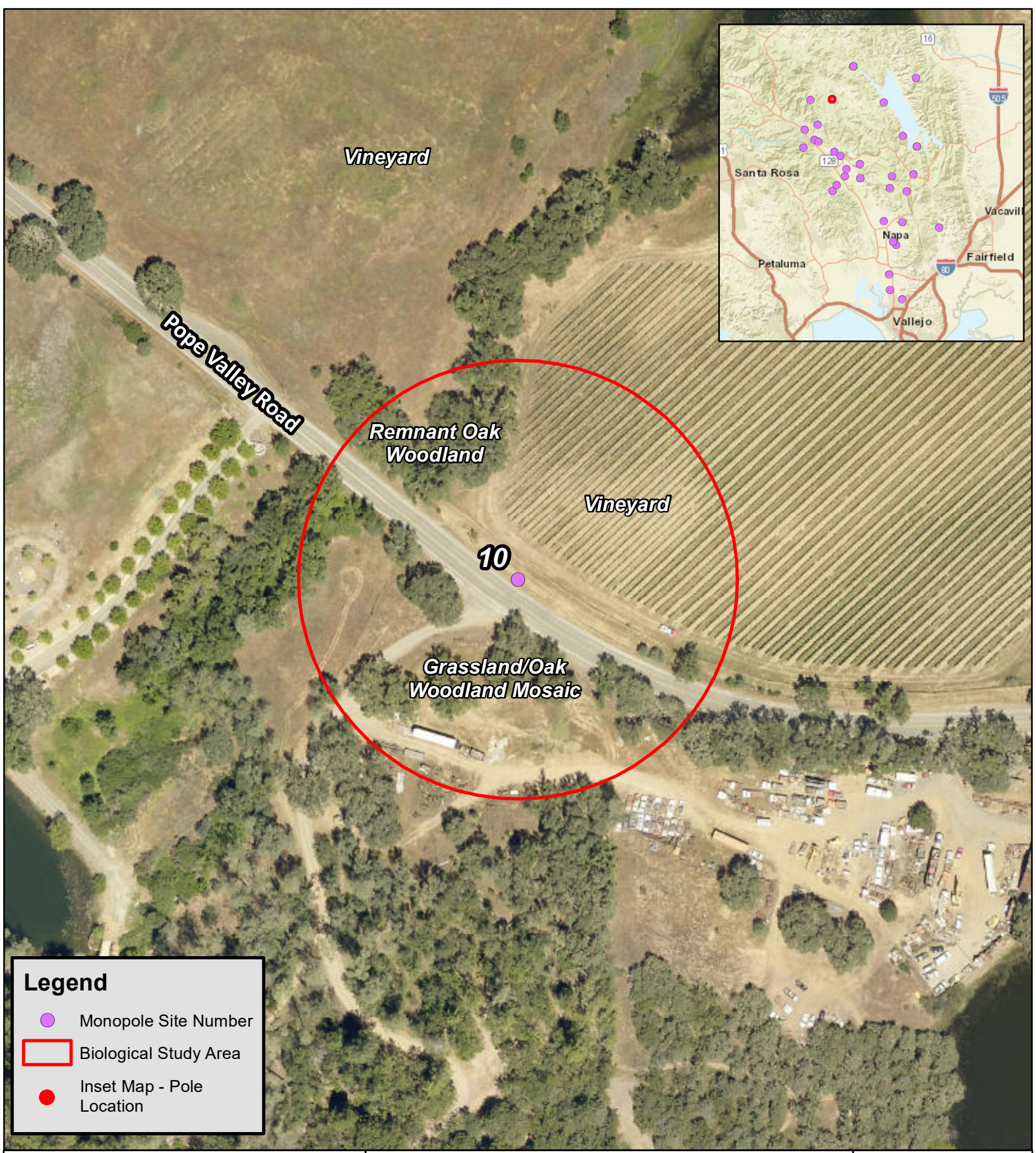
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



1 inch = 166.67 feet

0 150 300 Feet

N

Biological Study Area

Monopole Site 10 - Habitat Types

(38.615556, -122.431389)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

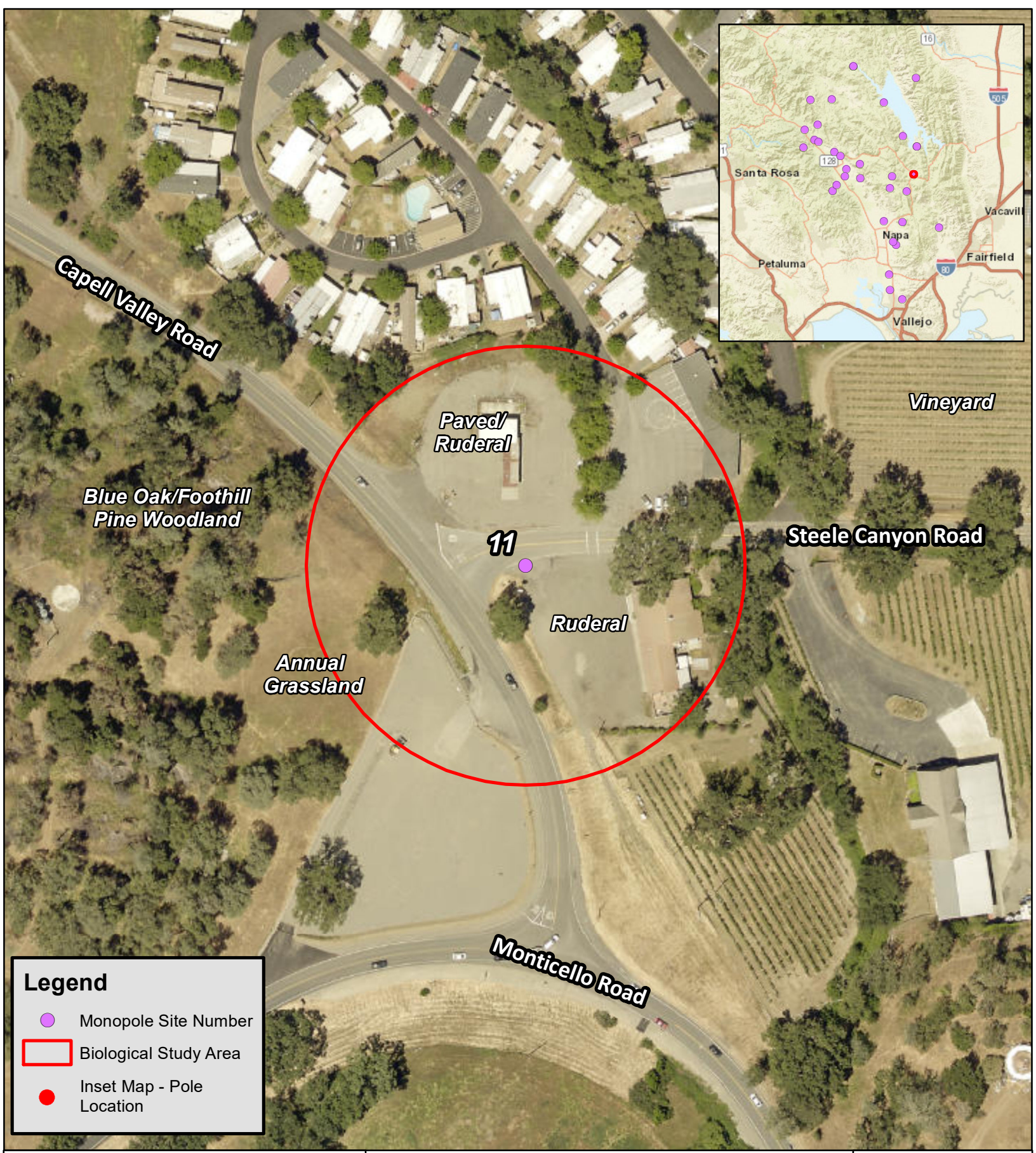
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



1 inch = 166.67 feet

0 150 300 Feet

N

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 11 - Habitat Types

(38.446703, -122.196594)

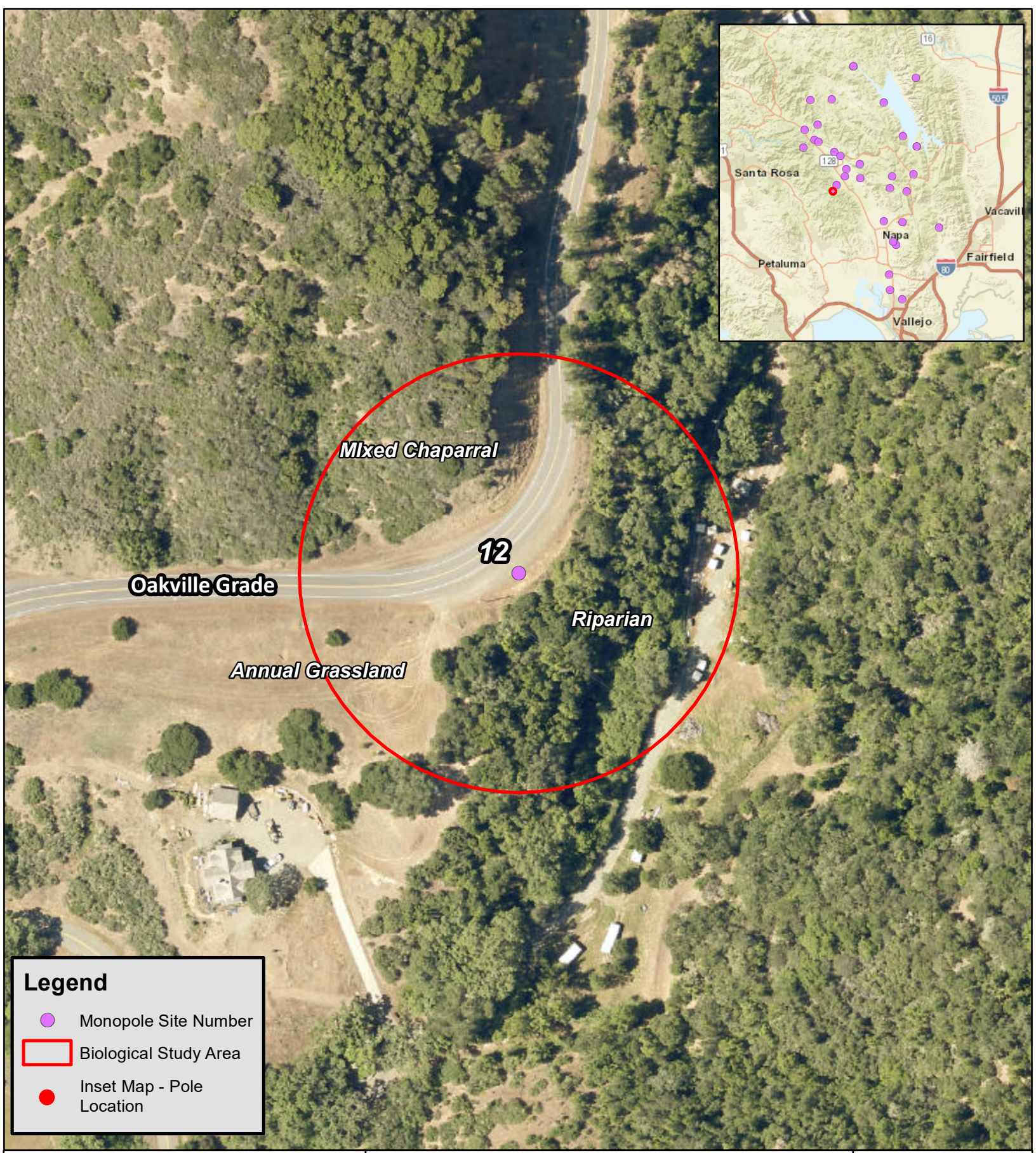
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



