Appendix BIO

Biological Resources Assessment

Rezone Sites for Housing Project

Biological Resources Assessment

SCH #2020030351

prepared by

Rincon Consultants, Inc.
4825 J Street, Suite 200
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prepared on behalf of

Sonoma County
Permit Sonoma
2550 Ventura Avenue
Santa Rosa, California 95403-2809
Contact: Nina Bellucci

October 2020

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Executive Summary

The Rezone Sites for Housing Project (project) includes up to 59 Potential Sites located in designated Urban Service Areas throughout unincorporated Sonoma County. The locations of the rezone sites include Geyserville, Guerneville, Forestville, Larkfield, Graton, Santa Rosa, Penngrove, Petaluma, Glen Ellen, Agua Caliente, and Sonoma. The Proposed Rezone Sites would be located within developed urban areas, surrounded by roads, commercial development, and residential neighborhoods.

The Biological Study Areas (BSAs) examined for this analysis include the minimum boundary of all 59 sites in each of the 11 Urban Service Areas. Following this report, Appendix A presents report figures, and Appendix B outlines the applicable regulatory framework used in this analysis.

Vegetation communities and land cover types within the BSAs were developed based on aerial imagery and information provided by the Sonoma County Water Agency; Sonoma County Agricultural Preservation and Open Space District; and the Sonoma County Vegetation Mapping and LiDAR Program (Sonoma County 2018). A total of 32 vegetation communities and land cover types were identified within the BSAs, ranging from wetlands and waters, to grasslands and woodlands.

A total of 80 special status plant species have potential to occur within the BSAs (Appendix C). Those potentially occurring special status plants that are federally and/or State-listed as endangered or threatened, or those presumed present, are included below.

Federally and/or State-Listed Plant Species Potentially Occurring in the Biological Study Areas

Sonoma alopecurus	*Alopecurus aequalis var. sonomensis*
Baker's manzanita	*Arctostaphylos bakeri ssp. bakeri*
Clara Hunt's milk-vetch	*Astragalus claranus*
Sonoma sunshine	*Blennosperma bakeri*
Pitkin Marsh paintbrush	*Castilleja uliginosa*
Holly-leaved ceanothus	*Ceanothus purpureus*
Pappose tarplant	*Centromadia parryi ssp. parryi*
Vine Hill clarkia	*Clarkia imbricata*
Baker's larkspur	*Delphinium bakeri*
Loch Lomond button-celery	*Eryngium constancei*
Roderick's fritillary	*Fritillaria roderickii*
Boggs Lake hedge-hyssop	*Gratiola heterosepala*
Congested-headed hayfield tarplant	*Hemizonia congesta ssp. congesta*
Burke's goldfields	*Lasthenia burkei*
Contra Costa goldfields	*Lasthenia conjugens*
Pitkin Marsh lily	*Lilium pardalinum ssp. pitkinense*
Sebastopol meadowfoam	*Limnanthes vinculans*
Many-flowered navarretia	*Navarretia leucocephala ssp. plieantha*
Geysers panicum	*Panicum acuminatum var. thermale*

Federally and/or State-Listed Plant Species Potentially Occurring in the Biological Study Areas

Hickman's cinquefoil	*Potentilla hickmanii*
Kenwood Marsh checkerbloom	*Sidalcea oregana ssp. valida*
Two-fork clover	*Trifolium amoenum*
Pacific Grove clover	*Trifolium polyodon*

A total of 31 special status animal species have some potential to occur in the BSAs, including 12 federal or state-listed species, and are presented below.

Federally and/or State-listed Animal Species Potentially Occurring in the Biological Study Areas

Crotch bumble bee	*Bombus crotchii*
Western bumble bee	*Bombus occidentalis*
California freshwater shrimp	*Syncaris pacifica*
Coho salmon - central California coast ESU	*Oncorhynchus kisutch*
Steelhead – central California DPS	*Oncorhynchus mykiss irideus* pop. 8
Chinook salmon - California coastal ESU	*Oncorhynchus tshawytscha*
California tiger salamander	*Ambystoma californiense*
California red-legged frog	*Rana draytonii*
Tricolored blackbird	*Agelaius tricolor*
Swainson's hawk	*Buteo swainsoni*
Northern spotted owl	*Strix occidentalis cauring*
Coho salmon – central California coast ESU	*Oncorhynchus kisutch* pop. 4
Foothill yellow-legged frog	*Rana boylii*

The following six sensitive natural communities are known to occur within five miles of the BSAs:

- Northern Vernal Pool
- Coastal and Valley Freshwater Marsh
- Northern Hardpan Vernal Pool
- Valley Needlegrass Grassland
- Coastal and Valley Freshwater Marsh
- Coastal Brackish Marsh

No sensitive natural communities were mapped within the BSAs; however, the vegetation communities mapped within the Santa Rosa and Penngrove BSAs include the Western North America Vernal Pool, which may be considered sensitive. Additionally, many of the specific vegetation alliances occurring within the BSAs may be considered sensitive under the revised ranking methodology prepared by the California Department of Fish and Wildlife (CDFW) (CDFW 2018c).

The project could impact special status plant and wildlife species if these species are present at the time of construction. Additionally, the project could impact potential jurisdictional waters of the

U.S. and State. Measures to avoid, minimize, and mitigate potential impacts have been developed for all potential impacts.

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1 Introduction

Rincon Consultants, Inc. (Rincon) has prepared this Biological Resources Assessment (BRA) to document existing conditions, summarize previous biological resource reports and studies, and provide a basis for evaluation of potential impacts to special status and sensitive biological resources from the implementation of the Rezone Sites for Housing Project (project) located in Sonoma County, California (Appendix A, Figure 1). This BRA has been prepared in support of California Environmental Quality Act (CEQA) review of the project. The lead agency for the project is Sonoma County.

1.1 Project Location

The project includes up to 59 Potential Sites in designated Urban Service Areas throughout unincorporated Sonoma County (Appendix A, Figure 2). Site locations include Geyserville, Guerneville, Forestville, Larkfield, Graton, Santa Rosa, Penngrove, Petaluma, Glen Ellen, Agua Caliente, and Sonoma. The Potential Sites would be located within developed urban area, surrounded by roads, commercial developments, and residential neighborhoods.

1.2 Project Description

The project would involve construction of housing on up to 59 Potential Sites scattered between 11 Urban Service Areas throughout Sonoma County. Current land use designations include agricultural, residential, commercial, and industrial uses.

The project would involve rezoning of urban sites for by-right medium-density housing. The project's new housing sites would facilitate compliance with the updated inventory requirements of the County's Housing Element. In addition, the project would implement current General Plan Policies and Programs, including Policy HE-2f to consider a variety of sites for higher-density and affordable housing, and Housing Element Programs 11 and 20, which encourage the identification of urban sites near jobs and transit that could accommodate additional housing. The project also includes the following components: (1) a General Plan Map amendment as necessary to adjust allowable densities on identified sites; (2) rezoning of sites to match new general plan densities or to add the AH (Affordable Housing) or WH (Workforce Housing) combining zones; and (3) a programmatic Environmental Impact Report (EIR) to evaluate the potential environmental impacts of the project. The project is intended to facilitate and encourage by-right housing development.

A description of the Urban Service Areas containing the rezoning sites is provided below. The BSAs evaluated for this analysis include the minimum bounding rectangle for all Potential Sites in each of the 11 Urban Service Areas, along with a 500-foot buffer to encompass potential impacts to biological resources.

Geyserville

The Geyserville Urban Service Area (GEY), located in northern Sonoma County, in northern Geyserville, contains four Potential Sites: GEY-1, GEY-2, GEY-3, GEY-4. The sites are situated between Highway 101 to the south, Geyserville Avenue to the north, Canyon Road to the west, and urban development to the east. The Potential Sites within the BSA are comprised of a fallow field

and rural residential areas. Fallow agricultural land is also located north of the BSA. Wood Creek runs through the BSA, between the Potential Sites.

Guernevillle

The Guerneville Urban Service Area (GUE) is located in Guerneville between Armstrong Redwoods State National Reserve and the Sonoma Coast State Park. Four Potential Sites are envisioned for this service area (GUE-1, GUE-2, GUE-3, GUE-4). The BSA is located within urban development, with woodland habitat to the north and east, the Russian River approximately 300 feet to the south, and fallow agricultural land surrounded by woodland habitat to the west. Fife Creek runs through the southeast portion of the BSA. The Potential Sites within the BSA are comprised of rural residential areas and undeveloped land.

Forestville

The Forestville Urban Service Area (FOR) is located in central Sonoma County and contains six Potential Sites (FOR-1, FOR-2, FOR-3, FOR-4, FOR-5, FOR-6). The BSA is situated in urban development interspersed with woodland habitat. Urban development, including roads, commercial development, and residential homes, is located to the north and east, fallow agricultural lands are located to the south, and woodland habitat is located to the west of the BSA. Green Valley Creek runs through the buffer zone on the southeast side of the BSA. A freshwater pond is located in the buffer zone to the south. The Potential Sites within the BSA are comprised of rural residential areas and undeveloped land.

Larkfield

The Larkfield Urban Service Area (LAR), located in central Sonoma County, includes eight Potential Sites (LAR-1, LAR-2, LAR-3, LAR-4, LAR-5, LAR-6, LAR-7, LAR-8). The BSA is situated in urban development. All Potential Sites are surrounded by urban development, including roads, commercial development, and residential homes. Mark West Creek runs through the southern portion of the BSA's buffer zone. The Potential Sites within the BSA are comprised of developed areas, fallow agricultural fields, and undeveloped land.

Graton

The Graton Urban Service Area (GRA), located in central Sonoma County, in northeastern Graton, includes five Potential Sites (GRA-1, GRA-2, GRA-3, GRA-4, GRA-5). The BSA is situated in an urban setting; all but one site would be surrounded by urban development. The Potential Site on the northwest portion of the BSA is situated in riparian habitat, adjacent to Atascadero Creek. Atascadero Creek runs through the BSA's buffer zone on the western portion of the BSA. The western portion of the BSA contains riparian habitat, and the southeastern portion contains lands historically used for agricultural purposes that have since become overgrown with vegetation.

Santa Rosa

The Santa Rosa Urban Service Area (SAN), located south of the City of Santa Rosa, contains ten Potential Sites (SAN-1, SAN-2, SAN-3, SAN-4, SAN-5, SAN-6, SAN-7, SAN-8, SAN-9, SAN-10). The BSA is situated in an urbanized area, and all rezone sites would be surrounded by urban development, including roads, commercial development, and residential homes. Highway 101 bisects the BSA. The Potential Sites within the BSA are comprised of developed areas, fallow agricultural fields, and undeveloped land.

Penngrove

The Penngrove Urban Service Area (PEN), located between the cities of Santa Rosa and Petaluma in southern Sonoma County, includes nine rezone sites (PEN-1, PEN-2, PEN-3, PEN-4, PEN-5, PEN-6, PEN-7, PEN-8, PEN-9). The BSA is situated in an urbanized area, and all Potential Sites are surrounded by urban development, including roads, commercial development, and residential homes. Open, fallow agricultural land is located east of the BSA. Lichau Creek runs through the center/eastern portion of the BSA, connecting to the Petaluma River to the south. The Potential Sites within the BSA are comprised of developed and rural residential areas, and undeveloped land.

Petaluma

The Petaluma Urban Service Area (PET) is located adjacent to the City of Petaluma in southern Sonoma County and includes four Potential Sites (PET-1, PET-2, PET-3, PET-4). The rezone sites would be situated together and surrounded by urban development, with Bodega Ave to the north, commercial and residential developments to the east, Western Ave to the south, and Cleveland Lane to the west. The southern portion of the BSA's buffer zone contains open, fallow agricultural land. The Potential Sites within the BSA are comprised of rural residential areas and undeveloped land.

Glen Ellen

The Glen Ellen Urban Service Area (GLE) is located in southeastern Sonoma County, situated between Jack London State Historic Park and Sonoma Valley Regional Park. This service area proposes two rezone sites (GLE-1 and GLE-2). The Potential Sites would be surrounded by urban development, including Arnold Drive to the west, commercial and residential developments to the north and east, and Carquinez Ave to the south. Calabazas Creek runs through the western portion of the BSA's buffer zone, where it meets with the Sonoma Creek and continues through the southern portion of the buffer zone. Trees are interspersed throughout the BSA. Sonoma Valley Regional Park is located approximately 0.25 mile northeast of the BSA and includes Suttonfield Lake, located approximately 0.6 mile northeast of the BSA.

Agua Caliente

The Agua Caliente Urban Service Area (AGU) is located in southeastern Sonoma County, north of the City of Sonoma and proposes three rezone sites (AGU-1, AGU-2, AGU-3). Sonoma Creek and Agua Caliente Creek are located within the BSA on the eastern portion of the site. One of the Potential Sites is located in the stream. The remaining Potential Sites are located in rural residential areas and undeveloped land. The northern, western, and southern portion of the BSA contains urban development, including roads, commercial development, and residential homes.

Sonoma

The Sonoma Urban Service Area (SON) is located on the southern border of the City of Sonoma in southeastern Sonoma County. The study area includes four Potential Sites (SON-1, SON-2, SON-3, SON-4). The proposed sites would be located in a developed area, and surrounded by urban development, including Leveroni Road to the north, Broadway to the east, and commercial and residential developments to the south and to the west. The Potential Sites within the BSA are comprised of rural residential and developed areas.

2 Methodology

2.1 Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by Federal, State, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions.

Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (FESA); species that are under review may be included if there is a reasonable expectation of listing within the life of the project
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA)
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW)
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy.
- Species designated with a California Rare Plant Rank (CRPR) of 1B or 2B.

Environmental Statutes

In this report, potential impacts to biological resources were analyzed based on the following statutes (Appendix B):

1. California Environmental Quality Act (CEQA)
2. Federal Endangered Species Act (ESA)
3. California Endangered Species Act (CESA)
4. Federal Clean Water Act (CWA)
5. California Fish and Game Code (CFGC) Section 3503
6. Migratory Bird Treaty Act (MBTA)
7. The Bald and Golden Eagle Protection Act
8. Porter-Cologne Water Quality Control Act
9. Santa Rosa Plain Conservation Strategy Area
10. Sonoma County Zoning Code
11. Sonoma County General Plan 2020 (2008, as amended 2016)

Jurisdictional Water Regulations

Drainage ditches, seasonal wetlands, ephemeral and perennial streams, and seasonally flooded constructed basins in the Study Areas may be jurisdictional waters of the U.S. under CWA Sections 404 and 401, subject to U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) jurisdictions. In addition, the aquatic resources have defined beds, banks, and/or riparian habitats that are potentially under CDFW jurisdiction. Note the final jurisdictional determinations of the boundaries of waters, and riparian habitats, are made by each agency, typically at the time that authorizations to impact such features are requested.

Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the project would have a significant effect on biological resources if it would:

a) *Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service*

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service*

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means*

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites*

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan*

2.2 Biological Study Area

The BSAs evaluated for this analysis includes the minimum bounding rectangle for all rezone sites in each of the 11 Urban Service Areas plus a 500-foot buffer to encompass potential impacts to biological resources (Appendix A, Figure 2). A summary of the total acreage of each BSA is presented below in Table 1.

Table 1 Total Acreage of 11 Biological Study Areas

BSA	Total Acreage
Geyserville	129.4
Guerneville	367.6
Forestville	459.9
Larkfield	212.4
Graton	368.3
Santa Rosa	829.1
Penngrove	306.1
Petaluma	60.8
Glen Ellen	30.1
Agua Caliente	156.6
Sonoma	41.2

2.3 Literature Review

Rincon conducted a literature review to characterize the nature and extent of biological resources on and adjacent to each BSA. The literature review included an evaluation of current and historical aerial photographs of the site (Google Earth 2019), regional and site-specific topographic maps, climatic data, and other available background information.

Queries of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation system (IPaC; UFWS 2020a), CDFW California Natural Diversity Database (CNDDB; 2020a), and California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants of California (2020) were conducted to obtain comprehensive information regarding State and federally listed species, and other special status species, considered to have potential to occur in Sonoma County. The results of database-queries and lists of special status species were reviewed by Rincon's regional biological experts for accuracy and completeness. The final list of special status biological resources to be evaluated is the result of documented occurrences in the countywide search area and species known to occur in the region based on biologists' expert opinions. The results of the species potential-to-occur assessment were compiled into a table presented as Appendix C.

Additionally, the vegetation community characterizations for this analysis were based on the classification systems presented in the *United States National Vegetation Classification* (USNVC) and *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). The potential for wildlife movement corridors was evaluated based on the California Essential Habitat Connectivity Project commissioned by the California Department of Transportation and CDFW (Spencer et al. 2010).

The following resources were reviewed for additional information on existing conditions relating to biological resources within the BSA:

1. United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2019a)
2. USFWS Critical Habitat Portal (2020b)
3. CDFW Biogeographic Information and Observation System (CDFW 2020b)
4. CDFW Special Vascular Plants, Bryophytes, and Lichens List (2020c)
5. CDFW Special Animals List (2019)

2.4 Desktop Mapping

Rincon developed detailed vegetation community and land-cover-type maps based on a review of aerial imagery and existing data on mapped vegetation communities in each of the 11 study areas, including information provided by the Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program (Sonoma County 2018). The purpose of the preliminary desktop mapping was to identify approximate boundaries of vegetation communities and make preliminary assessments of areas likely to support sensitive biological resources.

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3 Existing Conditions

3.1 Physical Characteristics

Elevations in the BSAs range from approximately 40 to 400 feet (12.2 to 121.9 meters) above mean sea level. The climate in this region is generally mild with an annual minimum average temperature of 44.2 degrees Fahrenheit, a maximum temperature of 73.7 degrees Fahrenheit, and an annual total precipitation average of 29.43 inches (National Oceanic and Atmospheric Administration 2019). Urban development and agricultural land uses surround the BSAs. The Larkfield, Graton, Forestville, Santa Rosa, Penngrove, Petaluma, Agua Caliente, and Sonoma BSAs are located on the Sonoma valley floor in central/southern Sonoma County. Additionally, the Geyserville BSA is located on the Sonoma valley floor in northern Sonoma County. The Guerneville and Glen Ellen BSAs are in urban development, but in mountains with interspersed woodland habitats throughout and surrounding the BSA.

Watershed and Drainages

Seven creeks are located in the BSAs: Sonoma Creek, Atascadero Creek, and Mark West Creek, Lichau Creek, Fife Creek, Sonoma Creek, and Calabazas Creek (U.S. Geologic Survey 2020; USFWS 2020c). The Sonoma Creek sub-watershed is part of the San Pablo watershed and the Atascadero Creek sub-watershed is part of the Russian River watershed. The BSA are located within seven sub-watersheds as follows:

Lower Sonoma Creek

Agua Caliente creek connects to Sonoma Creek on the east side of the Agua Caliente BSA.

Atascadero Creek

Atascadero Creek crosses the western portion of Graton BSA.

Mark West Creek

Mark West Creek crosses the south west corner of the Larkfield BSA.

Lichau Creek

Lichau Creek runs from the north west corner of the Penngrove BSA down through the south east corner.

Fife Creek

Fife Creek runs from the north west corner of the Guerneville BSA down through the south east corner, and into the Russian River.

Calabazas Creek

The confluence of Sonoma Creek and Calabazas Creek occurs along the west side of the Glen Ellen BSA.

Fryer Creek

Fryer Creek crosses the south west corner of the Sonoma BSA.

Soils

Based on the most recent NRSC soil survey for Sonoma County (USDA, NRCS 2019a), the 11 study areas contain 48 soil map units (70 total, Table 2). Some of these soils are associated with rare plants, such as serpentine and alkaline soils. However, the Potential Sites would be in urban and semi-rural areas, surrounded by a degree of development. These developed areas occur primarily on fill and non-native soils. Of the 48 soil types, 8 soil types primarily make up the predominant soils of the BSA:

1. Zamora silty clay loam, moist, 0 to 2 percent slopes, MLRA 14
2. Spreckels loam, 2 to 9 percent slopes
3. Goldridge fine sandy loam, 2 to 9 percent slopes
4. Arbuckle gravelly loam, 0 to 5 percent slopes
5. Hugo very gravelly loam, 50 to 75 percent slopes
6. Yolo loam, 0 to 10 percent slopes, moist, MLRA 14
7. Wright loam, shallow, wet, 0 to 2 percent slopes

The Santa Rosa BSA contains eight soils on the National Hydric Soils List (USDA, NRCS 2019b) (Table 2). While these soils can occur in wetlands under certain conditions, including the presence of surface or groundwater, and feature hydrophytic plants, they may also be located in upland areas.

Table 2 Soil List for 11 Study Areas

Map Unit Symbol	Map Unit Name	Hydric Soil
Geyserville		
AkB	Arbuckle gravelly loam, 0 to 5 percent slopes	No
JoF	Josephine loam, 30 to 50 percent slopes	No
LmG	Los Gatos gravelly loam, 30 to 75 percent slopes	No
StF	Suther loam, 30 to 50 percent slopes	No
YnA	Yolo loam, 0 to 10 percent slopes, moist, MLRA 14	Yes
YrB	Yolo gravelly loam, 0 to 8 percent slopes, MLRA 14	Yes
Guerneville		
CrA	Cortina very gravelly sandy loam, 0 to 2 percent slopes	No
HkF	Hugo very gravelly loam, 30 to 50 percent slopes	No
HkG	Hugo very gravelly loam, 50 to 75 percent slopes	No
YmB	Yolo sandy loam, overwash, 0 to 5 percent slopes	No
YsA	Yolo silt loam, 0 to 5 percent slopes, MLRA 14	No
Forestville		
BcA	Bulcher fine sandy loam, overwash, 0 to 2 percent slopes	Yes
GdC	Goldridge fine sandy loam, 2 to 9 percent slopes	No
GdD	Goldridge fine sandy loam, 9 to 15 percent slopes, eroded	No
GdD2	Hugo very gravelly loam, 50 to 75 percent slopes	No

Map Unit Symbol	Map Unit Name	Hydric Soil
HnG	Hugo-Josephine complex, 50 to 75 percent slopes	No
JoE	Josephine loam, 9 to 30 percent slopes	No
LgF	Laughlin loam, 30 to 50 percent slopes	No
Larkfield		
CeA	Clear Lake clay, sandy substratum, drained, 0 to 2 percent slopes, MLRA 14	Yes
HcC	Haire clay loam, 0 to 9 percent slopes	No
HuB	Huichica loam, ponded, 0 to 5 percent slopes	Yes
YnA	Yolo loam, 0 to 10 percent slopes, moist, MLRA 14	No
YsA	Yolo silt loam, 0 to 5 percent slopes, MLRA 14	No
YtA	Yolo clay loam, 0 to 5 percent slopes, MLRA 14	No
Graton		
BcA	Blucher fine sandy loam, overwash, 0 to 2 percent slopes	Yes
BhB	Bulcher loam, 2 to 5 percent slopes	No
GdC	Goldridge fine sandy loam, 2 to 9 percent slopes	No
GdD	Goldridge fine sandy loam, 9 to 15 percent slopes	No
GdE	Goldridge fine sandy loam, 15 to 30 percent slopes	No
SbD	Sebastopol sandy loam, 9 to 15 percent slopes	No
SbE	Sebastopol sandy loam, 15 to 30 percent slopes	No
Santa Rosa		
CcA	Clear Lake clay loam, 0 to 2 percent slopes	Yes
CcB	Clear Lake clay loam, 2 to 5 percent slopes	Yes
CeA	Clear Lake clay, sandy substratum, drained, 0 to 2 percent slopes, MLRA 14	Yes
CeB	Clear Lake clay, drained, 2 to 5 percent slopes, MLRA 14	Yes
CfA	Clear Lake clay, ponded, 0 to 2 percent slopes	Yes
WgC	Wright loam, 0 to 9 percent slopes	Yes
WhA	Wright loam, wet, 0 to 2 percent slopes	Yes
WoA	Wright loam, shallow wet, 0 to 2 percent slopes	Yes
Penngrove		
CeA	Clear Lake clay, sandy substratum, drained, 0 to 2 percent slopes, MLRA 14	Yes
CtC	Cotati fine sandy loam, 2 to 9 percent slopes	No
CtD	Cotati fine sandy loam, 9 to 15 percent slopes	No
CtE	Cotati fine sandy loam, 15 to 30 percent slopes	No
Petaluma		
CtC	Cotati fine sandy loam, 2 to 9 percent slopes	No
CtD	Cotati fine sandy loam, 9 to 15 percent slopes	No
GlD	Goulding cobbly clay loam, 5 to 15 percent slopes	No
Glen Ellen		
CgD	Clough gravelly loam, 9 to 15 percent slopes	No
SkC	Spreckels loam, 2 to 9 percent slopes	No
SkE	Spreckels loam, 15 to 10 percent slopes	No

Map Unit Symbol	Map Unit Name	Hydric Soil
Agua Caliente		
CcA	Clear Lake clay loam, 0 to 2 percent slopes	Yes
CgC	Clough gravelly loam, 2 to 9 percent slopes	No
CgD	Clough gravelly loam, 9 to 15 percent slopes	No
LuA	Los Robles gravelly clay loam, 0 to 2 percent slopes	No
LvB	Los Robles gravelly clay loam, moderately deep, 0 to 5 percent slopes	No
RhD	Red Hill clay loam, 2 to 15 percent slopes	No
SkC	Spreckels loam, 2 to 9 percent slopes	No
TuC	Tuscan cobbly clay loam, 0 to 9 percent slopes	No
YnA	Yolo loam, 0 1o 10 percent slopes, moist, MLRA 14	No
ZaA	Zamora silty clay loam, moist, 0 to 2 percent slopes, MLRA 14	No
Sonoma		
CcA	Clear Lake clay loam, 0 to 2 percent slopes	Yes
CgC	Clough gravelly loam, 2 to 9 percent slopes	No
CgD	Clough gravelly loam, 9 to 15 percent slopes	No
LuA	Los Robles gravelly clay loam, 0 to 2 percent slopes	No
LvB	Los Robles gravelly clay loam, moderately deep, 0 to 5 percent slopes	No
RhD	Red Hill clay loam, 2 to 15 percent slopes	No
SkC	Spreckels loam, 2 to 9 percent slopes	No
TuC	Tuscan cobbly clay loam, 0 to 9 percent slopes	No
YnA	Yolo loam, 0 1o 10 percent slopes, moist, MLRA 14	No
ZaA	Zamora silty clay loam, moist, 0 to 2 percent slopes, MLRA 14	No

3.2 Vegetation and Other Land Cover

Vegetation communities and land cover types in the BSAs were developed based on aerial imagery and the Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program (Sonoma County 2018). Thirty-two vegetation communities and land cover types were identified, ranging from wetlands to grasslands and woodlands. The vegetation communities are described below. The mapping is presented in a land-cover map atlas (Appendix A, Figure 3), and provides a reasonable approximation of the types and acreages of the various vegetation communities and land-cover types that occur within the BSAs. Vegetation communities and land cover types mapped in the BSAs are presented in Table 3 below.

