Appendix G

Biological Resources Information

Appendix G
Biological Resources
Regulatory and Environmental Setting

This appendix summarizes relevant federal, state, and local regulations that apply to biological resources. The appendix also describes the environmental setting, including vegetation and wildlife, in the project corridor.

G.1 Regulatory Setting

G.1.1 Federal

G.1.1.1 Endangered Species Act

The federal Endangered Species Act (ESA) (42 United States Code (U.S.C.) 4321 et seq.) and subsequent amendments provide guidance for conserving federally listed species and the ecosystems upon which they depend. Section 7 (Interagency Consultation and Biological Assessments) requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat. Section 9 (Prohibited Acts) prohibits the take of any plant, fish, or wildlife species listed under the ESA as endangered, unless otherwise authorized by federal regulations.

G.1.1.2 Migratory Bird Treaty Act and Executive Order 13186

The Migratory Bird Treaty Act (16 U.S.C. 702–712)(MBTA) protects selected species of birds that cross international boundaries (i.e., species that occur in more than one country at some point during their annual life cycle). The law applies to the removal of active nests, eggs, and feathers.

Executive Order 13186 directs each federal agency taking actions that have or may have adverse impacts on migratory bird populations to work with USFWS to develop a memorandum of understanding that will promote the conservation of migratory bird populations.

G.1.1.3 Federal Clean Water Act (Sections 401 and 404)

The federal Clean Water Act (CWA) is the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. Consequently, CWA empowers the Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations, and establishes permit review mechanisms to enforce them. Most CWA provisions are at least indirectly relevant to the management and protection of biological resources because of the link between water quality and ecosystem health. The portions that are most directly relevant to biological resources management are contained in Section 404, which regulates the discharge of dredged and fill materials into waters of the United States (comprising wetlands and other waters of the United States). Waters of the United States are defined as:

- All areas within the ordinary high water mark of a stream, including non-perennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned;
- Seasonal and perennial wetlands, including coastal wetlands.

Section 404 requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into waters of the United States, including streams, ponds, and wetlands, before proceeding with a proposed activity. CWA Section 401 requires that applicants for a Section 404 permit must first obtain certification from the Regional Water Quality Control Board (RWQCB) that the proposed project will comply with state water quality standards.

G.1.1.4 Wetlands and Other Waters of the United States Subject to U.S. Army Corps of Engineers Jurisdiction

Waters of the United States is the term used by USACE for areas under federal jurisdiction under CWA Section 404 and the Rivers and Harbors Act Section 10. For the purpose of this Section 404 analysis, waters of the United States are categorized as either wetlands or other waters of the United States. Wetlands are defined as:

> [A]reas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 Code of Federal Regulations[CFR] 328.3(b), 40 CFR 230.3).

To be considered under federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology. Other waters of the United States are seasonal or perennial bodies of water, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or two of the three wetland parameters (33 CFR 328.4).

The jurisdiction of USACE under Section 10 extends to "navigable waters" of the United States. Navigable waters are defined as:

> …those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity (33 CFR 329.4).

Under Section 10, USACE may take jurisdiction over areas that were historically navigable, including southern portions of the San Francisco Bay historically mapped within the project site, even though these areas have since been filled or hydrologically disconnected from jurisdictional features. If such jurisdiction is taken, it is expected that it would be limited to areas that currently meet the CWA Section 404 definition for wetlands and other waters of the United States.

G.1.1.5 Executive Order 13112 (Invasive Species)

Executive Order 13112, Invasive Species, is intended to prevent the introduction of invasive plant and animal species and control their potential to spread. This order prohibits the federal government from authorizing or funding actions that may cause or promote the introduction and/or spread of invasive species unless the agency has determined that the action's benefits clearly

outweigh potential harm caused by invasive species; and that all feasible and prudent measures will be taken to minimize risk of harm.

G.1.2 State

G.1.2.1 California Endangered Species Act

California Endangered Species Act (CESA) (Sections 2050 to 2085) mandates that state agencies not approve a project that would jeopardize the continued existence of these species if reasonable and prudent alternatives are available that would avoid a jeopardy finding.

G.1.2.2 California Fish and Game Code (Sections 1600, 3503, 3503.3, 3511, 4700, 5050, and 5515)

Section 1600 et seq. (Lake and Streambed Alteration)

Section 1600 et seq. requires notifying the California Department of Fish and Wildlife (CDFW) prior to any project activity undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel.

Sections 3503 and 3503.5 (Bird Nesting Protections)

Sections 3503 and 3503.3 state that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto.

Sections 3511, 4700, 5050, and 5515 (Fully Protected Species)

These sections list 37 fully protected species and prohibit take or possession at any time of the species listed, with few exceptions.

G.1.2.3 California Native Plant Protection Act

The California Native Plant Protection Act (Sections 1900 to 1913) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. It gives the CDFW the power to designate native plants as endangered or rare and to protect endangered and rare plants from take.

G.1.2.4 Regional Water Quality Control Board

Waters subject to CWA Section 404 (described previously) also require Water Quality Certification from the RWQCB board under CWA Section 401. With respect to the CWA, the extent of the RWCQB jurisdiction over wetlands and other waters of the United States is the same as that of USACE. In addition, the RWCQB regulates under California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act). Waters regulated under the Porter-Cologne Act are called waters of the State. Waters of the State include any surface or groundwater, including saline waters, within State boundaries. In addition to the jurisdictional areas, riparian woodland associated with stream channels in the project site could also be considered jurisdictional by the San Francisco Bay RWQCB. If a project requires a Water Quality Certification, the RWQCB will incorporate requirements to also comply with the Porter-Cologne Act.

G.1.3 Local

Many of the local jurisdictions in the project corridor have ordinances that regulate tree removal and pruning. Table G-1 lists these ordinances.

Table G-1. Local Tree Ordinances

City or County	Tree Ordinance
Town of Atherton	Heritage Trees
City of Belmont	Tree Removal
City of Brisbane	Protected Trees
City of Burlingame	Street Trees Urban Reforestation and Tree Protection
City of Menlo Park	City (Street) Trees Heritage Trees
City of Millbrae	Tree Protection and Urban Forestry Program
City of Mountain View	Heritage Trees
City of Palo Alto	Tree Preservation Management Regulations
City of Redwood City	Street Trees Tree Preservation
City of San Bruno	Street Trees Heritage Trees
City of San Carlos	Tree Removal and Maintenance
City and County of San Francisco	Urban Forest Plan Public Works Code
City of South San Francisco	No Tree Ordinance
City of San Jose	Tree Removal
City of San Mateo	Street Trees Heritage Trees
County of San Mateo	Heritage Tree Ordinance Significant Tree Ordinance
City of Santa Clara	Municipal Code
County of Santa Clara	Tree Preservation and Removal
City of Sunnyvale	City Trees Tree Preservation

G.1.3.1 Town of Atherton Heritage Trees

Atherton Municipal Code Chapter 8.10 protects heritage trees for the health, welfare, and quality of life of citizens; prohibits the removal of a heritage tree without a permit; mandates all heritage trees to be shown and designated on every plot map associated with a building permit; requires a heritage tree protection and preservation plan to be prepared with some development applications; requires a permit (and potentially a written report) for heritage tree removal to be filed with the building department; allows reasonable conditions such as, but not limited to, requiring tree replacement; and outlines penalties and remedies for violating the chapter by removing or damaging a heritage tree.

The code provides the following definition of "heritage tree."

- A tree, located in the tree preservation area, or a native oak tree (*Quercus lobata*, *Quercus agrifolia* or *Quercus douglasii*) located anywhere on a lot, which has a trunk circumference of 48 inches or more, when measured 48 inches above the natural grade.
- A tree so designated by the city council, based upon findings that the particular tree is unique and of importance to the public due to its unusual age, appearance, location or other factors.
- The following trees shall not be classified as heritage trees: *Acacia baileyan* (Bailey acacia), *Albizia julibrissin* (mimosa), *Acacia decurrens* (green wattle), *Acacia melanoxylon* (black acacia), and *Ailanthus altissima* (tree of heaven).

Chapter 12.16 of the Municipal Code prohibits the cutting or harming of a heritage tree from a street, sidewalk, or public area within the town without a permit from the building department.