N

1 inch = 166.67 feet

0 150 300 Feet

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 12 - Habitat Types

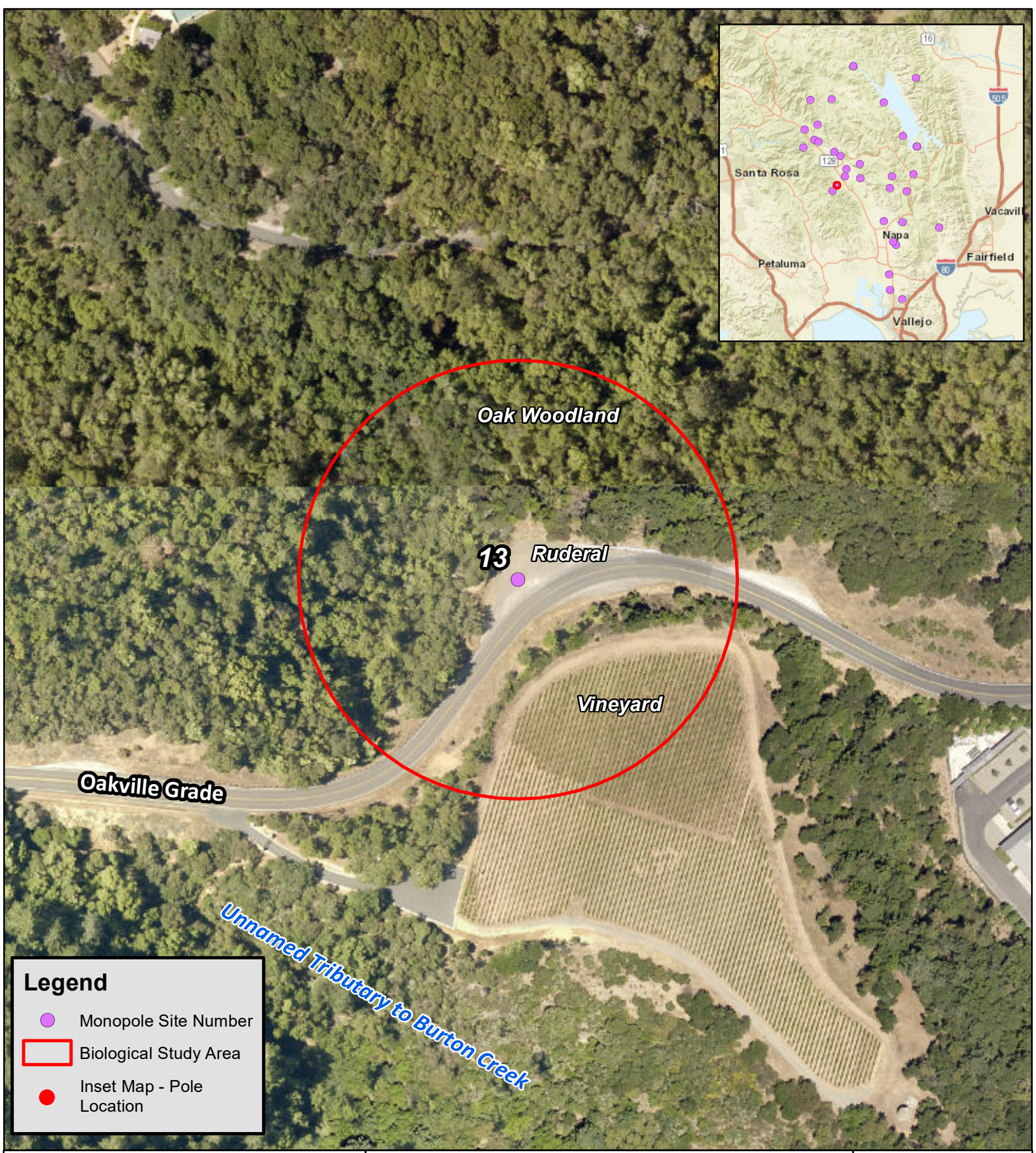
(38.408353, -122.428956)

Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:



1 inch = 166.67 feet

0 150 300 Feet

N

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 13 - Habitat Types

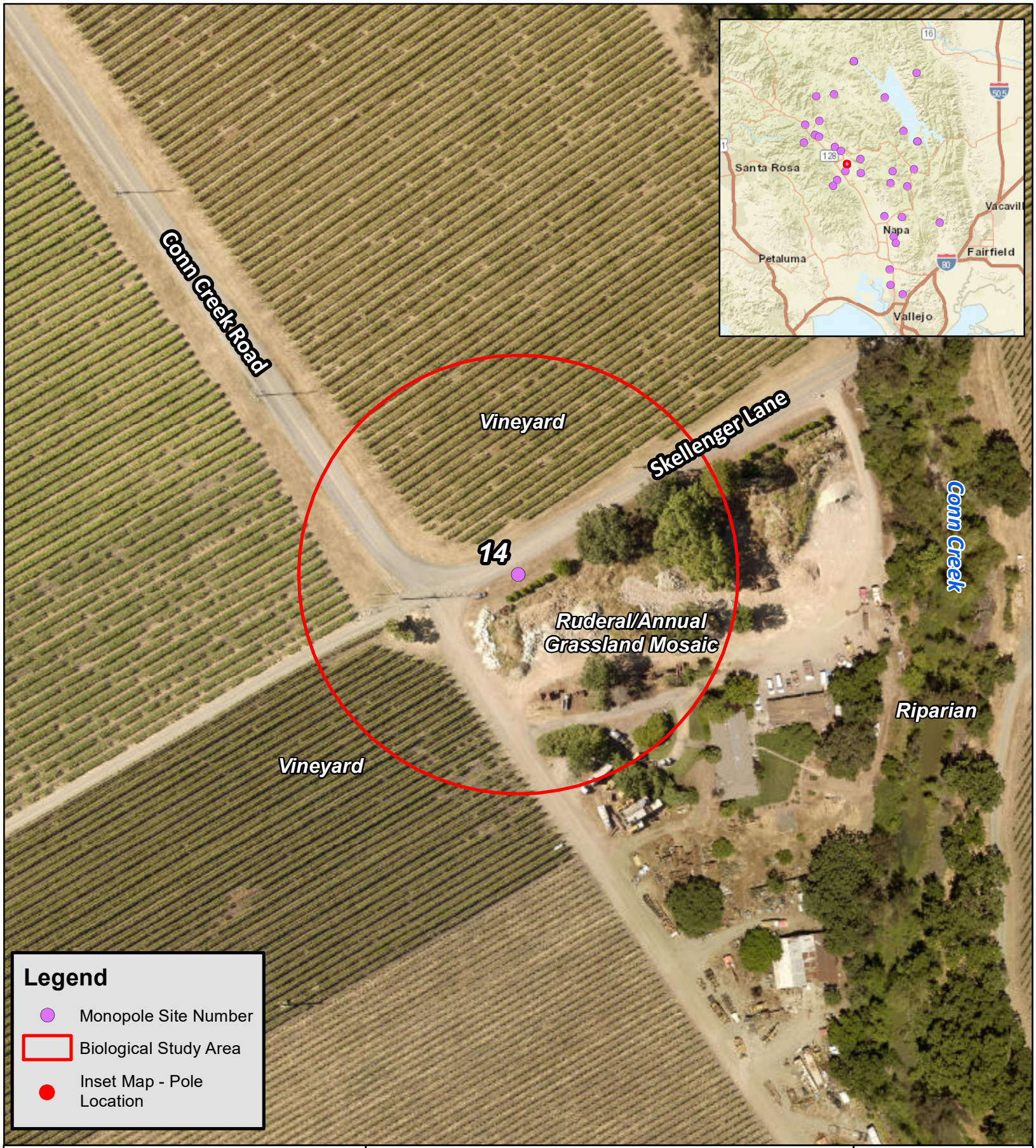
(38.422111, -122.417017)

Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:



Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

1 inch = 166.67 feet

0 150 300 Feet

N

Biological Study Area

Monopole Site 14 - Habitat Types

(38.458361, -122.389864)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

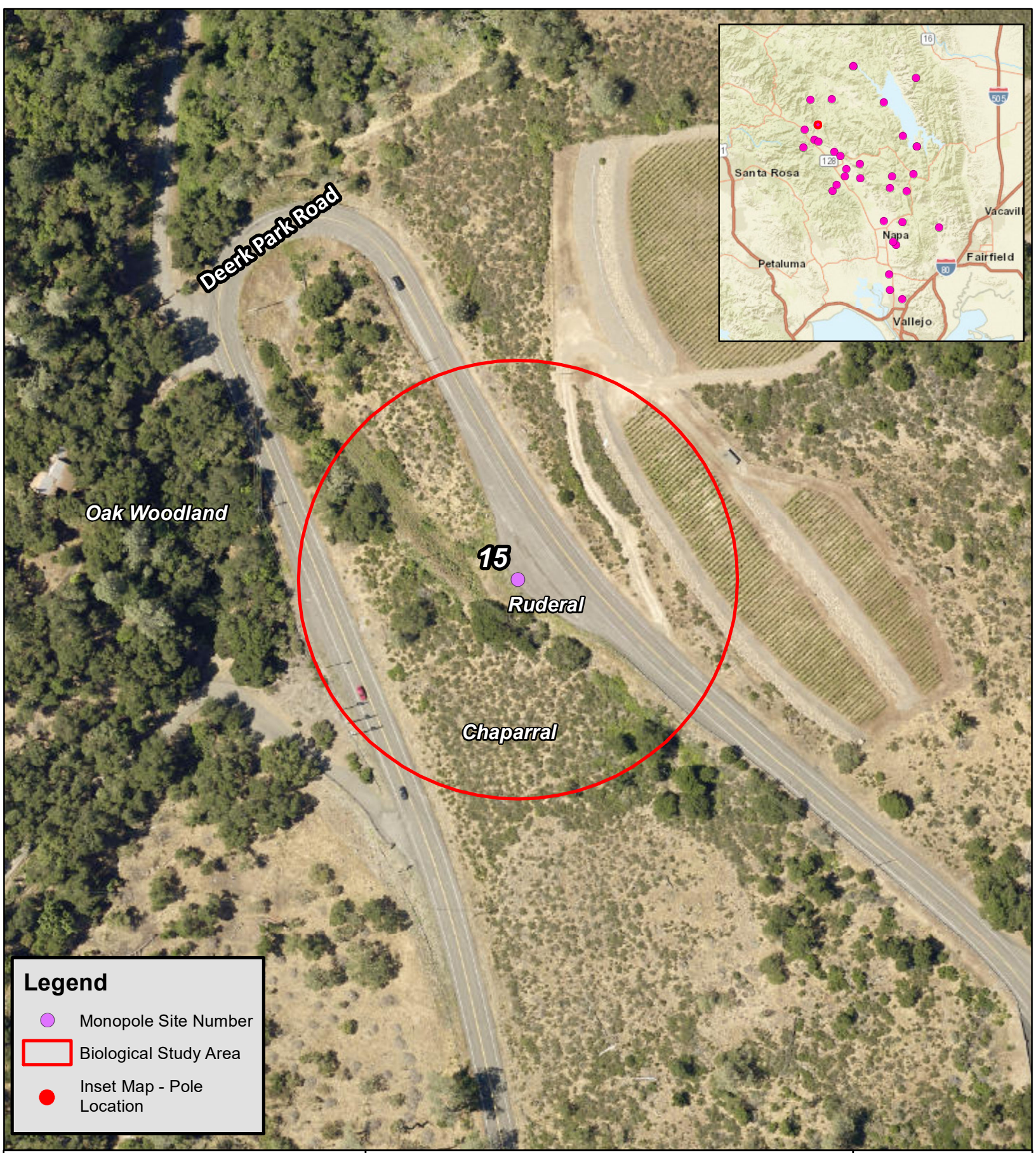
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



1 inch = 166.67 feet

0 150 300 Feet

N

Biological Study Area

Monopole Site 15 - Habitat Types

(38.558175, -122.472242)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

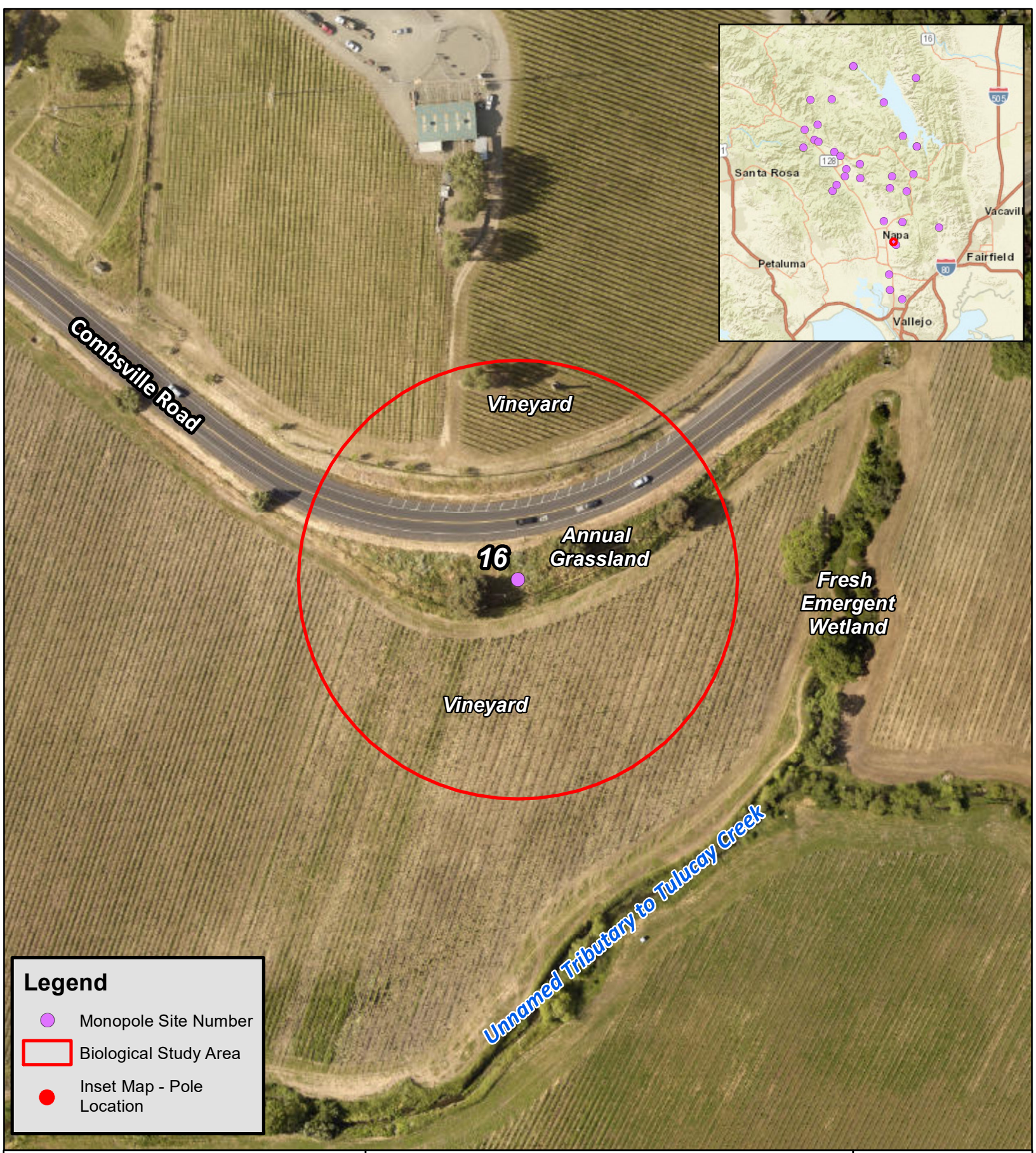
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