Table 3 Vegetation Communities and Land Cover Types in the BSAs

Vegetation Community or Land Cover Type	BSA											Total
	AGU	FOR	GEY	GLE	GRA	GUE	LAR	PEN	PET	SAN	SON	
Pacific madrone (*Arbutus menziesii*)						12.8						12.8
Barren			1.4							1.1		2.6
California Annual and Perennial Grassland	2.4	89.8	42.0	0.5	29.8	22.7	3.7	115.4	30.7	266.1	9.3	612.4
Deciduous Orchard		15.0	0.1		49.1	7.5						71.7
Deciduous Orchard, Vineyard, Irrigated Row and Field Crops					2.9							2.9
Eucalyptus (*Eucalyptus* spp.) – tree of heaven (*Ailanthus altissima*) – black locust (*Robinia pseudoacacia*)					2.2			2.3	0.4	3.6		8.5
Irrigated Hayfield						4.1				10.0		14.1
Irrigated Row and Field Crops							0.2			0.2	1.0	1.4
Non-native Forest & Woodland		48.6	2.6	0.3	17.1	10.1	4.5	20.4		7.7	1.4	112.8
Non-native Shrub		2.8			0.7	1.8						5.4
Tanoak (*Notholithocarpus densiflorus*)						5.6						5.6
Fremont cottonwood (*Populus fremontii*)	0.0	3.1				4.1	4.3					11.5
Douglas fir (*Pseudotsuga menziesii*)		12.0			1.7	2.7						16.4
Oak (*Quercus agrifolia,* Q. *douglasii,* Q. *garryana,* Q. *kelloggii,* Q. *lobata,* Q. *wislizeni)*		10.8		7.9	18.2		0.2					37.2

Vegetation Community or Land Cover Type	BSA											Total
	AGU	FOR	GEY	GLE	GRA	GUE	LAR	PEN	PET	SAN	SON	
Coast live oak (*Quercus agrifolia*)			13.5		11.1	2.4	3.8	4.7		0.0		35.5
Blue oak (*Quercus douglasii*)			0.1									0.1
Oregon oak (*Quercus garryana*) *(tree)*		8.5										8.5
Valley oak (*Quercus lobata*)	3.8	21.2		0.0	8.4		1.0				3.5	38.0
Himalayan blackberry (*Rubus armeniacus*) - rattlebox (*Sesbania punicea*) – *common fig* (*Ficus carica*)		1.4			0.1	2.6		1.2				5.4
Coast redwood (*Sequoia sempervirens*)		1.6			18.2	146.7						166.5
Southwestern North American Riparian Evergreen and Deciduous Woodland	3.3	9.6				0.4	4.8	12.1				30.1
Southwestern North American Riparian/Wash Scrub		12.2			27.4	1.1				2.3		43.1
Temperate Forest		10.1	1.2	0.6	6.6	2.1	3.1	8.7	1.2	5.0	0.3	38.9
California bay (*Umbellularia californica*)	6.4	1.8										8.2
Urban	126.6	163.4	47.1	16.6	148.4	104.2	177.9	140.1	28.3	525.1	23.5	1501.0
Vancouverian Riparian Deciduous Forest	15.3	3.5	0.6	4.2	8.3	19.0	4.5	1.5				56.9
Vineyard		42.0	21.2		15.4	19.8	5.7	1.7	0.3		2.3	108.5
Water	0.1			0.0		0.0	0.0	0.1				0.2
Water Treatment Pond		2.7										2.7

Vegetation Community or Land Cover Type	BSA											Total
	AGU	FOR	GEY	GLE	GRA	GUE	LAR	PEN	PET	SAN	SON	
Western North America Vernal Pool								0.4		4.4		4.8
Western North American Freshwater Aquatic Vegetation		0.1										0.1
Western North American Freshwater Marsh		1.4			5.0	0.7		0.2		5.7		12.9
Total	157.8	462.0	129.9	30.1	370.5	370.2	213.7	308.7	61.0	831.3	41.3	2,976.5

The vegetation community characterizations for this analysis were based on the classification systems presented in the *United States National Vegetation Classification* (USNVC) and *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). The *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) has been superseded by Sawyer et al. (2009). Many of the vegetation communities discussed below represent large areas which may be geographically isolated from one another, therefore lesser species components and overall cover may be highly variable from one location to the next. Plant species nomenclature and taxonomy used for this BRA follows the treatments within the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Pacific madrone (Arbutus menziesii)

This community most closely resembles the Pacific madrone (*Arbutus menziesii*) Forest - Alliance described by Sawyer et al. (2009). Pacific madrone is dominate or co-dominant in the broadleaf canopy with black oak (*Quercus kelloggii*) and/or bay laurel (*Umbellularia californica*). Douglas fir (*Pseudotsuga menziesii*), toyon (*Heteromeles arbutifolia*), and poison oak (*Toxicodendron diversilobum*) are often present. There are approximately 12.8 acres of *Arbutus menziesii* Alliance in the BSAs.

Barren

The BSAs contain approximately 2.6 acres of bare ground. This land cover type is not described in either the USNVC or Sawyer et al. (2009) classification systems, but is described by the California Wildlife Habitat Relationships (CWHR) system (Mayer and Laudenslayer 1988). This land cover type occurs where no vegetation is present and includes bare soil. This land cover type was mapped where bare soils were likely the result of disturbance such as development or construction activities. This land cover type was observed sporadically throughout the BSA.

California Annual and Perennial Grassland

This community includes the USNVC California Annual Herb/Grass Group and California Perennial Grasslands Group, including native and non-native grasslands in dry to seasonally moist settings outside of coastal areas. Species include, but are not limited to; oats (*Avena* spp.), mustard (*Brassica* spp.), bromes (*Bromus* spp.), Knapweed (*Centaurea* spp.), dogstail grass (*Cynosurus* spp.), blue wild rye (*Elymus glaucus*), California poppy (*Eschscholzia* spp.), California goldfields (*Lasthenia californica*), bluegrass (*Lolium* spp.), needlegrass (*Nassella* spp.), melic grass (*Melica* spp.), California plantain (*Plantago erecta*), western brackenfern (*Pteridium aquilinum*), fescue (*Vulpia microstachys*), and Rusty haired popcorn flower (*Plagiobothrys nothofulvus*). There are approximately 612.4 acres of California Annual and Perennial Grasslands in the BSAs.

Deciduous Orchard

This land cover type is not described by the USNVC or Sawyer et al. (2009) but is described by CWHR (Mayer and Laudenslayer 1988). Deciduous orchards include deciduous fruit and nut trees, such as apple (*Malus domestica*) and walnut (*Juglans* spp.), planted for commercial agriculture. They are typically planted in rows with an open, barren understory. There are approximately 71.7 acres of deciduous orchards in the BSAs.

Deciduous Orchard, Vineyard, Irrigated Row and Field Crops

This land cover type is not described by the USNVC or Sawyer et al. (2009), but is described by CWHR (Mayer and Laudenslayer 1988), and includes deciduous orchards, vineyards, and irrigated row and field crops. Deciduous orchards are described above and may occur in areas mapped within this land cover type. Vineyards typically include rows of a single species supported on wood and wire trellises. Wine grapes (*Vitis* spp.) are the most commonly cultivated vineyard species in the BSAs. Irrigated row and field crops include cultivated agricultural crops, typically grown in rows. Most are annual species, though some may be perennial. There are approximately 2.9 acres of deciduous orchards, vineyards, and irrigated row and field crops in the BSAs.

Eucalyptus (Eucalyptus spp.) -– tree of heaven (Ailanthus altissima) -– black locust (Robinia pseudoacacia)

This community is not described by the USNVC or Sawyer et al. (2009) and includes non-native evergreen and deciduous trees. Dominant species include *Eucalyptus* (*globulus, camaldulensis*), tree-of-heaven (*Ailanthus altissima*), and black locust (*Robinia pseudoacacia*). These species are non-native and have a California Invasive Plant Counsel rating of Limited, Moderate, and Limited, respectively. There are approximately 8.5 acres of *Eucalyptus* spp. - *Ailanthus altissima* - *Robinia pseudoacacia* in the BSAs.

Irrigated Hayfield

This land cover type is not described by the USNVC or Sawyer et al. (2009) but is described by CWHR (Mayer and Laudenslayer 1988). Irrigated hayfields include cultivated agricultural crops, typically monocultures grown in rows. Hayfields include alfalfa fields and grass hayfields. There are approximately 14.1 acres of irrigated hayfields in the BSAs.

Irrigated Row and Field Crops

This land cover type is not described by the USNVC or Sawyer et al. (2009), but is described by CWHR (Mayer and Laudenslayer 1988), and is included in the deciduous orchard, vineyard, irrigated row and field crops as described above. Irrigated row and field crops include cultivated agricultural crops, typically grown in rows. Most are annual species, though some may be perennial. There are approximately 1.4 acres of irrigated row and field crops in the BSAs.

Non-native Forest & Woodland

Non-native forest & woodlands are dominated by non-native, ornamental, or landscaped trees. The species included in this community are highly variable but may include; American sweetgum (*Liquidambar styraciflua*), Chinese elm (*Ulmus parvifolia*), date palm (*Phoenix dactylifera*), and Italian cypress (*Cupressus sempervirens*). There are approximately 112.8 acres of non-native forest & woodlands in the BSAs.

Non-native Shrub

Non-native shrub communities are dominated by non-native, ornamental, or landscaped shrubs. The species included in this community are highly variable but may include; holly (*Ilex aquifolium*), rose of Sharon (*Hibiscus syriacus*), lilac (*Syringa vulgaris*), and rose (*Rosa* spp.). There are approximately 5.4 acres of non-native shrub communities in the BSAs.

Tanoak (Notholithocarpus densiflorus)

This community most closely resembles the tanoak (*Notholithocarpus densiflorus*) Forest Alliance described by Sawyer et al. (2009). Tanoak is dominate or co-dominant in the broadleaf canopy with Pacific madrone. There are approximately 5.6 acres of *Notholithocarpus densiflorus* Alliance in the BSAs.

Fremont cottonwood (Populus fremontii)

This community most closely resembles the Fremont cottonwood (*Populus fremontii*) Forest Alliance described by Sawyer et al. (2009). Fremont cottonwood is dominate or co-dominant in the broadleaf canopy with Pacific madrone. There are approximately 11.5 acres of *Populus fremontii* Alliance in the BSAs.

Douglas fir (Pseudotsuga menziesii)

This community most closely resembles the Douglas fir (*Pseudotsuga menziesii*) Forest & Woodland Alliance described by Sawyer et al. (2009). Douglas fir is dominate or co-dominant with Pacific madrone, coast live oak (*Quercus agrifolia*), canyon live oak (*Quercus chrysolepis*), Bay laurel or other hardwoods except tanoak. Oregon white oak (*Quercus garryana*) and California black oak (*Quercus kelloggii*) may also be present at less than 30 percent of relative cover. There are approximately 16.4 acres of *Pseudotsuga menziesii* Alliance in the BSAs.

Oak (Quercus agrifolia, Q. douglasii, Q. garryana, Q. kelloggii, Q. lobata, Q. wislizeni)

This community most closely resembles the *Quercus* (*agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni*) Forest & Woodland Alliance described by Sawyer et al. (2009). In this community three or more oak species are present and collectively dominate or co-dominate the broadleaf canopy, making it difficult to assign an alliance defined by one oak species. Oak species may include coast live oak, blue oak (*Quercus douglasii*), Oregon white oak, California black oak, valley oak (*Quercus lobata*), and interior live oak (*Quercus wislizeni*). There are approximately 37.2 acres of *Quercus* (*agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni*) Alliance in the BSAs.

Coast live oak (Quercus agrifolia)

This community most closely resembles the coast live oak (*Quercus agrifolia*) Woodland & Forest Alliance described by Sawyer et al. (2009). Coast live oak is dominate or co-dominant with Pacific madrone. The understory often contains a mixture of native and non-native herbs and/or shrubs. There are approximately 35.5 acres of *Quercus agrifolia* Alliance in the BSAs.

Blue oak (Quercus douglasii)

This community most closely resembles the blue oak (*Quercus douglasii*) Forest & Woodland Alliance described by Sawyer et al. (2009). Blue oak and/or *Quercus* x *eplingii* (the hybrid between blue oak and Oregon white oak) is dominate or co-dominates with coast live oak or Pacific madrone in the broadleaf canopy. The understory is often moderately dense to dense, with a mixture of native and non-native forbs and grasses. There is approximately <0.1 acre of *Quercus douglasii* Alliance in the BSAs.

Oregon oak (Quercus garryana) (tree)

This community most closely resembles the Oregon white oak (*Quercus garryana)* (tree) Forest & Woodland Alliance described by Sawyer et al. (2009). Oregon white oak is dominate or co-dominant with up to two other species. Douglas fir, bay laurel, coast live oak, and California black oak are often present. This community may have a dense canopy with little understory, or a more open canopy with native and non-native herbs such as rough dog's-tail (*Cynosurus echinatus*) and California fescue (*Festuca californica*). There are approximately 8.5 acres of *Quercus garryana* (tree) Alliance in the BSAs.

Valley oak (Quercus lobata)

This community most closely resembles the valley oak (*Quercus lobata*) Forest & Woodland Alliance described by Sawyer et al. (2009). Valley oak is dominate or co-dominant, often with coast live oak or Oregon ash (*Fraxinus latifolia*). The understory commonly includes California wild rose (*Rosa californica*), blackberry (*Rubus* spp.), and poison oak. There are approximately 38.0 acres of *Quercus lobata* Alliance in the BSAs.

Himalayan blackberry (Rubus armeniacus) - rattlebox (Sesbania punicea) -– common fig (Ficus carica)

This community most closely resembles the Himalayan blackberry (*Rubus armeniacus*) – rattlebox (*Sesbania punicea*) – common fig (*Ficus carica*) Shrubland Semi-Natural Alliance described by Sawyer et al. (2009). Himalayan blackberry, rattlebox, or common fig are dominant. this community occurs in riparian, mesic, and disturbed sites. There are approximately 5.4 acres of *Rubus armeniacus - Sesbania punicea - Ficus carica* Alliance in the BSAs.

Coast redwood (Sequoia sempervirens)

This community most closely resembles the redwood (*Sequoia sempervirens*) Forest & Woodland Alliance described by Sawyer et al. (2009). Coast redwood is dominate or co-dominant, often with big leaf maple (*Acer macrophyllum*), tanoak, Douglas fir, California nutmeg (*Torreya californica*), and bay laurel. There are approximately 166.5 acres of *Sequoia sempervirens* Alliance in the BSAs.

Southwestern North American Riparian Evergreen and Deciduous Woodland

This community is not described by the USNVC or Sawyer et al. (2009). Southwestern north American riparian evergreen and deciduous woodlands includes the boxelder maple (*Acer negundo*) Alliance, California black walnut (*Juglans hindsii*) and Hybrids Alliance, and the polished willow (*Salix laevigata*) Alliance. This community may also include Fremont cottonwood as a minor component and is typically found in riparian areas. There are approximately 30.1 acres of southwestern North American riparian evergreen and deciduous woodland in the BSAs.

Southwestern North American Riparian/Wash Scrub

This community is not described by the USNVC or Sawyer et al. (2009). Southwestern north American riparian/wash scrub includes the California coffeeberry (*Frangula californica*) - western azalea (*Rhododendron occidentale*) Alliance, Brewer's willow (*Salix breweri*) Alliance, narrow leaved willow (*Salix exigua*) Alliance, dusky willow (*Salix melanopsis*) Alliance, black elderberry (*Sambucus nigra*) Alliance, Arroyo willow (Salix lasiolepis) Alliance. This community may also include blackberry or coyote brush (*Baccharis pilularis*) and is typically found in riparian areas with permanent soil

saturation. There are approximately 43.1 acres of southwestern North American riparian evergreen and deciduous woodland in the BSAs.

Temperate Forest

This community is very broad and is not described by the USNVC or Sawyer et al. (2009). Temperate Forests are found between the subtropical and subarctic climates. Within Sonoma County temperate forests include deciduous and coniferous forests. Species composition within this community is highly variable, and many of the deciduous and coniferous species alliances discussed in this report are considered temperate forests. There are approximately 38.9 acres of temperate forest in the BSAs.

California bay (Umbellularia californica)This community most closely resembles the bay laurel (*Umbellularia californica*) Forest & Woodland Alliance described by Sawyer et al. (2009). Bay laurel is dominate or co-dominant with coast live oak, the canopy cover may be dense to open. There are approximately 8.2 acres of *Umbellularia californica* Alliance in the BSAs.

Urban

This land cover type is not described by the USNVC or Sawyer et al. (2009) but is described by CWHR (Mayer and Laudenslayer 1988). The urban land cover type includes fully developed areas that are part of a developed urban core. This includes residential, commercial, and industrial development. There are approximately 1501.0 acres of urban areas in the BSAs.

Vancouverian Riparian Deciduous Forest

This community is very broad and is not described by the USNVC or Sawyer et al. (2009). Vancouverian riparian deciduous forest includes the white alder (*Alnus rhombifolia*) Alliance, Oregon alder (*Alnus rubra*) Alliance, Oregon ash (*Fraxinus latifolia*) Alliance, and shining willow (*Salix lucida*) Alliance. Big leaf maple and/or bay laurel may be co-dominant. This community is found in riparian areas. There are approximately 56.9 acres of Vancouverian riparian deciduous woodland in the BSAs.

Vineyard

This land cover type is not described by the USNVC or Sawyer et al. (2009) but is described by CWHR (Mayer and Laudenslayer 1988), and is included in the deciduous orchard, vineyard, irrigated row and field crops as described above. Vineyards typically include rows of a single species supported on wood and wire trellises. Wine grapes are the most commonly cultivated vineyard species in the BSAs. There are approximately 108.5 acres of vineyards in the BSAs.

Water

This land cover type is not described by the USNVC or Sawyer et al. (2009). Areas mapped as water include ponds and pools, which may be isolated or associated with streams or creeks. There is approximately 0.2 acre of water in the BSAs.

Water Treatment Pond

This land cover type is not described by the USNVC or Sawyer et al. (2009) and includes the water treatment ponds at the Forestville Water Quality Control Plant. There are approximately 2.7 acres of water treatment ponds in the BSAs.

Western North America Vernal Pool

This land cover type is not described by the USNVC or Sawyer et al. (2009). Western north America vernal pool includes vernal pools of the Santa Rosa Plain and adjacent areas. Vernal pools are isolated seasonal wetlands or vernally influenced marshes and are typically dominated by common spikerush (*Eleocharis macrostachya*), smooth goldfields (*Lasthenia glaberrima*), or annual semaphoregrass (*Pleuropogon californicus*). There are approximately 4.8 acres of vernal pools in the BSAs.

Western North American Freshwater Aquatic Vegetation

This community is not described by the USNVC or Sawyer et al. (2009). Western north America freshwater aquatic vegetation includes floating aquatic vegetation such as mosquito ferns (*Azolla* spp.), watershield (*Brasenia* spp.), hornworts (*Ceratophyllum* spp.), duck weed (*Lemna* spp.), water primrose (*Ludwigia* spp.), or water lily (*Nuphar* spp.). There is approximately 0.1 acre of freshwater aquatic vegetation in the BSAs.

Western North American Freshwater Marsh

This community is not described by the USNVC or Sawyer et al. (2009). Western north America freshwater marsh includes marsh and wet meadow habitats. This community is typically dominated by silverweed (*Argentina* spp.), sand dune sedge (*Carex pansa*), slough sedge (C. *obnupta*), California field sedge (C. *praegracilis*), common rush (*Juncus effuses*), dune rush (*J. lescurii*), common rush (*J. patens*), water dropworts (*Oenanthe* spp.), bulrush (*Schoenoplectus* spp.), mountain bog bulrush (*Scirpus microcarpus*), and/or cattails (*Typha* spp.). There are approximately 12.9 acres of freshwater marsh in the BSAs.

3.3 General Wildlife

Wildlife that can reasonably be expected to occur in the BSA varies based on habitat type and availability. These BSAs are located largely in developed, urban or semi-rural areas. The Larkfield, Graton, Forestville, Santa Rosa, Penngrove, Petaluma, Agua Caliente, and Sonoma BSAs are located on the Sonoma valley floor in central/southern Sonoma County. Common avian species in and adjacent to urban areas in this region include California quail (*Callipepla californica*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), house finch (*Haemorhous mexicanus*), common raven (*Corvus corax*), red-winged blackbird (*Agelaius phoeniceus*), Cooper's hawk (*Accipiter cooperii*), and California scrub jay (*Aphelocoma californica*). Reptile species known from the region include gopher snake (*Pituphis catenifer*), northwestern fence lizard (*Sceloporus occidentalis occidentalis*), California kingsnake (*Lampropeltis californiae*), and the northern pacific rattlesnake – (*Crotalus oreganus oreganus*). Typical mammalian species include disturbance tolerant species common in urban areas, including gray fox (*Urocyon cinereoargenteus),* common raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), western gray squirrel (*Sciurus griseus*), and bobcat (*Lynx rufus*).

The Guerneville and Glen Ellen BSAs are in developed areas as well, but in mountains with woodland habitats interspersed throughout and surrounding the BSA. Avian species reasonably be expected to occur in these areas include turkey vulture (*Cathartes aura*), Stellar's jay (*Cyanocitta stelleri*), California scrub jay, red-shouldered hawk, red-tailed hawk, wild turkey (*Meleagris gallopavo*) and barn owl (*Tyto alba*). Reptile species observed include western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Elgaria multicarinata*) and western rattlesnake (*Crotalus oreganus*).

Mammalian species typical of the area include mule deer (*Odocoileus hermionus*), western gray squirrel, gray fox, mountain lion (*Puma concolor*), dusky-footed woodrat (*Neotoma fuscipes*), Virginia opossum, coyote (*Canis latrans*), common raccoon and bobcat.

The Geyserville BSA is located on the Alexander Valley floor surrounded by development in northern Sonoma County. Avian species in and adjacent to urban areas in this region include red-tailed hawk, California scrub jay, acorn woodpecker (*Melanerpes formicivorus*), and American crow. Mammalian species observed include gray fox, mule deer, and dusky-footed woodrat.

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4 Sensitive Biological Resources

Local, State, and federal agencies regulate special status species and other sensitive biological resources and require an assessment of their presence or potential presence to be conducted on site prior to the approval of proposed development on a property. This section discusses sensitive biological resources observed on the project site and evaluates the potential for the project site to support additional sensitive biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the survey area, and previous reports for the project site. The potential for each special status species to occur in the study area was evaluated according to the following criteria:

1. **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
2. **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
3. **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
4. **High Potential.** All the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
5. **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

4.1 Special Status Species

Special Status Plant Species

In the region, 132 special status plant species are known to occur, and these were evaluated for their potential to occur in the BSAs (Appendix C). Based on the size of the BSAs and the types and quality of natural vegetation communities there, 52 special status plant species could be excluded based on the lack of species-specific habitat features in the BSAs. The specific habitat features absent from the BSAs include, but are not limited to, coastal dunes, salt marsh, chaparral, and closed-cone coniferous forest. Special status plants generally have a low potential to occur in the BSAs due to the developed nature of most of the sites, but many of the BSAs are adjacent to undeveloped areas and overlap some portion of natural habitats and aquatic features. A total of 80 special status plant species have potential to occur in the BSA (Appendix C). Those plants federally and/or State-listed as endangered or threatened, or presumed present are listed in Table 4 and Table 5 below. Four species have been documented in the BSAs, including one federally listed species (Table 5). The remaining 55 species with potential to occur have a California Rare Plant Rank (CRPR) of 1B to 2B (Appendix C).

Table 4 Federal and State-listed Plant Species with Potential to Occur in the BSA

Common Name	Scientific Name	Status	BSA
Low Potential to Occur			
Baker's manzanita	*Arctostaphylos bakeri* ssp. *bakeri*	SR	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Clara Hunt's milk-vetch	*Astragalus claranus*	FE/ST	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Vine Hill clarkia	*Clarkia imbricata*	FE/SE	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Baker's larkspur	*Delphinium bakeri*	FE/SE	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Roderick's fritillary	*Fritillaria roderickii*	SE	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Geysers panicum	*Panicum acuminatum* var. *thermale*	SE	GEY, PET, SON
Two-fork clover	*Trifolium amoenum*	FE	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Moderate Potential to Occur			
Sonoma alopecurus	*Alopecurus aequalis* var. *sonomensis*	FE	GUE, LAR, GRA, SAN, GLE, AGU, PEN, SON
Sonoma sunshine	*Blennosperma bakeri*	FE/SE	SAN, PEN
Pitkin Marsh paintbrush	*Castilleja uliginosa*	SE	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Loch Lomond button-celery	*Eryngium constancei*	FE/SE	SAN, PEN
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	SE	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Burke's goldfields	*Lasthenia burkei*	FE/SE	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Contra Costa goldfields	*Lasthenia conjugens*	FE	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Pitkin Marsh lily	*Lilium pardalinum* ssp. *pitkinense*	FE/SE	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Sebastopol meadowfoam	*Limnanthes vinculans*	FE/SE	SAN, PEN
Many-flowered navarretia	*Navarretia leucocephala* ssp. *plieantha*	FE/SE	SAN, PEN
Geysers panicum	*Panicum acuminatum* var. *thermale*	SE	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Hickman's cinquefoil	*Potentilla hickmanii*	FE/SE	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Kenwood Marsh checkerbloom	*Sidalcea oregana* ssp. *valida*	FE/SE	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Pacific Grove clover	*Trifolium polyodon*	SR	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON

FP = State Fully Protected FT = Federal Threatened FE = Federal Endangered SR = State Rare ST = State Threatened
SE = State Endangered

Table 5 Special Status Plants Documented in the BSA

Common Name	Scientific Name	Status	BSA
Present			
Congested-headed hayfield tarplant	*Hemizonia congesta* ssp. *congesta*	1B.2	AUG, SON, GLE, LAR
Sonoma alopecurus	*Alopecurus aequalis* var. *sonomensis*	FE	FOR
Holly-leaved ceanothus	*Ceanothus purpureus*	1B.2	GUE
Pappose tarplant	*Centromadia parryi* ssp. *parryi*	1B.2	PEN

Special Status Animal Species

In the region, 51 special status animal species are known to occur and these were evaluated for their potential to occur in the BSAs (Appendix C). Based on the size of the BSAs and the types and quality of natural vegetation communities there, 19 special status animal species could be excluded based on the lack of species-specific habitat features present in the BSAs. These species generally occur in marine or salt marsh habitats, and the BSAs are outside of the species known range. Special status animals generally have a low potential to occur in the BSAs due to the developed nature of most of the sites; however, many of the BSAs are located adjacent to undeveloped areas and overlap some portion of natural habitats and aquatic features. Thirty-one special status animal species have some potential to occur in the BSA, including 20 federally or State-listed species (Table 6).

Table 6 Federal and State-listed Animals with Potential to Occur in the BSA

Common Name	Scientific Name	Status	BSA
Low Potential to Occur			
Crotch bumble bee	*Bombus crotchii*	SC	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, PET, SON
Western bumble bee	*Bombus occidentalis*	SC	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, PET, SON
California freshwater shrimp	*Syncaris pacifica*	FE, SE	GUE, LAR, GRA, GLE, PEN
Coho salmon - central California coast ESU	*Oncorhynchus kisutch*	FE, SE	GLE, AGU, PEN, SON
Steelhead – central California DPS	*Oncorhynchus mykiss irideus* pop. 8	FT	GRA, SON
Chinook salmon - California coastal ESU	*Oncorhynchus tshawytscha*	FT	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
California tiger salamander	*Ambystoma californiense*	FT, ST	GUE, LAR, FOR, GRA, GLE, AGU, PET, SON
California red-legged frog	*Rana draytonii*	FT	GEY, LAR, FOR, GRA, SAN, GLE, AGU, PEN, PET, SON
Tricolored blackbird	*Agelaius tricolor*	ST	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Swainson's hawk	*Buteo swainsoni*	ST	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
northern spotted owl	*Strix occidentalis cauring*	FT/ST	GUE, FOR

Common Name	Scientific Name	Status	BSA
Moderate Potential to Occur			
coho salmon – central California coast ESU	*Oncorhynchus kisutch* pop. 4	FE, SE	GRA
steelhead – central California DPS	*Oncorhynchus mykiss irideus* pop. 8	FT	LAR, GLE, AGU, PEN
foothill yellow-legged frog	*Rana boylii*	SC	GUE, LAR, PEN
California red-legged frog	*Rana draytonii*	FT	GUE
High Potential to Occur			
California tiger salamander	*Ambystoma californiense*	FT, ST	PEN
Present			
California freshwater shrimp	*Syncaris pacifica*	FE, SE	AGU
coho salmon - central California coast ESU	*Oncorhynchus kisutch*	FE, SE	GUE, LAR
steelhead – central California DPS	*Oncorhynchus mykiss irideus* pop. 8	FT	GUE
California tiger salamander	*Ambystoma californiense*	FT, ST	SAN

FT = Federal Threatened FE = Federal Endangered ST = State Threatened SE = State Endangered
SC = State Candidate ESU = Evolutionarily Significant Unit

Other Protected Species

Nesting Birds

Non-game migratory birds protected under the CFGC Section 3503 have the potential to breed throughout the BSA. Native avian species common to oak woodland, riparian and coastal scrub, grasslands, landscaping, developed and ruderal areas have the potential to breed and forage throughout the BSA. Species of birds common to the area that typically occur in the region, including red-tailed hawk, California quail, California scrub jay, black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), American crow, and turkey vulture, were detected from online database sources, including iNaturalist and eBird. Nesting by a variety of common birds protected by CFGC Section 3503 could occur in virtually any location throughout the BSA.