G.1.3.2 City of Belmont Trees

Chapter 25 of the City of Belmont Municipal Code prohibits the removal and excessive pruning of trees without a permit; outlines the process for applying for a removal permit; establishes exemptions for the removal of trees; and allows the issuance of a permit to remove trees to potentially be conditioned upon the replacement of trees or payment of an in lieu fee. A protected tree is defined as "any woody, perennial plant characterized by having a single main stem or trunk of 10 inches or more diameter at breast height (DBH) at 4.5 feet above natural grade, or multiple secondary stems totaling 10 inches or more DBH at 4.5 feet above natural grade, regardless of species. A DBH of 10 inches is approximately equivalent to a circumference of 31 inches. A single or multi-stemmed shrub or bush is not a protected tree." A City tree is defined as "any woody, perennial plant, regardless of size, located in the City right-of-way, a City park, as designated open space, or on any other City property. A single or multi-stemmed shrub or bush is not a City tree." A tree removal application form is required to be submitted to the Parks and Recreation Department in order to obtain a tree removal permit.

G.1.3.3 City of Brisbane Protected Trees

Policy 260 in the *City of Brisbane General Plan* (1994) indicates Brisbane's intention to "refine the ordinance that establishes requirements for the protection of heritage trees to allow flexibility and to consider factors, including, but not limited to, the tree's effect on surrounding residences." Brisbane's ordinance protecting heritage trees was repealed by a tree regulations ordinance. The City of Brisbane Municipal Code Chapter 12.12 establishes regulations for preservation and removal of "protected trees."

"Protected tree" means each of the following:

1. Any California bay (*Umbellularia californica*), coast live oak (*Quercus agrifolia*), or California buckeye (*Aesculus californica*) having a main stem or trunk which measures 30 inches or greater in circumference at a height of 24 inches above natural grade.
2. Any species of native or nonnative tree, in addition to those identified in number 1 above, designated as a protected tree on recommendation of the parks and recreation commission as adopted by resolution of the city council, based upon its finding and determination that such species uniquely contributes to the scenic beauty of the city or provides special benefits to the natural environment or wildlife.

3. Any tree designated as a protected tree by resolution of the city council.
4. Any tree, regardless of size, originally required by the city to be planted as a condition for the granting of a permit, license, or other approval, or any tree that existed at the time of the granting of such permit, license, or other approval and required by the city to be preserved as part of such approval.
5. Any tree, regardless of size, required by the city to be planted as a replacement for an unlawfully removed tree.
6. Any tree, regardless of size, planted or maintained by the city.
7. Any street tree which is not otherwise described in numbers 1 through 6 above, having a main stem or trunk which measures 30 inches or greater in circumference at a height of 24 inches above natural grade.
8. Where three or more trees of any one or more species, each having a main stem or trunk which measures 30 inches or greater in circumference at a height of 24 inches above natural grade, are proposed to be removed at the same time from the same property or from contiguous properties under common ownership, such trees shall collectively be regarded as a protected tree.

Tree removal must be approved by the city manager to obtain a required tree removal permit. The city manager may grant or deny the application for removal of a protected tree or grant the same subject to conditions, including but not limited to, the condition that one or more replacement trees be planted of a species and size and at locations as designated by the city manager. Such replacement trees shall be obtained and planted at the expense of the applicant. The permit shall require the applicant to either remove the tree stump or lower it to ground level.

G.1.3.4 City of Burlingame

Street Trees

Chapter 11.04 of the City of Burlingame Municipal Code prohibits the placement or planting of any tree, shrub, or plant in any of the streets or public places in the city until approval from the director; prohibits the removal of a tree on any street or public place in the city without a permit; requires the approval of plant species and varieties by the director; requires the development of a Street Tree Master Plan; and requires that when the replacement of a removed tree is desirable, the director must replace the removed tree with one in accordance to the Master Tree Plan.

Urban Reforestation and Tree Protection

Chapter 11.06 of the City of Burlingame Municipal Code, also known as the Urban Reforestation and Tree Protection Ordinance, prohibits the removal of protected trees from any parcel without a permit and mandates that certain measures should be adhered to during construction near a protected tree; requires notices and permits for the removal or work significantly affecting protected trees; requires that the director review and decide on each application; and provides specific conditions and guidelines for replanting any removed protected trees.

The Municipal Code provides the following definitions of "protected trees."

- Any tree with a circumference of 48 inches or more when measured 54 inches above natural grade.

- A tree or stand of trees so designated by the city council based upon findings that it is unique and of importance to the public due to its unusual appearance, location, historical significance or other factor.
- A stand of trees in which the director has determined each tree is dependent upon the others for survival.

G.1.3.5 City of Menlo Park

City (Street) Trees

Chapter 13.20 of the City of Menlo Park Municipal Code establishes regulations for private property owners' landscaping activities in the public right-of-way next to the street; outlines a street tree management plan; prohibits injury, harm, or mutilation to a street tree; and requires a permit for the removal, pruning, or planting of a street tree. A City tree is defined as "trees growing in the street-right-of-way, outside of private property." The City's Maintenance Division is responsible for such trees.

Heritage Trees

The City of Menlo Park Municipal Code Chapter 13.25 establishes regulations for the preservation of heritage trees, which are defined as indicated below.

- A tree or group of trees of historical significance, special character or community benefit, specifically designated by resolution of the City Council.
- An oak tree (Quercus sp.) which is native to California and has a trunk with a circumference of 31.4 inches (diameter of ten inches) or more, measured at 54 inches above natural grade. Trees with more than one trunk shall be measured at the point where the trunks divide, with the exception of trees that are under 12 feet in height, which will be exempt from this section.
- All trees other than oaks which have a trunk with a circumference of 47.1 inches (diameter of 15 inches) or more, measured 54 inches above natural grade. Trees with more than one trunk shall be measured at the point where the trunks divide, with the exception of trees that are less than 12 feet in height, which will be exempt from this section. (Ord. 928 Section 1 (part), 2004).

The City of Menlo Park regulates the pruning of more than 25 percent of a regulated tree's canopy and roots. A tree permit is necessary for pruning beyond this threshold.

G.1.3.6 City of Millbrae Tree Protection and Urban Forestry Program

Chapter 8.60 of the City of Millbrae Municipal Code requires the implementation of a master tree plan to encourage the planting of street trees and to ensure adequate program for preservation; mandates that property owners shall be responsible for the care and maintenance of street trees; prohibits the removal or alteration of street trees by the property owner; prohibits the abuse, removal, or mutilation of any street tree by any person; and requires that if a permit is issued for removal, the director will include a condition of the street tree replacement.

G.1.3.7 City of Mountain View Heritage Trees

Chapter 32 of the City of Mountain View Municipal Code regulates heritage trees, which are defined as trees of any species with a trunk circumference of 48 inches or more measured at 54 inches

above natural grade. Trees with multiple trunks are measured immediately below the first major trunk fork. Three species, oak (*Quercus* spp.), redwood (*Sequoia* spp.), and cedar (*Cedrus* spp.), are considered heritage trees if they have a circumference of 12 inches measured at 54 inches above natural grade.

Policy Park/Open Space Plan 12.1, Heritage Trees, of the *Mountain View 2030 General Plan* (City of Mountain View 2012) indicates the City's intention to "protect trees as an ecological and biological resource."

G.1.3.8 City of Palo Alto Tree Preservation Management Regulations

Title 8 of the City of Palo Alto Municipal Code (PAMC) regulates the removal of certain trees within Palo Alto limits. The City defines its regulated trees by the following three categories.

- Category 1—Protected Trees: All coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) trees that are 11.5-inches or greater in diameter (36-inches in circumference measured at 54-inches above natural grade) and coast redwood (*Sequoia sempervirens*) trees that are 18-inches or greater in diameter (57 inches in circumference measured at 54 inches above natural grade) and Heritage Trees, individual trees of any size or species designated as such by City Council. Property owners may nominate a tree that has distinctive characteristics such as being of great age or size, unique form or other historical significance. A list of designated heritage trees is kept at the Planning Division offices.
- Category 2—Street Trees: All trees growing within the street right-of-way (publicly owned), outside of private property. In some cases, property lines lie several feet behind the sidewalks. A permit from the Public Works Department is required prior to any work on or within the dripline of any "street tree".
- Category 3—Designated Trees: All trees, when associated with a development project, that are specifically designated by the City to be saved and protected on a public or private property which is subject to a discretionary development review (such as a variance, home improvement exception, architectural review, site and design, subdivision, etc.). Tree removal is considered a minor change to the existing site plan—and requires review approval from the Planning Division. For example, a tree planted or growing in a commercial zone landscape or parking lot tree. See Zoning Code reference: PAMC 18.83.100, Design Standards-Required Landscape Areas Landscaping & Shade Trees

Projects that will result in the removal of such regulated trees require that the project proponents submit a tree removal application and obtain approval from the City prior to the removal of any regulated trees, pursuant to PAMC, Title 8, Trees and Vegetation.