1 inch = 166.67 feet

0 155 310 Feet

N

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 16 - Habitat Types

(38.294039, -122.254558)

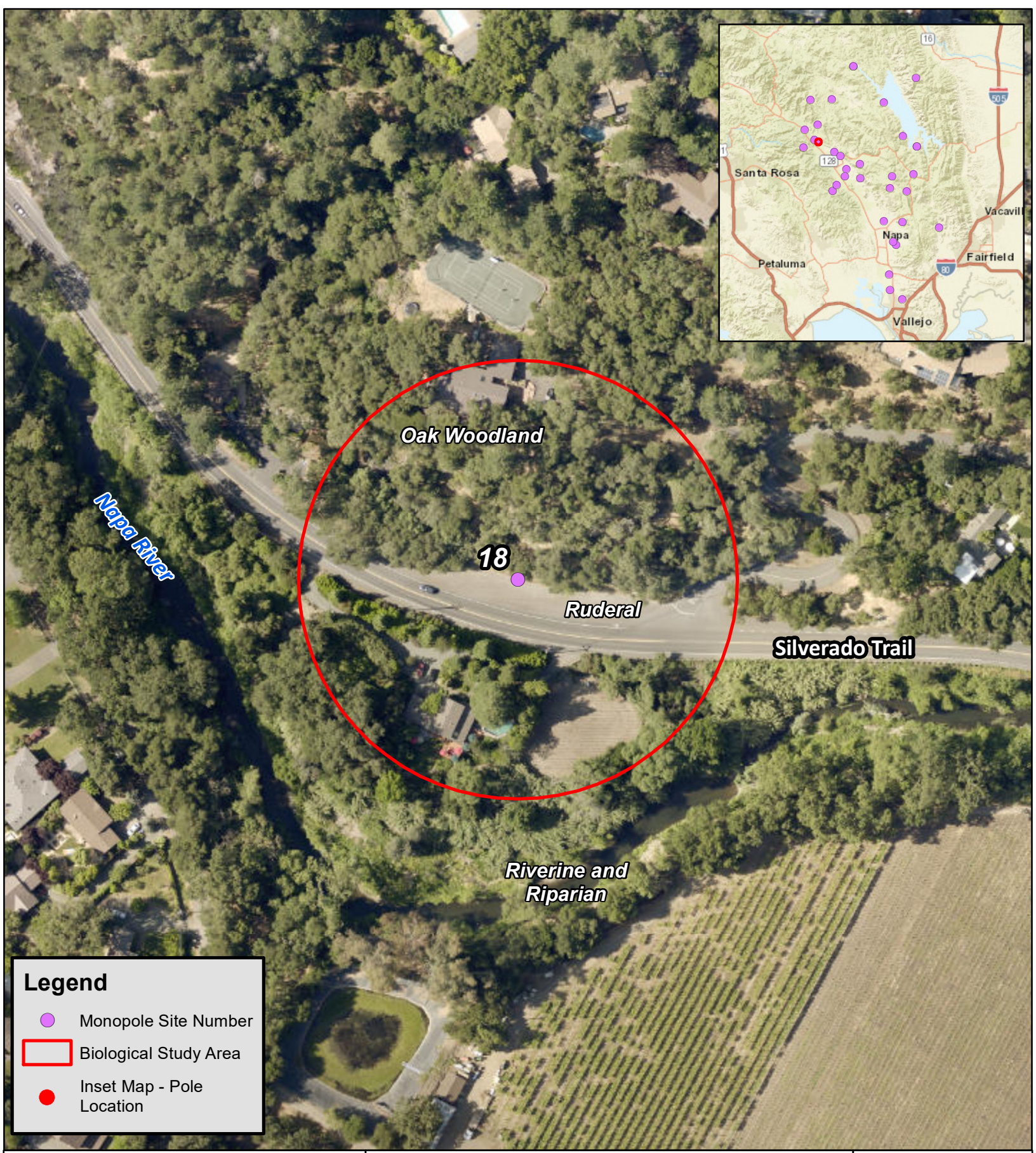
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



Biological Study Area

Monopole Site 18 - Habitat Types

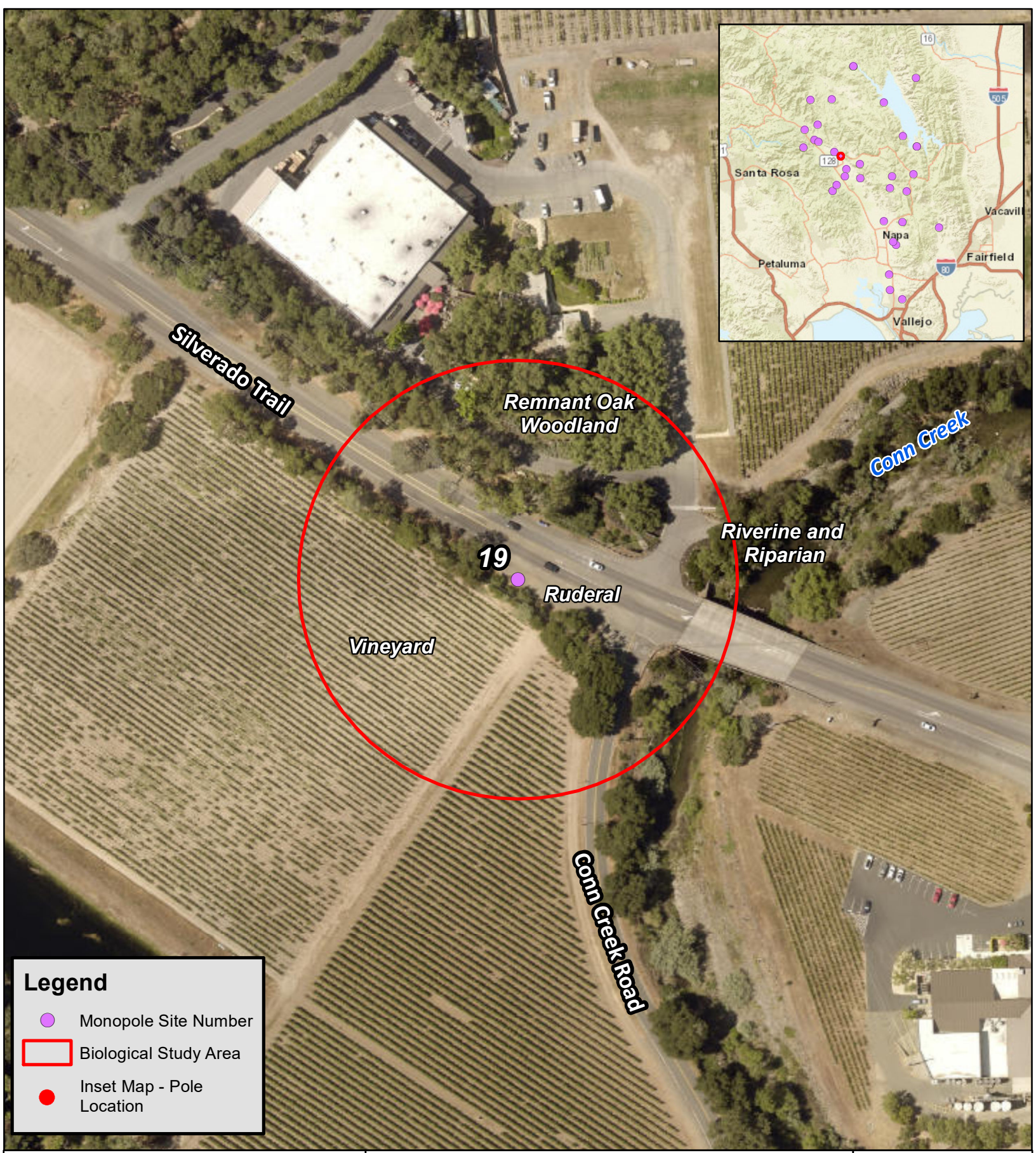
(38.519722, -122.470497)

Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:



1 inch = 166.67 feet

0 155 310 Feet

N

Biological Study Area

Monopole Site 19 - Habitat Types

(38.487507, -122.406589)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

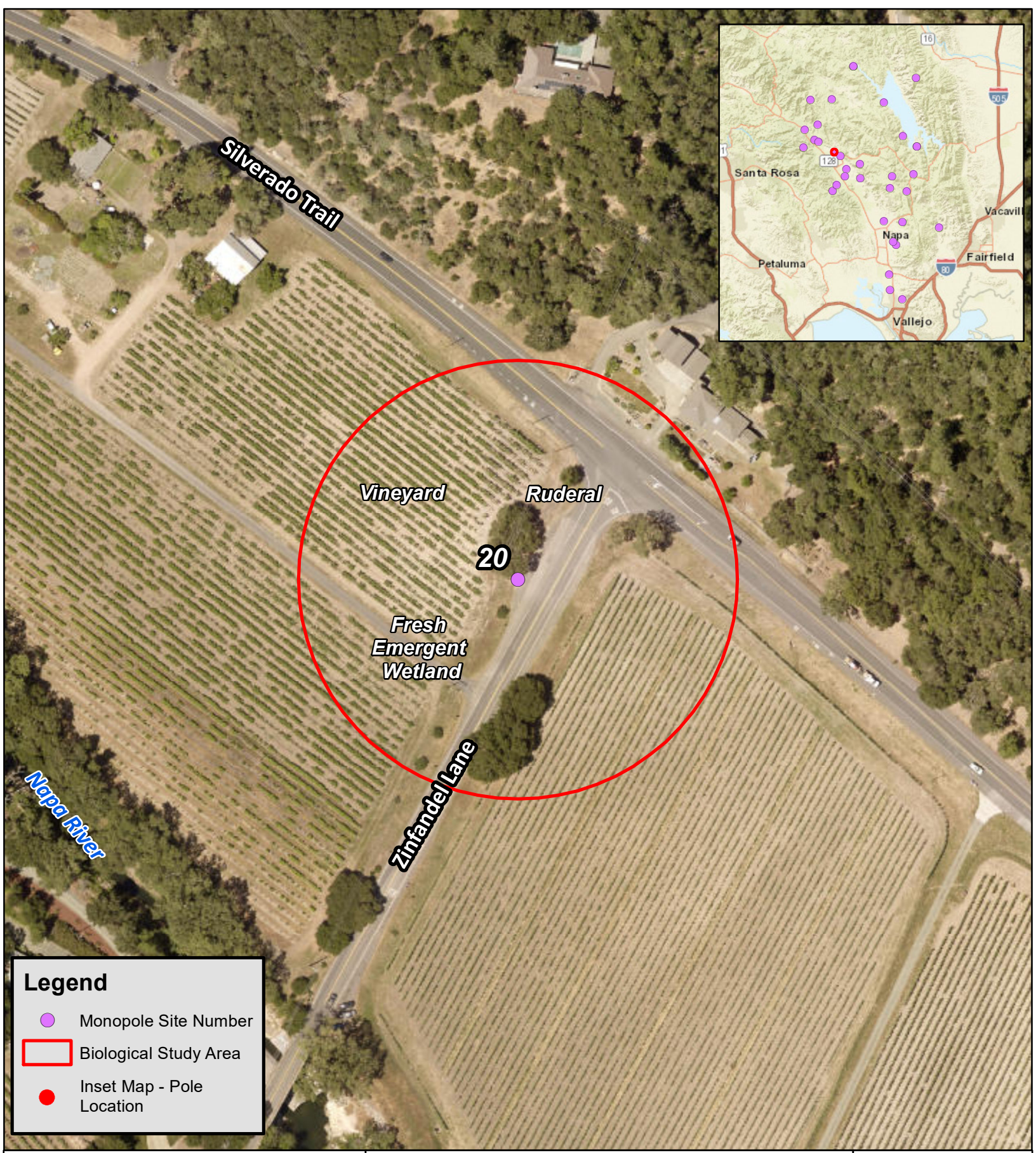
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