4.2 Sensitive Plant Communities and Critical Habitats

Sensitive Natural Communities

Plant communities are considered sensitive biological resources if they have limited distribution, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. Sensitive natural communities included in the CNDDB follow the original methodology according to *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). The methodology for determining sensitivity continues to be revised and is now based on the *Manual of California Vegetation* (Sawyer et al. 2009). Communities considered sensitive by CDFW are published in the California Sensitive Natural Communities List (CDFW 2018). Vegetation alliances are ranked 1 through 5 based on NatureServe's (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Some

alliances with the rank of 4 and 5 have also been included in the 2018 sensitive natural communities list under CDFW's revised ranking methodology (CDFW 2018c).

Six sensitive natural communities are known to occur within 5 miles of the BSAs:

1. Northern Vernal Pool
2. Coastal and Valley Freshwater Marsh
3. Northern Hardpan Vernal Pool
4. Valley Needlegrass Grassland
5. Coastal and Valley Freshwater Marsh
6. Coastal Brackish Marsh

The vegetation communities mapped in the Santa Rosa and Penngrove BSAs include Western North America Vernal Pool, which may be considered sensitive as a wetland. Additionally, many of the specific vegetation alliances in the BSAs may be considered sensitive under CDFW's revised ranking methodology (CDFW 2018c), including the *Populus fremontii* – Forest Alliance, many *Quercus* sp. alliances, and the *Sequoia sempervirens* Forest & Woodland Alliance.

Critical Habitats

Eight federally designated critical habitats occur within 5 miles of the BSAs:

1. Marbled murrelet
2. Northern spotted owl
3. California tiger salamander
4. California red-legged frog
5. Coho salmon – central California coast Evolutionarily Significant Unit (ESU)
6. Steelhead – central California DPS
7. Green sturgeon - southern DPS (*Acipenser medirostris*)
8. Chinook salmon – California coastal ESU (*Oncorhynchus tshawytscha*)

The BSAs distance in miles from each of the eight critical habitats is shown in Table 7 below. Critical habitat for California tiger salamander (CTS), coho salmon, and steelhead occur in some of the BSAs. Descriptions of each federally designated critical habitat are discussed below.

Table 7 BSA Distance (miles) from Eight Federally Designated Critical Habitats

BSA	Marbled Murrelet	Northern Spotted Owl	California Tiger Salamander	California Red-legged Frog	Coho Salmon	Steelhead	Green Sturgeon	Chinook Salmon
Geyserville	n/a	n/a	n/a	n/a	1.94	0.88	n/a	0.38
Guerneville	0.88	n/a	n/a	n/a	Within BSA	Within BSA	n/a	n/a
Forestville	n/a	n/a	2.55	n/a	Within BSA	0.16	n/a	n/a
Larkfield	n/a	n/a	0.31	n/a	Within BSA	Within BSA	n/a	n/a
Graton	n/a	n/a	1.45	n/a	Within BSA	Within BSA	n/a	n/a
Santa Rosa	n/a	n/a	Within BSA	4.29	2.6	n/a	n/a	n/a
Penngrove	n/a	n/a	Within BSA	3.22	n/a	0.09	n/a	n/a
Petaluma	n/a	n/a	2.98	0.97	n/a	1.02	2.75	n/a

BSA	Marbled Murrelet	Northern Spotted Owl	California Tiger Salamander	California Red-legged Frog	Coho Salmon	Steelhead	Green Sturgeon	Chinook Salmon
Glen Ellen	n/a	n/a	n/a	3.26	n/a	Within BSA	n/a	n/a
Agua Caliente	n/a	3.42	n/a	3.61	n/a	Within BSA	n/a	n/a
Sonoma	n/a	4.01	n/a	n/a	n/a	0.11	n/a	n/a

Marbled Murrelet

Marbled murrelet critical habitat unit CA-08-b is in the Armstrong Redwoods State Preserve, approximately 0.88 mile northwest of the Guerneville BSA (USFWS 2011a). Marbled murrelet are known to nest in most of the major types of coniferous forests in the western portions of Washington, Oregon, and California where older forests remain inland of the coast. The critical habitat is designated for potential nesting or roosting areas.

Northern Spotted Owl

Northern spotted owl critical habitat unit 11: Interior California Coast, subunit ICC-6 is in the Mayacamas Mountain Range. This critical habitat unit is approximately 3.42 miles east of the Agua Caliente BSA and 4.01 miles northeast of the Sonoma BSA. The ICC-6 subunit consists of approximately 2,072 acres of State and federal lands in Napa and Sonoma Counties. The federal register identifies the subunit as an essential conservation area due to its unique oak woodland habitat used by northern spotted owls.

California Tiger Salamander

The Santa Rosa Plain Unit is a total of 55,800 acres of land designated as critical habitat for CTS in Sonoma County (USFWS 2011b). This critical habitat extends from Penngrove in the south up to Windsor in the north, and includes tributaries, creeks, and streams, such as Pool Creek, Mark West Creek, Santa Rosa Creek, Gossage Creek, Washoe Creek, and Willow Brook. The Santa Rosa Plain Unit is within most of the Pengrove BSA, except for the northern portion and eastern edge of the BSA. Most of the BSA that is within critical habitat is developed, except for Lichau Creek. The critical habitat unit is also within all of the Santa Rosa BSA; however, the BSA is situated in urban development with little natural riparian/aquatic habitat. Threats identified in the federal register for this critical habitat include habitat destruction, degradation, and fragmentation, predation and competition from non-native species, possible commercial overutilization, disease, hybridization with non-native salamanders, various chemical contaminants, road-crossing mortality, and rodent control operations.

California Red-legged Frog

The BSAs that are within 5 miles of the following California red-legged frog critical habitat units: SON-1, *Annadel*, SON-2, *Sonoma Mountain*, and SON-3, *Petaluma*. The SON-1 unit is comprised of approximately 1,564 acres of land and is located in Trione-Annadel State Park southeast of Santa Rosa. The SON-2 unit is comprised of approximately 4,932 acres of land and is located east of Petaluma in the Sonoma Mountains. The SON-3 unit is comprised of approximately 2,230 acres of land and is located southwest of Petaluma, near West Petaluma Regional Park. All three units contain aquatic habitat for breeding and non-breeding activities and upland habitat for foraging and dispersal activities. The BSAs within 5 miles of the critical habitat include the Santa Rosa BSA, approximately 4.29 miles, the Penngrove BSA, approximately 3.22 miles away, the Petaluma BSA,

approximately 0.97 miles away, the Glen Ellen BSA, approximately 3.26 miles away, and the Agua Caliante BSA, approximately 3.61 miles away.

Coho Salmon

The Atascadero Creek and Russian River and its tributaries, including Mark West Creek, Fife Creek, and Green Valley Creek, are designated critical habitat for central California coast ESU coho salmon. These watersheds provide suitable spawning and rearing sites, with adequate water quality, shade, and submerged logs and debris, which are essential for the conservation of the species. Furthermore, the Russian River preserves genetic and ecological attributes. The Guerneville, Forestville, Larkfield, and Granton BSAs are within coho salmon critical habitat.

Steelhead

The Sonoma Creek and Russian River and its tributaries, including Mark West Creek and Green Valley Creek, are designated critical habitat for central California DPS steelhead. These watersheds provide suitable spawning and rearing sites, with adequate water quality, shade, and submerged logs and debris, which are essential for the conservation of the species. The Guerneville, Larkfield, Granton, Glen Ellen, and Agua Caliante BSAs are within steelhead critical habitat.

Green Sturgeon

The San Pablo Bay is designated critical habitat for the green sturgeon southern DPS, including an area approximately 329 square kilometers. The critical habitat provide space for individual and population growth, shelter, sites for breeding, reproduction, rearing of offspring and protection from disturbance. Reduction of potential spawning habitat has been identified as a severe threat by the federal register. The Petaluma BSA is approximately 2.75 miles southeast of the critical habitat.

Chinook Salmon

The Russian River and its tributaries, including Wood Creek, are designated critical habitat for central California DPS steelhead. The Geyserville BSA is approximately 0.38 miles northeast of the critical habitat but no suitable streams or rivers are present on the BSA. These watersheds provide suitable spawning and rearing sites, with adequate water quality, shade, and submerged logs and debris, which are essential for the conservation of the species.

4.3 Jurisdictional Waters and Wetlands

Potentially jurisdictional areas in the BSA include streams located at various locations within the 11 Urban Service Areas. There are 10 streams in the 11 Urban Service Areas: Sonoma Creek, Green Valley Creek, Wood Creek, Calabazas Creek, Atascadero Creek, Fife Creek, Mark West Creek, Petaluma River, Fife Creek and Lichau Creek (U.S. Geological Survey 2020). One freshwater pond is located in the Forestville BSA. There are no jurisdictional waters or wetlands within the Petaluma, Santa Rosa, or Sonoma BSA.

The above described features are potentially subject to USACE, RWQCB, CDFW, and California Coastal Commission oversight. The lakes and many of the wetlands are permanently wet and have a direct hydrologic connection to the Pacific Ocean (a traditional navigable water as defined by USACE). The USACE is expected to assert jurisdiction under Section 404 of the Clean Water Act (CWA) over stream, lake, and wetland features to the ordinary high water mark, and to the edge of those wetlands with all three criteria that define federal wetlands: hydric soils, hydrophytic

vegetation, and wetland hydrology. The RWQCB also has jurisdiction over waters of the U.S. under Section 401 of the CWA. The RWQCB may also assert jurisdiction over waters of the State under the Porter-Cologne Water Quality Control Act.

The CDFW has jurisdiction over lakes, streams, and associated riparian areas under the CGFC Section 1600 et seq. The CDFW has traditionally regulated activities within the bed and bank of lakes and streams, extending to the top of bank or edge of the riparian dripline, under its Lake and Streambed Alteration Program. The CDFW may also regulate activities conducted adjacent to but outside these areas, if the activity results in a substantial alteration of the stream or lakebed downslope of the activity, such as through placement of materials that wash into a water body.

4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animals populations or those populations that are at risk of becoming isolated. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network. The California Essential Habitat Connectivity Project, commissioned by the California Department of Transportation and CDFW, identifies “natural Landscape Blocks” that support native biodiversity and the “Essential Connectivity Areas” which link them (Spencer et al. 2010).

Wildlife movement corridors can be both large and small in scale. Riparian corridors and waterways including Russian River, Petaluma River, Wood Creek, Mark West Creek, Sonoma Creek, Atascadero Creek, Fife Creek, Green Valley Creek, Calabazas Creek and Lichau Creek provide local scale opportunities for wildlife movement throughout the 11 BSAs. Existing trails and roads within the BSAs also act as corridors for wildlife movement, particularly for relatively disturbance tolerant species such as red fox, coyote, raccoon, skunk, deer, and bobcat. On a larger scale, one of the 11 BSAs is mapped in an Essential Connectivity Area in the Biogeographic Information and Observation System (CDFW 2020b). The Guerneville BSA is mapped within an Essential Connectivity Area connecting two natural land blocks, Armstrong Redwoods State Preserve at the northern extent and the Sonoma Coast State Park to the south along the coast. The Guerneville BSA is surrounded by a large area of undisturbed natural habitat, including woodland habitat in the southeastern portion of the BSA. Overall, this area represents important natural habitat for a wide range of species and supports genetic connectivity and movement along much of the northern California coast, including into the Mendocino National Forest. None of the other ten BSAs are mapped in an Essential Connectivity Area or Natural Landscape Block. The Glen Ellen BSA lies outside a Natural Landscape Block, the Sonoma Valley Regional Park, approximately 0.2 mile south of the site.

There is potential for movement from local waterways, including the Russian River and Fife Creek in the Guerneville BSA, the Petaluma River and Lichau Creek in the Penngrove BSA, Wood Creek in the Geyserville BSA, Mark West Creek in the Larkfield BSA, Sonoma Creek in the Agua Caliente BSA, Green Valley Creek in the Forestville BSA, Sonoma Creek and Calabazas Creek in the Glen Ellen BSA, and Atascadero Creek in the Graton BSA. The riparian corridors of these waterways are a significant corridor for wildlife movement in Sonoma County. The areas surrounding the rivers and creek are primarily developed areas, including urban residential, commercial, and industrial development.

Furthermore, most wildlife species that would utilize such connections are likely urban, disturbance tolerant species such as raccoon, skunk, opossum, and black tailed deer.

Developed areas of the BSA where Potential Sites would intersect an urban area do not function as essential connectivity areas or as important wildlife corridors due to previous use and disturbance.

4.5 Resources Protected by Local Policies and Ordinances

Protected Trees

The Potential Sites fall under the jurisdiction of Sonoma County. The County's General Plan and Municipal Code includes goals, policies, and ordinances intended to protect, preserve, and enhance natural habitats and biological resources to varying degrees. The County Municipal Code requires permitting for tree removal, and some provide additional protection for landmark or heritage trees (Chapter 26D).

Sonoma County Zoning Code Article 88, Section 26-88-010(m) Tree Protection Ordinance requires projects to be designed to minimize the destruction of protected trees that meet size criteria specified in the ordinance. Protected trees of sufficient size and species to require agency permitting may occur within the BSAs, including but not limited to: big leaf maple (*Acer macrophyllum*), black oak, blue oak, coast live oak, interior live oak, madrone, Oracle oak (Q. *morehus*), Oregon oak, redwood, valley oak, and California bay. Additionally, Valley oak is considered a "Protected tree of special significance" (Sec. 25-2).

Chapter 26, Article 67, Valley Oak Habitat Combining District, of the Sonoma County Zoning Code provides for protection and enhancement of oak woodland habitats. Removal of oak trees in this zoning district requires mitigation measures including retention of other oaks, replacement plantings, and an in-lieu fee.

Riparian Corridors

Riparian corridors are protected by Sonoma County zoning ordinance (Sec 26-64). This zoning code protects County designated streams, including the bed, bank, and an adjacent streamside conservation areas as measured from the top of bank or he outer drip line of the riparian trees. Specific setbacks are determined based on the affected river or stream and site-specific conditions but generally include a 25 to 200 foot setback.

4.6 Santa Rosa Plain Conservation Strategy

The Larkfield BSA, Santa Rosa BSA, and portions of the Penngrove BSA are in the Santa Rosa Plain Conservation Strategy Area (2005). The goal of the Conservation Strategy is to aid in the conservation of listed species and vernal pools by providing local governments and developers a way to obtain authorization for incidental take of federally listed species for development. Species covered under the Conservation Strategy Area include CTS, Burke's goldfields, Sonoma sunshine, Sebastopol meadowfoam, and many-flowered navarretia.

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5 Impact Analysis and Mitigation Measures

The proposed project will identify sites to be added to the County's General Plan Housing Element site inventory to comply with State law and will implement current General Plan Policies and Programs that require the County to identify urban sites near jobs and transit which may appropriately accommodate additional housing. It will also identify appropriate sites on which to place the Workforce Housing Combining Zone, which would allow the development of jobs and/or housing on the same site or within walking distance from one another.

Specifically, project implementation would rezone up to 59 urban sites in designated Urban Service Areas throughout unincorporated Sonoma County for by-right, medium-density housing. The project would add sites to the County's Housing Element site inventory to comply with new inventory requirements in Housing Element law; it would implement current General Plan policies and programs, including Policy HE-2f, to consider a variety of sites for higher-density and affordable housing, and Housing Element programs 11 and 20, which encourage the identification of urban sites near jobs and transit to appropriately accommodate additional housing. The project includes (1) a General Plan Map amendment as necessary to adjust allowable densities on identified sites; (2) a rezone of sites to match new General Plan densities or to add the AH (Affordable Housing) or WH (Workforce Housing) combining zones; and (3) this report to evaluate the potential environmental impacts of the project. The project is intended to facilitate and encourage housing development that would be developed over a 10-year period, with full buildout by 2030.

This impact analysis is based on a review of existing biological conditions within a BSA that represents a significantly larger area than that of each project's impact footprint. The BSAs were designed to support design modifications and provide detail on biological resources in the area surrounding each Proposed Rezone Site. Identification of sensitive resources at this early stage can support avoidance and/or minimization of potential impacts to sensitive biological resources by providing baseline information. We have reported on the acreages of vegetation communities and special status species habitats in the BSAs, but the actual impacts from rezoning would be significantly less than the acres reported for the BSA. Actual impacts to vegetation communities and potential impacts to special status species because of development at the Proposed Rezone Sites and any adjacent staging/mobilization areas will be determined during project development. Impacts to sensitive biological resources are analyzed accordingly and are not considered as permanent or temporary impacts to the entire BSA. Many of the rezone sites occur within previously disturbed or developed areas, but they are adjacent to several natural vegetation communities. Potential for the project to result in significant impacts to special status biological resources is therefore addressed in detail below.

5.1 Special-Status Species

The project would have a significant effect on biological resources if it would:

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

Known to occur or having the potential to occur are 132 special status plants and 51 special status animals in the BSAs or vicinity (Appendix C). Of these, 80 special status plants have the potential to occur in the BSAs, of which 22 are State or federally listed. There are 31 special status animal species with some potential to occur in the BSAs, including 20 federally or State-listed species (see Appendix C).

Development facilitated by the project for higher density housing will include redevelopment of existing urban structures and loss of some undeveloped habitat. Construction related disturbance may also occur at staging areas and access corridors. These activities could result in significant impacts to special status species through injury or mortality from construction activity. Additionally, construction in the immediate vicinity of creeks or streams could result in loss or degradation of aquatic habitat (e.g. by erosion, sedimentation, pollution, or tampering by the public).

Impacts to CRPR 1B.1 or 1B.2 plant species would only be considered significant if the loss of individuals in the Plan Area represented a population-level impact that resulted in a loss of, or risk to the entire regional population. Given the size of the BSAs, quality of habitat, and small impact area for the types of projects proposed (i.e., re-development of rezoning sites), there is low potential for impacts on a population level. Impacts to individuals of State and federally listed species, or population-level adverse effects to non-listed species would be considered significant but can be reduced through the design of project elements to avoid special status plants and sensitive vegetation communities. Impacts to federally or State-listed species from ground disturbing activity or vegetation removal would be considered significant under CEQA.

Special status animal species are most likely to occur in native vegetation communities and natural habitats in the BSAs, but many species may use more disturbed areas as upland or foraging habitat and may occur transiently in the BSAs. Impacts to special status animal species could occur if individuals were present in the BSA at the time of construction through direct injury or mortality. Disturbance may also occur because of construction noise and human presence. Development of rezoning sites may also decrease available foraging habitat for some special status birds. These impacts would be considered significant under CEQA.

Given that most of the BSAs are in medium or low density residential and rural areas, impacts due to rezoning are expected to be low, but development that would require ground disturbance or vegetation removal have potential to adversely affect special status species wherever they occur in the BSAs. Avoidance and minimization measures can be applied for a variety of species to reduce the potential impact to less than significant. For projects that are not expected to result in any ground disturbance or very small disturbance (e.g., installation of signage, utility improvements that do not involve ground disturbance outside of paved areas, etc.) and no vegetation removal, no mitigation is required. For those projects that will result in ground disturbance through clearing/grading or vegetation trimming or removal (e.g., demolition of existing buildings and redevelopment construction, etc.), a project-specific biological assessment (Mitigation Measure BIO-1) would be required. Additional mitigation would then be required based on the results of the project-specific biological analysis and may include one or more of the measures outlined below (Mitigation Measures BIO-2 through BIO-12) to reduce the impact to less than significant.

BIO-1 Biological Resources Screening and Assessment

For projects in the BSAs that would require ground disturbance through clearing/grading or vegetation trimming, the project applicant shall engage a qualified biologist (having the appropriate education and experience level) to perform a preliminary Biological Resources Screening and Assessment to determine whether the project has any potential to impact special status biological

resources, inclusive of special status plants and animals, sensitive vegetation communities, jurisdictional waters (including creeks, drainages, streams, ponds, vernal pools, riparian areas and other wetlands), critical habitat, wildlife movement area, or biological resources protected under local or regional (City or County) ordinances or an existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan, including the Santa Rosa Plain Conservation Strategy. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact biological resources, prior to construction, a qualified biologist shall conduct a project-specific biological analysis to document the existing biological resources within a project footprint plus a minimum buffer of 500 feet around the project footprint, as is feasible, and to determine the potential impacts to those resources. The project-specific biological analysis shall evaluate the potential for impacts to all biological resources including, but not limited to special status species, nesting birds, wildlife movement, sensitive plant communities, critical habitats, and other resources judged to be sensitive by local, State, and/or federal agencies. If the project would have the potential to impact these resources, the following mitigation measures (Mitigation Measures BIO-2 through BIO-12) shall be incorporated, as applicable, to reduce impacts to a less than significant. Pending the results of the project-specific biological analysis, design alterations, further technical studies (e.g., protocol surveys) and consultations with the USFWS, National Marine Fisheries Service (NMFS), CDFW, and/or other local, State, and federal agencies may be required. Note that specific surveys described in the mitigation measures below may be completed as part of the project-specific biological analysis where suitable habitat is present.

BIO-2 Special Status Plant Species Surveys

If the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1) determines that there is potential for significant impacts to federally or state-listed plants or regional population level impacts to species with a CRPR of 1B or 2B from project development, a qualified biologist shall complete surveys for special status plants prior to any vegetation removal, grubbing, or other construction activity (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific biological analysis. All plant surveys shall be conducted by a qualified biologist during the blooming season prior to initial ground disturbance. All special status plant species identified on site shall be mapped onto a site-specific aerial photograph or topographic map with the use of Global Positioning System unit. Surveys shall be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A report of the survey results shall be submitted to the County, and the CDFW and/or USFWS, as appropriate, for review and/or approval.

BIO-3 Special Status Plant Species Avoidance, Minimization, and Mitigation

If federally and/or state-listed or CRPR 1B or 2 species are found during special status plant surveys (pursuant to Mitigation Measure BIO-2), and would be directly impacted, or there would be a population-level impact to non-listed sensitive species, then the project shall be re-designed to avoid impacting those plant species, where feasible. Rare and listed plant occurrences that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm.

For projects in BSA's located within the Santa Rosa Plain Area, protocol rare plant surveys shall be conducted, and impacts to suitable rare plant habitat mitigated, in accordance with the 2007 USFWS Santa Rosa Plain Programmatic Biological Opinion, as amended in 2020.

BIO-4 Restoration and Monitoring

Development and/or restoration activities shall be conducted in accordance with a site-specific Habitat Restoration Plan. If federally or state-listed plants or non-listed special status CRPR 1B and 2 plant populations cannot be avoided, and will be impacted by development, all impacts shall be mitigated by the applicant at a ratio to be determined by the County (in coordination with CDFW and USFWS as and if applicable) for each species as a component of habitat restoration. A qualified biologist shall prepare and submit a restoration plan to the County for review and approval. (Note: if a federally and/or state-listed plant species will be impacted, the restoration plan shall be submitted to the USFWS and/or CDFW for review, and federal and/or state take authorization may be required by these agencies). The restoration plan shall include, at a minimum, the following components:

1. Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type)
2. Goal(s) of the compensatory mitigation project (type[s] and area[s] of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type[s] to be established, restored, enhanced, and/or preserved)
3. Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions, and values)
4. Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan)
5. Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule)
6. Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports)
7. Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type
8. An adaptive management program and remedial measures to address any shortcomings in meeting success criteria
9. Notification of completion of compensatory mitigation and agency confirmation
10. Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism)

BIO-5 Endangered/Threatened Species Habitat Assessments and Protocol Surveys

Specific habitat assessments and survey protocols are established for several federally- and state-endangered or threatened species. If the results of the project-specific biological analysis determine that suitable habitat may be present for any such species, protocol habitat assessments/surveys shall be completed in accordance with CDFW, NMFS, and/or USFWS protocols prior to issuance of any construction permits. If projects are located within the Santa Rosa Plain Area, surveys shall be conducted for CTS in accordance with the Santa Rosa Plain Conservation Strategy (2005). If through consultation with the CDFW, NMFS, and/or USFWS it is determined that protocol habitat

assessments/surveys are not required, the applicant shall complete and document this consultation and submit it to the County prior to issuance of any construction permits. Each protocol has different survey and timing requirements. The applicant shall be responsible for ensuring they understand the protocol requirements and shall hire a qualified biologist to conduct protocol surveys.

BIO-6 Endangered/Threatened Animal Species Avoidance and Minimization

The following measures shall be applied to aquatic and/or terrestrial animal species as determined by the project-specific Biological Resources Screening and Assessment required under Mitigation Measure BIO-1.

1. Ground disturbance shall be limited to the minimum necessary to complete the project. A qualified biologist shall flag the project limits of disturbance. Areas of special biological concern within or adjacent to the limits of disturbance shall have highly visible orange construction fencing installed between said area and the limits of disturbance.
2. All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, if feasible, to avoid impacts to sensitive aquatic species.
3. All projects occurring within or adjacent to sensitive habitats that may support federally and/or state-listed endangered/threatened species shall have a CDFW- and/or USFWS-approved biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW, NMFS, and/or USFWS, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are fully implemented.
4. No endangered/threatened species shall be captured and relocated without express permission from the CDFW, NMFS, and/or USFWS.
5. If at any time during project construction an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. A CDFW/USFWS-approved biologist shall document the occurrence and consult with the CDFW and USFWS, as appropriate, to determine whether it was safe for project activities to resume.
6. For all projects occurring in areas where endangered/ threatened species may be present and are at risk of entering the project site during construction, the applicant shall install exclusion fencing along the project boundaries prior to start of construction (including staging and mobilization). The placement of the fence shall be at the discretion of the CDFW/USFWS-approved biologist. This fence shall consist of solid silt fencing placed at a minimum of three feet above grade and two feet below grade and shall be attached to wooden stakes placed at intervals of not more than five feet. The applicant shall inspect the fence weekly and following rain events and high wind events and shall be maintained in good working condition until all construction activities are complete.
7. All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body, including seasonal wetland features. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies.
8. No equipment shall be permitted to enter wetted portions of any affected drainage channel.

9. If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline.
10. If water is to be diverted around work sites, the applicant shall submit a diversion plan (depending upon the species that may be present) to the CDFW, RWQCB, USFWS, and/or NMFS for their review and approval prior to the start of any construction activities (including staging and mobilization). If pumps are used, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system.
11. At the end of each workday, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment.
12. All trenches, pipes, culverts, or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.
13. The CDFW/USFWS-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly.
14. Considering the potential for projects to impact federally and State-listed species and their habitat, the applicant shall contact the CDFW and USFWS to identify mitigation banks within Sonoma County during project development. If the results of the project-specific biological analysis {Mitigation Measure BIO-1) determine that impacts to federally and state threatened or endangered species habitat are expected, the applicant shall explore species-appropriate mitigation bank(s) servicing the region for purchase of mitigation credits. If projects are located within the Santa Rosa Plain Area, mitigation for impacts to CTS shall be implemented in accordance with the Santa Rosa Plain Conservation Strategy (2005).
15. For projects occurring in the Petaluma BSA (PET-1 through PET-4), prior to grading and construction in natural areas of containing suitable upland habitat, a qualified biologist shall conduct a preconstruction survey for CTS. The survey should include a transect survey over the entire project disturbance footprint (including access and staging areas), and mapping of burrows that are potentially suitable for salamander occupancy. If any CTS are detected, no work shall be conducted until the individual leaves the site of their own accord, unless federal and state “take” authorization has been issued for CTS relocation. Typical preconstruction survey procedures, such as burrow scoping and burrow collapse, cannot be conducted without federal and state permits. If any life stage of CTS is found within the survey area, the applicant shall consult with the USFWS and CDFW to determine the appropriate course of action to comply with the FESA and CESA, if permits are not already in place at the time of construction.