G.1.3.9 City of Redwood City

Street Trees

Article VI of the City of Redwood City Municipal Code establishes rules and regulations relating to the planting, care, and maintenance of street trees; outlines a comprehensive plan for the planting and maintenance of street trees; mandates that the Park Superintendent be responsible for the administration of this Article; prohibits the removal, alteration, or replacement of street trees without a permit; and outlines the Master Tree List to be implemented by the Park Superintendent.

Tree Preservation

Chapter 35 of the City of Redwood City Municipal Code outlines the height and width requirements for a heritage tree; allows the designation by the Commission of a heritage tree regardless of size if it has historical significance, is indigenous to the area, or is part of a group of trees that is dependent on each other for survival; prohibits the removal of any tree without a permit from the Parks and Recreation Director; and mandates the restoration and/or replacement of a damaged tree that has not been approved for removal.

G.1.3.10 City of San Bruno

Street Trees

Chapter 8.24 of the City of San Bruno Municipal Code mandates that the director of public works shall designate healthy trees in the city as official street tree species; prohibits the removal or interference of any street tree without first obtaining a permit from the director of public works; mandates that the city will replace any street tree to the extent that funds are made available; outlines the requirements for tree replacement, ground cover, and other plantings; and prohibits the planting of any tree in or adjacent to a public street that does not conform to the approved master street tree list.

Heritage Trees

Chapter 8.25 of the City of San Bruno Municipal Code provides the definition of a heritage tree; prohibits the removal of any heritage tree from any property without a permit; outlines the process for applying for a removal permit; and mandates that permit for removal contains replanting and reforestation condition. The Municipal Code provides the following definitions of "heritage tree."

- Any native bay (*Umbellularia californica*), buckeye (*Aesculus* species), oak (*Quercus* species), redwood (*Sequoia sempervirens*), or pine (*Pinus radiata*) tree that has a diameter of 6 inches or more measured at 54 inches above natural grade.
- Any tree or stand of trees designated by resolution of the city council to be of special historical value or of significant community benefit.
- A stand of trees, the nature of which makes each dependent on the others for survival.
- Any other tree with a trunk diameter of 10 inches or more, measured at 54 inches above natural grade.

G.1.3.11 City of San Carlos Tree Removal and Maintenance

Chapter 12.20 of the City of San Carlos Municipal Code seeks to preserve, maintain, and reforest trees for aesthetic and biologic purposes; establishes regulations for the preservation and removal of heritage trees; requires the maintenance of trees on private properties; prohibits the removal of any heritage tree without a permit from the director of Public Works; requires the posting of a notice of issuance for any tree removal permit at City Hall; allows the director of Public Works to attach reasonable conditions to a heritage tree removal permit that may require replacement trees; and mandates that new developments that encroach into the dripline area of a heritage tree must adhere to special construction techniques.

The Municipal Code provides the following definitions of "heritage trees."

Indigenous trees whose size, as measured at 48 inches above natural grade (unless otherwise indicated), is defined below:

- *Aesculus californica* (buckeye) with a single stem or multiple stems touching each other at 48 inches above natural grade and measuring 30 inches in circumference.
- *Arbutus meniesii* (madrone) with a single stem or multiple stems touching each other at 48 inches above natural grade and measuring 30 inches in circumference.
- *Quercus agrifolia* (coast live oak) of more than 30 inches in circumference.
- *Quercus douglassii* (blue oak) of more than 24 inches in circumference.
- *Quercus lobata* (valley oak) of more than 30 inches in circumference.
- *Quercus wislizneii* (interior live oak) of more than 24 inches in circumference.
- *Sequoia sempervirens* (redwood) of more than 72 inches in circumference.
- *Umbrellularia californica* (California bay laurel) with a single stem or multiple stems touching each other at 48 inches above natural grade and measuring 30 inches in circumference.
- Community of trees;
- Founders tree;
- Tree so designated by the City Council, based upon findings that the particular tree is unique and of importance to the public due to its unusual age, appearance, location or other factors.

G.1.3.12 City and County of San Francisco

Urban Forest Plan

The City of San Francisco Planning Department is currently in the process of creating a plan in collaboration with the San Francisco Department of Public Works and Friends of the Urban Forest. This plan will establish policies and strategies to manage and grow the City's street tree population (City and County of San Francisco 2013).

Public Works Code

Article 16 of the City and County of San Francisco Public Works Code seeks to reduce public hazard, nuisance, and expense by improper tree selection, planting, and maintenance; requires property owners to maintain street trees on their property; prohibits the removal or planting of street trees without a valid permit by persons other than the San Francisco Department of Public Works; prohibits construction work without first taking steps to protect street trees; outlines removal criteria and procedures for landmark trees; and outlines removal criteria and procedures for significant trees.

G.1.3.13 City of San Jose Tree Removal

San Jose Municipal Code Chapter 13.28 requires the director of streets and traffic to direct all planting, removal, cutting, or alternation of trees, hedges, and shrubs located on City property; prohibits planting without a permit; requires a permit from the director of transportation for cutting or removing any street tree; requires a notice posting of tree removal; mandates that the property owner is responsible for maintain and/or replacing trees adjacent to a right-of-way on private

property; requires a notice must be given to neighbors regarding private-property tree removal; and deems it unlawful to remove or destroy a heritage tree.

The code states, "Any tree which, because of factors including but not limited to its history, girth, height, species or unique quality, has been found by the city council to have a special significance to the community shall be designated a heritage tree."

Non-street trees are defined as "any live or dead woody perennial plant characterized by having a main stem or trunk which measures fifty-six inches or more in circumference at a height of twenty-four inches above natural grade slope." Such trees are regulated by the City and coordination with the City Arborist Office is required prior to the removal or modification of regulated trees.

Chapter 13.32 controls the removal of trees in the city; outlines the process for obtaining a permit; outlines methods for safeguarding trees during construction; and reiterates Chapter 13.28, as described above. A Tree Removal Arborist Report is required to be prepared by a certified arborist per the City of San José's tree removal requirements if any protected trees will be removed, and coordination with the City Arborist Office is necessary to obtain a street tree pruning permit before pruning any street trees.

G.1.3.14 City of San Mateo

Street Trees

Chapter 13.35 of the City of San Mateo Municipal Code prohibits the planting, pruning, and removal of street trees without a notice and a permit; outlines the permit application; and mandates the replacement of removed or damaged trees. Street trees are defined as "trees planted in the public right-of-way."

Heritage Trees

Chapter 13.52 of the City of San Mateo Municipal Code attempts to protect and preserve heritage trees for aesthetic and biological values; requires property owners to maintain and preserve all heritage trees; prohibits the removal or pruning of heritage trees without a permit from the Director; and outlines reforestation and replanting guidelines.

The Municipal Code provides the following definition of "heritage trees."

- Any bay (*Umbellularia californica*), buckeye (*Aesculus* spp.), oak (*Quercus* spp.), cedar (*Cedrus* spp.) or redwood (*Sequoia* spp.) tree that has a diameter of 10 inches or more measured at 48 inches above natural grade.
- Any tree or stand of trees designated by resolution of the City Council to be of special historical value or of significant community benefit.
- A stand of trees, the nature of which makes each dependent on the others for survival;.
- Any other tree with a trunk diameter of 16 inches or more, measured at 48 inches above natural grade.