1 inch = 166.67 feet

0 155 310 Feet

N

Biological Study Area

Monopole Site 20 - Habitat Types

(38.496758, -122.424828)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

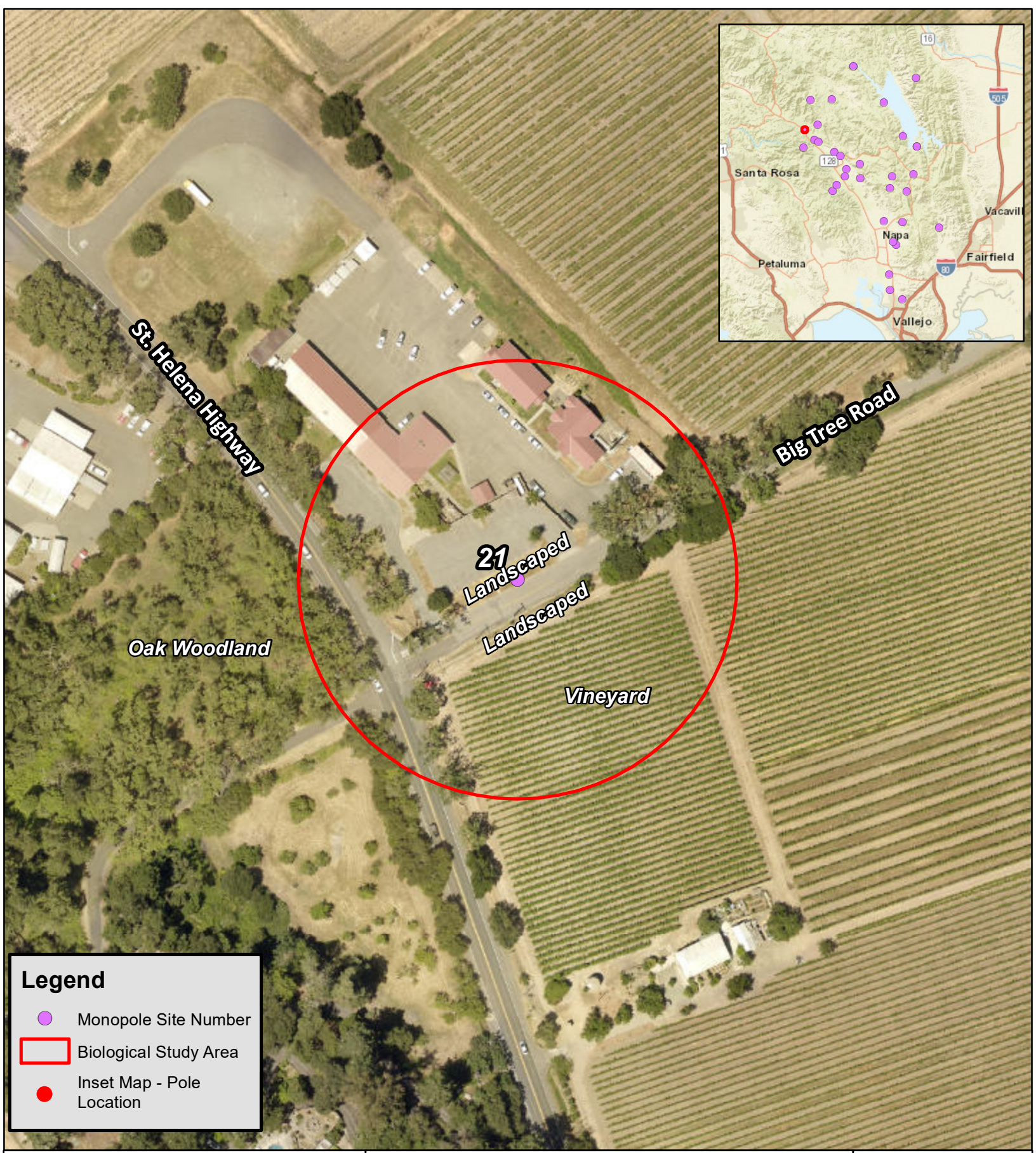
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



Biological Study Area

Monopole Site 21 - Habitat Types

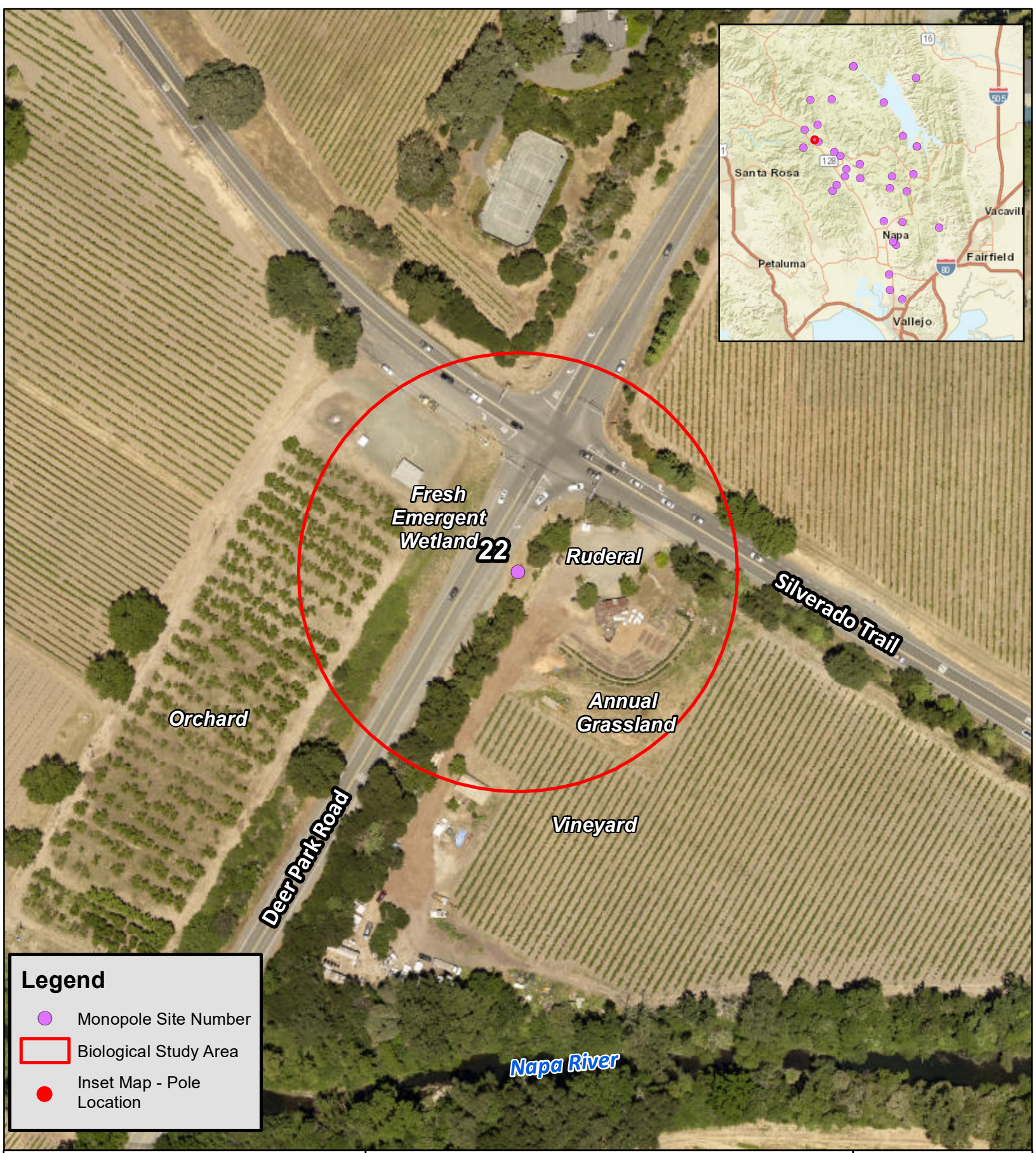
(38.547297, -122.510043)

Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:



1 inch = 166.67 feet

0 155 310 Feet

N

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 22 - Habitat Types

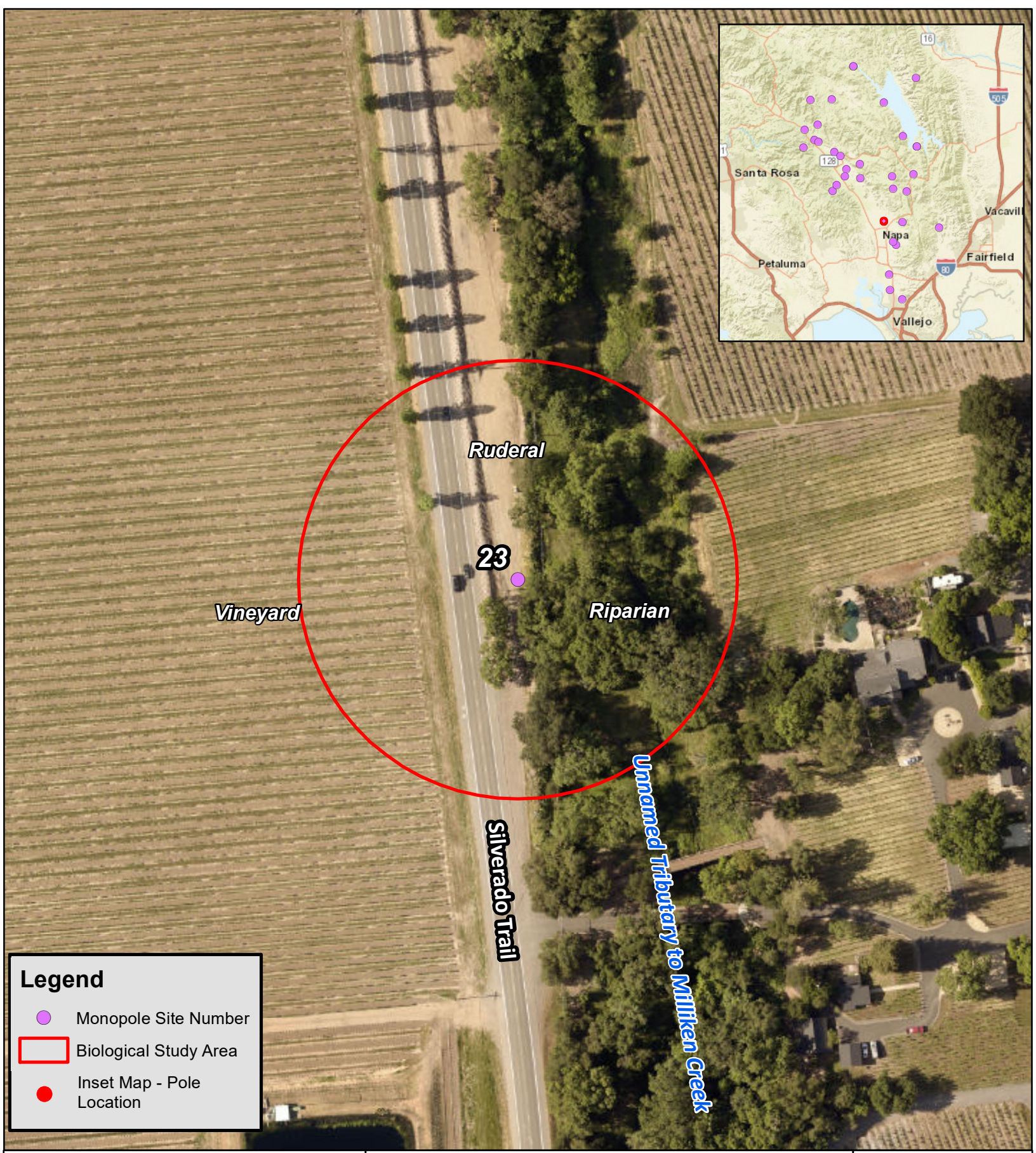
(38.524442, -122.481475)

Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:



Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

N

1 inch = 166.67 feet

0 150 300 Feet

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 23 - Habitat Types

(38.341178, -122.282097)

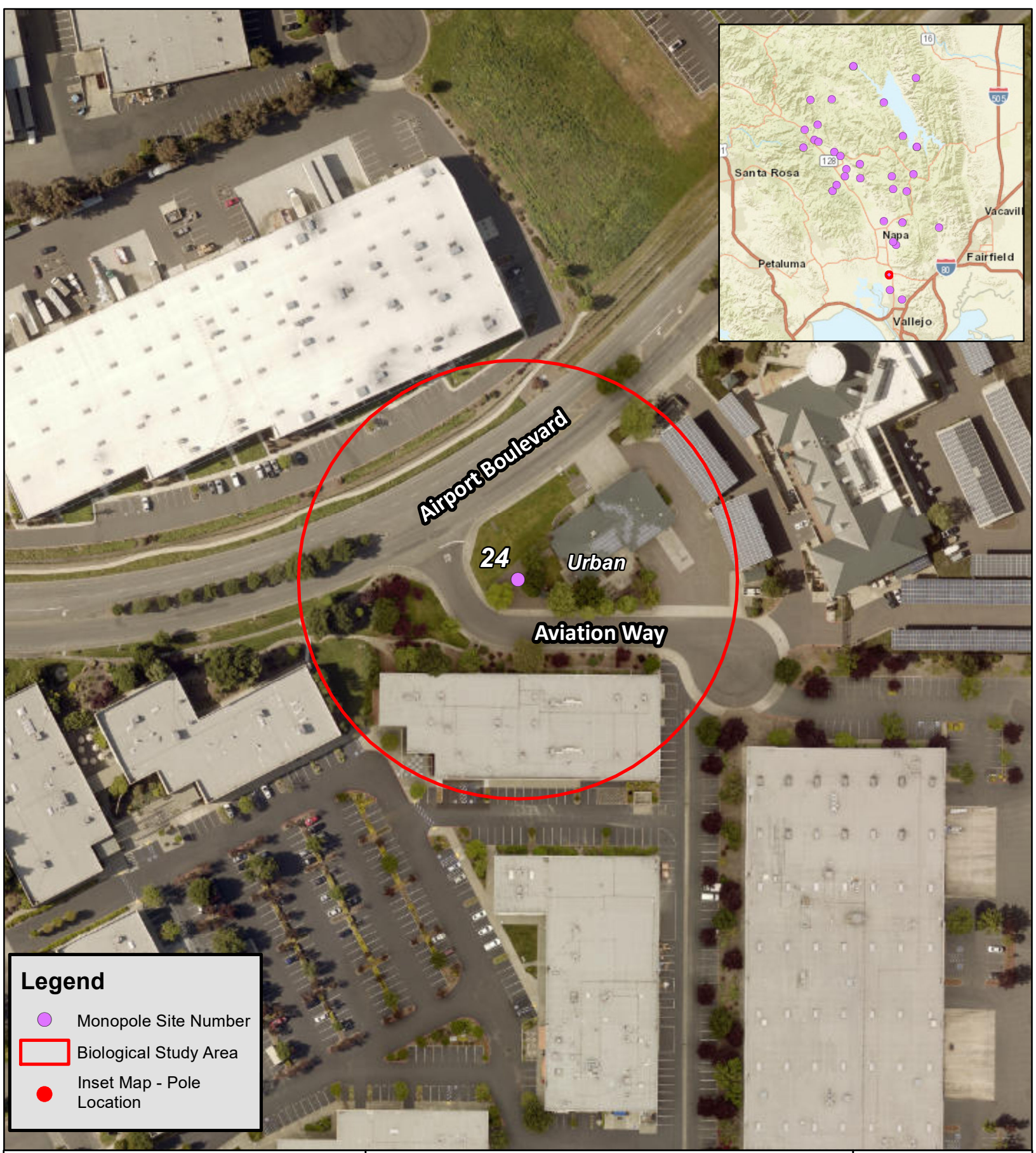
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