BIO-7 Non-Listed Special Status Animal Species Avoidance and Minimization

The project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1) shall identify some or all the below measures that will be required and applicable to the individual project:

1. For non-listed special status terrestrial amphibians and reptiles, a qualified biologist shall complete coverboard surveys within 14 days of the start of construction. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground as determined by the project-specific biological assessment (pursuant Mitigation Measure BIO-1). The qualified biologist shall check the coverboards once per week for each week after placement up until the start of vegetation removal. The biologist shall capture all non-listed special status and common animals found under the coverboards and shall place

them in five-gallon buckets for transportation to relocation sites. The qualified biologist shall review all relocation sites and those sites shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by project construction. Relocation shall occur on the same day as capture. The biologist shall submit CNDDB Field Survey Forms to the CFDW for all special status animal species observed.

2. Prior to construction, a qualified biologist shall conduct a survey of existing buildings to determine if bats are present. The survey shall be conducted during the non-breeding season (November through March). The biologist shall have access to all structures and interior attics, as needed. If a colony of bats is found roosting in any structure, further surveys shall be conducted sufficient to determine the species present and the type of roost (day, night, maternity, etc.).
3. If bats are roosting in the building during the daytime but are not part of an active maternity colony, then exclusion measures must include one-way valves that allow bats to get out but are designed so that the bats may not re-enter the structure. Maternal bat colonies shall not be disturbed.
4. A qualified biologist shall conduct pre-construction clearance surveys within 14 days of the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 200-foot buffer, if feasible, and shall identify all special status animal species that may occur on-site. All non-listed special status species shall be relocated from the site either through direct capture or through passive exclusion. The biologist shall submit a report of the pre-construction survey to the County for their review and approval prior to the start of construction.
5. A qualified biologist shall be present during all initial ground-disturbing activities, including vegetation removal to recover special status animal species unearthed by construction activities.
6. Project activities shall be restricted to daylight hours.
7. Upon completion of the project, a qualified biologist shall prepare a Final Compliance Report documenting all compliance activities implemented for the project, including the pre-construction survey results. The report shall be submitted to the County within 30 days of completion of the project.
8. If special status bat species may be present and impacted by the project, a qualified biologist shall conduct, within 30 days of the start of construction, presence/absence surveys for special status bats in consultation with the CDFW where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active roosts are located, exclusion devices such as netting shall be installed to discourage bats from occupying the site. If a qualified biologist determines a roost is used by a large number of bats (large hibernaculum), bat boxes shall be installed near the project site. The number of bat boxes installed will depend on the size of the hibernaculum and shall be determined through consultation with CDFW. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately.

BIO-8 Western Pond Turtle Avoidance and Minimization

For projects located in the Penngrove BSA (PEN-1 through PEN-9), a qualified biologist shall conduct pre-construction clearance surveys for western pond turtle within 14 days prior to the start of construction (including staging and mobilization) in areas of suitable habitat. The biologist shall flag limits of disturbance for each construction phase. Areas of special biological concern within or adjacent to the limits of disturbance should have highly visible orange construction fencing installed between said area and the limits of disturbance. If western pond turtles are observed they shall be allowed to leave the site on their own.

BIO-9 American Badger Avoidance and Minimization

For projects located in the Petaluma BSA (PET-1 through PET-4), a qualified biologist shall conduct surveys of the grassland habitat on-site to identify any American badger burrows/dens. These surveys shall be conducted not more than 14 days prior to the start of construction. Impacts to active badger dens shall be avoided by establishing exclusion zones around all active badger dens, within which construction related activities shall be prohibited until denning activities are complete or the den is abandoned. A qualified biologist shall monitor each den once per week in order to track the status of the den and to determine when a den area has been cleared for construction.

BIO-10 Pre-construction Surveys for Nesting Birds for Construction Occurring within Nesting Season

For projects that require the removal of trees or vegetation, construction activities shall occur outside of the nesting season wherever feasible (September 16 to January 31), and no mitigation activity is required. If construction activities must occur during the nesting season (February 1 to September 15), a qualified biologist shall conduct surveys for nesting birds covered by the CGFC no more than 14 days prior to vegetation removal. The surveys shall include the entire disturbance area plus a 200-foot buffer around the site as feasible. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. The biologist shall submit a report of these preconstruction nesting bird surveys to the County to document compliance within 30 days of its completion.

BIO-11 Worker Environmental Awareness Program

If potential impacts to special status species are identified in the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend Worker Environmental Awareness Program training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the BSAs for the project. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with

construction of projects. All employees shall sign a form documenting provided by the trainer indicating they have attended the Worker Environmental Awareness Program and understand the information presented to them. The form shall be submitted to the County to document compliance.

BIO-12 Invasive Weed Prevention and Management Program

For those projects where activity would occur within or adjacent to sensitive habitats, as determined by the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), prior to start of construction a qualified biologist shall develop an Invasive Weed Prevention and Management Plan to prevent invasion of native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication. All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan. Landscape species shall not include noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Moderate and High Risk Lists.

5.2 Sensitive Plant Communities

The project would have a significant effect on biological resources if it would:

b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

Sensitive natural communities known to occur within the BSA which may be impacted by development facilitated by rezoning include riparian and vernal pool habitat and riparian corridors protected by the Sonoma County zoning ordinance (Section 26-65). Other natural communities included in the California Sensitive Natural Communities List are also likely to be present in the BSAs but have not been mapped on a broad scale. Additionally, federally designated critical habitat units for Steelhead, coho salmon, and CTS occur in the BSAs and may be affected by the project. Direct impacts to sensitive habitats and critical habitats could occur through direct conversion of habitats to development. Projects facilitated by rezoning with potential to adversely affect sensitive or critical habitat are those projects that would include ground disturbance or vegetation removal adjacent to critical habitat in the Guerneville, Forestville, Larkfield, Graton, Santa Rosa, Penngrove, Petaluma, and Glen Ellen BSAs. Development facilitated by the project would be required to comply with existing County standards and processes, including Section 26-65 protecting riparian corridors. However, significant indirect impacts could also occur through the establishment of non-native invasive species, but implementation of the mitigation measures below would reduce impacts to less than significant. Therefore, impacts would be less than significant with mitigation incorporated.

BIO-13 Sensitive Natural Community Avoidance

If sensitive natural communities are identified through the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), the project shall be designed to avoid those communities to the maximum extent possible and all project elements associated with

development shall be situated outside of sensitive habitats. Bright orange protective fencing installed at least 30 feet beyond the extent of the sensitive natural community during construction, or other distance as approved by a qualified biologist, to protect them from harm.

BIO-14 Restoration for Impacts to Sensitive Natural Communities

Impacts to sensitive natural communities (including riparian areas and waters of the state or waters of the U.S. under the jurisdiction of the CDFW, USFWS or RWQCB) shall be mitigated through the funding of the acquisition and in-perpetuity management of similar habitat. Funding and management of internal mitigation areas can be managed at the County-level. The applicant shall provide funding and management of off-site mitigation lands through purchase of credits from an existing, approved mitigation bank or land purchased by the County and placed into a conservation easement or other covenant restricting development (e.g., deed restriction). Internal mitigation lands (internal to the Potential Sites), or in lieu funding sufficient to acquire lands, shall provide habitat at a minimum 1:1 ratio for impacted lands, comparable to habitat to be impacted by individual project activity.

1. **Restoration and Monitoring.** If sensitive natural communities cannot be avoided and will be impacted by future projects, a compensatory mitigation program shall be implemented by the applicant in accordance with Mitigation Measure BIO-4 and the measures set forth by the regulatory agencies during the permitting process. All temporary impacts to sensitive natural communities shall be fully restored to natural condition.
2. **Sudden Oak Death.** The applicant shall inspect all nursery plants used in restoration for sudden oak death. Vegetation debris shall be disposed of properly and vehicles and equipment shall be free of soil and vegetation debris before entering natural habitats. Pruning tools shall be sanitized.

5.3 Jurisdictional Waters and Wetlands

The project would have a significant effect on biological resources if it would:

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Wetlands and waters cross many of the BSAs and may be affected by implementation of projects facilitated by rezoning that would occur within the limits of, or adjacent to, jurisdictional waters. Rezoning projects are not expected to directly impact jurisdictional features but may include runoff from construction sites or unintentional spills. There are eight creeks located within the BSAs, Sonoma Creek, Atascadero Creek, and Mark West Creek, Lichau Creek, Fife Creek, Sonoma Creek, and Calabazas Creek. In addition, vernal pool habitat was mapped at the Penngrove and Santa Rosa BSAs. These wetlands and non-wetland waters may be subject to USACE jurisdiction under the CWA, RWQCB jurisdiction under the CWA and Porter-Cologne, and CDFW jurisdiction under the CFGC. Because of the programmatic nature of rezoning, a precise, project-level analysis of the specific impacts associated with individual projects on potential wetlands is not possible at this time and site-specific analysis is needed to verify if wetlands are present. If projects have the potential to impact wetlands, the projects shall either be designed to avoid impacts to federal and State waters or shall be subject to measure BIO-15. If, based on the results of the jurisdictional delineation, it is determined that project activity would result in either direct or indirect impacts to waters of the state or waters of the U.S., then Mitigation Measure BIO-16 shall be implemented to ensure no net

loss of wetlands functions and ensure impacts to waters of the state or waters of the U.S. are less than significant. Impacts are less than significant with mitigation incorporated.

BIO-15 Jurisdictional Delineation

If potentially jurisdictional wetlands are identified by the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), a qualified biologist shall complete a jurisdictional delineation. The jurisdictional delineation shall determine the extent of the jurisdiction for CDFW, USACE, and/or RWQCB, and shall be conducted in accordance with the requirement set forth by each agency. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the County, USACE, RWQCB, and CDFW, as appropriate, for review and approval. Jurisdictional areas shall be avoided to the maximum extent possible. If jurisdictional areas are expected to be impacted, then the RWQCB would require a Waste Discharge Requirement permit and/or Section 401 Water Quality Certification (depending upon whether the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Lake or Streambed Alteration Agreement pursuant to Section 1600 et seq. of the CFGC would also be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the CWA would likely be required. Furthermore, a compensatory mitigation program shall be implemented by the applicant in accordance with Mitigation Measure BIO-4 and the measures set forth by the regulatory agencies during the permitting process. Compensatory mitigations for all permanent impacts to waters of the U.S. and waters of the state shall be completed at a ratio as required in applicable permits. All temporary impacts to waters of the U.S. and waters of the state shall be fully restored to natural condition.

BIO-16 General Avoidance and Minimization

Projects shall be designed to avoid potential jurisdictional features identified in jurisdictional delineation reports. Projects that may impact jurisdictional features shall provide the County with a report detailing how all identified jurisdictional features will be avoided, including groundwater draw down.

1. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls (non- monofilament), covers, sand/gravel bags, and straw bale barriers, as appropriate.
2. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.
3. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.

5.4 Wildlife Movement

The project would have a significant effect on biological resources if it would:

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors or impede the use of wildlife nursery sites.

The Guerneville BSA is mapped in an Essential Connectivity Area connecting two natural land blocks; however, the project and ensuing development projects would occur in the community of Guerneville in a largely developed area that does not function as a corridor for movement. The remaining BSAs are also located in rural/residential areas with varying degrees of existing development. Additionally, redevelopment under rezoning would not affect the function of creeks and riparian areas in the BSAs as local corridors for wildlife movement; therefore, impacts would be less than significant.

5.5 Local Policies and Ordinances

The project would have a significant effect on biological resources if it would:

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

The Proposed Rezone Sites fall under the jurisdiction of Sonoma County, which provides protection for biological resources through the implementation of its General Plan and Zoning Code.

The Sonoma County General Plan 2020 (Sonoma County 2008) includes policies to guide decisions on future growth, development, and conservation of resources through 2020. This includes the "Open Space and Resource Conservation Elements" which aims to preserve the natural and scenic resources.

The Sonoma County Zoning Code Chapter 26D, *Heritage or Landmark Trees*, and Sonoma County Zoning Code Article 88, Section 26-88-010(m), *Tree Protection Ordinance*, provides for the protection of heritage and landmark trees. Article 67, *Valley Oak Habitat Combining District*, of the Sonoma County Zoning Code provides protection for oak woodland habitats, and Article 65, *Riparian Corridor Combining Zone*, of the Sonoma County Zoning Code provides protection for riparian corridors.

Trees to be removed have not yet been identified because individual projects have not been developed yet; however, development of rezone sites would potentially require some tree removal. Additionally, some loss of habitat and biological resources is expected. Development of rezoned sites would be required to comply with these goals policies and measures, including via the application for tree removal permits and compliance with associated requirement (e.g., tree replacement) where applicable. Pursuant to compliance with these regulations, impacts would be less than significant.

5.6 Adopted or Approved Plans

The project would have a significant effect on biological resources if it would:

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

The Larkfield BSA, Santa Rosa BSA, and portions of the Penngrove BSA are within the Santa Rosa Plain Conservation Strategy Area (2005). The Larkfield BSA is located outside the Windsor Urban growth boundary, to the south. The Santa Rosa BSA is located at the southern end of the Santa Rosa urban growth boundary, with some edges outside the boundary. The western half of the Penngrove BSA is within the Conservation Strategy Area outside of the Cotati urban growth boundary, to the south. The Conservation Strategy urban growth boundaries were designed to limit development in

natural habitats and focus future growth within previously developed areas. The Conservation Strategy does allow for some development outside of the urban growth boundaries as long as it doesn't change land use appreciably, and impacts are adequately mitigated. Because the parcels proposed for rezoning are small and the majority of the BSAs will remain under the current agricultural, residential, commercial, and industrial zoning, rezoning is not likely to change land use appreciably and could be sufficiently mitigated in accordance with the Sonoma County General Plan. The Santa Rosa Plain Conservation Strategy has not been finalized or implemented as of the writing of this report; therefore, impacts from the potential project would be less than significant with mitigation.

The USFWS has issued a programmatic Biological Opinion (BO) to the USACE for projects that may affect listed species on the Santa Rosa Plain (1998) and updated it in 2007 and 2020. In 2016 USFWS issued the Santa Rosa Plain Recovery Plan to provide a framework for the recovery of CTS, Burke's goldfields, Sonoma sunshine, and Sebastopol meadowfoam (USFWS 2016). If projects resulting from rezoning would affect listed species in the Santa Rosa Plain there is potential for conflict with these plans and conservation strategies, which would be considered significant under CEQA. With implementation of mitigation measure BIO-17, impacts would be less than significant with mitigation.

BIO-17 Consistency with the Santa Rosa Plain Conservation Strategy

For sites SAN-1 through SAN-10, the Biological Resources Screening and Assessment (Mitigation Measure BIO-1) shall assess projects for impacts to listed species included in the Santa Rosa Plain Conservation Strategy. Impacts to these species should be evaluated and mitigated per the mitigation measures included in Chapter 5 of the Conservation Strategy.

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6 Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. The findings and opinions conveyed in this report are based on findings derived from review of CNDDB RareFind5 and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary as to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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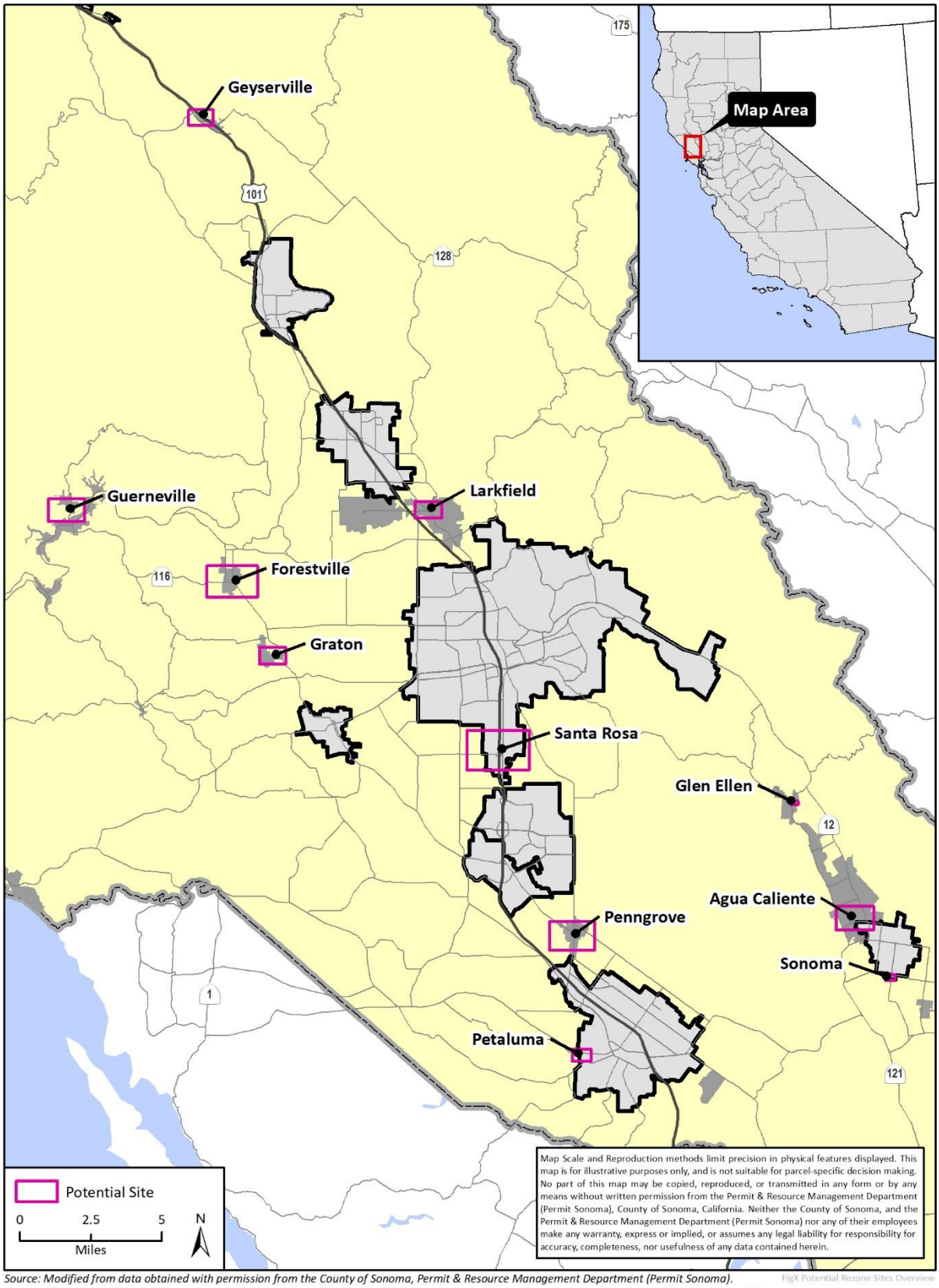
Appendix A

Figures

Figure 1 Regional Location



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

Figure 2a Biological Study Area – Agua Caliente

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FigX BRA_AGU

Figure 3b Biological Study Area – Forestville

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FigX BRA_FOR

Figure 4c Biological Study Area – Geyserville

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FigX BRA_GEY

Figure 5d Biological Study Area – Glen Ellen

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FigX BRA_GLE

Figure 6e Biological Study Area – Graton

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FigX BRA_GRA

Figure 7f Biological Study Area – Guerneville

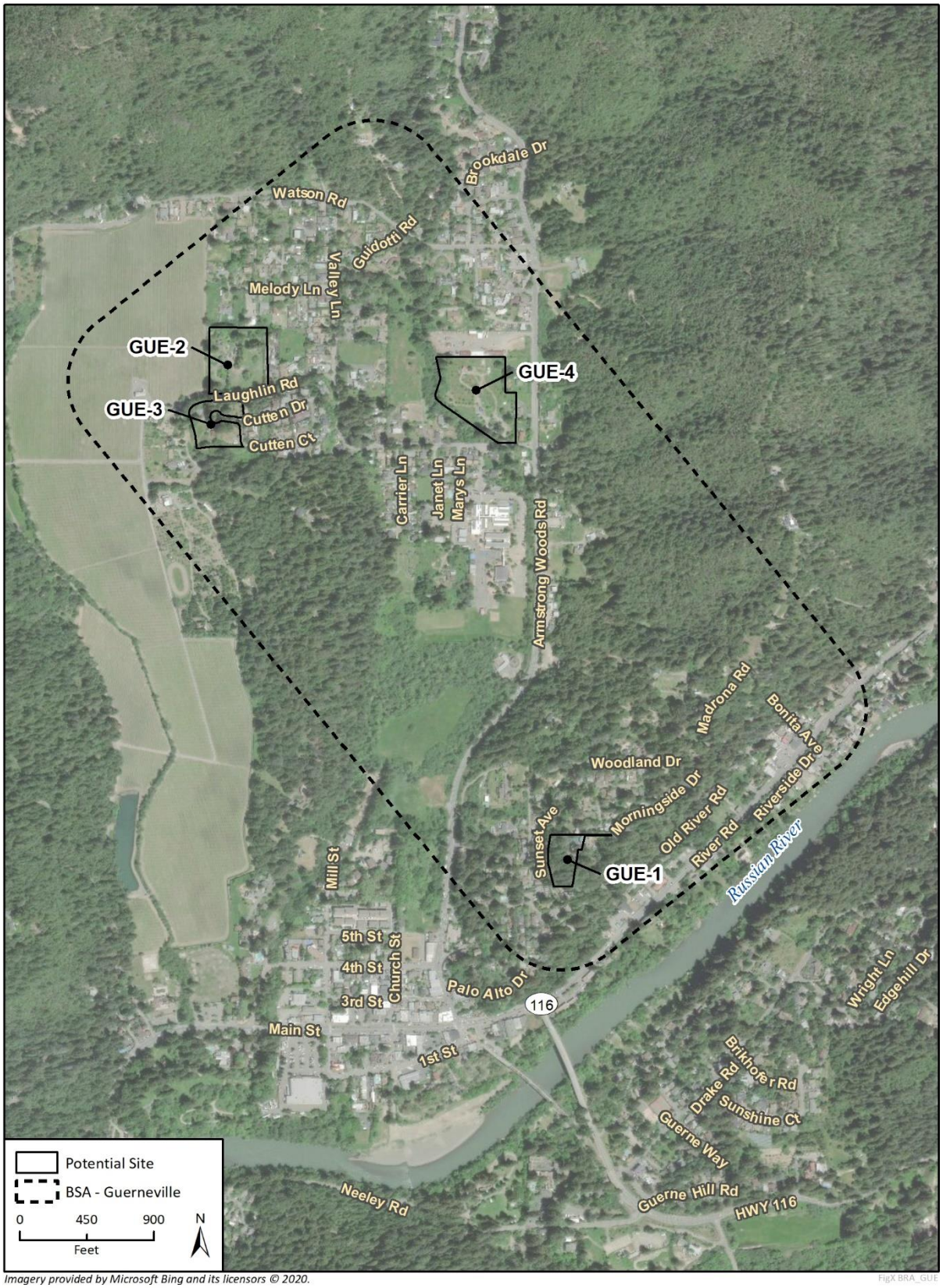

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Figure 8g Biological Study Area – Larkfield

Figure 9h Biological Study Area – Penngrove

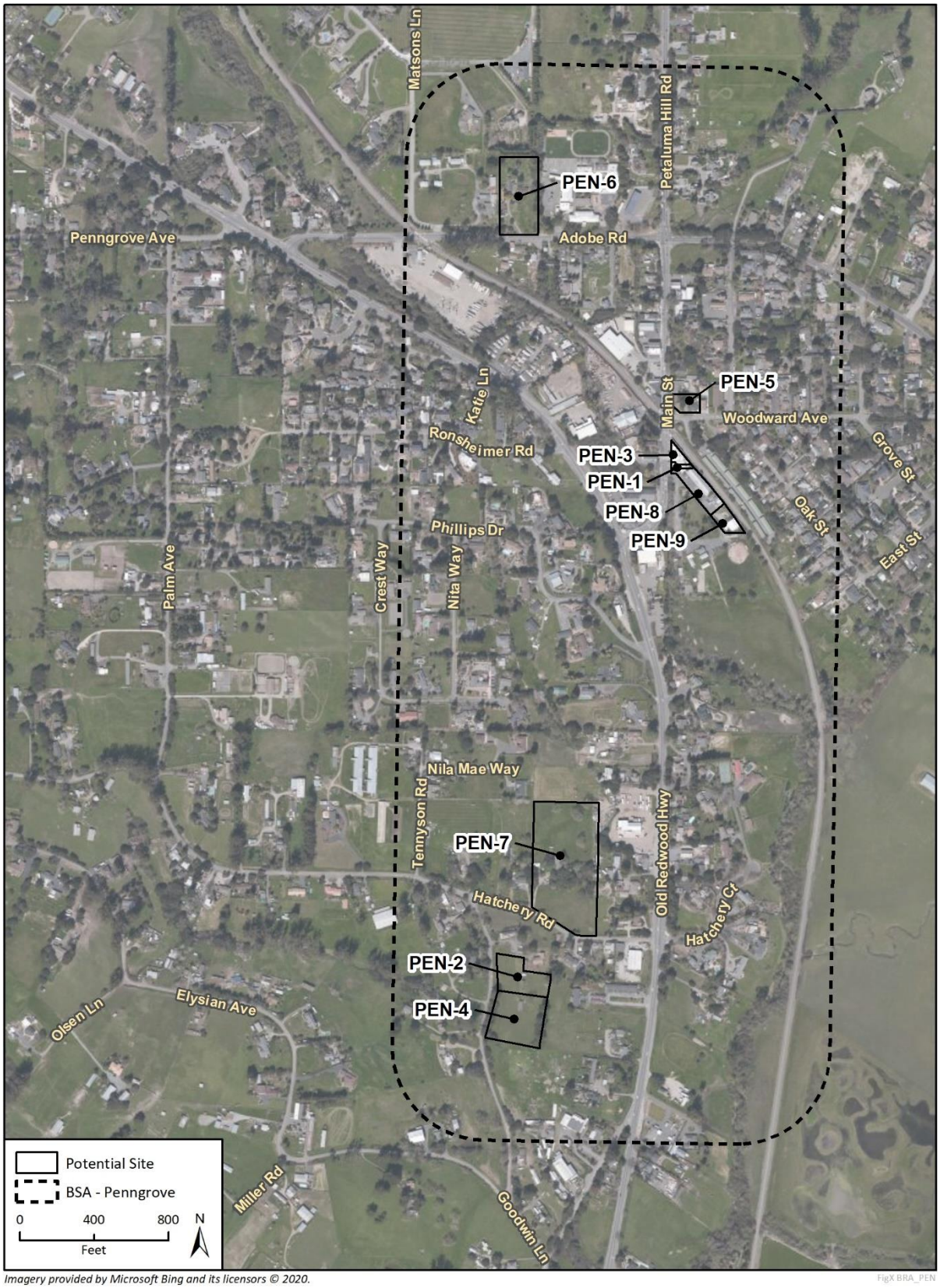

Figure 10i Biological Study Area – Petaluma

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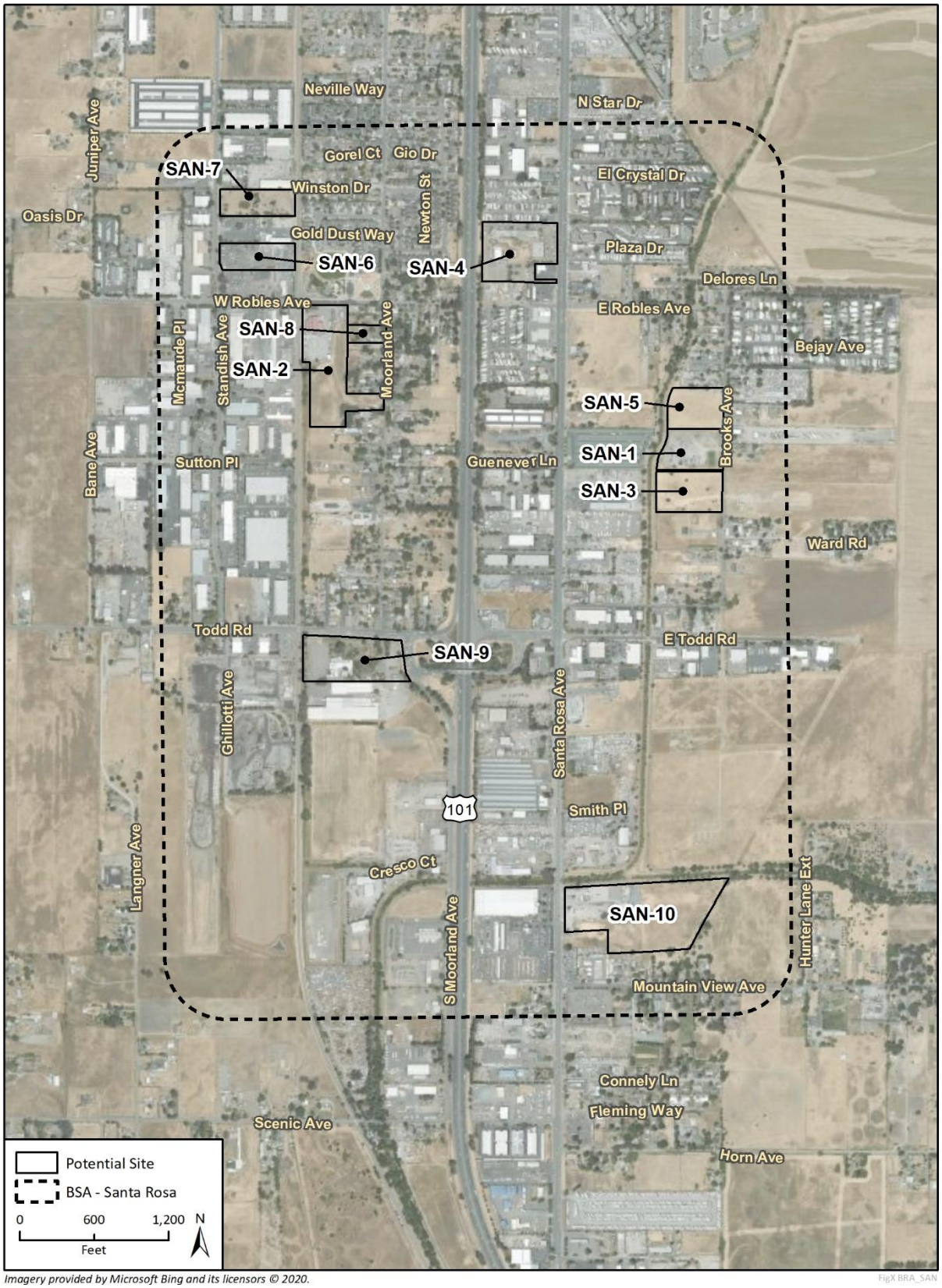
Figure 11j Biological Study Area – Santa Rosa