G.1.3.15 San Mateo County

Heritage Trees

The Heritage Tree Ordinance of San Mateo County sets forth regulations for the removal or destruction of heritage trees in San Mateo County. "Heritage tree" means any of the following:

- Class 1 shall include any tree or grove of trees so designated after Board inspection, advertised public hearing and resolution by the Board of Supervisors. The affected property owners shall be given proper written notice between 14 and 30 days prior to inspection and/or hearing by the Board.
- Class 2 shall include any of the following trees, healthy and generally free from disease, with diameter equal to or greater than the sizes listed:
    1) *Acer macrophyllum* - Bigleaf maple of more than 36 inches in diameter at breast height (d.b.h.) west of Skyline Boulevard or 28 inches in d.b.h. east of Skyline Boulevard.
    2) *Arbutus menziesii* - Madrone with a single stem or multiple stems touching each other 4.5 feet above the ground of more than 48 inches in d.b.h., or clumps visibly connected above ground with a basal area greater than 20 square feet (sq. ft.) measured 4.5 feet above average ground level.
    3) *Chrysolepis chrysophylla* - Golden chinquapin of more than 20 inches in d.b.h.
    4) *Cupressus abramsiana* - All Santa Cruz cypress trees.
    5) *Fraxinus latifolia* - Oregon ash of more than 12 inches in d.b.h.
    6) *Lithocarpus densiflorus* - Tan oak of more than 48 inches in d.b.h.
    7) *Pseudotsuga menziesii* - Douglas fir of more than 60 inches in d.b.h. east of Skyline Boulevard and north of Highway 92.
    8) *Quercus agrifolia* - Coast live oak of more than 48 inches in d.b.h.
    9) *Quercus chrysolepis* - Canyon live oak of more than 40 inches in d.b.h.
    10) *Quercus garryana* - All Oregon white oak trees.
    11) *Quercus kellogii* - Black oak of more than 32 inches in d.b.h.
    12) *Quercus wislizenii* - Interior live oak of more than 40 inches in d.b.h.
    13) *Quercus lobata* - Valley oak of more than 48 inches in d.b.h.
    14) *Quercus douglasii* - Blue oak of more than 30 inches in d.b.h.
    15) *Umbellularia californica* - California bay or laurel with a single stem or multiple stems touching each other 4.5 feet above the ground of more than 48 inches in d.b.h., or clumps visibly connected above ground with a basal area of 20 sq. ft. measured 4.5 feet above average ground level.
    16) *Torreya californica* - California nutmeg of more than 30 inches in d.b.h.

17) *Sequoia sempervirens* - Redwood of more than 84 inches in d.b.h. west of Skyline Boulevard or 72 inches d.b.h. east of Skyline Boulevard (County of San Mateo Planning and Building Division 1977).

A Heritage Tree Removal/Trimming Permit shall be obtained for removal or modification to any designated heritage trees. In granting a Heritage Tree Removal/Trimming Permit, the Planning Director may attach reasonable conditions to insure compliance with the content and purpose of this ordinance, such as, but not limited to, requiring replacement of trees removed with plantings acceptable to the Planning Director.

Significant Trees

The Significant Tree Ordinance of San Mateo County sets forth regulations for the removal or destruction of significant trees and tree communities in San Mateo County. "Significant trees" are defined as "any live woody plant rising above the ground with a single stem or trunk of a circumference of 38 inches or more measured at 4.5 feet vertically above the ground or immediately below the lowest branch, whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axis" (County of San Mateo Planning and Building Division 2002). Replacement of trees removed shall be with plantings of trees acceptable to the planning director.

G.1.3.16 City of Santa Clara Trees and Shrubs

Chapter 12.35 of the City of Santa Clara Municipal Code prohibits the removal or alteration of trees, plants, or shrubs within a street or public place without a written permit from the superintendent of streets and establishes penalties for noncompliance. Additionally, the City's Design Guidelines require that mature trees that are proposed to be removed be replaced on-site to the extent feasible at a 1:1 ratio with a 24-inch or 36-inch box specimen tree.

G.1.3.17 Santa Clara County Tree Preservation and Removal

Division C-16 of the Santa Clara County Municipal Code regulates the protection, maintenance, removal and planting of trees, including heritage trees. A "heritage tree" is defined as "any tree which, because of its history, girth, height, species, or other unique quality, has been recommended for inclusion on the heritage resource inventory by the Historical Heritage Commission and found by the Board of Supervisors to have special significance to the community, and which has therefore been included in the heritage resource inventory adopted by resolution of the Board of Supervisors (Santa Clara County 1998)."

G.1.3.18 City of Sunnyvale

City Trees

Chapter 13.16 of the City of Sunnyvale Municipal Code seeks to preserve the City's urban forest; regulates the maintenance, removal, and planting of trees within a public right-of-way; prohibits the planting, maintenance, or pruning of a tree within a public right-of-way without a permit from the superintendent; prohibits construction that would interfere with a city tree without a permit; and outlines the permit application process.

Tree Preservation

Chapter 19.94 of the City of Sunnyvale Municipal Code regulates the protection, installation, removal and long term management of significantly sized trees on private property within the City; establishes a review and permit procedure to insure the correct planting, maintenance, protection, and removal of significant trees; requires a protected tree removal permit from the department of community development in order to remove or alter protected trees; requires a tree survey as part of the required application materials; requires a tree protection plan to demonstrate how tree protection will be provided during construction; requires replanting plans as part of the landscape plan for the proposed project; and establishes penalties for violations; and outlines required methods to protected trees during construction of a project.

G.1.3.19 Santa Clara Valley Habitat Plan

Santa Clara County, the Cities of San José, Morgan Hill, and Gilroy, Santa Clara Valley Transportation Authority, and Santa Clara Valley Water District —have adopted the *Santa Clara Valley Habitat Plan*. The plan is a habitat conservation plan and a natural community conservation plan. The goal of this plan is to provide the means for conservation of covered endangered/threatened species, thereby contributing to their recovery while allowing for compatible and appropriate development to occur (ICF International 2012).

Agencies implementing the *Santa Clara Valley Habitat Plan* will identify and preserve land that provides important habitat for 18 endangered, threatened, or otherwise rare species, collectively known as "covered species." The land preservation is intended to mitigate for the environmental impacts of planned development, public infrastructure operations and maintenance activities, and to enhance the long-term viability of endangered species. In addition, the plan will protect and preserve natural communities within the plan area, including rare natural communities such as serpentine grasslands.

G.2 Environmental Setting

G.2.1 Vegetation/Wildlife

During the reconnaissance-level surveys, biotic communities were characterized based on plant composition and distribution. Seven biological communities have been identified as occurring within or immediately adjacent to the project corridor: nonnative annual grassland, willow scrub riparian, ruderal/disturbed, windrow, freshwater marsh, Northern Coastal salt marsh, and coastal brackish marsh. These biological communities were evaluated for their potential to support special-status plant and animal species.

G.2.1.1 Nonnative Annual Grassland

The nonnative annual grassland community is found in and adjacent to portions of the Project corridor predominantly along Communications Hill, with smaller areas of this community being located near San Bruno Mountain, San Francisco International Airport, Santa Clara Valley Transit Authority Light Rail Tamien Station, and Mineta San Jose International Airport. This community is characterized by sparse to dense cover of nonnative grasses, including wild oats (*Avena* sp.), barley (*Hordeum murinum* ssp. *leporinum*, *H. marinum*), soft brome (*Bromus hordeaceus*), ripgut brome

(*Bromus diandrus*), and Italian ryegrass (*Festuca perennis* [*Lolium multiflorum*]). Nonnative forbs, such as bristly oxtongue (*Helminthotheca* [*Picris*] *echioides*), prickly lettuce (*Lactuca serriola*), black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), bull thistle (*Cirsium vulgare*), stinkwort (*Dittrichia graveolens*), and curly dock (*Rumex crispus*) are the most common forbs in annual grassland in the project site. Native species observed sporadically in annual grassland include horseweed (*Erigeron* [*Conyza*] *canadensis*), tall annual willowherb (*Epilobium brachycarpum*), spikeweed (*Centromadia fitchii*), and narrow tarplant (*Holocarpha virgata*).

This biological community supports insects, amphibians, reptiles, and small birds and mammals that are preyed on by other wildlife, including red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), northern harrier (*Circus cyaneus*) (a state species of special concern), American kestrel (*Falco sparvarius*), western burrowing owl (*Athene cunicularia hypugaea*) (a state species of special concern), turkey vulture (*Cathartes aura*), and coyote (*Canis latrans*). Because they provide places for resting, breeding, and cover for species that breed in these adjacent habitats, grasslands near open water and woodland habitats are used by the most wildlife species (compared with other grassland areas). Other wildlife species typically observed within grasslands include black-tailed hare (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), striped skunk (*Mephitis mephitis*), western fence lizard (*Sceloporus occidentalis*), ring-necked pheasant (*Phasianus colchicus*), mourning dove (*Zenaida macroura*), song sparrow (*Melospiza melodia*), western meadowlark (*Sturnella neglecta*).