N

1 inch = 166.67 feet

0 150 300 Feet

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site 24 - Habitat Types

(38.220092, -122.267113)

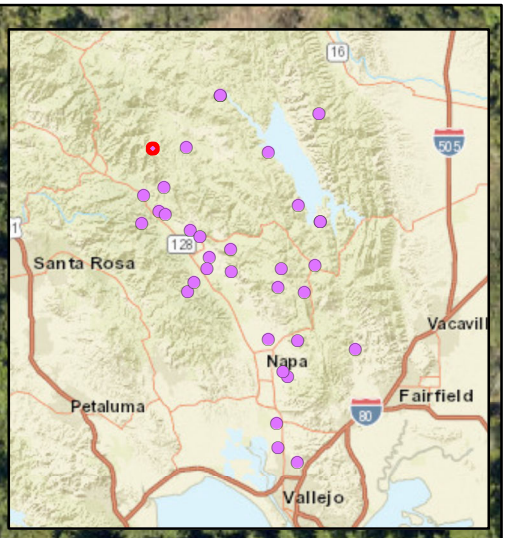
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

Note:
The site is on the Three Peaks property.



Mixed Chaparral

IQ 2

Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

N

1 inch = 166.67 feet

0 155 310 Feet

Biological Study Area

Monopole Site IQ 2 - Habitat Types

(38.613676, -122.493652)

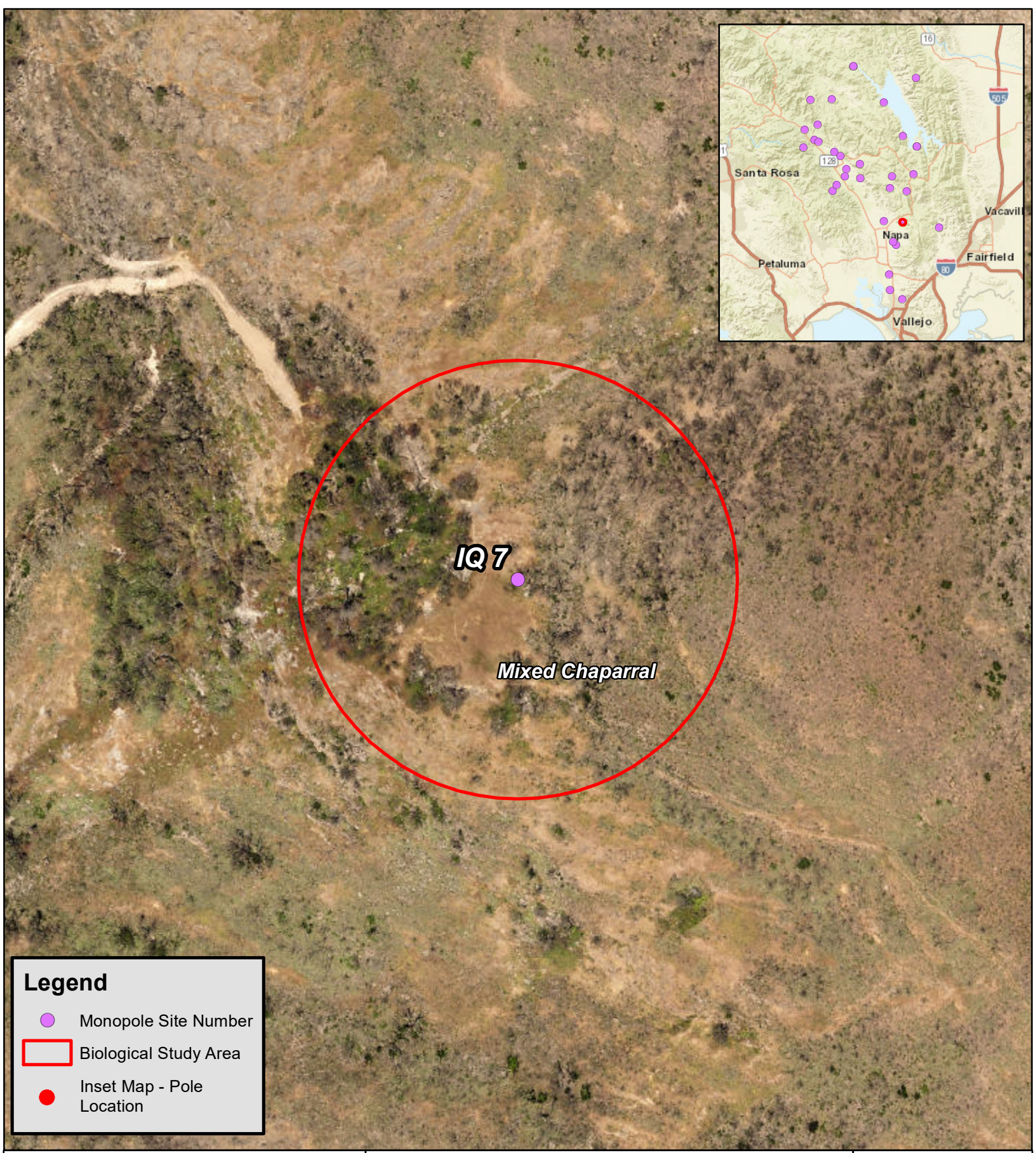
Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO



Biological Study Area

Monopole Site IQ 7 - Habitat Types

(38.338603, -122.228011)

Napa Monopoles Project

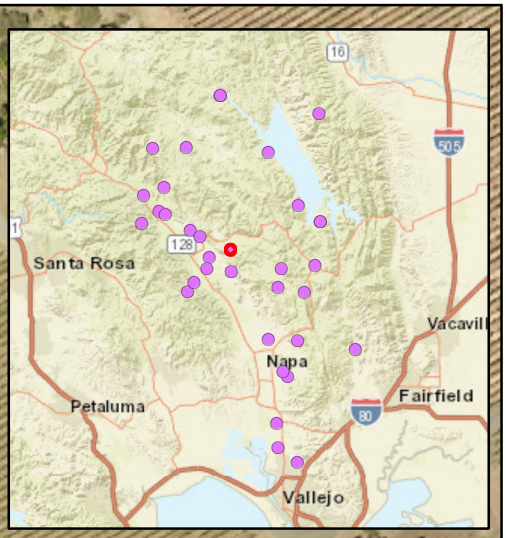
Napa County, California

Prepared For:

Prepared By:

WRECO

Note:
The site is on the Colgin Winery property.



IQ 8

Vineyard

Vineyard

Mixed Chaparral

Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

N

1 inch = 166.67 feet

0 150 300 Feet

Biological Study Area

Monopole Site IQ 8 - Habitat Types

(38.469305, -122.351266)

Napa Monopoles Project

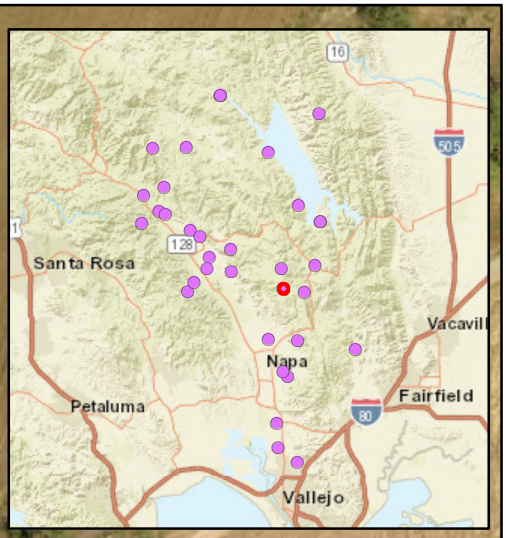
Napa County, California

Prepared For:

Prepared By:

WRECO

Note:
The site is on the Circle R Ranch property.



IQ 15

Ruderal

Blue Oak Woodland/
Annual Grassland Mosaic

Vineyard

Vineyard

Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

N

1 inch = 166.67 feet

0 150 300 Feet

Biological Study Area

Monopole Site IQ 15 - Habitat Types

(38.413345, -122.254685)

Napa Monopoles Project

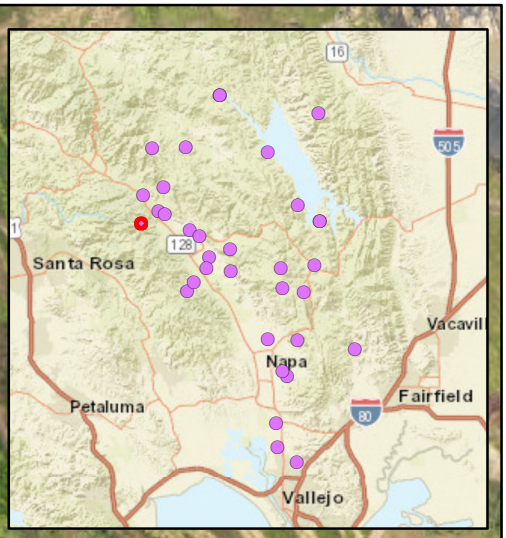
Napa County, California

Prepared For:

Prepared By:

WRECO

Note:
The site is on the Spring Mountain Vineyard property.



Vineyard

IQ 19

Vineyard

Montane Hardwood

Legend

- Monopole Site Number
- Biological Study Area
- Inset Map - Pole Location

N

1 inch = 166.67 feet

0 150 300 Feet

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Biological Study Area

Monopole Site IQ 19 - Habitat Types

(38.50662, -122.5136)

Napa Monopoles Project

Napa County, California

Prepared For:

Prepared By:

WRECO

Appendix B Regulatory Framework

Federal Regulations

This section gives a brief overview of the applicable federal regulations, the agency responsible for enforcing the regulation, and the type of permit required.

Federal Endangered Species Act

FESA protects fish and wildlife species that have been identified by the USFWS and NOAA Fisheries as endangered or threatened. "Endangered" refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range. "Threatened" refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

USFWS is responsible for the protection of federally listed endangered and threatened terrestrial and freshwater species, while NOAA Fisheries is responsible for marine wildlife and anadromous fish (those spawned and reared in freshwater that then migrate to marine waters). It is illegal to take federally listed species. To "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in such conduct."

FESA requires the government to designate "critical habitat" for any species it lists as endangered or threatened. Critical habitats are specific geographical areas occupied by the species for which the habitat has been designated; these areas contain physical or biological features essential to conservation, and those features may require special management considerations or protections. FESA also requires the government to develop and implement recovery plans to promote conservation of threatened and endangered species. Not all federally listed species have recovery plans or critical habitat designated.

If there is potential for a federally listed species, or habitat for a listed species, to occur on a proposed project site, consultation with the federal agency responsible for protection is required. Under a Section 7 consultation with USFWS and/or NOAA Fisheries, the agency reviews the project documents and issues a determination (Biological Opinion) as to whether a proposed project could jeopardize an endangered or threatened species and/or its habitat. The Biological Opinion contains measures and conditions that a project proponent is required to implement in order to avoid impacts to a special-status species and/or its habitat.

Clean Water Act

CWA Section 404

The federal CWA is applicable to all waters of the United States. The central premise of Section 404 of the CWA is:

> "Dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystem." (40 Code of Federal Regulations [CFR] 230 Section 404)

The U.S. Army Corps of Engineers (USACE) requires a permit to be issued before dredged or fill material may be discharged into waters of the United States including wetlands or other waters of the United States including, but not limited to, all waters that are subject to the ebb and flow of tide, wetlands, lakes, rivers, streams including intermittent or ephemeral streams, mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, natural ponds, and tributaries to the above features.

The CWA defines the ordinary high-water mark (OHWM) as the Section 404 jurisdictional limit for non-tidal waters. When adjacent wetlands are present, the limit of jurisdiction extends to the limit of the wetland. Field indicators of the OHWM include clear and natural lines on opposite sides of the banks, scouring, sedimentary deposits, drift lines, exposed roots, shelving, destruction of terrestrial vegetation, and the presence of litter or debris. Typically, the width of waters corresponds to the 2-year flow event, or bank-full flow.

The project proponent must demonstrate actions taken to minimize potential adverse impacts of the discharge on the above elements. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a Section 404 permit complies with the Section 404(b) (1) guidelines.