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FigX BRA_SAN

Figure 12k Biological Study Area – Sonoma

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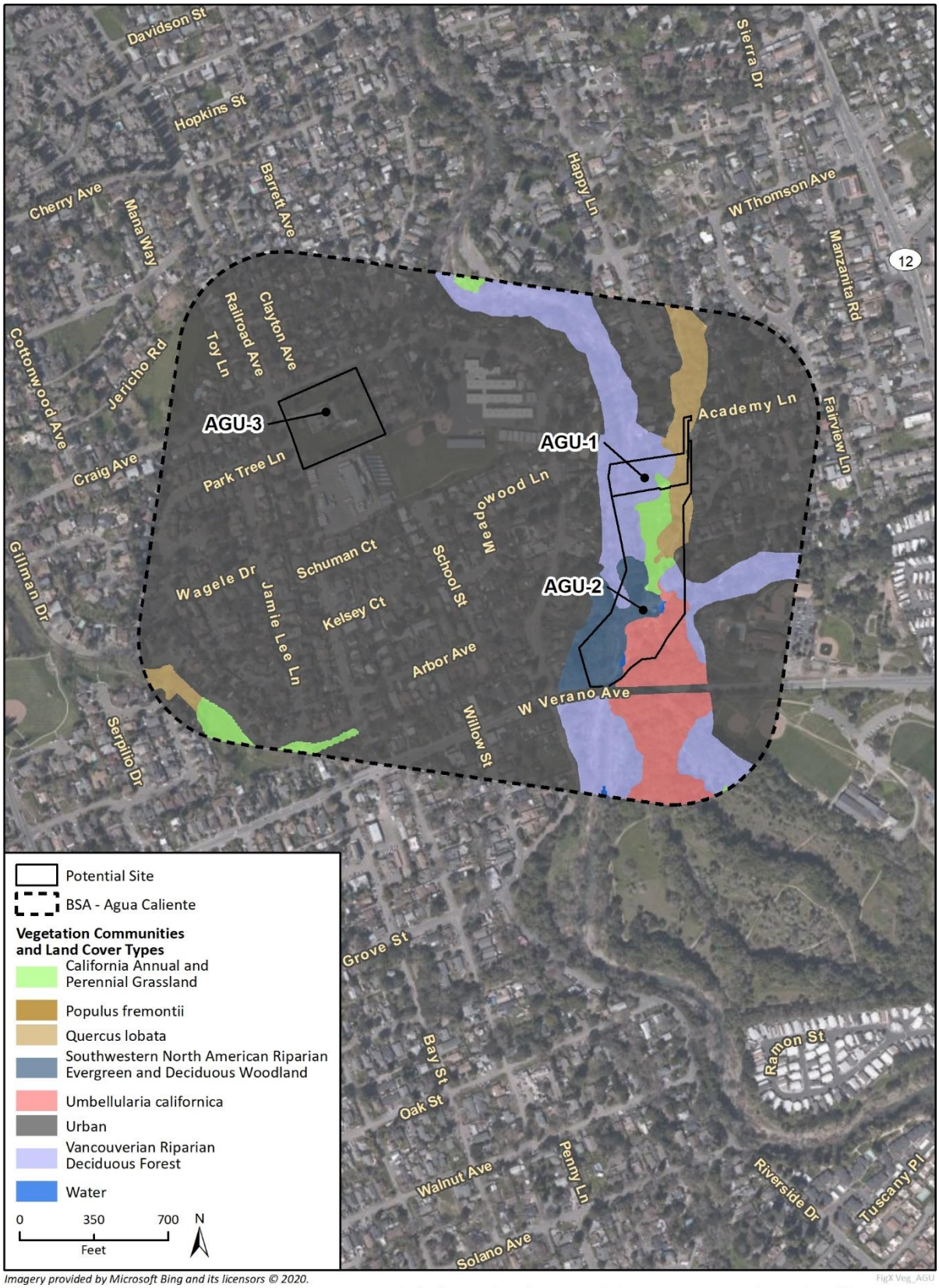
FigX BRA_SON
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

Figure 3a Vegetation Communities and Land Cover Types – Agua Caliente



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Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

FigX Veg_AGU

Figure 3b Vegetation Communities and Land Cover Types – Forestville

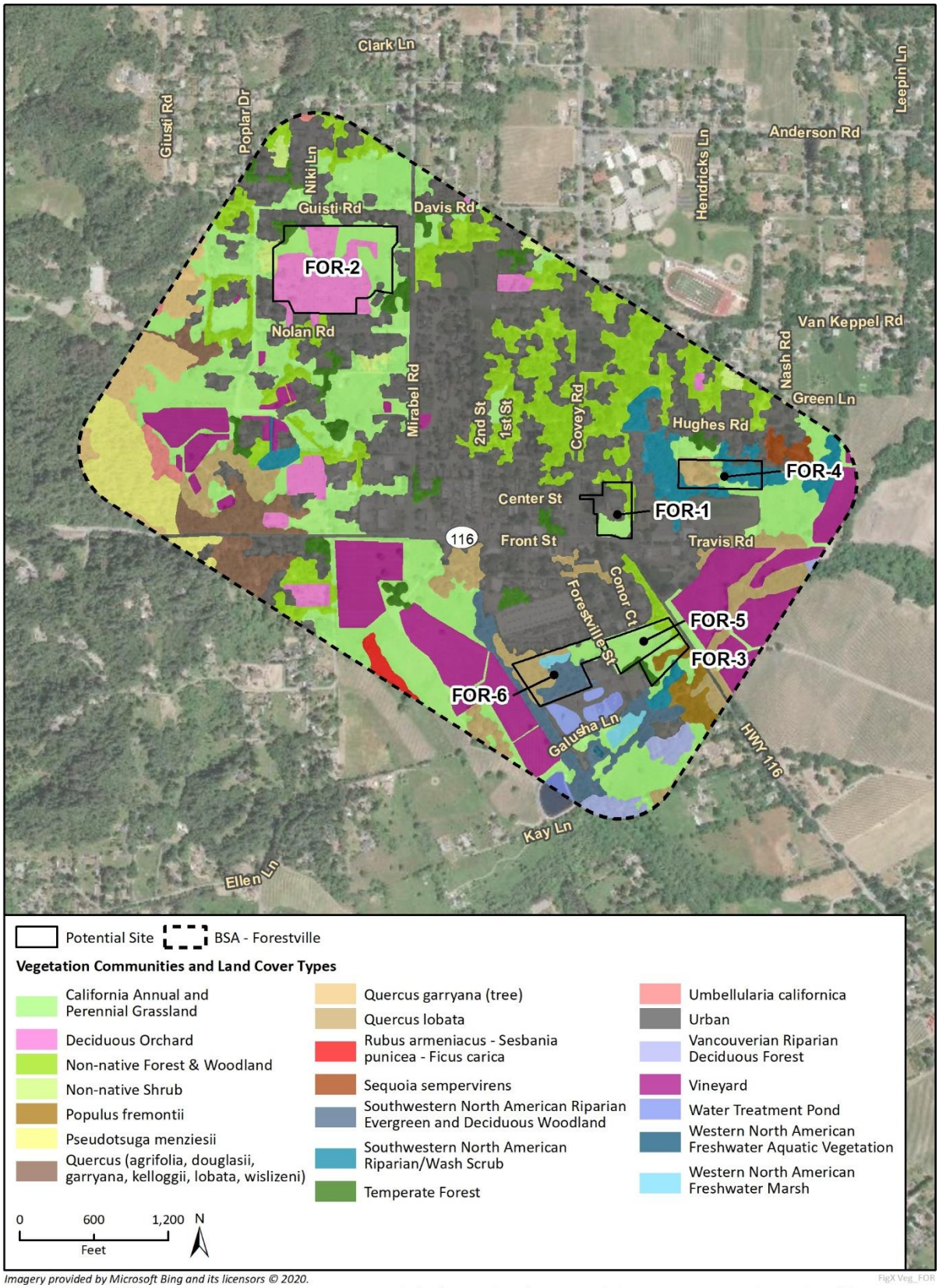

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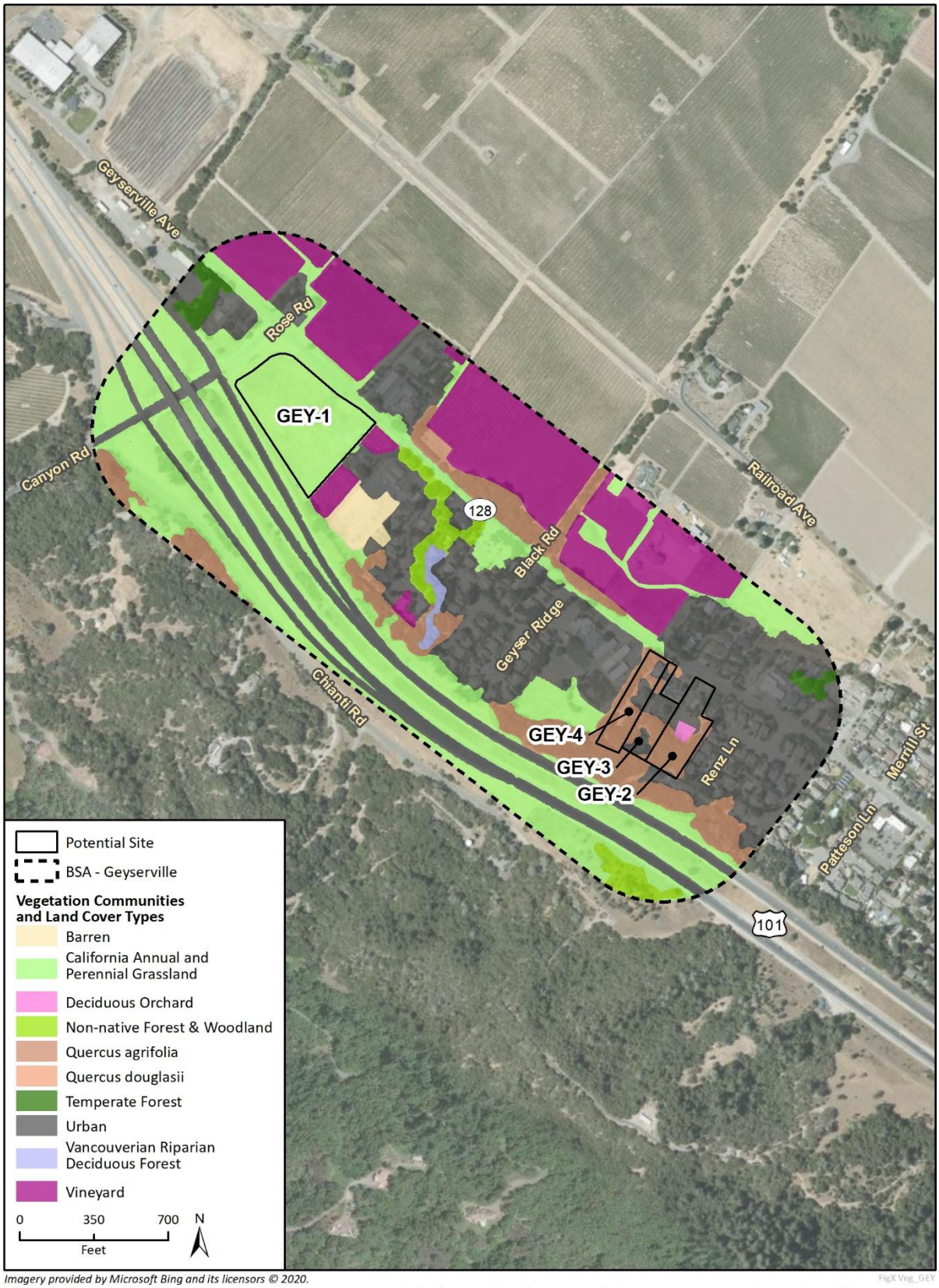
Figure 3c Vegetation Communities and Land Cover Types – Geyserville



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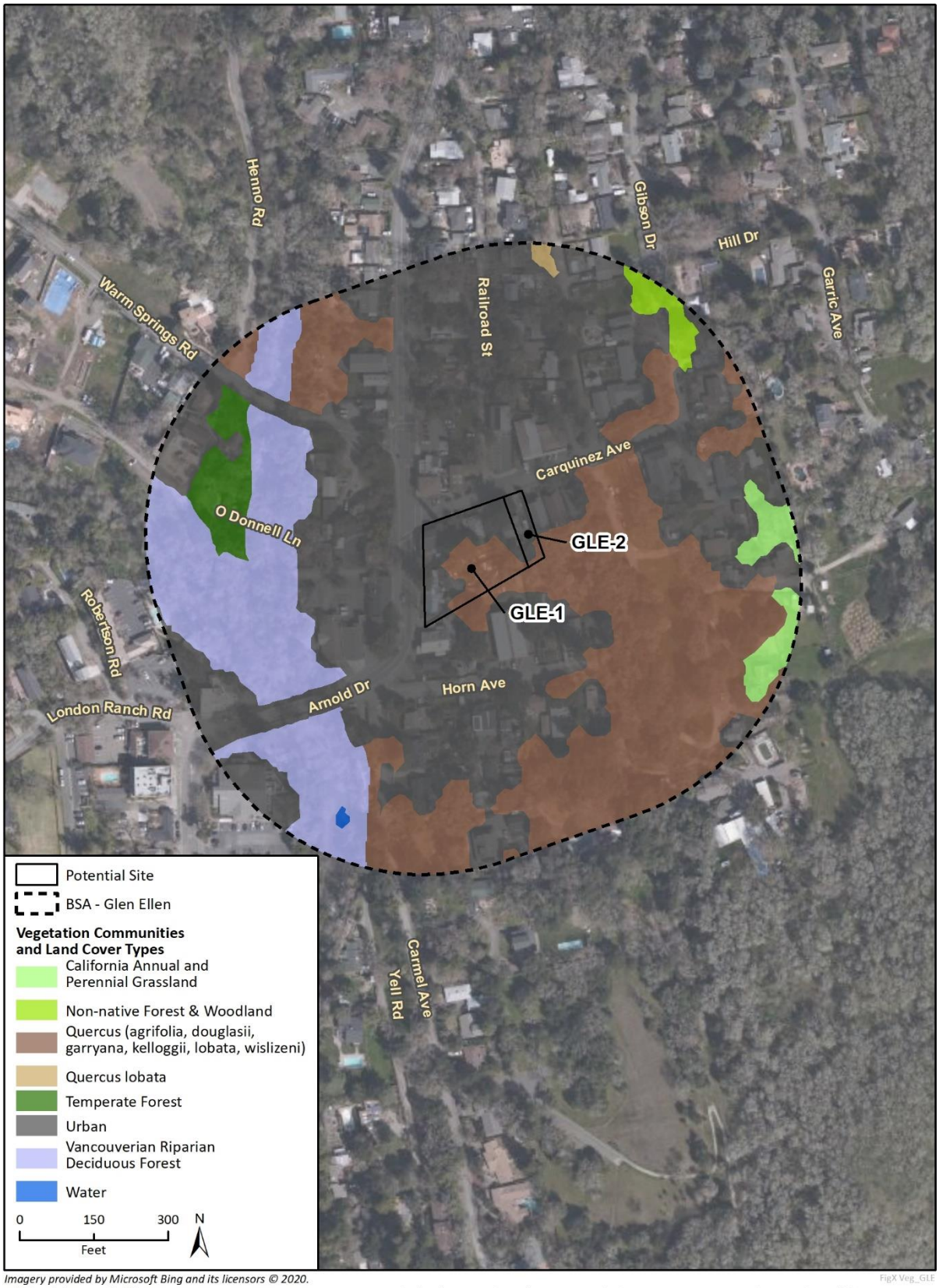
FigX Veg_GEY
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

Figure 3d Vegetation Communities and Land Cover Types – Glen Ellen



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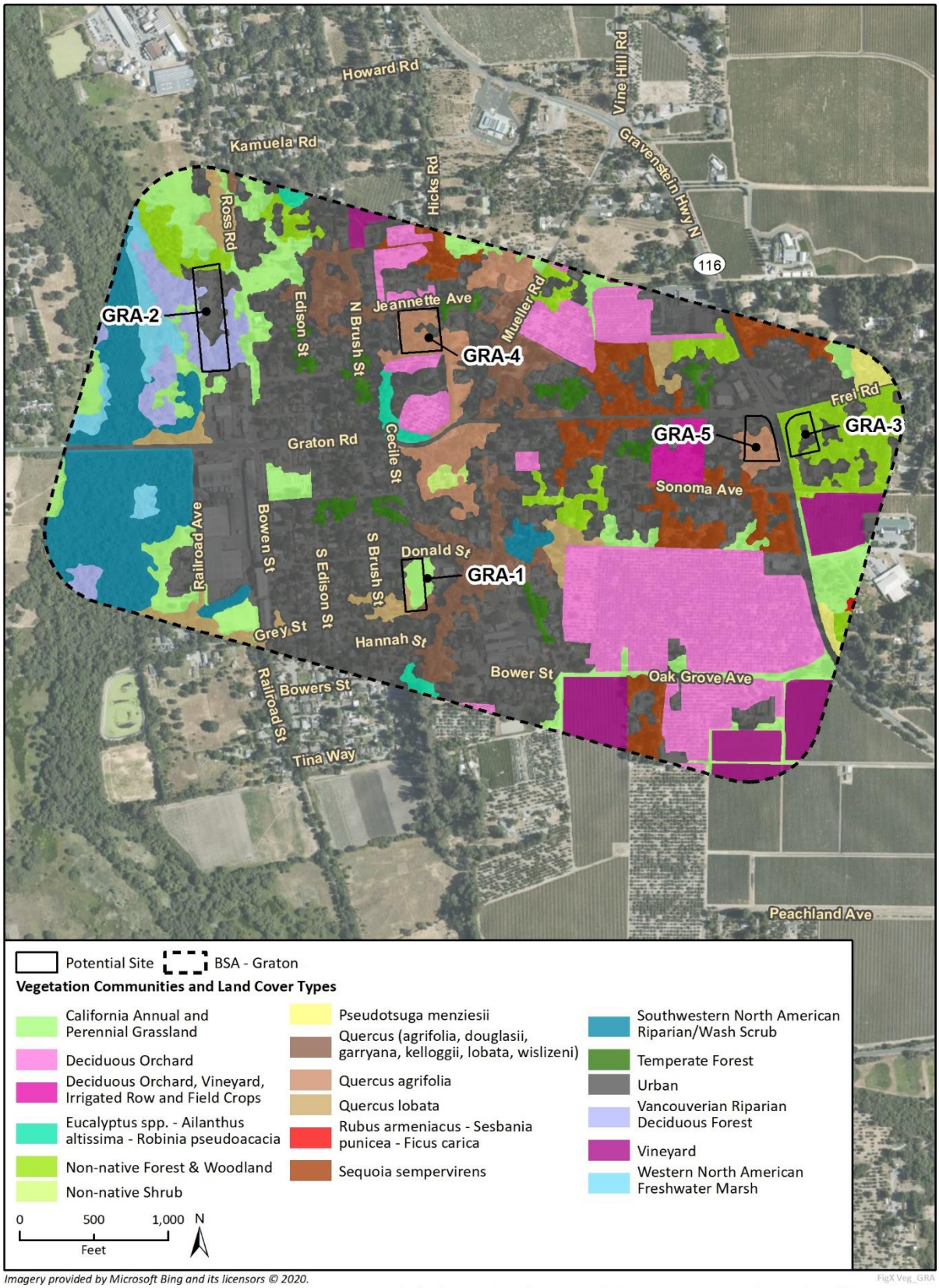
FigX Veg_GLE
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

Figure 3e Vegetation Communities and Land Cover Types – Graton



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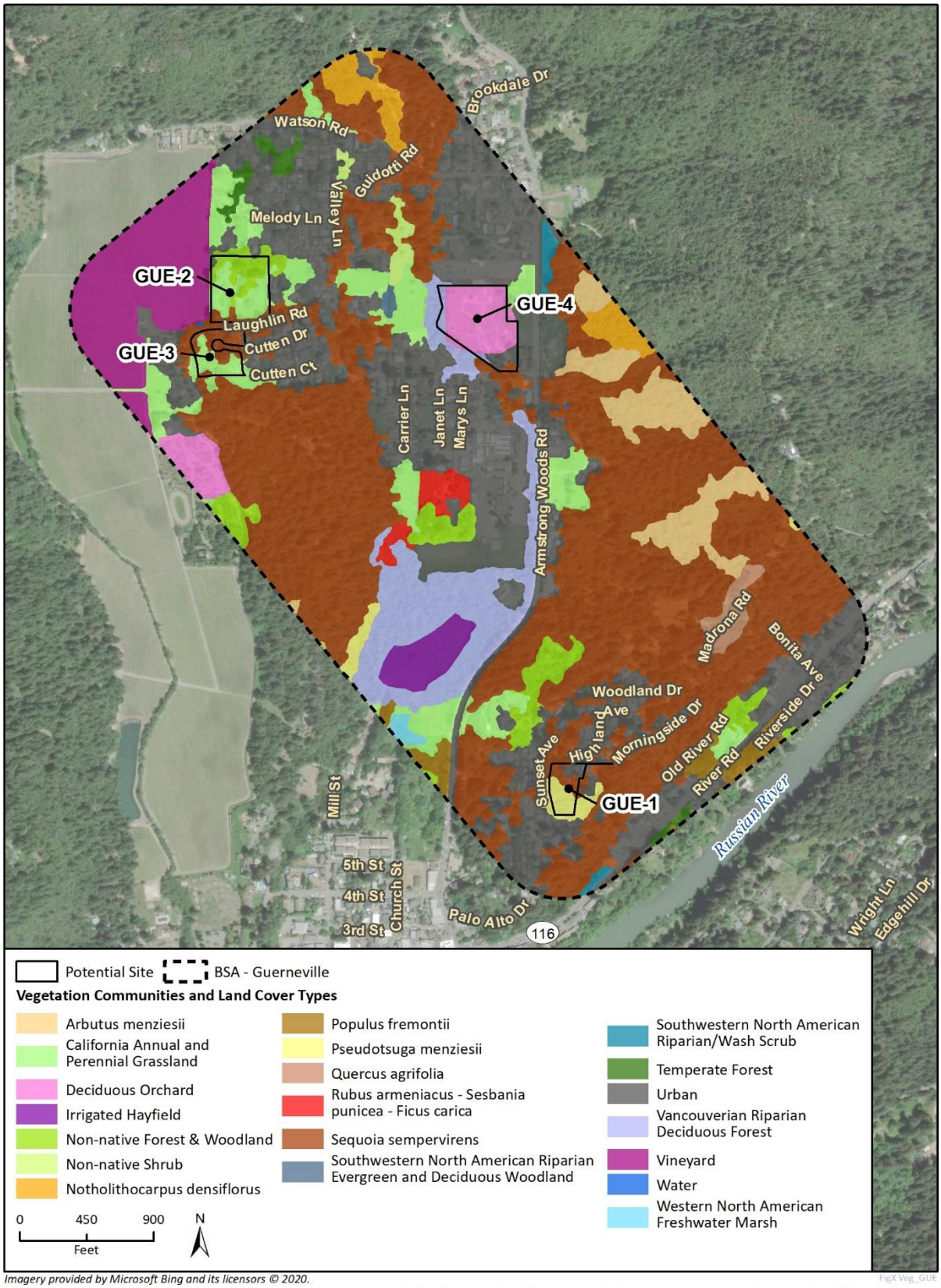
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

Figure 3f Vegetation Communities and Land Cover Types – Guerneville



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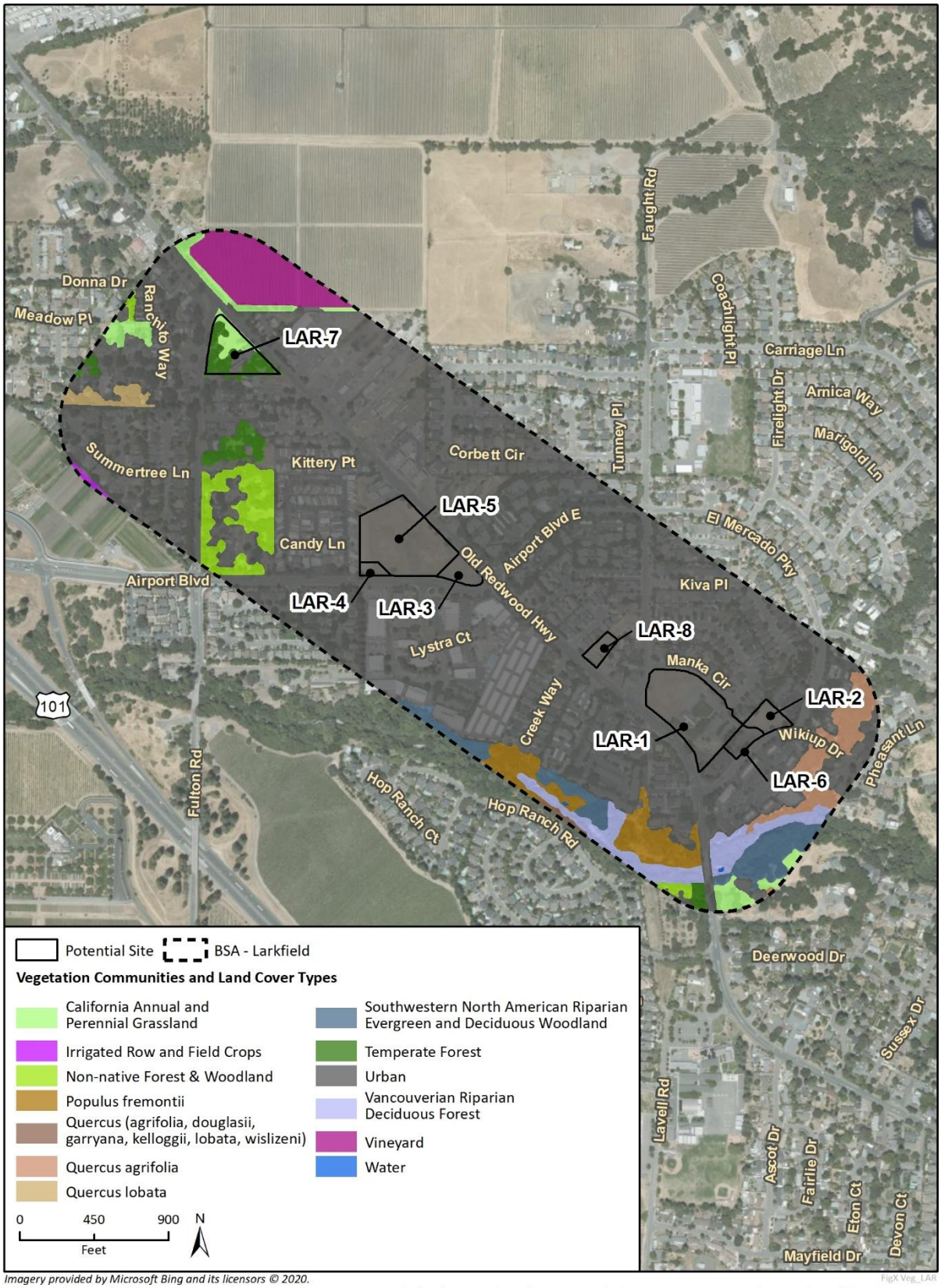
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