G.2.1.2 Willow Scrub Riparian

The willow scrub riparian community is found in small portions of the project area solely where the project area crosses creeks and streams. Each of the streams crossed by the project corridor are confined within hardened banks or levees, or constricted by human development. Willow scrub riparian is found on relatively fine-grained sand and gravel bars located in close proximity to river channels and, therefore, close to groundwater (Holland 1986). It is typically located along and at the mouths of both perennial and intermittent streams of the South Coast Ranges, extending from the San Francisco Bay Area south to the Point Conception vicinity near Santa Barbara. Willow species dominate this community, forming scrubby streamside thickets, ranging from open to extremely dense. Characteristic species include arroyo willow (*Salix lasiolepis*), shining willow (*S. lucida* ssp. *lasiandra*), and narrow-leaved willow (*S. exigua*). Willow riparian scrub may provide a wide range of resources to wildlife, such as movement and migration corridors, cover (e.g., nesting, resting, thermal), water, and a variety of foraging opportunities.

Examples of wildlife that may occur in this community include Pacific tree frog (*Hyla regilla*), bushtit (*Psaltriparus minimus*), Wilson's warbler (*Wilsonia canadensis*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), spotted towhee (*Pipilo maculatus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), European starling (*Sturnus vulgaris*), American crow (*Corvus brachyrhynchos*), western scrub-jay (*Aphelocoma californica*), house finch (*Carpodacus mexicanus*), house mouse (*Mus musculus*), and Norway rat (*Ratus norvegicus*).

G.2.1.3 Ruderal/Disturbed

The ruderal/disturbed community is found in and adjacent to the majority of the project area where hardened surfaces (e.g., asphalt, concrete, ballast rock) and other biotic communities are not found. Ruderal/disturbed communities encompass urban development, highly disturbed vegetation

communities, and active or fallow croplands. These areas typically have a high incidence of exotic plant invasion. Commonly identified exotic plants include fennel (*Foeniculum vulgare*), black mustard (*Brassica nigra*), pampas grass (*Cortaderia jubata*), and thistles. Exotic plant species may provide valuable habitat elements such as cover for nesting and roosting, as well as food sources such as nuts or berries (California Department of Fish and Game 1988).

A distinguishing characteristic of urban habitats is the mixture of native and exotic plant species. Native and introduced animal species that are tolerant of human activities often thrive in urban habitats. These species include western fence lizard (*Sceloporus occidentalis*), barn swallow (*Hirundo rustica*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), house mouse, raccoon, striped skunk, and Virginia opossum.

Croplands are located on flat to gently rolling terrain that is tilled prior to commencement of crop production (California Department of Fish and Game 1988). Due to the artificially controlled growth and harvesting regime, croplands do not conform to normal seral stages (i.e., growth stage of habitat). These habitats may either be annual or perennial depending on the crop rotation system and geographic location. Examples of wildlife that have adapted to croplands include red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), American goldfinch (*Carduelis tristis*), house mouse, and deer mouse.

G.2.1.4 Windrow

The windrow community is found in and adjacent to the majority of the project area and occurs sporadically in developed areas at varying densities. This community comprises various tree species that have been planted for ornamental or commercial purposes. Typically located in the vicinity of urban development, windrows can be found adjacent to roads and highways throughout California. These communities occur intermittently within and adjacent to the project corridor.

Windrows may provide roosts, perches, and nest sites for various bird species, particularly raptors (California Department of Fish and Game 1988). Litter layers created by the exfoliated bark of eucalyptus trees may also provide cover for small vertebrate species, such as southern alligator lizard (*Elgaria multicarinatus*), gopher snake, and woodrats (*Neotoma* spp.) (California Department of Fish and Game 1988). Other species that may be encountered include red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), chestnut-backed chickadee (*Poecile rufescens*), and American crow. Windrows of eucalyptus may also provide wintering sites for monarch butterflies.

G.2.1.5 Freshwater Marsh

Freshwater marshes are found throughout California. They are most common on level to gently rolling topography. They are found in various land depressions or at the edges of rivers and lakes (California Department of Fish and Game 1988). Cattail (*Typha* ssp.), bulrush [*Schoenoplectus* (*Scirpus*) ssp.], and sedges (*Carex* ssp.) dominate freshwater marsh communities. Freshwater marshes are among the most productive wildlife habitats in California. They provide food, cover, and water for more than 160 species of birds (California Department of Fish and Game 1988), and a variety of mammals, reptiles and amphibians. Species that use freshwater marsh communities in the project vicinity may include the Pacific tree frog, the federally threatened California tiger salamander (*Ambystoma californiense*), the federally endangered San Francisco garter snake

(*Thamnophis sirtalis tetrataenia*), and the federally threatened California red-legged frog (*Rana draytonii*).

G.2.1.6 Northern Coastal Salt Marsh

The northern coastal salt marsh community is found adjacent to small portions of the project corridor along the Brisbane Lagoon and San Francisco Bay in South San Francisco. Salt marshes are found along the margins of bays, lagoons, and estuaries sheltered from excessive wave action (California Department of Fish and Game 1988). Soil salinity varies from that of saltwater (35 parts per thousand [ppt]) or greater (60 ppt up to 145 ppt) because of lagoon closure and evaporation, to brackish (less than 5 ppt) at sites influenced by heavy precipitation and run-off (California Department of Fish and Game 1988). Northern coastal salt marsh is dominated primarily by saltmarsh cordgrass (*Spartina alternifolia*), pickleweed (*Salicornia virginica*), saltgrass (*Distichlis spicata*), and marsh gumplant (*Grindelia latifolia*). Salt marshes provide food, cover, and nesting and roosting habitat for a variety of birds, mammals, reptiles, and amphibians. Endemic subspecies of birds associated with salt marsh habitats in the project vicinity include the endangered California clapper rail (*Rallus longirostris*), California black rail (*Laterallus jamaicensis corturniculus*), salt marsh common yellowthroat (*Geothlypis trichas sinuosa*), and Belding's Savannah sparrow (*Passerculus sandwichensis beldingi*). Other bird species that feed or roost in these wetland areas are herons, egrets, ducks, hawks, shorebirds, swallows, and marsh wrens. Mammal species that may inhabit salt marshes in the project vicinity include the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), shrews, mice, bats, and raccoons.

G.2.1.7 Coastal Brackish Marsh

The coastal brackish marsh community is found adjacent to small portions of the project corridor near the Brisbane Lagoon and San Francisco Bay in South San Francisco. This vegetation community is very similar to coastal salt marsh but is brackish due to freshwater input (Holland 1986). Salinity may vary depending upon tidal influence. Brackish marshes can be found along the interior edges of coastal bays, estuaries, and coastal lagoons. Wildlife typically associated with brackish marshes includes a combination of species found in salt marshes and freshwater marshes.

G.2.2 Special-Status Species

G.2.2.1 Special-Status Wildlife Species

Based on Table 3.3-2 in Chapter 3, Section 3.3, *Biological Resources*, the following special-status wildlife species were determined to have potential to occur at certain locations within or along the project site.

- Central California coast steelhead (*Oncorhynchus mykiss*)
- San Francisco garter snake (*Thamnophis sitralis tetrataenia*)
- Western pond turtle (*Emys marmorata*)
- California tiger salamander (*Ambystoma californiense*)
- California red-legged frog (*Rana draytonii*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)

- Pallid bat (*Antrozous pallidus*)
- Hoary bat (*Lasiurus cinereus*)
- Fringed myotis (*Myotis thysanodes*)
- Western burrowing owl (*Athene cunicularia hypugaea*)
- Northern harrier (*Circus cyaneus*)
- White-tailed kite (*Elanus leucurus*)
- American peregrine falcon (*Falco peregrines anatum*)
- Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)
- Purple martin (*Progne subis*)

Central California Coast Steelhead

Central California coast steelhead is listed as threatened by USFWS. Central California coast steelhead is an anadromous fish that lives in the Pacific Ocean, where it feeds until sexually mature. This species migrates into freshwater streams and moves upstream until it spawns in cold, clear water and gravel substrate. Central California coastal steelhead ranges along California's coast from the Russian River in Marin County, south to Aptos Creek in Santa Cruz County, and includes all of the greater San Francisco Bay, east to the confluence of the San Joaquin and Sacramento Rivers. This species is known to occur within Mills Creek, Permanente Creek, Stevens Creek, San Mateo Creek, San Francisquito Creek, Los Gatos Creek, and Guadalupe River, which are all crossed by the project corridor. There was one California Natural Diversity Database (CNDDB) occurrence within 5 miles of the project corridor in San Pedro Creek, which is not crossed by the project corridor.