CWA Section 401

The Regional Water Quality Control Board (RWQCB) has jurisdiction over activities in waters of the United States pursuant to the federal CWA. When the RWQCB issues Section 401 certifications, it simultaneously issues general Waste Discharge Requirements (WDRs) for the project under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). Activities in areas that are outside of the jurisdiction of the USACE (e.g., isolated wetlands, vernal pools, or stream banks above the OHWM) are regulated by the RWQCB, under the authority of the Porter-Cologne Act. Activities that lie outside of USACE jurisdiction may require the issuance of either individual or general WDRs from the RWQCB.

Migratory Bird Treaty Act (MBTA)

The MBTA of 1918 (16 United States Code [U.S.C.] 703-712) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Part 21). The MBTA defines a disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) as a take that is potentially punishable by fines and/or imprisonment. The USFWS does not issue incidental take permits under this act. Any proposed project must take measures to avoid the take of any migratory birds, nests, or eggs. Only non-native species such as feral pigeon (*Columba livia*), house sparrow (*Passer domesticus*), and European starling (*Sturnus vulgaris*) are exempt from protection. The MBTA is enforced by the USFWS Migratory Bird Program.

State Regulations

This section lists the State of California regulations that are applicable to the Project. Also included is a brief description of the regulation, the agency responsible for enforcing the regulation, and the type of permit required, if any.

California Environmental Quality Act

The purpose of CEQA (Public Resource Code §21000 *et seq.*) is to develop and maintain a high-quality environment by requiring California's public agencies to identify, avoid, and mitigate significant environmental effects from proposed projects. When a project requires approvals from more than one public agency, one of the agencies will be required to act as the lead agency. The lead agency is responsible for determining whether the project is subject to CEQA review or exempt from it. Initial Studies are required to identify the environmental impacts of the project and their level of significance. CEQA documents require the identification of special-status plant and wildlife species that could occur in a proposed project area. The potential for impacts to special-status species must be evaluated. If a project is found to have no significant impacts, typically a Negative Declaration can be prepared. For projects that have significant impacts that can be minimized through implementation of mitigation measures, a Mitigated Negative Declaration document would be prepared. If significant impacts are unavoidable, an Environmental Impact Report (EIR) must be prepared for the project. An EIR is intended to provide detailed information about the project and any significant impacts it may have on the environment. The document includes potential alternatives to the project and methods to minimize impacts.

California Endangered Species Act of 1984

CESA (Fish and Game Code Sections 2050 to 2097) is administered by the CDFW. CESA states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, plants, and their habitats threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. CESA prohibits the take of plant and animal species designated by the State as either threatened or endangered in the State of California. In the context of CESA, to "take" means to hunt, pursue, kill, or capture a listed species, as well as any other actions that may result in adverse impacts when attempting to take individuals of a listed species.

The CDFW is also the enforcement agency for protecting State-listed species of special concern. A State SSC is a species, subspecies, or distinct population of an animal native to California that falls into one or more of the following categories:

- The animal is extirpated from the state or, in the case of birds, from their primary seasonal.
- The animal meets the State definition of threatened or endangered but has not been formally listed.
- The animal is or has experienced serious population or range declines which, if continued, could qualify the animal for State threatened or endangered status.
- The animal has naturally small populations and is highly susceptible to risk of any factor(s) that could lead to declines, which would qualify it for State threatened or endangered status.

SSC that have potential to occur within a proposed project area are required to be disclosed in documentation prepared to satisfy CEQA. Avoidance and minimization measures to protect SSC are also part of the documentation. Sections 15063 and 15065 of the CEQA guidelines (California Natural Resources Agency 2016) address how an impact is identified as relevant pertaining to SSCs. Habitat for these species is not protected; therefore, no mitigation is required for projects that affect habitat. However, individuals of a species are protected.

In addition, California has designated some wildlife species as "fully protected," which means that CDFW is charged with identifying and providing additional protection to those animals that are rare or face possible extinction. Fully protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collection for scientific research and relocation of bird species for the protection of livestock.

California Fish and Game Code 3503 and 3800 - Protected Birds and Nests

Bird nests, eggs, and young are protected under §3503, §3503.5, and §3800 of the California Fish and Game Code. The code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. "Take" of any species that the California Fish and Game Commission determines to be an endangered species or a threatened species is prohibited (§2080). To "take" is defined as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (§86). CDFW is the agency responsible for enforcing Fish and Game Code. When no CDFW permits are required for a proposed project, and State-listed special-status species have potential to occur within a project area, the federal, State, regional, or local agency that is responsible for project permitting must submit documentation to CDFW for review in accordance with the CDFW's Conservation Planning Program. This mechanism is in place so that CDFW can provide guidance to permitting agencies for compliance with laws protecting State-listed species.

California Fish and Game Code 1602 - Lake and Streambed Alteration Notification

The California Fish and Game Code §1602 requires a project proponent to apply for and receive a Lake and Streambed Alteration Agreement prior to the following activity in any river, stream, or lake including those that are perennial, ephemeral, or intermittent:

- Obstructing or diverting the natural flow of any river, stream, or lake;
- Changing or using any material from the bed, channel, or bank;
- Depositing or disposing of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

Appendix C Representative Site Photos

Site #1 – Oakville Crossroad (Lat. 34.441317, Long. -122.393956)
Photos Taken March 2, 2021


From site facing south-east


From site facing south-west


From site facing north-east

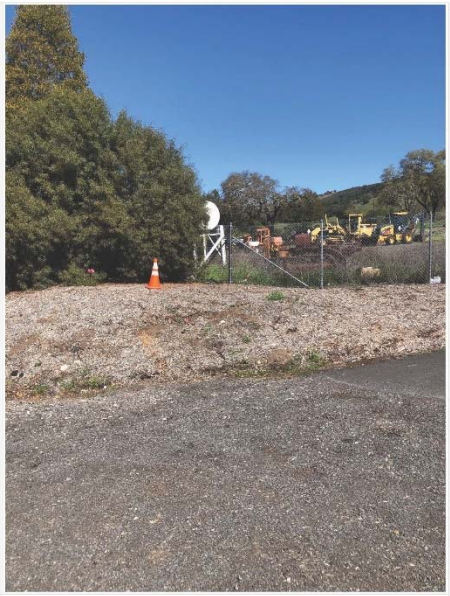

From site facing north-west

Site #2 - Silverado Trail (Lat. 34.437003, Long. -122.349386)
Photos Taken January 6, 2020

fastfield

Date Submitted: 03-15-2021 11:17 AM
Submitted By:
rboisselle@illuminationtechnologies.com

Pole Survey Form 01-06-2020 06:08 PM

Pole Location (North View)	
Photo -N- Notes	

fastfield

Date Submitted: 03-15-2021 11:17 AM
Submitted By:
rboisselle@illuminationtechnologies.com

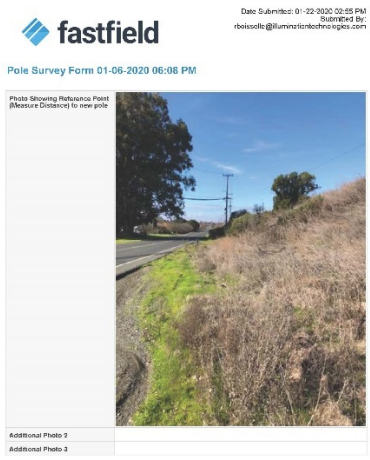
Pole Survey Form 01-06-2020 06:08 PM

Pole Location (West View)	
Photo -W- Notes	
Next Photos are for the the A/E package (Annotate Photo with distance measurements)	

Site #3 – American Canyon (Lat. 38.163875, Long. -122.229336)

From site facing west

From site facing south-east (Photos taken March 3, 2020)



fastfield

Date Submitted: 01-22-2020 02:55 PM
Submitted By:
rbeissells@illuminationtechnologies.com

Pole Survey Form 01-06-2020 06:08 PM

Photo Showing Reference Point (Measure Distance) to new pole	
Additional Photo 2	
Additional Photo 3	

Page 2 of 17

Site #4 – Spanish Flat (Lat. 38.532536, Long. -122.226802)
Photos taken March 2, 2021


From site facing north-west


From site facing south-east


From site facing south-west


From site facing north

Site #5 – Imola/Skyline/Fourth Avenue (Lat. 38.286884, Long. -122.247059)

fastfield

Date Submitted: 03-17-2021 03:41 PM
Submitted By:
rboisselle@illuminationtechnologies.com

Pole Survey Form 01-06-2020 06:08 PM

Pole Location (West View)	
Photo -W- Notes	
Next Photos are for the the A/E package (Annotate Photo with distance measurements)	

fastfield

Date Submitted: 03-17-2021 03:41 PM
Submitted By:
rboisselle@illuminationtechnologies.com

Pole Survey Form 01-06-2020 06:08 PM

Photo Showing Reference Point (Measure Distance) to new pole	

Site #6/IQ 1 Berryessa Estates (Lat. 38.691072, Long. -122.373688)
Photos taken March 19, 2021

From site facing north

From site facing west

Site #7 – Berryessa Pines (Lat. 38.607933, Long. -122.282128)
Photos taken March 2, 2021


From site facing north-east


From site facing north-west


South of site facing north


From site facing south-west

Site #8 – Circle Oaks (Lat. 38.407847, Long. -122.216456)
Photos taken March 19, 2021


South of site facing north


South-east of site facing north


South-west of site facing north-west


North of site facing south-east

Site #9/IQ 18 – Berryessa Highlands Water Tank (Lat. 38.508767, Long. -122.186729)
Photos Taken March 19, 2021

From site facing south


South of site facing north


South-east of site facing north-west


Surrounding blue oak-foothill pine habitat

Site #10 – Pope Valley Corners (Lat. 38.615556, Long. -122.431389)
Photos Taken May 6, 2021

From Site facing east

From Site facing west

Site #11 – Moskowite Corners/Steele Canyon (Lat. 38.446609, Long. -122.196676)

fastfield

Date Submitted: 04-01-2021 02:21 PM
Submitted By:
rboisselle@illuminationtechnologies.com

Pole Survey Form 01-06-2020 06:08 PM

View (North)	

fastfield

Date Submitted: 04-01-2021 02:21 PM
Submitted By:
rboisselle@illuminationtechnologies.com

Pole Survey Form 01-06-2020 06:08 PM

Pole Location (East View)	
Photo -E- Notes	

Site #12 – Dry Creek Fire Station (Lat. 38.408344, Long. -122.428883)
Photos Taken March 19, 2021

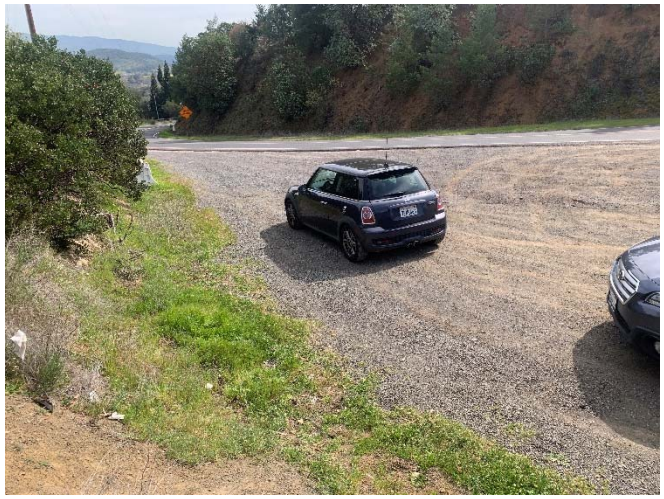
From Site facing east

From Site facing west

Site #13 – Oakville Grade (Lat. 38.422111, Long -122.417017)
Photos Taken March 3, 2021


North of site facing south-west


North of site facing south-south-west


North of site facing south-east


South-east of site facing south-west

Site #14 – Skellenger Lane (Lat. 38.458361, Long. -122.389864)
Photos Taken March 3, 2021


From site facing south-south-west


South-west of site facing east-north-east


North of site facing north-east


North of site facing south-west

Site #15 – Deer Park Road (Lat. 38.558175, Long. -122.472242)
Photos Taken May 6, 2021

Site facing east

Habitat beyond Site facing south

Site #16 – Coombsville (Lat. 38.294039, Long. -122.254558)
Photos Taken March 3, 2021


From site facing west


From site facing south-west


From site facing south-east


West of site facing east

Site #18 – Silverado Pratt (Lat. 38.519722, Long. -122.470497)
Photos Taken February 26, 2021

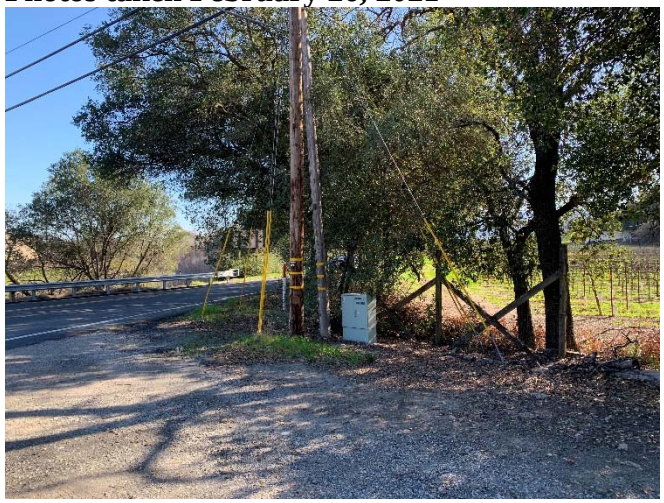

From site facing east


From site facing west


From site facing north-east


From site facing north

Site #19 – Silverado Conn Creek (Lat. 38.487507, Long. -122.406589)
Photos taken February 26, 2021