Figure 3g Vegetation Communities and Land Cover Types – Larkfield



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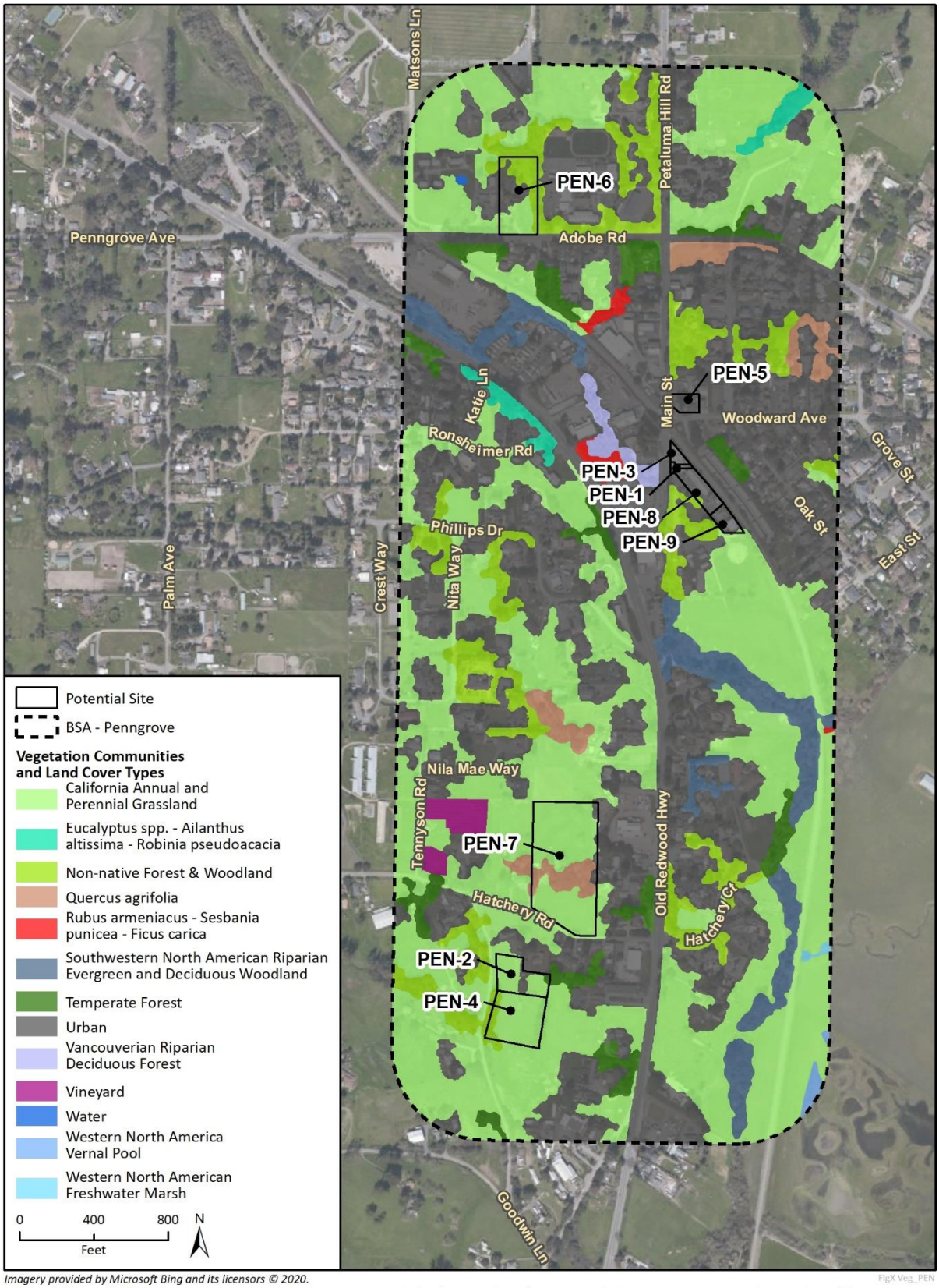
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

Figure 3h Vegetation Communities and Land Cover Types – Penngrove



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FigX Veg_PEN
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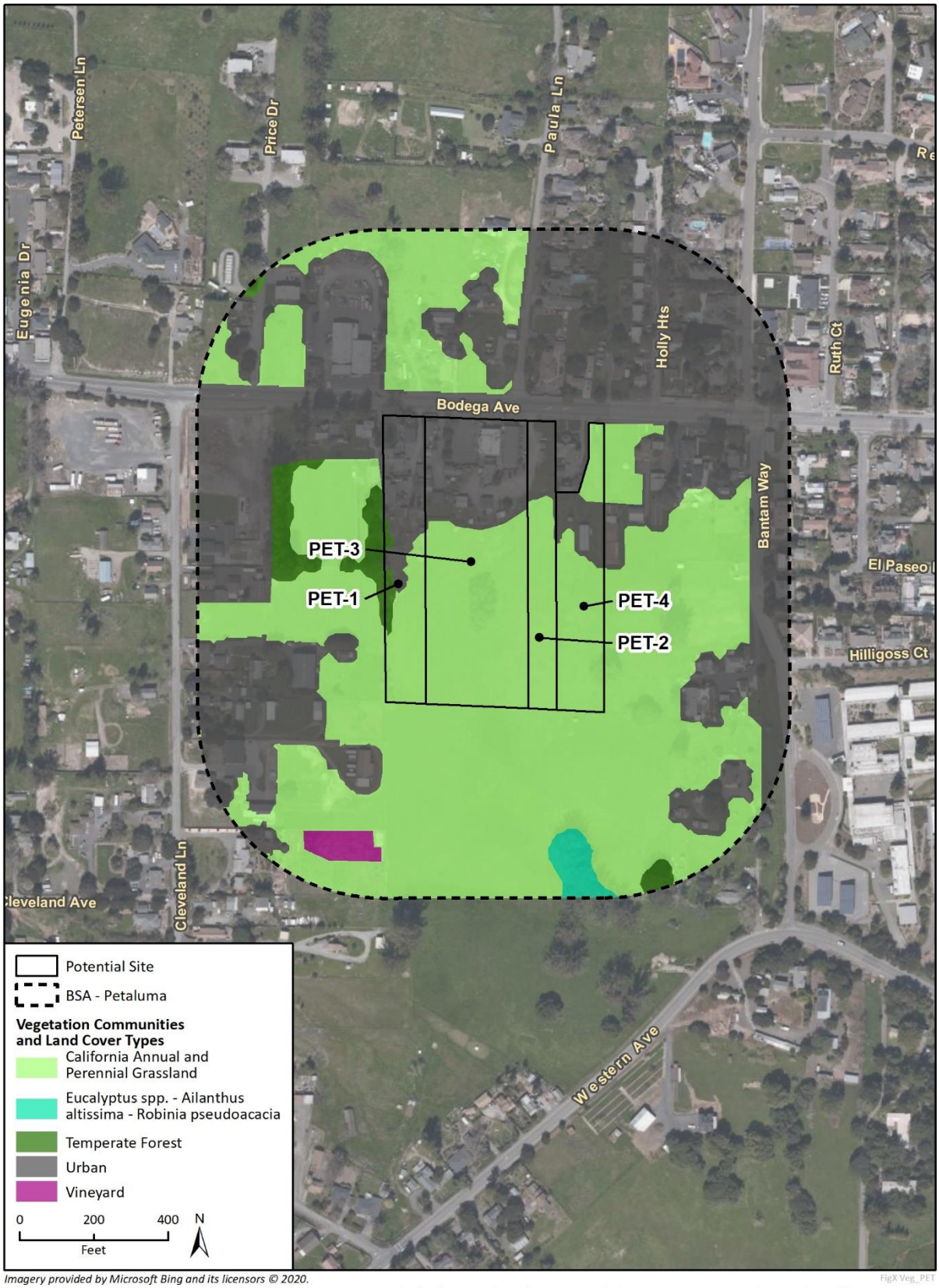
Figure 3i Vegetation Communities and Land Cover Types – Petaluma



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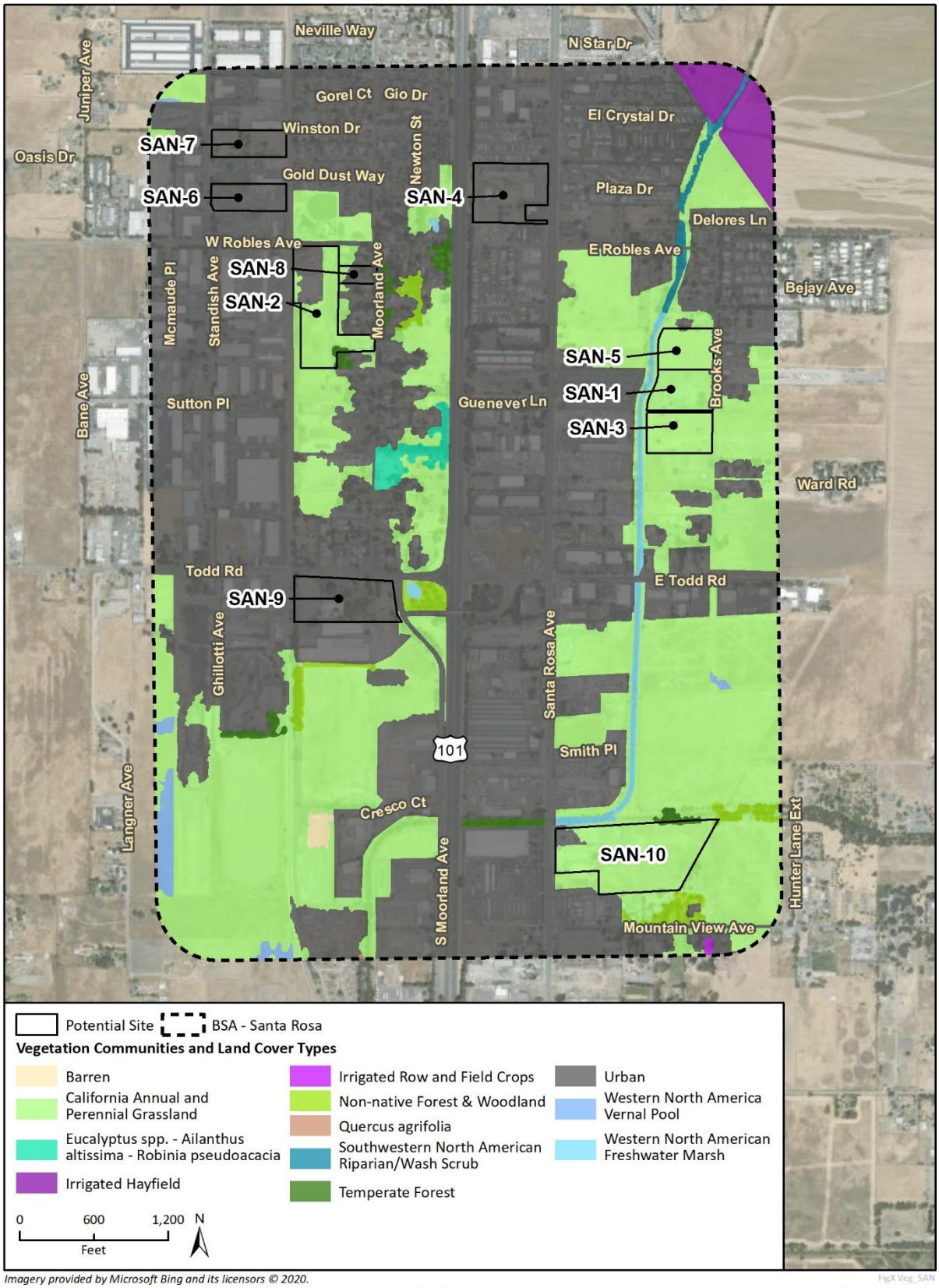
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

FigX Veg_PET

Figure 3j Vegetation Communities and Land Cover Types – Santa Rosa



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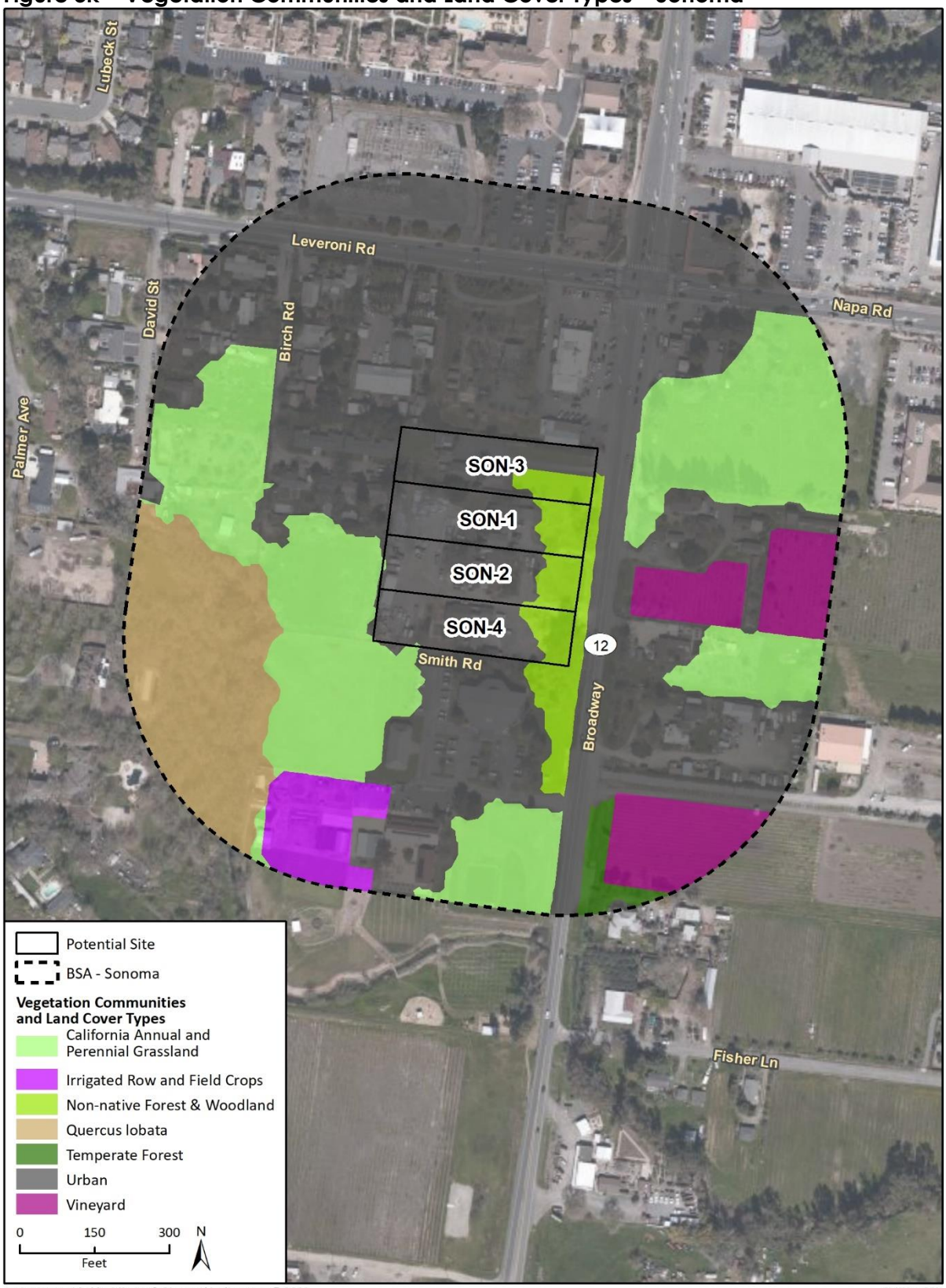
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

Figure 3k Vegetation Communities and Land Cover Types – Sonoma



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FigX Veg_SON

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Appendix B

Regulatory Setting

Regulatory Setting

Special-status habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or animal species, are of relatively limited distribution, or are of particular value to wildlife.

Listed species are those taxa that are formally listed as endangered or threatened by the federal government (e.g. U.S. Fish and Wildlife Service [USFWS]), pursuant to the Federal Endangered Species Act (FESA) or as endangered, threatened, or rare (for plants only) by the State of California (i.e. California Fish and Game Commission), pursuant to the California Endangered Species Act or the California Native Plant Protection Act. Some species are considered rare (but not formally listed) by resource agencies, organizations with biological interests/expertise (e.g. Audubon Society, CNPS, The Wildlife Society), and the scientific community.

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and State statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the project sites include:

1. U.S. Army Corps of Engineers (wetlands and other waters of the United States);
2. North Coast Regional Water Quality Control Board (waters of the State);
3. U.S. Fish and Wildlife Service (federally listed species and migratory birds);
4. California Department Fish and Wildlife (riparian areas, streambeds, and lakes; State-listed species; Species of Special Concern; nesting birds);
5. The County of Sonoma

Federal

U.S. Army Corps of Engineers

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that could discharge fill of material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters (typically a navigable water). The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetland acres or values is met through avoidance and minimization to the extent practicable, followed by compensatory mitigation involving creation or enhancement of similar habitats.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Board (RWQCB) have jurisdiction over "waters of the State," pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters,

within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The RWQCB administers actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

United States Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the Federal Endangered Species Act (FESA) (16 USC § 153 et seq.). Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadramous species. Projects that would result in "take" of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

State

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of State-listed threatened or endangered. Take under CESA is restricted to direct mortality of a listed species and the law does not prohibit indirect harm by way of habitat modification. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated.

The CDFW also enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibits take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided.

CGFC sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a State-level office to take any bird in violation of the federal Migratory Bird Treaty Act. CDFW administers these requirements.

Species of Special Concern (SSC) is a category used by the CDFW for those species considered to be indicators of regional habitat changes or are considered to be potential future protected species.

Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 *et seq*. of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over activities that divert, obstruct, or alter the channel, bed, or bank of any river, stream or lake.

Local

Santa Rosa Plain Conservation Strategy Area

The Santa Rosa Plain Conservation Strategy Area is a long-term agreement between USFWS, CDFW, and other federal and State agencies, and the County of Sonoma, the City of Santa Rosa and other local city governments. The USFWS issued a Programmatic Biological Opinion (BO) for the Conservation Strategy in 1998, which was superseded in 2007. The goal of the Conservation Strategy is to aid in the conservation of listed species and vernal pools by providing local governments and developers a way to obtain authorization for incidental take of federally listed species for development. Species covered under the BO include; California tiger salamander, Burke's goldfield (*Lasthenia burkei*), Sonoma sunshine (*Blennosperma bakeri*), Sebastopol meadowfoam (*Limnanthes vinculans*), and many-flowered navarretia (*Navarretia leucocephala* ssp. *plieantha*). The Conservation Strategy has yet to be finalized; however, the BO is in effect and may be implemented.

Sonoma County Zoning Code

The Sonoma County Zoning Code Chapter 26D, *Heritage or Landmark Trees*, provides for the protection of heritage and landmark trees. The County defines a heritage tree as a tree or grove of trees designated by the Planning Commission as having historical interest or significance. A landmark tree is protected due to their outstanding characteristics in terms of size, age, rarity, shape, or location. The code requires a permit for the removal of or possible damage to a heritage or landmark tree, including application for a building, grading or demolition permit.

Sonoma County Zoning Code Article 88, Section 26-88-010(m), *Tree Protection Ordinance*, requires projects to be designed to minimize the removal of protected trees that meet size and species criteria specified in the ordinance, and replanting for tress removed.

Additionally, Valley oak woodlands in the Valley Oak Habitat Combining District (Article 67) are protected, and special mitigation measures. For removal of any large valley oak, or any small valley oaks having a cumulative diameter at breast height (DBH) greater than 20 inches (large), or 60 inches (small) at DBH, 16 replacement trees and up to $50 of in-lieu fees are required, additionally 1 tree with the same, or greater, cumulative DBH must be retained. If small valley oaks with a cumulative DBH between 80 to 100 inches will be removed mitigation will include 20 replacement trees and/or a $75 in-lieu fee.

Riparian corridors are also protected by Article 65, *Riparian Corridor Combining Zone*. This combining zone protects County-designated streams, including the bed, bank, and an adjacent streamside conservation areas as measured from the top of bank or the outer drip line of the riparian trees. Specific setbacks for agricultural cultivation are determined based on the affected river or stream and site-specific conditions but generally include a 25-200 foot setback. This ordinance also outlines allowed activities such as, but not limited to, levee maintenance, invasive plant removal, and maintenance of existing landscaped areas.

Sonoma County General Plan 2020

The Sonoma County General Plan 2020 (Sonoma County 2008, amended 2016) includes policies to guide decisions on future growth, development, and conservation of resources through 2020. This includes the "Open Space and Resource Conservation Elements" which aims to preserve the natural and scenic resources that contribute to the general welfare and quality of life for the residents of the county and maintains its tourist industry.

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Appendix C

Special Status Species Evaluation Table

Special Status Plant and Lichen Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Abronia umbellata var. *breviflora* pink sand-verbena	None/None G4G5T2/S2 1B.1 BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Coastal dunes. 0 - 10 m. perennial herb. Blooms Jun-Oct	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Agrostis blasdalei Blasdale's bent grass	None/None G2/S2 1B.2 BLM_S-Sensitive | SB_UCSC-UC Santa Cruz	Coastal bluff scrub, Coastal dunes, Coastal prairie. 0 - 150 m. perennial rhizomatous herb. Blooms May-Jul	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present
Allium peninsulare var. *franciscanum* Franciscan onion	None/None G5T2/S2 1B.2	Cismontane woodland, Valley and foothill grassland. clay, volcanic, often serpentinite. 52 - 305 m. perennial bulbiferous herb. Blooms (Apr)May-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.
Alopecurus aequalis var. *sonomensis* Sonoma alopecurus	FE/None G5T1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	Marshes and swamps (freshwater), Riparian scrub. 5 - 365 m. perennial herb. Blooms May-Jul	**Not Expected**; suitable wetland habitats and vegetation communities are not present.	**Moderate Potential;** freshwater aquatic habitats are present.	**Moderate Potential;** freshwater aquatic habitats are present.	**Present;** freshwater aquatic habitats are present; a presumed extant occurrence is mapped within the BSA.	**Moderate Potential;** freshwater aquatic habitats are present.	**Moderate Potential;** freshwater aquatic habitats are present.	**Moderate Potential;** freshwater aquatic habitats are present.	**Moderate Potential;** freshwater aquatic habitats are present.	**Moderate Potential;** freshwater aquatic habitats are present.	**Not Expected**; suitable wetland habitats and vegetation communities are not present.	**Moderate Potential;** freshwater aquatic habitats are present.
Amorpha californica var. *napensis* Napa false indigo	None/None G4T2/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Broadleafed upland forest (openings), Chaparral, Cismontane woodland. 120 - 2000 m. perennial deciduous shrub. Blooms Apr-Jul	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.
Amsinckia lunaris bent-flowered fiddleneck	None/None G3/S3 1B.2 BLM_S-Sensitive | SB_UCBBG-UC Berkeley Botanical Garden | SB_UCSC-UC Santa Cruz	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland. 3 - 500 m. annual herb. Blooms Mar-Jun	**Low Potential**; Cismontane woodland, Valley and foothill grasslands are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.	**Low Potential**; suitable vegetation communities are present.
Arctostaphylos bakeri ssp. *bakeri* Baker's manzanita	None/CR G2T1/S1 1B.1	Broadleafed upland forest, Chaparral. often serpentinite. 75 - 300 m. perennial evergreen shrub. Blooms Feb-Apr	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Arctostaphylos bakeri ssp. *sublaevis* the Cedars manzanita	None/CR G2T2/S2 1B.2 BLM_S-Sensitive	Closed-cone coniferous forest, Chaparral. serpentinite seeps. 185 - 760 m. perennial evergreen shrub. Blooms Feb, Apr, May	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Arctostaphylos densiflora Vine Hill manzanita	None/CE G1/S1 1B.1	Chaparral (acid marine sand). 50 - 120 m. perennial evergreen shrub. Blooms Feb-Apr	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.
Arctostaphylos manzanita ssp. *elegans* Konocti manzanita	None/None G5T3/S3 1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest. volcanic. 395 - 1615 m. perennial evergreen shrub. Blooms (Jan)Mar-May(Jul)	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Not Expected**; suitable vegetation communities are not present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.
Arctostaphylos stanfordiana ssp. *decumbens* Rincon Ridge manzanita	None/None G3T1/S1 1B.1	Chaparral (rhyolitic), Cismontane woodland. 75 - 370 m. perennial evergreen shrub. Blooms Feb-Apr(May)	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Astragalus claranus Clara Hunt's milk-vetch	FE/CT G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral (openings), Cismontane woodland, Valley and foothill grassland. serpentinite or volcanic, rocky, clay. 75 - 275 m. annual herb. Blooms Mar-May	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Astragalus rattanii var. *jepsonianus* Jepson's milk-vetch	None/None G4T3/S3 1B.2 BLM_S-Sensitive	Chaparral, Cismontane woodland, Valley and foothill grassland. often serpentinite. 295 - 700 m. annual herb. Blooms Mar-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Astragalus tener var. *tener* alkali milk-vetch	None/None G2T1/S1 1B.2	Playas, Valley and foothill grassland (adobe clay), Vernal pools. alkaline. 1 - 60 m. annual herb. Blooms Mar-Jun	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.
Balsamorhiza macrolepis big-scale balsamroot	None/None G2/S2 1B.2 BLM_S-Sensitive | USFS_S-Sensitive	Chaparral, Cismontane woodland, Valley and foothill grassland. sometimes serpentinite. 45 - 1555 m. perennial herb. Blooms Mar-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present

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Blennosperma bakeri Sonoma sunshine	FE/CE G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	Valley and foothill grassland (mesic), Vernal pools. 10 - 110 m. annual herb. Blooms Mar-May	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.
Brasenia schreberi watershield	None/None G5/S3 2B.3	Marshes and swamps (freshwater). 30 - 2200 m. perennial rhizomatous herb (aquatic). Blooms Jun-Sep	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Brodiaea leptandra narrow-anthered brodiaea	None/None G3?/S3? 1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland. volcanic. 110 - 915 m. perennial bulbiferous herb. Blooms May-Jul	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Bryoria spiralifera twisted horsehair lichen	None/None G3/S1S2 1B.1	North Coast coniferous forest (immediate coast). Usually on conifers. 0 - 30 m. fruticose lichen (epiphytic). Blooms	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Calamagrostis crassiglumis Thurber's reed grass	None/None G3Q/S2 2B.1	Coastal scrub (mesic), Marshes and swamps (freshwater). 10 - 60 m. perennial rhizomatous herb. Blooms May-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Calochortus raichei The Cedars fairy-lantern	None/None G2/S2 1B.2 BLM_S-Sensitive	Closed-cone coniferous forest, Chaparral. serpentinite. 200 - 490 m. perennial bulbiferous herb. Blooms May-Aug	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Calystegia purpurata ssp. *saxicola* coastal bluff morning-glory	None/None G4T2T3/S2S3 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, North Coast coniferous forest. 0 - 105 m. perennial herb. Blooms (Mar)Apr-Sep	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Campanula californica swamp harebell	None/None G3/S3 1B.2 BLM_S-Sensitive	Bogs and fens, Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Marshes and swamps (freshwater), North Coast coniferous forest. mesic. 1 - 405 m. perennial rhizomatous herb. Blooms Jun-Oct	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Low Potential**; freshwater habitats are present.	**Low Potential**; freshwater habitats are present.	**Low Potential**; freshwater habitats are present.	**Low Potential**; freshwater habitats are present.	**Low Potential**; freshwater habitats are present.	**Low Potential**; freshwater habitats are present.	**Low Potential**; freshwater habitats are present.	**Low Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.