San Francisco Garter Snake

San Francisco garter snake is listed as endangered by USFWS, endangered by CDFW, and state-listed as fully protected. Encroachment of development into habitat and underwater channeling of water sources are the primary threats to the species. The San Francisco garter snake is known to occupy freshwater wetlands, drainage ditches, and creeks in the San Francisco Bay Area and such areas within and near the Caltrain corridor adjacent to the San Francisco International Airport. The species also uses tidally influenced ditches as migration corridors between disconnected patches of freshwater wetland habitat. Much like the California red-legged frog discussed below, San Francisco garter snake migrations are most likely to occur when surges of freshwater are introduced into saltwater and brackish water habitats. A reduction in salinity provides the species with a more tolerable connection between other, more favorable habitats. The CNDDB suppresses detailed location information for this species; however, the San Francisco garter snake is known to occur near the project corridor at the San Francisco International Airport, and it should be assumed present where suitable habitat exists.

Western Pond Turtle

Western pond turtle is listed as a species of special concern by CDFW. Western pond turtle is an olive-drab turtle that inhabits a wide variety of water bodies, including ponds, marshes, rivers, streams, and irrigation canals. This species can tolerate full-strength sea water for a short period of time, but normally is found in freshwater. Western pond turtle females migrate away from their

water bodies into surrounding uplands, where they construct underground nests and lay eggs from April to August. This species has potential to occur within Guadalupe River, San Francisquito Creek, San Mateo Creek, and other streams crossed by the project corridor, as well as to nest in adjacent natural upland areas. There are 19 CNDDB records within five miles of the project corridor. The nearest record of this species is approximately 1.5 miles away from the project corridor on the Guadalupe River (California Department of Fish and Wildlife 2013).

California Tiger Salamander

California tiger salamander is listed as threatened by USFWS and by CDFW. It is also designated as a species of special concern by CDFW. California tiger salamander is recorded from 1992 and 1993 at three sites south of the project corridor. This species is estimated to have disappeared from more than 50 percent of its historic range. Many populations have been extirpated due to loss of or fragmenting of suitable habitat through urbanization and agriculture. Hybridization with nonnative tiger salamanders also threatens the continuity of this species. This species has potential to occur within wetlands and adjacent grassland in the Communications Hill area of San Jose, immediately adjacent to the southern portion of the project corridor. There are 18 records within 5 miles of the project corridor; however, all but three of the records are considered extirpated or potentially extirpated. The nearest record is approximately 0.05 mile away from the project corridor in a quarry pond in San Jose in the Communications Hill area (California Department of Fish and Wildlife 2013).

California Red-Legged Frog

California red-legged frog is listed as threatened by USFWS and is designated as a species of special concern by CDFW. Suitable habitat for California red-legged frog occurs within the project corridor but outside of the immediate Project impact area. Like most other frog species, the California red-legged frog is known to make seasonal movements, often between winter spawning sites and spring-summer foraging habitats. Such movements may be especially likely during extended periods of rain when ground surface saturation or surface sheet flow creates seasonal wetland pathways between otherwise isolated wetland sites. When stormwater runoff decreases the salinity in tidally influenced ditches, the California red-legged frog may use these ditches to migrate between isolated freshwater habitats. There are 51 CNDDB occurrences within 5 miles of the project corridor, with the only four records from locations east of Interstate 280. Of these four records, two are located immediately west of San Francisco International Airport, one is located in west Menlo Park, and another is located southwest of Stanford. The nearest record is approximately 0.04 miles from the project corridor in a canal near the San Francisco International Airport (California Department of Fish and Wildlife 2013).

Townsend's Big-Eared Bat

Townsend's big-eared bat was proposed for listing under CESA as threatened or endangered on June 26, 2013 and is therefore treated as a state listed species during the review period. This species is currently listed as a species of special concern by CDFW and also listed as a species with high regional priority by Western Bat Working Group (Western Bat Working Group 2013). Townsend's big-eared bat occurs throughout California in a wide variety of habitats ranging from sea level to 10,800 feet. This species is typically associated with coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Species distribution is also strongly correlated with availability of caves or cave-like roosting habitat. Townsend's big-eared bats have been observed utilizing buildings, bridges, rock crevices,

and hollow trees as roost sites (Western Bat Working Group 2005). Due to relatively cool climate of the San Francisco Bay area, suitable roosts with stable thermal regimes are expected to be found under or within bridges or other man-made structures. Within the project corridor bridges and structures are generally located at stream crossings. Townsend's big-eared bats are highly sensitive to disturbance and therefore are highly unlikely to roost within suitable habitat along the project corridor. There are no CNDDB occurrences within five miles of the project corridor. The nearest record is approximately 6.8 miles from the project corridor on Angel Island (California Department of Fish and Wildlife 2014).

Pallid Bat

Pallid bat is listed as a species of special concern by CDFW and also listed as a species with high regional priority by Western Bat Working Group (Western Bat Working Group 2013). Pallid bat occurs throughout California and typically roosts in fissures of caves, tunnels, mines, hollow trees, and other locations with stable temperatures. Due to relatively cool climate of the San Francisco Bay area, suitable non-maternal roosts with stable thermal regimes are expected to be found in dense stands of trees and under or within bridges or other man-made structures. Within the project corridor dense stands of trees are predominantly found in areas of well-developed riparian habitat along streams and bridges are also generally located at stream crossings. There are six CNDDB occurrences within five miles of the project corridor. The nearest record is approximately 124 feet from the project corridor in Belmont (California Department of Fish and Wildlife 2013).

Hoary Bat

Hoary bat is listed as a species with medium regional priority by Western Bat Working Group (Western Bat Working Group 2013). Hoary bat's range covers all of California. This species primarily roosts in foliage of both coniferous and deciduous trees, near the ends of branches. Hoary bat has potential to occur within the riparian habitat along creeks within the project corridor. There are 14 CNDDB occurrences within five miles of the project corridor. The nearest record of this species is approximately 0.05 miles away from the project corridor in Menlo Park (California Department of Fish and Wildlife 2013).

Fringed Myotis

Fringed myotis is listed as a species with high regional priority by Western Bat Working Group (Western Bat Working Group 2013). Fringed myotis is found in a variety of habitats with optimal habitats consisting of pinyon-juniper, valley foothill hardwood, and hardwood-conifer. This species uses caves, mines, buildings, or crevices for roosting and maternity colony habitat. Due to relatively cool climate of the San Francisco Bay area, suitable non-maternal roosts with stable thermal regimes are expected to be found in dense stands of trees and under or within bridges or other man-made structures. Within the project corridor dense stands of trees are predominantly found in areas of well-developed riparian habitat along streams and bridges are also generally located at stream crossings. There is one CNDDB occurrence within five miles of the project corridor, approximately 1.9 miles west of the project corridor near San Mateo (California Department of Fish and Wildlife 2013).

Western Burrowing Owl

Western burrowing owl is not listed by USFWS, but it is designated as a species of special concern by CDFW. Burrowing owls are found in open, dry grasslands and inhabit the abandoned underground burrows of other animals, such as the ground squirrel. They can dig up their own burrows, but usually prefer the deserted excavations of other animals. The owls commonly perch on fence posts or on top of mounds outside their burrows. The only area in the project vicinity where burrows were noted is the south-facing hillside to the north of Communications Hill Boulevard in San Jose. An individual burrowing owl was observed on this hillside approximately 300 feet north of the PS7 site during the December 2007 survey. There are 47 CNDDB occurrences of western burrowing owl within five miles of the project corridor; however, nearly all of these are separated from the project corridor by significant distance and a high degree of development. The nearest occurrences are located 0.05-mile and 0.25-mile from the project corridor at the southern extent of the corridor (in the Communications Hill area) (California Department of Fish and Wildlife 2013). There is a resident population of western burrowing owls at San Jose International Airport. Since 1990, there has been a burrowing owl monitoring and management program in place at the airport, which is approximately 0.50-mile northeast of the project corridor. The burrowing owls on the airport property utilize artificial and natural burrows (California Department of Fish and Wildlife 2013).