East of site facing south-east


East of site facing east


East of site facing west


From site facing north-east

Site #20 – Zinfandel Lane (Lat. 38.496758, Long. -122.424828)
Photos Taken February 26, 2021

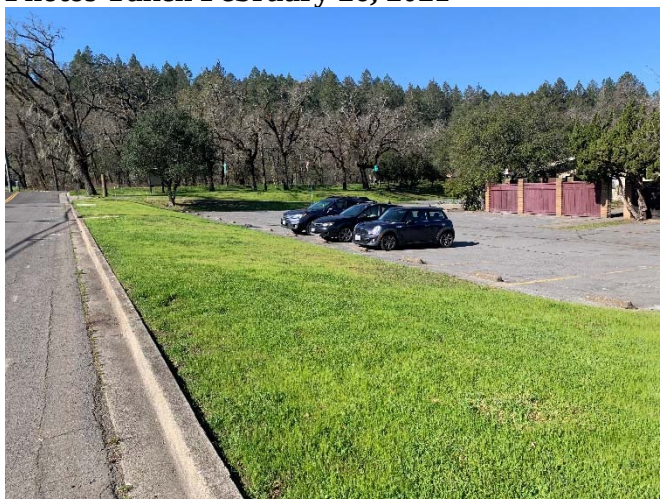

From site facing south-west


From site facing north-west


From site facing east


South-west of site facing north-east

Site #21 – Big Tree Road (Lat. 38.547297, Long. -122.510043)
Photos Taken February 26, 2021


East of site facing west


South of site facing west


South of site facing south-west


South-west of site facing north-east

Site #22 – Silverado Deer Park (Lat. 38.524442, Long. -122.481475)
Photos Taken February 26, 2021

From site facing south-west

From site facing north-east

West of site facing east

West of site facing north-east

Site #23 – Silverado Hardman (Lat. 38.341178, Long. -122.282097)
Photos Taken March 3, 2021


From site facing south-east


South of site facing north-east


From site facing north-west


East of site facing south-east

Site #24 – Airport Boulevard (Lat. 38. 220092, Long. -122.267113)
Photos Taken March 3, 2021

South-east of site facing north-west

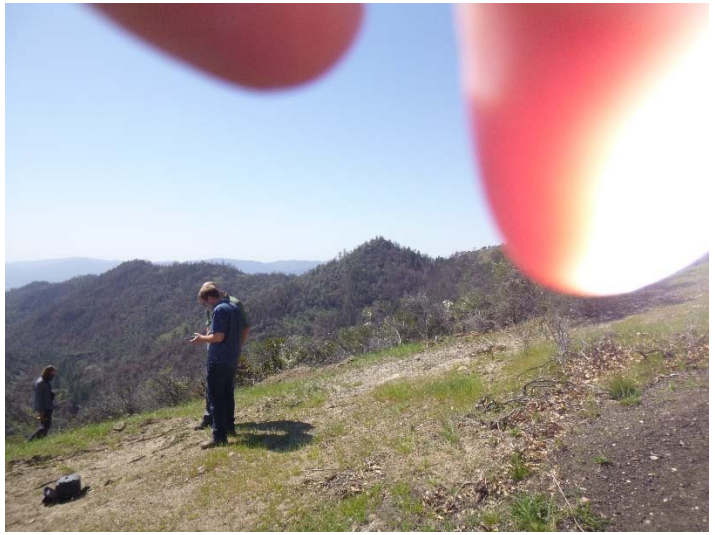
North-west of site facing south-east

South-west of site facing north-west

South of site facing north-east

Site IQ 2 – Three Peaks (Lat. 38.613676, Long. -122.493652
Photos Taken April 1, 2021

Facing west across site



Facing south across site

Site #IQ 7 – Mount George (Lat. 38.338603, Long. -122.228011)
Photos Taken April 1, 2021


South-east of site facing north-west


North-west of site facing south-east


South-west of site facing north-west


South of site facing north-east

Site #IQ 8 – Long Ranch Road (Lat. 38.469305, Long. -1022.351266)
Photos Taken March 9, 2021

View of site facing South East

View of site facing West

P.O.Box 287 Fulton CA 95439
Office: (707) 894-3900 Email:Ben@cloverdalecomputer.com

Site #IQ 15 – Foss Valley (Lat. 38.415114, Long. -122.264947)
Photo Taken April 1, 2021

Facing south over Site

Site #IQ 19 – Spring Mountain (Lat. 38.50662, Long. -122.5136)
Photos Taken April 1, 2021

South-east of site facing north-west

North-west of site facing south-east

Appendix D CNDDB, CNPS, USFWS Database Lists

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Jericho Valley (3812274) OR Knoxville (3812273) OR Mount St. Helena (3812266) OR Detert Reservoir (3812265) OR Aetna Springs (3812264) OR Walter Springs (3812263) OR Brooks (3812262) OR Mark West Springs (3812256) OR Calistoga (3812255) OR St. Helena (3812254) OR Chiles Valley (3812253) OR Lake Berryessa (3812252) OR Monticello Dam (3812251) OR Kenwood (3812245) OR Rutherford (3812244) OR Yountville (3812243) OR Capell Valley (3812242) OR Mt. Vaca (3812241) OR Glen Ellen (3812235) OR Sonoma (3812234) OR Napa (3812233) OR Mt. George (3812232) OR Fairfield North (3812231) OR Cuttings Wharf (3812223) OR Cordelia (3812222) OR Mare Island (3812213) OR Benicia (3812212))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agrostis hendersonii Henderson's bent grass	PMPOA040K0	None	None	G2Q	S2	3.2
Allium peninsulare var. franciscanum Franciscan onion	PMLIL021R1	None	None	G5T2	S2	1B.2
Alopecurus aequalis var. sonomensis Sonoma alopecurus	PMPOA07012	Endangered	None	G5T1	S1	1B.1
Amorpha californica var. napensis Napa false indigo	PDFAB08012	None	None	G4T2	S2	1B.2
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
Arctostaphylos manzanita ssp. elegans Konocti manzanita	PDERI04271	None	None	G5T3	S3	1B.3
Arctostaphylos stanfordiana ssp. decumbens Rincon Ridge manzanita	PDERI041G4	None	None	G3T1	S1	1B.1
Astragalus claranus Clara Hunt's milk-vetch	PDFAB0F240	Endangered	Threatened	G1	S1	1B.1
Astragalus rattanii var. jepsonianus Jepson's milk-vetch	PDFAB0F7E1	None	None	G4T3	S3	1B.2
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Blennosperma bakeri Sonoma sunshine	PDAST1A010	Endangered	Endangered	G1	S1	1B.1
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Brodiaea leptandra narrow-anthered brodiaea	PMLIL0C022	None	None	G3?	S3?	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Calochortus pulchellus Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
Calystegia collina ssp. oxyphylla Mt. Saint Helena morning-glory	PDCON04032	None	None	G4T3	S3	4.2
Carex lyngbyei Lyngbye's sedge	PMCYP037Y0	None	None	G5	S3	2B.2
Castilleja affinis var. neglecta Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	G4G5T1T2	S1S2	1B.2
Castilleja ambigua var. meadii Mead's owls-clover	PDSCR0D404	None	None	G4T1	S1	1B.1
Castilleja rubicundula var. rubicundula pink creamsacs	PDSCR0D482	None	None	G5T2	S2	1B.2
Ceanothus confusus Rincon Ridge ceanothus	PDRHA04220	None	None	G1	S1	1B.1
Ceanothus divergens Calistoga ceanothus	PDRHA04240	None	None	G2	S2	1B.2
Ceanothus purpureus holly-leaved ceanothus	PDRHA04160	None	None	G2	S2	1B.2
Ceanothus sonomensis Sonoma ceanothus	PDRHA04420	None	None	G2	S2	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Chloropyron molle ssp. molle soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T4T5	S2?	2B.1
Cryptantha dissita serpentine cryptantha	PDBOR0A0H2	None	None	G3	S3	1B.2
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Erigeron greenei Greene's narrow-leaved daisy	PDAST3M5G0	None	None	G3	S3	1B.2
Eriogonum nervulosum Snow Mountain buckwheat	PDPGN08440	None	None	G2	S2	1B.2
Eryngium constancei Loch Lomond button-celery	PDAPI0Z0W0	Endangered	Endangered	G1	S1	1B.1
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Fritillaria pluriflora adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Grimmia torenii Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
Harmonia hallii Hall's harmonia	PDAST650A0	None	None	G2?	S2?	1B.2
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	PDAST4R065	None	None	G5T2	S2	1B.2
Hesperolinon bicarpellatum two-carpellate western flax	PDLIN01020	None	None	G2	S2	1B.2
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Hesperolinon drymarioides drymaria-like western flax	PDLIN01090	None	None	G2	S2	1B.2
Hesperolinon sharsmithiae Sharsmith's western flax	PDLIN010E0	None	None	G2Q	S2	1B.2
Horkelia tenuiloba thin-lobed horkelia	PDROS0W0E0	None	None	G2	S2	1B.2
Isocoma arguta Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
Juncus luciensis Santa Lucia dwarf rush	PMJUN013J0	None	None	G3	S3	1B.2
Lasthenia burkei Burke's goldfields	PDAST5L010	Endangered	Endangered	G1	S1	1B.1
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Layia septentrionalis Colusa layia	PDAST5N0F0	None	None	G2	S2	1B.2
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Leptosiphon jepsonii Jepson's leptosiphon	PDPLM09140	None	None	G2G3	S2S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limnanthes floccosa ssp. floccosa woolly meadowfoam	PDLIM02043	None	None	G4T4	S3	4.2
Limnanthes vinculans Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
Lupinus sericatus Cobb Mountain lupine	PDFAB2B3J0	None	None	G2?	S2?	1B.2
Microseris paludosa marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Navarretia leucocephala ssp. pauciflora few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	G4T1	S1	1B.1
Navarretia leucocephala ssp. plieantha many-flowered navarretia	PDPLM0C0E5	Endangered	Endangered	G4T1	S1	1B.2
Navarretia myersii ssp. deminuta small pincushion navarretia	PDPLM0C0X2	None	None	G2T1	S1	1B.1
Navarretia paradoxinota Porter's navarretia	PDPLM0C160	None	None	G2	S2	1B.3
Navarretia rosulata Marin County navarretia	PDPLM0C0Z0	None	None	G2	S2	1B.2
Penstemon newberryi var. sonomensis Sonoma beardtongue	PDSCR1L483	None	None	G4T3	S3	1B.3
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
Plagiobothrys strictus Calistoga popcornflower	PDBOR0V120	Endangered	Threatened	G1	S1	1B.1
Poa napensis Napa blue grass	PMPOA4Z1R0	Endangered	Endangered	G1	S1	1B.1
Polygonum marinense Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
Rhynchospora californica California beaked-rush	PMCYP0N060	None	None	G1	S1	1B.1
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Sidalcea hickmanii ssp. napensis Napa checkerbloom	PDMAL110A6	None	None	G3T1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
Sidalcea oregana ssp. hydrophila marsh checkerbloom	PDMAL110K2	None	None	G5T2	S2	1B.2
Sidalcea oregana ssp. valida Kenwood Marsh checkerbloom	PDMAL110K5	Endangered	Endangered	G5T1	S1	1B.1
Spergularia macrotheca var. longistyla long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
Streptanthus brachiatus ssp. brachiatus Socrates Mine jewelflower	PDBRA2G072	None	None	G2T1	S1	1B.2
Streptanthus brachiatus ssp. hoffmanii Freed's jewelflower	PDBRA2G071	None	None	G2T2	S2	1B.2
Streptanthus hesperidis green jewelflower	PDBRA2G510	None	None	G2G3	S2S3	1B.2
Streptanthus morrisonii ssp. elatus Three Peaks jewelflower	PDBRA2G0S1	None	None	G2T1	S1	1B.2
Streptanthus morrisonii ssp. kruckebergii Kruckeberg's jewelflower	PDBRA2G0S4	None	None	G2T1	S1	1B.2
Streptanthus vernalis early jewelflower	PDBRA2G120	None	None	G1	S1	1B.2
Stuckenia filiformis ssp. alpina slender-leaved pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Trichostema ruygtii Napa bluecurls	PDLAM220H0	None	None	G1G2	S1S2	1B.2
Trifolium amoenum two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3