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Carex californica California sedge	None/None G5/S2 2B.3	Bogs and fens, Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Marshes and swamps (margins). 90 - 335 m. perennial rhizomatous herb. Blooms May-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Carex comosa bristly sedge	None/None G5/S2 2B.1	Coastal prairie, Marshes and swamps (lake margins), Valley and foothill grassland. 0 - 625 m. perennial rhizomatous herb. Blooms May-Sep	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Carex saliniformis deceiving sedge	None/None G2/S2 1B.2	Coastal prairie, Coastal scrub, Meadows and seeps, Marshes and swamps (coastal salt). mesic. 3 - 230 m. perennial rhizomatous herb. Blooms May-Jun (Jul)	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Castilleja mendocinensis Mendocino Coast paintbrush	None/None G2/S2 1B.2 BLM_S-Sensitive	Coastal bluff scrub, Closed-cone coniferous forest, Coastal dunes, Coastal prairie, Coastal scrub. 0 - 160 m. perennial herb (hemiparasitic). Blooms Apr-Aug	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present	**Not Expected**; suitable coastal habitats and vegetation communities are not present
Castilleja uliginosa Pitkin Marsh paintbrush	None/CE GXQ/SX 1A	Marshes and swamps (freshwater). 240 - 240 m. perennial herb (hemiparasitic). Blooms Jun-Jul	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Ceanothus confusus Rincon Ridge ceanothus	None/None G1/S1 1B.1 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden	Closed-cone coniferous forest, Chaparral, Cismontane woodland. volcanic or serpentinite. 75 - 1065 m. perennial evergreen shrub. Blooms Feb-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Ceanothus divergens Calistoga ceanothus	None/None G2/S2 1B.2 BLM_S-Sensitive	Chaparral (serpentinite or volcanic, rocky). 170 - 950 m. perennial evergreen shrub. Blooms Feb-Apr	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Ceanothus foliosus var. *vineatus* Vine Hill ceanothus	None/None G3T1/S1 1B.1	Chaparral. 45 - 305 m. perennial evergreen shrub. Blooms Mar-May	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.

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Ceanothus purpureus holly-leaved ceanothus	None/None G2/S2 1B.2 SB_SBBG-Santa Barbara Botanic Garden	Chaparral, Cismontane woodland. volcanic, rocky. 120 - 640 m. perennial evergreen shrub. Blooms Feb-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Present**; suitable vegetation communities are present, a presumed extant occurrence is mapped within the BSA.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Ceanothus sonomensis Sonoma ceanothus	None/None G2/S2 1B.2 SB_SBBG-Santa Barbara Botanic Garden	Chaparral (sandy, serpentinite or volcanic). 215 - 800 m. perennial evergreen shrub. Blooms Feb-Apr	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Centromadia parryi ssp. *parryi* pappose tarplant	None/None G3T2/S2 1B.2 BLM_S-Sensitive	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), Valley and foothill grassland (vernally mesic). often alkaline. 0 - 420 m. annual herb. Blooms May-Nov	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Present**; A presumed extant occurrence is mapped within the BSA.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Chlorogalum pomeridianum var. *minus* dwarf soaproot	None/None G5T3/S3 1B.2 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Chaparral (serpentinite). 305 - 1000 m. perennial bulbiferous herb. Blooms May-Aug	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Chloropyron maritimum ssp. *palustre* Point Reyes bird's-beak	None/None G4?T2/S2 1B.2 BLM_S-Sensitive	Marshes and swamps (coastal salt). 0 - 10 m. annual herb (hemiparasitic). Blooms Jun-Oct	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present
Chloropyron molle ssp. *molle* soft bird's-beak	FE/CR G2T1/S1 1B.2	Marshes and swamps (coastal salt). 0 - 3 m. annual herb (hemiparasitic). Blooms Jun-Nov	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present	**Not Expected**; suitable salt marsh habitats are not present
Chorizanthe cuspidata var. *cuspidata* San Francisco Bay spineflower	None/None G2T1/S1 1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub. sandy. 3 - 215 m. annual herb. Blooms Apr-Jul (Aug)	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.
Chorizanthe cuspidata var. *villosa* woolly-headed spineflower	None/None G2T2/S2 1B.2	Coastal dunes, Coastal prairie, Coastal scrub. sandy. 3 - 60 m. annual herb. Blooms May-Jul (Aug)	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.

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Chorizanthe valida Sonoma spineflower	FE/CE G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	Coastal prairie (sandy). 10 - 305 m. annual herb. Blooms Jun-Aug	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.
Cirsium andrewsii Franciscan thistle	None/None G3/S3 1B.2	Broadleafed upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub. mesic, sometimes serpentinite. 0 - 150 m. perennial herb. Blooms Mar-Jul	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Clarkia imbricata Vine Hill clarkia	FE/CE G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCBBG-UC Berkeley Botanical Garden	Chaparral, Valley and foothill grassland. acidic sandy loam. 50 - 75 m. annual herb. Blooms Jun-Aug	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Collinsia corymbosa round-headed Chinese-houses	None/None G1/S1 1B.2	Coastal dunes. 0 - 20 m. annual herb. Blooms Apr-Jun	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.
Cordylanthus tenuis ssp. *capillaris* Pennell's bird's-beak	FE/CR G4G5T1/S1 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest, Chaparral. serpentinite. 45 - 305 m. annual herb (hemiparasitic). Blooms Jun-Sep	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Cryptantha dissita serpentine cryptantha	None/None G2/S2 1B.2 BLM_S-Sensitive	Chaparral (serpentinite). 395 - 580 m. annual herb. Blooms Apr-Jun	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Cuscuta obtusiflora var. *glandulosa* Peruvian dodder	None/None G5T4?/SH 2B.2	Marshes and swamps (freshwater). 15 - 280 m. annual vine (parasitic). Blooms Jul-Oct	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Cuscuta pacifica var. *papillata* Mendocino dodder	None/None G5T1/S1 1B.2	Coastal dunes (interdune depressions). 0 - 50 m. annual vine (parasitic). Blooms (Jun)Jul-Oct	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.	**Not Expected**; suitable coastal dune habitats are not present.

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Delphinium bakeri Baker's larkspur	FE/CE G1/S1 1B.1 SB_UCBBG-UC Berkeley Botanical Garden	Broadleafed upland forest, Coastal scrub, Valley and foothill grassland. decomposed shale, often mesic. 80 - 305 m. perennial herb. Blooms Mar-May	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Delphinium luteum golden larkspur	FE/CR G1/S1 1B.1 SB_UCBBG-UC Berkeley Botanical Garden	Chaparral, Coastal prairie, Coastal scrub. rocky. 0 - 100 m. perennial herb. Blooms Mar-May	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present. A possibly extirpated occurrence is mapped within the BSA.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.	**Not Expected**; suitable vegetation communities and rocky habitats are not present.
Dirca occidentalis western leatherwood	None/None G2/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, Riparian woodland. mesic. 25 - 425 m. perennial deciduous shrub. Blooms Jan-Mar(Apr)	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Downingia pusilla dwarf downingia	None/None GU/S2 2B.2	Valley and foothill grassland (mesic), Vernal pools. 1 - 445 m. annual herb. Blooms Mar-May	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.
Erigeron greenei Greene's narrow-leaved daisy	None/None G3/S3 1B.2	Chaparral (serpentinite or volcanic). 80 - 1005 m. perennial herb. Blooms May-Sep	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Erigeron serpentinus serpentine daisy	None/None G2/S2 1B.3 BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral (serpentinite, seeps). 60 - 670 m. perennial herb. Blooms May-Aug	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.
Erigeron supplex supple daisy	None/None G2/S2 1B.2 SB_UCBBG-UC Berkeley Botanical Garden	Coastal bluff scrub, Coastal prairie. 10 - 50 m. perennial herb. Blooms May-Jul	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.

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Eriogonum cedrorum The Cedars buckwheat	None/None G1/S1 1B.3 BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest. serpentinite. 365 - 550 m. perennial herb. Blooms Jun-Sep	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Eriogonum luteolum var. *caninum* Tiburon buckwheat	None/None G5T2/S2 1B.2	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland. serpentinite, sandy to gravelly. 0 - 700 m. annual herb. Blooms May-Sep	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Eriogonum nervulosum Snow Mountain buckwheat	None/None G2/S2 1B.2 BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Chaparral (serpentinite). 300 - 2105 m. perennial rhizomatous herb. Blooms Jun-Sep	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Eryngium constancei Loch Lomond button-celery	FE/CE G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	Vernal pools. 460 - 855 m. annual / perennial herb. Blooms Apr-Jun	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.
Eryngium pinnatisectum Tuolumne button-celery	None/None G2/S2 1B.2	Cismontane woodland, Lower montane coniferous forest, Vernal pools. mesic. 70 - 915 m. annual / perennial herb. Blooms May-Aug	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Moderate Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present.	**Moderate Potential**; suitable vegetation communities are present, suitable soils may be present	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.
Erysimum concinnum bluff wallflower	None/None G3/S2 1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie. 0 - 185 m. annual / perennial herb. Blooms Feb-Jul	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Erythronium revolutum coast fawn lily	None/None G4G5/S3 2B.2	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest. Mesic, streambanks. 0 - 1600 m. perennial bulbiferous herb. Blooms Mar-Jul(Aug)	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.

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Fissidens pauperculus minute pocket moss	None/None G3?/S2 1B.2 USFS_S-Sensitive	North Coast coniferous forest (damp coastal soil). 10 - 1024 m. moss. Blooms	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Fritillaria liliacea fragrant fritillary	None/None G2/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland. Often serpentinite. 3 - 410 m. perennial bulbiferous herb. Blooms Feb-Apr	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Fritillaria roderickii Roderick's fritillary	None/CE G1Q/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	Coastal bluff scrub, Coastal prairie, Valley and foothill grassland. 15 - 400 m. perennial bulbiferous herb. Blooms Mar-May	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Gilia capitata ssp. *chamissonis* blue coast gilia	None/None G5T2/S2 1B.1 SB_UCBBG-UC Berkeley Botanical Garden	Coastal dunes, Coastal scrub. 2 - 200 m. annual herb. Blooms Apr-Jul	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.	**Not Expected**; suitable coastal vegetation communities are not present.
Gilia capitata ssp. *pacifica* Pacific gilia	None/None G5T3/S2 1B.2	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland. 5 - 1665 m. annual herb. Blooms Apr-Aug	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Gilia capitata ssp. *tomentosa* woolly-headed gilia	None/None G5T1/S1 1B.1	Coastal bluff scrub, Valley and foothill grassland. Serpentinite, rocky, outcrops. 10 - 220 m. annual herb. Blooms May-Jul	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.	**Not Expected**; suitable, wetland habitats and vegetation communities are not present.
Gilia millefoliata dark-eyed gilia	None/None G2/S2 1B.2 BLM_S-Sensitive	Coastal dunes. 2 - 30 m. annual herb. Blooms Apr-Jul	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.
Gratiola heterosepala Boggs Lake hedge-hyssop	None/CE G2/S2 1B.2 BLM_S-Sensitive	Marshes and swamps (lake margins), Vernal pools. clay. 10 - 2375 m. annual herb. Blooms Apr-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Harmonia nutans nodding harmonia	None/None G3/S3 4.3 SB_UCBBG-UC Berkeley Botanical Garden	Chaparral, Cismontane woodland. rocky or gravelly, volcanic. 75 - 975 m. annual herb. Blooms Mar-May	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Hemizonia congesta ssp. *congesta* congested-headed hayfield tarplant	None/None G5T2/S2 1B.2 SB_UCBBG-UC Berkeley Botanical Garden	Valley and foothill grassland. sometimes roadsides. 20 - 560 m. annual herb. Blooms Apr-Nov	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Present**; A presumed extant occurrence is mapped within the BSA.	**Present**; A presumed extant occurrence is mapped within the BSA.	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Present**; A presumed extant occurrence is mapped within the BSA.
Hesperevax sparsiflora var. *brevifolia* short-leaved evax	None/None G4T3/S2 1B.2 BLM_S-Sensitive	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie. 0 - 215 m. annual herb. Blooms Mar-Jun	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.
Hesperocyparis pygmaea pygmy cypress	None/None G1/S1 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest (usually podzol-like soil). 30 - 600 m. perennial evergreen tree. Blooms	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.
Hesperolinon bicarpellatum two-carpellate western flax	None/None G2/S2 1B.2	Chaparral (serpentinite). 60 - 1005 m. annual herb. Blooms May-Jul	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.	**Not Expected**; suitable, vegetation communities are not present.
Horkelia marinensis Point Reyes horkelia	None/None G2/S2 1B.2	Coastal dunes, Coastal prairie, Coastal scrub. sandy. 5 - 755 m. perennial herb. Blooms May-Sep	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.	**Not Expected**; coastal dune habitats are not present.
Horkelia tenuiloba thin-lobed horkelia	None/None G2/S2 1B.2 BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Broadleafed upland forest, Chaparral, Valley and foothill grassland. mesic openings, sandy. 50 - 500 m. perennial herb. Blooms May-Jul(Aug)	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Kopsiopsis hookeri small groundcone	None/None G4?/S1S2 2B.3	North Coast coniferous forest. 90 - 885 m. perennial rhizomatous herb (parasitic). Blooms Apr-Aug	**Not Expected**; suitable vegetation communities are not present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Not Expected**; suitable vegetation communities are not present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present

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Lasthenia burkei Burke's goldfields	FE/CE G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCBBG-UC Berkeley Botanical Garden	Meadows and seeps (mesic), Vernal pools. 15 - 600 m. annual herb. Blooms Apr-Jun	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Lasthenia californica ssp. *bakeri* Baker's goldfields	None/None G3T1/S1 1B.2	Closed-cone coniferous forest (openings), Coastal scrub, Meadows and seeps, Marshes and swamps. 60 - 520 m. perennial herb. Blooms Apr-Oct	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Lasthenia californica ssp. *macrantha* perennial goldfields	None/None G3T2/S2 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub. 5 - 520 m. perennial herb. Blooms Jan-Nov	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Lasthenia conjugens Contra Costa goldfields	FE/None G1/S1 1B.1 SB_UCBBG-UC Berkeley Botanical Garden	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools. mesic. 0 - 470 m. annual herb. Blooms Mar-Jun	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	None/None G5T2/S2 1B.2 SB_BerrySB-Berry Seed Bank | SB_RSABG-Rancho Santa Ana Botanic Garden	Marshes and swamps (freshwater and brackish). 0 - 5 m. perennial herb. Blooms May-Jul(Aug-Sep)	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Lathyrus palustris marsh pea	None/None G5/S2 2B.2	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest. mesic. 1 - 100 m. perennial herb. Blooms Mar-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Layia septentrionalis Colusa layia	None/None G2/S2 1B.2 BLM_S-Sensitive | SB_UCBBG-UC Berkeley Botanical Garden	Chaparral, Cismontane woodland, Valley and foothill grassland. sandy, serpentinite. 100 - 1095 m. annual herb. Blooms Apr-May	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.	**Not Expected**; suitable vegetation communities and soils are not present.

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Legenere limosa legenere	None/None G2/S2 1B.1 BLM_S-Sensitive | SB_UCBBG-UC Berkeley Botanical Garden	Vernal pools. 1 - 880 m. annual herb. Blooms Apr-Jun	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.
Leptosiphon jepsonii Jepson's leptosiphon	None/None G2G3/S2S3 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture	Chaparral, Cismontane woodland, Valley and foothill grassland. usually volcanic. 100 - 500 m. annual herb. Blooms Mar-May	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Leptosiphon rosaceus rose leptosiphon	None/None G1/S1 1B.1	Coastal bluff scrub. 0 - 100 m. annual herb. Blooms Apr-Jul	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Lessingia arachnoidea Crystal Springs lessingia	None/None G2/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Cismontane woodland, Coastal scrub, Valley and foothill grassland. serpentinite, often roadsides. 60 - 200 m. annual herb. Blooms Jul-Oct	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Lilium maritimum coast lily	None/None G2/S2 1B.1 SB_BerrySB-Berry Seed Bank | SB_UCBBG-UC Berkeley Botanical Garden	Broadleafed upland forest, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest. sometimes roadside. 5 - 475 m. perennial bulbiferous herb. Blooms May-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Lilium pardalinum ssp. *pitkinense* Pitkin Marsh lily	FE/CE G5T1/S1 1B.1 SB_BerrySB-Berry Seed Bank | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture	Cismontane woodland, Meadows and seeps, Marshes and swamps (freshwater). mesic, sandy. 35 - 65 m. perennial bulbiferous herb. Blooms Jun-Jul	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.

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Limnanthes vinculans Sebastopol meadowfoam	FE/CE G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCBBG-UC Berkeley Botanical Garden	Meadows and seeps, Valley and foothill grassland, Vernal pools. vernally mesic. 15 - 305 m. annual herb. Blooms Apr-May	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.
Lupinus sericatus Cobb Mountain lupine	None/None G2?/S2? 1B.2 BLM_S-Sensitive	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest. 275 - 1525 m. perennial herb. Blooms Mar-Jun	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Lupinus tidestromii Tidestrom's lupine	FE/CE G1/S1 1B.1	Coastal dunes. 0 - 100 m. perennial rhizomatous herb. Blooms Apr-Jun	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Microseris paludosa marsh microseris	None/None G2/S2 1B.2 SB_SBBG-Santa Barbara Botanic Garden | SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland. 5 - 355 m. perennial herb. Blooms Apr-Jun(Jul)	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	None/None G4T2/S2 1B.1 BLM_S-Sensitive	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools. Mesic. 5 - 1740 m. annual herb. Blooms Apr-Jul	**Low Potential**; suitable upland habitats and vegetation communities are present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present
Navarretia leucocephala ssp. *plieantha* many-flowered navarretia	FE/CE G4T1/S1 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Vernal pools (volcanic ash flow). 30 - 950 m. annual herb. Blooms May-Jun	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Moderate Potential**; suitable vegetation communities are present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.	**Not Expected**; suitable, vernal pool habitats and vegetation communities are not present.
Panicum acuminatum var. *thermale* Geysers panicum	None/CE G5T2Q/S2 1B.2 BLM_S-Sensitive	Closed-cone coniferous forest, Riparian forest, Valley and foothill grassland. geothermally-altered soil, sometimes streamsides. 305 - 2470 m. annual / perennial herb. Blooms Jun-Aug	**Low Potential**; suitable upland habitats and vegetation communities are present.	**Moderate Potential**; Riparian and grassland habitats are present.	**Moderate Potential**; Riparian and grassland habitats are present.	**Moderate Potential**; Riparian and grassland habitats are present.	**Moderate Potential**; Riparian and grassland habitats are present.	**Moderate Potential**; Riparian and grassland habitats are present.	**Moderate Potential**; Riparian and grassland habitats are present.	**Moderate Potential**; Riparian and grassland habitats are present.	**Moderate Potential**; Riparian and grassland habitats are present.	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	None/None G4T2/S2 1B.3	Chaparral (rocky). 700 - 1370 m. perennial herb. Blooms Apr-Aug	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.	**Not Expected**; suitable rocky habitats are not present.

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Piperia candida white-flowered rein orchid	None/None G3/S3 1B.2 BLM_S-Sensitive	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest. sometimes serpentinite. 30 - 1310 m. perennial herb. Blooms (Mar)May-Sep	**Low Potential**; suitable upland habitats and vegetation communities are present.	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present	**Low Potential**; suitable upland habitats and vegetation communities are present
Plagiobothrys mollis var. *vestitus* Petaluma popcornflower	None/None G4?TX/SX 1A	Marshes and swamps (coastal salt), Valley and foothill grassland (mesic). 10 - 50 m. perennial herb. Blooms Jun-Jul	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.	**Low Potential** grassland habitats are present.
Pleuropogon hooverianus North Coast semaphore grass	None/CT G2/S2 1B.1 BLM_S-Sensitive | SB_BerrySB-Berry Seed Bank | SB_RSABG-Rancho Santa Ana Botanic Garden	Broadleafed upland forest, Meadows and seeps, North Coast coniferous forest. open areas, mesic. 10 - 671 m. perennial rhizomatous herb. Blooms Apr-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Polemonium carneum Oregon polemonium	None/None G3G4/S2 2B.2	Coastal prairie, Coastal scrub, Lower montane coniferous forest. 0 - 1830 m. perennial herb. Blooms Apr-Sep	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Potentilla hickmanii Hickman's cinquefoil	FE/CE G1/S1 1B.1	Coastal bluff scrub, Closed-cone coniferous forest, Meadows and seeps (vernally mesic), Marshes and swamps (freshwater). 10 - 149 m. perennial herb. Blooms Apr-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Potentilla uliginosa Cunningham Marsh cinquefoil	None/None GH/SH 1A	Marshes and swamps. Freshwater, permanent oligotrophic wetlands. 30 - 40 m. perennial herb. Blooms May-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Ramalina thrausta angel's hair lichen	None/None G5/S2? 2B.1	North Coast coniferous forest. On dead twigs and other lichens. 75 - 430 m. fruticose lichen (epiphytic). Blooms	**Not Expected**; suitable vegetation communities are not present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Not Expected**; suitable vegetation communities are not present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present	**Not Expected**; suitable vegetation communities are not present
Rhynchospora alba white beaked-rush	None/None G5/S2 2B.2	Bogs and fens, Meadows and seeps, Marshes and swamps (freshwater). 60 - 2040 m. perennial rhizomatous herb. Blooms Jun-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Rhynchospora californica California beaked-rush	None/None G1/S1 1B.1 BLM_S-Sensitive	Bogs and fens, Lower montane coniferous forest, Meadows and seeps (seeps), Marshes and swamps (freshwater). 45 - 1010 m. perennial rhizomatous herb. Blooms May-Jul	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Rhynchospora capitellata brownish beaked-rush	None/None G5/S1 2B.2	Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Upper montane coniferous forest. mesic. 45 - 2000 m. perennial herb. Blooms Jul-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Rhynchospora globularis round-headed beaked-rush	None/None G4/S1 2B.1	Marshes and swamps (freshwater). 45 - 60 m. perennial rhizomatous herb. Blooms Jul-Aug	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Sidalcea calycosa ssp. *rhizomata* Point Reyes checkerbloom	None/None G5T2/S2 1B.2	Marshes and swamps (freshwater, near coast). 3 - 75 m. perennial rhizomatous herb. Blooms Apr-Sep	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Sidalcea hickmanii ssp. *napensis* Napa checkerbloom	None/None G3T1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral. rhyolitic. 415 - 610 m. perennial herb. Blooms Apr-Jun	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.	**Not Expected**; suitable soils and vegetation communities are not present.
Sidalcea hickmanii ssp. *viridis* Marin checkerbloom	None/None G3TH/SH 1B.1	Chaparral (serpentinite). 50 - 430 m. perennial herb. Blooms May-Jun	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Sidalcea malviflora ssp. *purpurea* purple-stemmed checkerbloom	None/None G5T1/S1 1B.2	Broadleafed upland forest, Coastal prairie. 15 - 85 m. perennial rhizomatous herb. Blooms May-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Sidalcea oregana ssp. *valida* Kenwood Marsh checkerbloom	FE/CE G5T1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCBBG-UC Berkeley Botanical Garden	Marshes and swamps (freshwater). 115 - 150 m. perennial rhizomatous herb. Blooms Jun-Sep	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Silene scouleri ssp. *scouleri* Scouler's catchfly	None/None G5T4T5/S2S3 2B.2	Coastal bluff scrub, Coastal prairie, Valley and foothill grassland. 0 - 600 m. perennial herb. Blooms (Mar-May)Jun-Aug(Sep)	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Streptanthus brachiatus ssp. *brachiatus* Socrates Mine jewelflower	None/None G2T1/S1 1B.2 BLM_S-Sensitive	Closed-cone coniferous forest, Chaparral. usually serpentinite. 545 - 1000 m. perennial herb. Blooms May-Jun	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Streptanthus brachiatus ssp. *hoffmanii* Freed's jewelflower	None/None G2T2/S2 1B.2 BLM_S-Sensitive	Chaparral, Cismontane woodland. serpentinite. 490 - 1220 m. perennial herb. Blooms May-Jul	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Streptanthus glandulosus ssp. *hoffmanii* Hoffman's bristly jewelflower	None/None G4T2/S2 1B.3 BLM_S-Sensitive	Chaparral, Cismontane woodland, Valley and foothill grassland (often serpentinite). rocky. 120 - 475 m. annual herb. Blooms Mar-Jul	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Streptanthus hesperidis green jewelflower	None/None G2/S2 1B.2	Chaparral (openings), Cismontane woodland. serpentinite, rocky. 130 - 760 m. annual herb. Blooms May-Jul	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Streptanthus morrisonii ssp. *elatus* Three Peaks jewelflower	None/None G2T1/S1 1B.2 BLM_S-Sensitive	Chaparral (serpentinite). 90 - 815 m. perennial herb. Blooms Jun-Sep	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Streptanthus morrisonii ssp. *hirtiflorus* Dorr's Cabin jewelflower	None/None G2T1/S1 1B.2 BLM_S-Sensitive	Closed-cone coniferous forest, Chaparral. serpentinite. 185 - 820 m. perennial herb. Blooms Jun	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.
Streptanthus morrisonii ssp. *kruckebergii* Kruckeberg's jewelflower	None/None G2T1/S1 1B.2 BLM_S-Sensitive	Cismontane woodland (serpentinite). 215 - 1035 m. perennial herb. Blooms Apr-Jul	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Streptanthus morrisonii ssp. *morrisonii* Morrison's jewelflower	None/None G2T1?/S1? 1B.2 BLM_S-Sensitive	Chaparral (serpentinite, rocky, talus). 120 - 585 m. perennial herb. Blooms May, Aug, Sep	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Stuckenia filiformis ssp. *alpina* slender-leaved pondweed	None/None G5T5/S2S3 2B.2	Marshes and swamps (assorted shallow freshwater). 300 - 2150 m. perennial rhizomatous herb (aquatic). Blooms May-Jul	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Tracyina rostrata beaked tracyina	None/None G2/S2 1B.2 USFS_S-Sensitive	Chaparral, Cismontane woodland, Valley and foothill grassland. 90 - 790 m. annual herb. Blooms May-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Trifolium amoenum two-fork clover	FE/None G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCBBG-UC Berkeley Botanical Garden | SB_USDA-US Dept of Agriculture	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite). 5 - 415 m. annual herb. Blooms Apr-Jun	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Trifolium buckwestiorum Santa Cruz clover	None/None G2/S2 1B.1 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden | SB_UCSC-UC Santa Cruz | SB_USDA-US Dept of Agriculture	Broadleafed upland forest, Cismontane woodland, Coastal prairie. gravelly, margins. 105 - 610 m. annual herb. Blooms Apr-Oct	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present	**Low Potential**; suitable vegetation communities are present, suitable soils may be present
Trifolium hydrophilum saline clover	None/None G2/S2 1B.2	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools. 0 - 300 m. annual herb. Blooms Apr-Jun	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Trifolium polyodon Pacific Grove clover	None/CR G1/S1 1B.1 BLM_S-Sensitive | SB_USDA-US Dept of Agriculture	Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Valley and foothill grassland. mesic, sometimes granitic. 5 - 425 m. annual herb. Blooms Apr-Jun(Jul)	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Moderate Potential**; freshwater habitats are present.	**Not Expected**; suitable aquatic habitats and vegetation communities are not present	**Moderate Potential;** freshwater aquatic habitats are present.
Triquetrella californica coastal triquetrella	None/None G2/S2 1B.2 USFS_S-Sensitive	Coastal bluff scrub, Coastal scrub. soil. 10 - 100 m. moss. Blooms	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Viburnum ellipticum oval-leaved viburnum	None/None G4G5/S3? 2B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest. 215 - 1400 m. perennial deciduous shrub. Blooms May-Jun	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.	**Not Expected**; suitable vegetation communities are not present.