Northern Harrier

Northern harrier is not listed by USFWS, but it is designated as a species of special concern by CDFW. This species is also protected by the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5. Northern harriers are found in grasslands and other open habitats where they forage for small mammals. This species also nests on the ground within low grasslands. This species has the potential to forage within the project corridor and nest in low grasslands near but not immediately adjacent to the active Caltrain tracks due to routine noise disturbance. There are two CNDDB occurrences of the species within five miles of the project corridor, both approximately 2.6 miles northeast of the project corridor near Palo Alto Baylands Nature Preserve and in the Don Edwards National Wildlife Refuge near San Carlos (California Department of Fish and Wildlife 2013).

White-Tailed Kite

White-tailed kite is a CDFW fully protected species and is also protected by the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5. White-tailed kite is a medium-sized small raptor that occurs along much of the coast and Central Valley of California down into Baja California year-round. This species is frequently associated with grasslands and other open habitats. White-tailed kite typically eats small mammals and has the ability to hover while searching an area. This species nests in trees and has the potential to do so near the project corridor but not immediately adjacent to the active Caltrain tracks due to routine noise disturbance. There are five CNDDB occurrences of the species within five miles of the project corridor, the nearest being approximately 3 miles northeast of the project corridor in the Don Edwards National Wildlife Refuge near Belmont and near north San Jose (California Department of Fish and Wildlife 2013).

American Peregrine Falcon

American peregrine falcon is a CDFW fully protected species and is also protected by the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5. American peregrine falcons forage for aerial prey in midair and typically nest on cliffs. Two locations of nests on high-rise buildings (the Oracle Building in San Mateo and the City Hall Building in San Jose) are the only suitable nesting habitat near the project corridor, and both locations have significant vertical separation from the elevation of the project area. No other suitable nesting habitat for this species occurs in or near the project corridor, so the only time this species could occur within the project area is during foraging activities.

Purple Martin

Purple martins are listed as a species of special concern by CDFW. Purple martins are found widely but locally distributed throughout California within forest and woodland habitats at low to intermediate elevations (Shuford and Gardali 2008). During a reconnaissance survey conducted on June 10, 2001, the project corridor was driven using a railroad track accessible vehicle (hi-rail). Unidentified swallows and/or their nests were observed under five bridges in the Caltrain corridor: 22nd Street bridge, San Tomas Aquino Creek bridge, San Jose bridge, I-880 bridge, and an unnamed bridge located at the intersection of the UPRR/Western Pacific Railroad (WPRR) tracks. Purple martins are likely to use overpasses and bridges as nest sites. There are no CNDDB records for the purple martin within 5 miles the project corridor.

Saltmarsh Common Yellowthroat

Salt marsh common yellowthroat is listed as a species of special concern by CDFW and is protected by the MBTA. Salt marsh common yellowthroat is found in Marin, Napa, Sonoma, Solano, San Francisco, San Mateo, Santa Clara, and Alameda Counties within freshwater marshes in summer and salt or brackish marshes in fall and winter. This species utilizes areas of tall grasses, tules, and willow thickets for cover and nesting substrate. There are 14 CNDDB records of this species within five miles of the project corridor. Salt marsh common yellowthroat has potential to occur within fresh and saltwater marsh vegetation within and near the project corridor. The nearest record of this species is approximately 1.6 miles northeast of the project corridor in Charleston Slough near Palo Alto (California Department of Fish and Wildlife 2013).

G.2.2.2 Special-Status Plant Species

Based on Table 3.3-2, the following special-status plant species were determined to have potential to occur at certain locations within and/or along the project site.

- Franciscan onion (*Allium peninsulare* var. *franciscanum*)
- Bent-flowered fiddleneck (*Amsinckia lunaris*)
- Round-leaved filaree (*California macrophylla*)
- Bristly sedge (*Carex comosa*)
- Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*)
- Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *setchellii*)
- Marsh microseris (*Microseris paludosa*)

- White-seaside tarplant (*Hemizonia congesta* ssp. *congesta*)
- San Francisco campion (*Silene verecunda* ssp. *verecunda*)
- Showy rancheria clover (*Trifolium amoenum*)

Franciscan Onion

Franciscan onion is listed as 1B.2 by the California Native Plant Society1 (CNPS). This species is a perennial bulbiferous herb that grows in clay and often serpentine soils within cismontane woodland, valley, and foothill grassland habitats. Within the San Francisco Bay Area, this species is found in Santa Clara, San Mateo, and Sonoma counties. There are nine CNDDB occurrences within five miles of the project corridor. The nearest record is approximately 0.14 mile west of the project corridor in San Mateo (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

Bent-Flowered Fiddleneck

Bent-flowered fiddleneck is an annual herb listed as 1B.2 by CNPS. This species grows on coastal bluff scrub, valley and foothill grasslands, and cismontane woodlands. Within the San Francisco Bay Area, this species is found in Alameda, Contra Costa, Marin, Napa, Santa Clara, San Mateo, and Sonoma counties. There are three CNDDB occurrences within five miles of the project corridor. The nearest record is approximately one mile northwest of the project corridor in South San Francisco (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

Round-Leaved Filaree

Round-leaved filaree is an annual herb listed as 1B.1 by CNPS. This species grows on friable clay soils within grasslands. Within the San Francisco Bay Area, this species is found within Contra Costa, Napa, Santa Clara, San Mateo, and Sonoma counties. There is one CNDDB occurrence recorded within five miles of the project corridor, approximately 2.4 miles northeast of the project corridor in San Jose (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

Bristly Sedge

Bristly sedge is a perennial rhizomatous herb that is listed as 2.1 by CNPS. This species grows in wet areas and lake margins. Within the San Francisco Bay Area, this species is found within Contra Costa, San Francisco, and Sonoma counties. There is one CNDDB occurrence recorded within five miles of the project corridor, approximately 2.9 miles west of the project corridor in San Francisco

[1] California Rare Plant Rank (CRPR) by CNPS: 1A = List 1A species: presumed extinct in California; 1B = List 1B species: rare, threatened, or endangered in California and elsewhere; 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere
CRPR Code Extensions: 0.1 = seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat; 0.2 = fairly endangered in California (20–80% of occurrences threatened)

(California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

Congdon's Tarplant

Congdon's tarplant is an annual herb that is listed as 1B.1 by CNPS. This species grows in alkaline soils, and occasionally saline soils, within annual grassland, swales, lower slopes, and flats. Within the San Francisco Bay Area, this species is found within Alameda, Contra Costa, Santa Clara, and San Mateo counties. There are five CNDDB occurrences recorded within five miles of the project corridor. The nearest record is approximately 1.25 miles east of the project corridor in San Jose (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

Santa Clara Valley Dudleya

Santa Clara Valley dudleya is a perennial herb listed as federally endangered and 1B.1 by CNPS. This species grows on rocky serpentine sites within cismontane woodland and valley and foothill grassland. Within the San Francisco Bay Area, this species occurs within Santa Clara County. There are nine CNDDB occurrences within five miles of the project corridor. The nearest record is 0.45 mile southwest of the project corridor in San Jose (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

Marsh Microseris

Marsh microseris is a perennial herb that is listed as 1B.2 by CNPS. This species grows in grassland, cismontane woodland, coastal scrub, and closed-cone coniferous forest. Within the San Francisco Bay Area, this species occurs within Marin, San Francisco, San Mateo, and Sonoma counties. There is one CNDDB occurrence within five miles of the project corridor and is located approximately 3.9 miles northwest of the project corridor in San Francisco (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

White Seaside Tarplant

White seaside tarplant is an annual herb that is listed as 1B.2 by CNPS. This species grows in valley and foothill grassland, and sometimes on roadsides. Within the San Francisco Bay Area, this species is found in Marin, San Francisco, San Mateo, and Sonoma counties. There are two CNDDB occurrences within five miles of the project corridor. The nearest record is approximately two miles northwest of the project corridor in South San Francisco (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

San Francisco Campion

San Francisco campion is a perennial herb that is listed as 1B.2 by CNPS. This species grows in sandy soils within coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Within the San Francisco Bay Area, this species occurs in San Francisco and San Mateo

counties. There are six CNDDB occurrences within five miles of the project corridor. The nearest record is approximately two miles west on San Bruno Mountain (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

Showy Rancheria Clover

Showy rancheria clover is an annual herb listed as federally endangered and 1B.1 by CNPS. This species grows in low elevation grasslands, including swales and disturbed areas, sometimes in serpentinite soils. Within the San Francisco Bay Area, this species occurs in Marin, Napa, Santa Clara, San Mateo, Solano, and Sonoma counties. There are two CNDDB occurrences within five miles of the project corridor. The nearest record is approximately 3.5 miles west of the project corridor in Brisbane (California Department of Fish and Wildlife 2013). Given the suitable habitat in/near the project area and prior disturbance of the majority of the corridor, this species has a low potential to occur in the corridor.