Record Count: 94

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Jericho Valley (3812274) OR Knoxville (3812273) OR Mount St. Helena (3812266) OR Detert Reservoir (3812265) OR Aetna Springs (3812264) OR Walter Springs (3812263) OR Brooks (3812262) OR Mark West Springs (3812256) OR Calistoga (3812255) OR St. Helena (3812254) OR Chiles Valley (3812253) OR Lake Berryessa (3812252) OR Monticello Dam (3812251) OR Kenwood (3812245) OR Rutherford (3812244) OR Yountville (3812243) OR Capell Valley (3812242) OR Mt. Vaca (3812241) OR Glen Ellen (3812235) OR Sonoma (3812234) OR Napa (3812233) OR Mt. George (3812232) OR Fairfield North (3812231) OR Cuttings Wharf (3812223) OR Cordelia (3812222) OR Mare Island (3812213) OR Benicia (3812212))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Accipiter striatus sharp-shinned hawk	ABNKC12020	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Caecidotea tomalensis Tomales isopod	ICMAL01220	None	None	G2	S2S3	
Calasellus californicus An isopod	ICMAL34010	None	None	G2	S2	
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2	SSC
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC
Cypseloides niger black swift	ABNUA01010	None	None	G4	S2	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T2T3	S2S3	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Hydroporus leechi Leech's skyline diving beetle	IICOL55040	None	None	G1?	S1?	
Hydroprogne caspia Caspian tern	ABNNM08020	None	None	G5	S4	
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Hysterocarpus traskii pomo Russian River tule perch	AFCQK02011	None	None	G5T4	S4	SSC
Icteria virens yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
Lasiurus blossevillii western red bat	AMACC05060	None	None	G4	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G3G4	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lavinia symmetricus navarroensis Navarro roach	AFCJB19023	None	None	G4T1T2	S2S3	SSC
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Melospiza melodia maxillaris Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
Myotis evotis long-eared myotis	AMACC01070	None	None	G5	S3	
Myotis thysanodes fringed myotis	AMACC01090	None	None	G4	S3	
Myotis volans long-legged myotis	AMACC01110	None	None	G4G5	S3	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G5T2T3Q	S2	
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Pekania pennanti Fisher	AMAJF01020	None	None	G5	S2S3	SSC
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S1	FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Saldula usingeri Wilbur Springs shorebug	IIHEM07010	None	None	G1	S1	
Sorex ornatus sinuosus Suisun shrew	AMABA01103	None	None	G5T1T2Q	S1S2	SSC
Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Stygobromus cherylae Barr's amphipod	ICMAL05D60	None	None	G1	S1	
Stygobromus cowani Cowan's amphipod	ICMAL05D70	None	None	G1	S1	
Syncaris pacifica California freshwater shrimp	ICMAL27010	Endangered	Endangered	G2	S2	
Taricha rivularis red-bellied newt	AAAAF02020	None	None	G2	S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	G1	S1	
Trachykele hartmani serpentine cypress wood-boring beetle	IICOLX6010	None	None	G1	S1	
Vandykea tuberculata serpentine cypress long-horned beetle	IICOLX7010	None	None	G1	S1	
Xanthocephalus xanthocephalus yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 83

CNPS California Native Plant Society

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

Plant List

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

Search Criteria

Found in Quads 3812274, 3812273, 3812266, 3812265, 3812264, 3812263, 3812262, 3812256, 3812255, 3812254, 3812253, 3812252, 3812251, 3812245, 3812244, 3812243, 3812242, 3812241, 3812235, 3812234, 3812233, 3812232, 3812231, 3812223, 3812222 3812213 and 3812212;

Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Agrostis hendersonii	Henderson's bent grass	Poaceae	annual herb	Apr-Jun	3.2	S2	G2Q
Allium fimbriatum var. purdyi	Purdy's onion	Alliaceae	perennial bulbiferous herb	Apr-Jun	4.3	S3	G4G5T3
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	1B.2	S2	G5T2
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	Poaceae	perennial herb	May-Jul	1B.1	S1	G5T1
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	Apr-Jul	1B.2	S2	G4T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Anomobryum julaceum	slender silver moss	Bryaceae	moss		4.2	S2	G5?
Antirrhinum virga	twig-like snapdragon	Plantaginaceae	perennial herb	Jun-Jul	4.3	S3?	G3?
Arabis modesta	modest rockcress	Brassicaceae	perennial herb	Mar-Jul	4.3	S3	G3
Arabis oregana	Oregon rockcress	Brassicaceae	perennial herb	May	4.3	S3	G3G4Q
Arctostaphylos bakeri ssp. bakeri	Baker's manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.1	S1	G2T1
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	(Jan)Mar-May(Jul)	1B.3	S3	G5T3
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr(May)	1B.1	S1	G3T1
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	May-Jul(Aug)	4.2	S3	G3
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	Apr-Jun	4.2	S3	G3

Astragalus claranus	Clara Hunt's milk-vetch	Fabaceae	annual herb	Mar-May	1B.1	S1	G1
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	Jun-Sep	4.3	S4	G4
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S3	G4T3
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Blennosperma bakeri	Sonoma sunshine	Asteraceae	annual herb	Mar-May	1B.1	S1	G1
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2	G1G2
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	1B.2	S3?	G3?
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	Apr-Jul	4.3	S3	G3
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2
Calochortus uniflorus	pink star-tulip	Liliaceae	perennial bulbiferous herb	Apr-Jun	4.2	S4	G4
Calycadenia micrantha	small-flowered calycadenia	Asteraceae	annual herb	Jun-Sep	1B.2	S2	G2
Calyptridium quadripetalum	four-petaled pussypaws	Montiaceae	annual herb	Apr-Jun	4.3	S4	G4
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	4.2	S3	G4T3
Calystegia collina ssp. venusta	South Coast Range morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	4.3	S4	G4T4
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	2B.2	S3	G5
Castilleja affinis var. neglecta	Tiburon paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	1B.2	S1S2	G4G5T1T2
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Castilleja ambigua var. meadii	Mead's owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-May	1B.1	S1	G4T1
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	1B.2	S2	G5T2
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.1	S1	G1
Ceanothus divergens	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2
Ceanothus gloriosus var. exaltatus	glory brush	Rhamnaceae	perennial evergreen shrub	Mar-Jun(Aug)	4.3	S4	G4T4
Ceanothus purpureus	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.2	S2	G2
Ceanothus sonomensis	Sonoma ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2
	Congdon's tarplant	Asteraceae	annual herb	May-	1B.1	S1S2	G3T1T2

Centromadia parryi ssp. congdonii				Oct(Nov)			
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron molle ssp. molle	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1
Chorizanthe valida	Sonoma spineflower	Polygonaceae	annual herb	Jun-Aug	1B.1	S1	G1
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep	2B.1	S2?	G5T4T5
Clarkia breweri	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	4.2	S4	G4
Clarkia gracilis ssp. tracyi	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	4.2	S3	G5T3
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	May-Jun	4.3	S4	G4
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jul-Aug	4.3	S3	G4G5T3
Cryptantha dissita	serpentine cryptantha	Boraginaceae	annual herb	Apr-Jun	1B.2	S2	G2
Cryptantha rostellata	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	4.2	S3	G4
Cypripedium montanum	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
Delphinium uliginosum	swamp larkspur	Ranunculaceae	perennial herb	May-Jun	4.2	S3	G3
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2	S2	G2
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Eleocharis parvula	small spikerush	Cyperaceae	perennial herb	(Apr)Jun-Aug(Sep)	4.3	S3	G5
Equisetum palustre	marsh horsetail	Equisetaceae	perennial rhizomatous herb	unk	3	S1S3	G5
Erigeron biolettii	streamside daisy	Asteraceae	perennial herb	Jun-Oct	3	S3?	G3?
Erigeron greenei	Greene's narrow-leaved daisy	Asteraceae	perennial herb	May-Sep	1B.2	S3	G3
Eriogonum luteolum var. caninum	Tiburon buckwheat	Polygonaceae	annual herb	May-Sep	1B.2	S2	G5T2
Eriogonum nervulosum	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	Jun-Sep	1B.2	S2	G2
Eriogonum umbellatum var. bahiiforme	bay buckwheat	Polygonaceae	perennial herb	Jul-Sep	4.2	S3	G5T3
Eryngium constancei	Loch Lomond button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.1	S1	G1
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Erythranthe nudata	bare monkeyflower	Phrymaceae	annual herb	May-Jun	4.3	S4	G4
Erythronium helenae	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3	G3
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2

Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
Fritillaria purdyi	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.3	S4	G4
Gilia capitata ssp. tomentosa	woolly-headed gilia	Polemoniaceae	annual herb	May-Jul	1B.1	S1	G5T1
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss		1B.3	S2	G2
Harmonia hallii	Hall's harmonia	Asteraceae	annual herb	Apr-Jun	1B.2	S2?	G2?
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	Mar-May	4.3	S3	G3
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Helianthus exilis	serpentine sunflower	Asteraceae	annual herb	Jun-Nov	4.2	S3	G3
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S2	G5T2
Hesperolinon bicarpellatum	two-carpellate western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
Hesperolinon breweri	Brewer's western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
Hesperolinon drymarioides	drymaria-like western flax	Linaceae	annual herb	May-Aug	1B.2	S2	G2
Hesperolinon sharsmithiae	Sharsmith’s western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2Q
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	annual herb	Jun-Oct	1B.1	S1	G1
Horkelia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	May-Jul(Aug)	1B.2	S2	G2
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3	G3
Isocoma arguta	Carquinez goldenbush	Asteraceae	perennial shrub	Aug-Dec	1B.1	S1	G1
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Juncus luciensis	Santa Lucia dwarf rush	Juncaceae	annual herb	Apr-Jul	1B.2	S3	G3
Lasthenia burkei	Burke's goldfields	Asteraceae	annual herb	Apr-Jun	1B.1	S1	G1
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	4.2	S4?	G4?
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S2S3	G2G3
Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?

Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Lilium bolanderi	Bolander's lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	4.2	S3S4	G4
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	4.2	S3	G3
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	4.2	S3	G4T4
Limnanthes vinculans	Sebastopol meadowfoam	Limnanthaceae	annual herb	Apr-May	1B.1	S1	G1
Lomatium hooveri	Hoover's lomatium	Apiaceae	perennial herb	Apr-Jul	4.3	S3	G3
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	Mar-Jun	4.3	S3	G3
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub	May-Jul	3.3	S3	G3Q
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2	G2
Microseris sylvatica	sylvan microseris	Asteraceae	perennial herb	Mar-Jun	4.2	S4	G4
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	4.3	S3	G3
Navarretia cotulifolia	cotula navarretia	Polemoniaceae	annual herb	May-Jun	4.2	S4	G4
Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Navarretia jepsonii	Jepson's navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	Polemoniaceae	annual herb	May-Jun	1B.1	S1	G4T1
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	Polemoniaceae	annual herb	May-Jun	1B.2	S1	G4T1
Navarretia myersii ssp. deminuta	small pincushion navarretia	Polemoniaceae	annual herb	Apr-May	1B.1	S1	G2T1
Navarretia paradoxinota	Porter’s navarretia	Polemoniaceae	annual herb	May-Jun(Jul)	1B.3	S2	G2
Navarretia rosulata	Marin County navarretia	Polemoniaceae	annual herb	May-Jul	1B.2	S2	G2
Orobanche valida ssp. howellii	Howell's broomrape	Orobanchaceae	perennial herb (parasitic)	Jun-Sep	4.3	S3	G4T3
Penstemon newberryi var. sonomensis	Sonoma beardtongue	Plantaginaceae	perennial herb	Apr-Aug	1B.3	S2	G4T2
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
Plagiobothrys strictus	Calistoga popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.1	S1	G1
Poa napensis	Napa blue grass	Poaceae	perennial herb	May-Aug	1B.1	S1	G1
Polygonum marinense	Marin knotweed	Polygonaceae	annual herb	(Apr)May-Aug(Oct)	3.1	S2	G2Q
Puccinellia simplex	California alkali	Poaceae	annual herb	Mar-May	1B.2	S2	G3

	grass						
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
Rhynchospora californica	California beaked-rush	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3
Senecio clevelandii var. clevelandii	Cleveland's ragwort	Asteraceae	perennial herb	Jun-Jul	4.3	S3	G4?T3Q
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	Malvaceae	perennial herb	Apr-Jun	1B.1	S1	G3T1
Sidalcea hickmanii ssp. viridis	Marin checkerbloom	Malvaceae	perennial herb	May-Jun	1B.1	SH	G3TH
Sidalcea keckii	Keck's checkerbloom	Malvaceae	annual herb	Apr-May(Jun)	1B.1	S2	G2
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	Malvaceae	perennial herb	(Jun)Jul-Aug	1B.2	S2	G5T2
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	Malvaceae	perennial rhizomatous herb	Jun-Sep	1B.1	S1	G5T1
Spergularia macrotheca var. longistyla	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May(Jun)	1B.2	S2	G5T2
Streptanthus batrachopus	Tamalpais jewelflower	Brassicaceae	annual herb	Apr-Jul	1B.3	S2	G2
Streptanthus brachiatus ssp. brachiatus	Socrates Mine jewelflower	Brassicaceae	perennial herb	May-Jun	1B.2	S1	G2T1
Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	Brassicaceae	perennial herb	May-Jul	1B.2	S2	G2T2
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	May-Jul	1B.2	S2	G2
Streptanthus morrisonii ssp. elatus	Three Peaks jewelflower	Brassicaceae	perennial herb	Jun-Sep	1B.2	S1	G2T1
Streptanthus morrisonii ssp. kruckebergii	Kruckeberg's jewelflower	Brassicaceae	perennial herb	Apr-Jul	1B.2	S1	G2T1
Streptanthus vernalis	early jewelflower	Brassicaceae	annual herb	Mar-May	1B.2	S1	G1
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Thelypodium brachycarpum	short-podded thelypodium	Brassicaceae	perennial herb	May-Aug	4.2	S3	G3
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	Apr-Jul	4.2	S3	G3
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	Jun-Oct	1B.2	S1S2	G1G2
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Triteleia lugens	dark-mouthed triteleia	Themidaceae	perennial bulbiferous herb	Apr-Jun	4.3	S4?	G4?

Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 05 March 2021].

Search the Inventory
Simple Search
Advanced Search
Glossary

Information
About the Inventory
About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

Contributors
The Calflora Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - X
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - X
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - X
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - X
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH - **X**
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds - **X**