FE = Federally Endangered FT = Federally Threatened

SE = State Endangered ST = State Threatened SR = State Rare

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind3.

CRPR (CNPS California Rare Plant Rank):

1A=Presumed Extinct in California

1B=Rare, Threatened, or Endangered in California and elsewhere

2A=Plants presumed extirpated in California, but more common elsewhere

2B=Plants Rare, Threatened, or Endangered in California, but more common elsewhere

3=Need more information (a Review List)

4=Plants of Limited Distribution (a Watch List)

CRPR Threat Code Extension:

.1=Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2=Fairly endangered in California (20-80% occurrences threatened)

.3=Not very endangered in California (<20% of occurrences threatened)

Special Status Animal Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Invertebrates													
Bombus crotchii Crotch bumble bee	None/Candidate Endangered G3G4/S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low Potential**; 1 historical CNDDB occurrence approximately 2 miles north of site (1910), suitable habitat may be present.	**Low Potential**; 1 historical CNDDB occurrence approximately 2.2 miles northwest of site (1910), suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low Potential**; 1 historical CNDDB occurrence approximately 4.6 miles northwest of site (1910), suitable habitat may be present.
Bombus occidentalis western bumble bee	None/Candidate Endangered G2G3/S1 USFS_S-Sensitive | XERCES_IM-Imperiled	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low potential**; suitable habitat may be present.	**Low potential**; 1 CNDDB occurrence approximately 4.8 miles southwest of site, suitable habitat may be present.	**Low potential**; 1 historical CNDDB occurrence approximately 0.25 miles southwest of site (1986), suitable habitat may be present.	**Low potential**; 2 historical CNDDB occurrences approximately 2 miles north of site (1960, 1962) suitable habitat may be present.	**Low potential**; 2 historical CNDDB occurrences (1958, 1960), including 1 occurrence approximately 1.6 miles southeast of site suitable habitat may be present.	**Low potential**; 1 historical CNDDB occurrence approximately 4 miles south of site (1965) suitable habitat may be present.	**Low potential**; 2 historical CNDDB occurrences within 5 miles of site including one occurrence approximately 0.2 miles east of site but occurrence is historical (1965) suitable habitat may be present.	**Low potential**; 2 historical CNDDB occurrences within 5 miles of site including one occurrence but occurrence is historical (1958) suitable habitat may be present.
Danaus plexippus pop. 1 monarch - California overwintering population	None/None G4T2T3/S2S3 USFS_S-Sensitive	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.	**Not Expected**; no suitable coastal/frost protected habitat present.
Syncaris pacifica California freshwater shrimp	Endangered/Endangered G2/S2 IUCN_EN-Endangered	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; 2 CNDDB occurrences within 5 miles of site and suitable aquatic habitat present.	**Low Potential**; suitable aquatic habitat is present.	**Not Expected**; 2 CNDDB occurrences within 5 miles of site but no suitable aquatic habitat is present.	**Low Potential**; 3 CNDDB occurrences within 5 miles suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; 5 CNDDB occurrences within 5 miles suitable aquatic habitat is present.	**Present**; 5 CNDDB occurrences within 5 miles of site, including 1 occurrence in Sonoma Creek within the BSA.	**Low Potential**; suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; 4 CNDDB occurrences within 5 miles, suitable aquatic habitat is present.
Fish													

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Acipenser medirostris southern green sturgeon	Threatened/None G3/S1S2 AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened NMFS_SC-Species of Concern	These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, & Trinity Rivers.. Spawns at temps between 8-14 C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.	**Not Expected**; suitable habitat is not present.
Eucyclogobius newberryi tidewater goby	Endangered/None G3/S3 AFS_EN-Endangered | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.	**Not Expected**; suitable brackish water habitat is not present.
Hysterocarpus traskii pomo Russian River tule perch	None/None G5T4/S4 AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern	Low elevation streams of the Russian River system. Requires clear, flowing water with abundant cover. They also require deep (> 1 m) pool habitat.	**Not Expected**; Suitable aquatic habitat is not present.	**Low Potential**; 1 CNDDB occurrence approximately 3.3 miles east of site in Russian River and Fife Creek.	**Not Expected**; streams are present onsite but are not part of Russian River system.	**Not Expected**; 1 CNDDB occurrence within 5 miles of site but no suitable aquatic habitat is present.	**Not Expected**; streams are present onsite but are not part of Russian River system.	**Not Expected**; no suitable aquatic habitat is present.	**Not Expected**; present onsite but are not part of Russian River system.	**Not Expected**; streams are present onsite but are not part of Russian River system.	**Not Expected**; streams are present onsite but are not part of Russian River system.	**Not Expected**; no suitable aquatic habitat is present.	**Not Expected**; present onsite but are not part of Russian River system.
Lavinia symmetricus navarroensis Navarro roach	None/None G4T1T2/S2S3 CDFW_SSC-Species of Special Concern	Habitat generalists. Found in warm, intermittent streams as well as cold, well-aerated streams.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; 1 CNDDB occurrence within 5 miles and suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.
Mylopharodon conocephalus hardhead	None/None G3/S3 CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.
Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	Endangered/Endangered G4/S2? AFS_EN-Endangered	Federal listing = pops between Punta Gorda & San Lorenzo River. State listing = pops south of Punta Gorda. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water & sufficient dissolved oxygen.	**Not Expected**; no suitable aquatic habitat is present onsite.	**Present**; 6 CNDDB occurrences within 5 miles and Fife creek is designated critical habitat.	**Present**; 1 CNDDB occurrence within the BSA in Mark West Creek.	**Not Expected**; 4 CNDDB occurrence within 5 miles but no suitable aquatic habitat is present.	**Moderate Potential**; 2 CNDDB occurrence within 5 miles and suitable aquatic habitat is present.	**Not Expected**; suitable aquatic habitat is not present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.

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Oncorhynchus mykiss irideus pop. 8 steelhead – central California DPS	Threatened/None G5T2T3Q/S2S3 AFS_TH-Threatened	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	**Not Expected**; no suitable aquatic habitat is present onsite.	**Present**; 2 CNDDB occurrences within 5 miles and Fife creek is designated critical habitat.	**Moderate Potential**; suitable aquatic habitat is present.	**Not Expected**; 1 CNDDB occurrence within 5 miles but no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Moderate Potential**; 3 CNDDB occurrence within 5 miles and suitable aquatic habitat is present.	**Moderate Potential**; 2 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Moderate Potential**; 2 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.
Oncorhynchus tshawytscha chinook salmon - California coastal ESU	Threatened/None G5/S1	The California Coastal Chinook Salmon ESU includes all natural spawning populations of Chinook Salmon from rivers and streams south of the Klamath River to the Russian River.	**Not Expected**; no suitable aquatic habitat is present onsite.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.
Pogonichthys macrolepidotus Sacramento splittail	None/None GNR/S3 AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	**Not Expected**; no suitable marsh habitat is present onsite.	**Not Expected**; no suitable marsh habitat is present onsite.	**Not Expected**; no suitable marsh habitat is present onsite.	**Not Expected**; no suitable marsh habitat is present onsite.	**Not Expected**; no suitable marsh habitat is present onsite.	**Not Expected**; no suitable marsh habitat is present onsite.	**Not Expected**; no suitable marsh habitat is present onsite.	**Not Expected**; no suitable marsh habitat is present onsite.	**Low Potential**; 1 CNDDB occurrence approximately 3.3 miles northeast of site (1999). Occurrence is downstream from site.	**Not Expected**; no suitable marsh habitat is present onsite.	**Not Expected**; no suitable marsh habitat is present onsite.
Spirinchus thaleichthys longfin smelt	Candidate/Threatened G5/S1	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.	**Not Expected**; no suitable estuary habitat is present onsite.
Thaleichthys pacificus eulachon	Threatened/None G5/S3	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.	**Not Expected**; no suitable coastal river habitat is present.
Reptiles													

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Emys marmorata western pond turtle	None/None G3G4/S3 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Not Expected**; 3 CNDDB occurrences within 5 miles of site, including 1 occurrence approximately 0.7 miles northeast of site in Russian River, but no suitable aquatic habitat is present.	**Moderate Potential**; 8 CNDDB occurrences within 5 miles of site and suitable aquatic habitat present.	**Low Potential**; 15 CNDDB occurrences within 5 miles of site including one historical occurrence in Mark West Creek within the BSA (1909).	**Low Potential**; 8 CNDDB occurrences within 5 miles of site suitable upland riparian habitat is present.	**Low Potential**; 8 CNDDB occurrences within 5 miles suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; 2 CNDDB occurrences within 5 miles suitable aquatic habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 1.6 miles southeast of site and suitable aquatic habitat present.	**High Potential**; 9 CNDDB occurrences within 5 miles of site, including one occurrence (2006) and suitable aquatic habitat present.	**Not Expected**; 11 CNDDB occurrences within 5 miles of site, including one occurrence approximately 1.3 miles south but no suitable aquatic habitat is present.	**Low Potential**; 4 CNDDB occurrences within 5 miles of site, suitable aquatic habitat is present.
Amphibians													
Ambystoma californiense California tiger salamander	Threatened/Threatened G2G3/S2S3 CDFW_WL-Watch List | IUCN_VU-Vulnerable	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	**Not Expected**; no suitable aquatic habitat is present and there are no known occurrences within 5 miles.	**Low Potential**; suitable aquatic habitat present, but there are no known occurrences within 5 miles of site.	**Low Potential**; 2 CNDDB occurrences within 5 miles and critical habitat approximately 0.5 miles to the west and aquatic habitat is present.	**Low Potential**; site is adjacent to green Valley Creek approximately 300 feet to the southeast, critical habitat is approximately 2.8 miles east, and riparian habitats are present.	**Low Potential**; 9 CNDDB occurrences within 5 miles from critical habitat approximately 1.6 miles east of site, and aquatic habitat is present.	**Present**; 75 CNDDB occurrences within 5 miles of site, including 3 presumed extant occurrences within the BSA.	**Low Potential**; suitable aquatic habitat present, but there are no known occurrences within 5 miles of site.	**Low Potential**; suitable aquatic habitat present, but there are no CNDDB occurrences within 5 miles of site.	**High Potential**; 37 CNDDB occurrences within 5 miles of the site, including one historical occurrence within the BSA (1856). Suitable aquatic habitat present and site is within critical habitat.	**Low Potential**; 2 CNDDB occurrences within 5 miles of site, including one historical occurrence within the BSA (1856), however suitable aquatic habitat is not present.	**Low Potential**; suitable aquatic habitat present, and there is one known occurrence within 5 miles.
Dicamptodon ensatus California giant salamander	None/None G3/S2S3 CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	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.	**Low Potential**; 5 CNDDB occurrences within 5 miles, including one occurrence in Miller Creek approximately 1.4 miles east.	**High Potential**; 14 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; 5 CNDDB occurrences within 5 miles, and and suitable aquatic habitat is present.	**Moderate Potential**; 2 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Moderate Potential**; 8 CNDDB occurrences within 5 miles including one occurrence approximately 1 mile northeast, and suitable aquatic habitat is present.	**Moderate Potential**; 5 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Low Potential**; 2 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Not Expected**; no suitable aquatic habitat present and site is isolated by development.	**Low Potential**; 1 CNDDB occurrence and suitable aquatic habitat is present.
Rana boylii foothill yellow-legged frog	None/Candidate Threatened G3/S3 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | USFS_S-Sensitive	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	**Not Expected**; 11 CNDDB occurrences within 5 miles, occurrences within 5 miles, however suitable aquatic habitat is not present.	**Moderate Potential**; 17 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Moderate Potential**; 5 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Low Potential**; 4 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Low Potential**; 3 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Low Potential**; 4 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Low Potential**; 8 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Low Potential**; 4 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Moderate Potential**; 10 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.	**Not Expected**; 5 CNDDB occurrence within 5 miles, but suitable aquatic habitat is not present.	**Low Potential**; 1 CNDDB occurrences within 5 miles, and suitable aquatic habitat is present.

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Rana draytonii California red-legged frog	Threatened/None G2G3/S2S3 CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Low Potential**; 11 CNDDB occurrences within 5 miles and suitable upland habitat may be present.	**Moderate Potential**; 2 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; 3 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Low Potential**; 8 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Low Potential**; 3 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Low Potential**; 18 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Low Potential**; 11 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Low Potential**; 3 CNDDB occurrences within 5 miles and suitable upland habitat may be present.
Taricha rivularis red-bellied newt	None/None G4/S2 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County. 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.	**Not Expected**; suitable aquatic habitats are not present. present.	**Moderate Potential**; 2 CNDDB occurrences within 5 miles and suitable aquatic habitat present.	**Low Potential**; 3 CNDDB occurrences within 5 miles, including one occurrence at Mark West Creek approximately 1 mile to the west.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; suitable aquatic habitat is present.	**Low Potential**; 1 CNDDB occurrences within 5 miles and suitable aquatic habitat is present.	**Low Potential**; 1 CNDDB occurrence within 5 miles and suitable aquatic habitat is present.	**Low Potential**; 1 CNDDB occurrence and suitable aquatic habitat is present.	**Not Expected**; 1 CNDDB occurrence within 5 miles of site but suitable aquatic habitat is not present.	**Low Potential**; suitable aquatic habitat is present.
Birds													
Accipiter cooperii Cooper's hawk	None/None G5/S4 CDFW_WL-Watch List | IUCN_LC-Least Concern	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.	**Low Potential**; suitable woodland habitat is present.
Agelaius tricolor tricolored blackbird	None/Threatened G2G3/S1S2 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	**Not Expected**; suitable breeding habitat is not present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; 1 CNDDB occurrence within 5 miles and suitable breeding and foraging habitat may be present.	**Low Potential**; 1 CNDDB occurrence within 5 miles suitable breeding and foraging habitat may be present.	**Low Potential**; 2 CNDDB occurrences within 5 miles suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; 1 CNDDB occurrence within 5 miles suitable breeding and foraging habitat may be present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Low Potential**; suitable breeding and foraging habitat may be present.
Ammodramus savannarum grasshopper sparrow	None/None G5/S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.	**Low Potential**; suitable breeding and foraging habitat may be present.

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Aquila chrysaetos golden eagle	None/None G5/S3 BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	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 Potential**; suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.	**Low Potential**; 1 CNDDB occurrence approximately 4.5 miles northeast, and suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.	**Low Potential**; suitable foraging habitat may be present.
Athene cunicularia burrowing owl	None/None G4/S3 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	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 Potential**; suitable open areas are present and 1 CNDDB occurrence approximately 2.3 miles southeast.	**Low Potential**; suitable habitats are present.	**Low Potential**; 1 CNDDB occurrence approximately 2.3 miles northwest and suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 4.8 miles northeast and suitable habitat is present.	**Low Potential**; suitable habitats are present.	**Low Potential**; 1 CNDDB occurrence approximately 3.5 miles southeast and suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence within 5 miles and suitable habitat is present.	**Low Potential**; suitable habitats are present.	**Low Potential**; 1 CNDDB occurrence approximately 3.1 miles north and suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 2.9 miles southwest and suitable habitat is present.	**Low Potential**; suitable habitats are present.
Brachyramphus marmoratus marbled murrelet	Threatened/Endangered G3G4/S1 CDF_S-Sensitive | IUCN_EN-Endangered | NABCI_RWL-Red Watch List	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.
Buteo regalis ferruginous hawk	None/None G4/S3S4 CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	**Low Potential**; suitable foraging habitat is present.	**Low Potential**; suitable foraging habitat is present.	**Low Potential**; suitable foraging habitat is present.	**Low Potential**; suitable foraging habitat is present.	**Low Potential**; suitable foraging habitat is present.	**Low Potential**; suitable foraging habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 3.8 miles southwest and suitable foraging habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 5 miles northwest and suitable foraging habitat is present	**Low Potential**; 1 CNDDB occurrence approximately 4.9 miles northeast and suitable foraging habitat is present.	**Low Potential**; suitable foraging habitat is present.	**Low Potential**; suitable foraging habitat is present.
Buteo swainsoni Swainson's hawk	None/Threatened G5/S3 BLM_S-Sensitive | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 4.2 miles south and suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 3.1 miles south and breeding and foraging habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 2 miles south and suitable breeding and foraging habitat is present.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Charadrius alexandrinus nivosus western snowy plover	Threatened/None G3T3/S2S3 CDFW_SSC-Species of Special Concern | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.
Coccyzus americanus occidentalis western yellow-billed cuckoo	Threatened/Endangered G5T2T3/S1 BLM_S-Sensitive | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 2 historical CNDDB occurrences within 5 miles of site including one occurrence approximately 1.5 miles southwest of site (1972) but suitable breeding and foraging habitat is not present.	**Not Expected**; 1 CNDDB occurrence within 5 miles of site but suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 2 CNDDB occurrences within 5 miles, including historical one occurrence approximately 3 miles northeast (1975) but suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.
Coturnicops noveboracensis yellow rail	None/None G4/S1S2 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 1 CNDDB occurrence within 5 miles of site but no suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 1 historical CNDDB occurrence approximately 1.5 miles southeast of site (1898) but suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.
Cypseloides niger black swift	None/None G4/S2 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_YWL-Yellow Watch List | USFWS_BCC-Birds of Conservation Concern	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & 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.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 1 CNDDB occurrence approximately 4.2 miles east of site but suitable breeding and foraging habitat is not present.	**Not Expected**; 1 CNDDB occurrence within 5 miles of site but suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 1 CNDDB occurrence (1898) and suitable breeding and foraging habitat is not present.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Elanus leucurus white-tailed kite	None/None G5/S3S4 BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; 1 CNDDB occurrence within 5 miles and suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; 1 CNDDB occurrence approximately 1 mile north and suitable breeding and foraging habitat is present.	**Moderate Potential**; 2 CNDDB occurrences within 5 miles and suitable breeding and foraging habitat is present.	**Moderate Potential**; 1 CNDDB occurrence within 5 miles and suitable breeding and foraging habitat is present.	**Moderate Potential**; 1 CNDDB occurrence approximately 4.8 miles northeast and suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 CDFW_WL-Watch List | IUCN_LC-Least Concern	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.	**Moderate Potential**; suitable breeding and foraging habitat is present.
Geothlypis trichas sinuosa saltmarsh common yellowthroat	None/None G5T3/S3 CDFW_SSC-Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 1 CNDDB occurrence approximately 5 miles south of site at Petaluma River Marsh but suitable breeding and foraging habitat is not present.	**Not Expected**; 2 CNDDB occurrence within 5 miles of site but suitable breeding and foraging habitat is not present.	**Not Expected**; 3 CNDDB occurrences within 5 miles but suitable breeding and foraging habitat is not present.
Laterallus jamaicensis coturniculus California black rail	None/Threatened G3G4T1/S1 BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_NT-Near Threatened | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 4 CNDDB occurrences within 5 miles but suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.
Melospiza melodia samuelis San Pablo song sparrow	None/None G5T2/S2 CDFW_SSC-Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Resident of salt marshes along the north side of San Francisco and San Pablo bays. Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 1 historical CNDDB occurrence approximately 5 miles south of site (1940) and suitable breeding and foraging habitat is not present.	**Not Expected**; 1 historical CNDDB occurrence approximately 2 miles east of site (1940) but suitable breeding and foraging habitat is not present.	**Not Expected**; 2 historical CNDDB occurrences within 5 miles (1901, 1947) and suitable breeding and foraging habitat is not present.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Progne subis purple martin	None/None G5/S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.	**Low Potential**; suitable breeding and foraging habitat is present.
Rallus obsoletus obsoletus California Ridgway's rail	Endangered/Endangered G5T1/S1 CDFW_FP-Fully Protected | NABCI_RWL-Red Watch List	Salt water 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.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 1 CNDDB occurrence within 5 miles of site but suitable breeding and foraging habitat is not present.
Riparia riparia bank swallow	None/Threatened G5/S2 BLM_S-Sensitive | IUCN_LC-Least Concern	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Not Expected**; suitable breeding habitat is not present.	**Not Expected**; suitable breeding habitat is not present.	**Not Expected**; suitable breeding habitat is not present.	**Not Expected**; suitable breeding habitat is not present.	**Not Expected**; suitable breeding habitat is not present.	**Not Expected**; suitable breeding habitat is not present.	**Not Expected**; 1 CNDDB occurrence within 5 miles but suitable breeding habitat is not present.	**Not Expected**; 1 historical CNDDB occurrence (1893) but suitable breeding habitat is not present.	**Not Expected**; suitable breeding habitat is not present.	**Not Expected**; suitable breeding habitat is not present.	**Not Expected**; 1 historical CNDDB occurrence (1893) but suitable breeding habitat is not present.
Strix occidentalis cauring northern spotted owl	Threatened/Threatened G3T3/S2S3	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	**Not Expected;** no CNDDB spotted owl observations within 5 miles of site and suitable breeding and foraging habitat is not present.	**Low Potential;** CNDDB spotted owl observations within 5 miles, including one observation approximately 0.5 miles south, but suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present, and the site is isolated by development.	**Low Potential;** CNDDB spotted owl observations approximately 1 mile west of site but suitable breeding and foraging habitat is not present.	**Not Expected;** CNDDB spotted owl observations approximately 2.3 miles west but suitable breeding and foraging habitat is not present.	**Not Expected;** no CNDDB spotted owl observations within 5 miles and suitable breeding and foraging habitat is not present.	**Not Expected;** CNDDB spotted owl observations approximately 1.7 miles southwest but suitable breeding and foraging habitat is not present.	**Not Expected;** CNDDB spotted owl observations in Sonoma Mountains approximately 3.3 miles east but suitable breeding and foraging habitat is not present.	**Not Expected;** no CNDDB spotted owl observations within 5 miles of site and suitable breeding and foraging habitat is not present.	**Not Expected;** no CNDDB spotted owl observations within 5 miles of site and suitable breeding and foraging habitat is not present.	**Not Expected;** CNDDB spotted owl observations approximately 2.8 miles northeast but suitable breeding and foraging habitat is not present.
Pandion haliaetus osprey	None/None G5/S4 WL	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Low Potential**; 3 CNDDB occurrences including one occurrence approximately 2.4 miles east of site along Russian River.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; 2 CNDDB occurrences within 5 miles of site but no suitable breeding and foraging habitat.	**Not Expected**; 1 CNDDB occurrence within 5 miles of site but suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.	**Not Expected**; suitable breeding and foraging habitat is not present.
Mammals													

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	GEY	GUE	LAR	FOR	GRA	SAN	GLE	AGU	PEN	PET	SON
Antrozous pallidus pallid bat	None/None G5/S3 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low Potential;** 4 CNDDB occurrences within 5 miles of site and suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 4.9 miles southeast and suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 4.7 miles northeast and suitable habitat is present.	**Moderate Potential**; 2 CNDDB occurrences within 5 miles of site, including one historical occurrence within the BSA and suitable habitat is present.	**Low Potential;** 2 CNDDB occurrences within 5 miles and suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** 1 CNDDB occurrence approximately 1.3 miles west and suitable habitat is present.	**Low Potential;** 4 CNDDB occurrences within 5 miles of site, including 1 occurrence approximately 0.7 miles south and suitable habitat is present.	**Low Potential;** 1 CNDDB occurrence approximately 4.9 miles south and suitable habitat is present.	**Low Potential**; suitable habitat is present.	**Low Potential**; 3 CNDDB occurrences within 5 miles of site, including 1 occurrence approximately 0.6 miles southwest and suitable habitat is present.
Arborimus pomo Sonoma tree vole	None/None G3/S3 CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	North coast fog belt from Oregon border to Sonoma County. In Douglas-fir, redwood & montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Low Potential**; 6 CNDDB occurrences within 5 miles and suitable habitat is present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Low Potential;** 1 CNDDB occurrence within 5 miles and suitable habitat is present.	**Not Expected;** 2 CNDDB occurrences within 5 miles of site but suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.
Corynorhinus townsendii Townsend's big-eared bat	None/None G3G4/S2 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Low Potential;** suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 2.2 miles north and suitable habitat is present.	**Low Potential**; 2 CNDDB occurrences within 5 miles and suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 4.6 miles north and suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** 1 CNDDB occurrence approximately 4 miles south and suitable habitat is present.	**Low Potential**; 1 historical CNDDB occurrence approximately 2 miles east and suitable habitat is present.	**Low Potential;** suitable habitat is present.
Lasiurus blossevillii western red bat	None/None G5/S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	Roosts primarily in trees, 2-40 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 Potential;** suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 4.9 miles southeast and suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 0.7 miles west and suitable habitat is present.	**Low Potential**; 1 CNDDB occurrence approximately 3 miles northwest and suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** suitable habitat is present.	**Low Potential;** suitable habitat is present.
Pekania pennanti fisher - West Coast DPS	None/Threatened G5T2T3Q/S2S3 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.	**Not Expected;** suitable breeding and foraging habitat is not present.

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Reithrodontomys raviventris salt-marsh harvest mouse	Endangered/Endangered G1G2/S1S2 CDFW_FP-Fully Protected | IUCN_EN-Endangered	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	**Not Expected**; suitable wetland habitat is not present.	**Not Expected**; suitable wetland habitat is not present.	**Not Expected**; suitable wetland habitat is not present.	**Not Expected**; suitable wetland habitat is not present.	**Not Expected**; suitable wetland habitat is not present.	**Not Expected**; suitable wetland habitat is not present.	**Not Expected**; suitable wetland habitat is not present.	**Not Expected**; suitable wetland habitat is not present.	**Not Expected**; 1 CNDDB occurrence approximately 4.8 miles southeast of site but suitable wetland habitat is not present.	**Not Expected**; 2 CNDDB occurrences within 5 miles of site but suitable wetland habitat is not present.	**Not Expected**; suitable wetland habitat is not present.
Sorex ornatus sinuosus Suisun shrew	None/None G5T1T2Q/S1S2 CDFW_SSC-Species of Special Concern	Tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying cover and driftwood and other litter above the mean hightide line for nesting and foraging.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.	**Not Expected**; suitable tidal marsh habitat is not present.
Taxidea taxus American badger	None/None G5/S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Not Expected;** suitable habitat is not present.	**Not Expected;** suitable habitat is not present.	**Not Expected;** suitable habitat is not present.	**Not Expected;** suitable habitat is not present.	**Not Expected;** 2 CNDDC occurrences within 5 miles but suitable habitat is not present.	**Not Expected;** 3 CNDDC occurrences within 5 miles but suitable habitat is not present.	**Not Expected;** 1 CNDDB occurrence approximately 3.8 miles southwest of site but suitable habitat is not present.	**Not Expected;** suitable habitat is not present.	**Not Expected;** 4 CNDDB occurrences within 5 miles of site, including one occurrence approximately 0.8 miles southwest of site but suitable habitat is not present.	**Moderate Potential;** 1 CNDDB occurrence approximately 400 feet north of site and suitable open habitat is present.	**Not Expected;** suitable habitat is not present.

FT = Federally Threatened SE = State Endangered
FC = Federal Candidate Species ST = State Threatened
FE = Federally Endangered SR = State Rare
FS=Federally Sensitive SS=State Sensitive
G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind3
SC = CDFW Species of Special Concern
FP = Fully Protected
WL = Watch List