G.2.3 Construction Access and Staging Areas

San Francisco

Two staging areas are planned to be located in San Francisco at milepost (MP) 0.4 in the east side of the San Francisco Yard and at MP 1.1 northeast corner of 16th Street (34,000 square feet [sq ft.]). These staging areas respectively include developed and ruderal land cover types. The staging areas at MP 0.4 and 1.1, as well as, all other staging areas throughout the project corridor have the potential to support nesting birds. Staging activities within all staging areas, including developed sites, could result in the abandonment or destruction of active bird nests in or nearby staging areas.

Brisbane

Four staging areas are planned to be located in Brisbane at MP 5.2, west of Beatty Avenue; MP 6.7, under Tunnel Avenue east (105,000 sq. ft.) and west (90,000 sq. ft.) of the right-of-way (ROW); and at MP 7.7 west of Sierra Parkway. Land cover types within staging areas at MP 5.2 and 7.7 are predominantly ruderal, while land cover at staging areas at MP 6.7 include creek, riparian habitat, and salt marsh. Staging areas at MP 5.2 and MP 7.7 are outside of the ROW and MP 7.7 includes potentially regulated trees. The staging areas at MP 5.2 and 6.7 include and/or are near jurisdictional wetlands and/or waters of the United States.

San Bruno

Three staging areas are planned to be located in San Bruno at MP 10.6, at Scott Street (41,694 sq. ft.); MP 11.6, east of San Bruno grade separation (65,448 sq. ft.) and west of the ROW. Land cover types within staging areas at MP 10.6 and 11.6 are predominantly ruderal and developed, with a freshwater wetland in or near MP 10.6 and an engineered channel near MP 11.6. The staging area at MP 11.6, west of the ROW, is outside of the ROW. The staging area at MP 11.6, east of the San Bruno grade separation is near potential habitat for California red-legged frog. Additionally, all three staging areas include and/or are near jurisdictional wetlands and/or waters of the United States.

Millbrae

One staging area is planned to be located in Millbrae at MP 12.7, within the ROW at Center Street (99,920 sq. ft.). Land cover in this staging area is predominantly ruderal and engineered channel nearby. This staging area is near potential habitat for California red-legged frog and is near jurisdictional wetlands and/or waters of the United States.

Burlingame

Four staging areas are planned to be located in Burlingame at MP 14.8, south of Oxford Road (46,931 sq. ft.); MP 15.5, east of MT-1 (140,018 sq. ft.); MP 16.0, southeast of Oak Grove Avenue (40,000 sq. ft.); and MP 16.8, northeast corner Peninsula Avenue (9,000 sq. ft.). The staging area at MP 16.6 is outside of the ROW. Land cover types within staging areas at MP 14.8 and 15.5 are predominantly woodland and developed, with an engineered channel in or near MP 15.5. Land cover types at the staging areas at MP 16.0, 16.6, and 16.8 are respectively developed and riparian, ruderal, and developed and ruderal. The staging areas at MP 14.8, 15.5, and 16.0, include potentially regulated trees. Additionally, staging areas at MP 15.5 and 16.0 include and/or are near jurisdictional wetlands and/or waters of the United States.

San Mateo

Three staging areas are planned to be located in San Mateo at MP 17.0, east side of ROW at Villa Terrace (14,000 sq. ft.); MP 18.3, west side of ROW between 9th and 16th Streets (120,000 sq. ft.); and MP 19.8, west side of ROW past 26th Avenue (115,577 sq. ft.). The staging area at MP 19.8 is outside of the ROW. Land cover types within the staging areas at MP 17.0, 18.3, and 198 are respectively ruderal, ruderal and freshwater wetland, and developed. The staging areas at MP 17.0 and 18.3 include potentially regulated trees, and the staging area at MP 18.3 includes jurisdictional wetlands and/or waters of the United States.

Belmont

One staging area is planned to be located in Belmont at MP 21.7, at the north parking lot for Belmont Station (43,643 sq. ft.). The predominant land cover type within the staging area is developed. The staging area at MP 21.7 includes potentially regulated trees.

Redwood City

One staging area is planned to be located in Redwood City at MP 26.5, east of Redwood Sidings (80,000 sq. ft.). The predominant land cover type within the staging area could not be determined, as it was not included on the plan set provided for this analysis.

Atherton

Two staging areas are planned to be located in Atherton at MP 27.8, south of Atherton Station (22,337 sq. ft.); and MP 28.3, northwest of Encinal and Glenwood Avenues (21,158 sq. ft.). The dominant land cover type within these staging areas is ruderal. Both staging areas include potentially regulated trees.

Palo Alto

Three staging areas are planned to be located in Palo Alto at MP 29.8, on the south side of Alma Road crossing (33,985 sq. ft.); MP 32.1, south of California Avenue Station (45,000 sq. ft.); and MP 33.0, in ROW from Meadow Drive to Charleston Road (51,000 sq. ft.). Land cover types at the staging areas at MP 29.8 and 33.0 are respectively ruderal and riparian habitat associated with San Francisquito Creek, and developed and ruderal. The predominant land cover type for the staging area at MP 32.1 could not be determined, as it was not included on the plan set provided for this analysis. The staging areas at MP 29.8 and 33.0 include potentially regulated trees. Additionally, the staging area at MP 29.8 is near jurisdictional wetlands and/or waters of the United States. (San Francisquito Creek) and regulated riparian habitat.

Mountain View

One staging area is planned to be located in Mountain View at MP 35.2, on the east side of the ROW (133,058 sq. ft.). The predominant land cover type within the staging area is ruderal. The staging area at MP 35.2 includes potentially regulated trees.

Sunnyvale

Four staging areas are planned to be located in Sunnyvale at MP 38.9, south of Sunnyvale Avenue (50,000 sq. ft.); MP 42.9, west side of the ROW (90,000 sq. ft.); MP 44.0, west side of the ROW (148,529 sq. ft.); and MP 44.6, south of De la Cruz Boulevard and west of the ROW. (37,360 sq. ft.). Predominant land cover within the staging area at MP 38.9 is ruderal, and land cover at the other three staging areas is developed. The staging area at MP 44.0 includes potentially regulated trees.

Santa Clara

One staging area is planned to be located in Santa Clara at MP 45.0, at the Santa Clara Station parking lot (30,335 sq. ft.). The predominant land cover type within the staging area is developed and the staging area includes potentially regulated trees.

San Jose

Four staging areas are planned to be located in San Jose at MP 46.3, at the College Park Station (20,000 sq. ft.); MP 46.6, at the Caltrain Centralized Equipment Maintenance and Operations Facility (100,000 sq. ft.); MP 47.4, north of Diridon Station on the corner of Alameda Street (21,397 sq. ft.); and MP 48.2, southwest corner Virginia Street (29,000 sq. ft.). Land cover types within staging areas at MP 46.3 and 46.6 are predominantly developed, while land cover types in the staging areas at MP 47.4 and 48.2 are ruderal. The staging areas at MP 46.3, 47.4, and 48.2, include potentially regulated trees.

G.3 References

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

June 7, 2013

Document Number: 130607094133

Sarah Perrin
ICF International
75 East Santa Clara St
San Jose, CA 95113

Subject: Not specified

Dear: Mrs. Perrin

We are sending this official species list in response to your June 7, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be September 05, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130607094133

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Euphydryas editha bayensis
bay checkerspot butterfly (T)
Critical habitat, bay checkerspot butterfly (X)

Haliotes cracherodii
black abalone (E) (NMFS)

Haliotes sorenseni
white abalone (E) (NMFS)

Icaricia icarioides missionensis
mission blue butterfly (E)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Speyeria callippe callippe
callippe silverspot butterfly (E)

Speyeria zerene myrtleae
Myrtle's silverspot butterfly (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Eucyclogobius newberryi
tidewater goby (E)

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus kisutch
coho salmon - central CA coast (E) (NMFS)
Critical habitat, coho salmon - central CA coast (X) (NMFS)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Caretta caretta
loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. agassizi)
green turtle (T) (NMFS)

Dermochelys coriacea
leatherback turtle (E) (NMFS)

Lepidochelys olivacea
olive (=Pacific) ridley sea turtle (T) (NMFS)

Masticophis lateralis euryxanthus
Alameda whipsnake [=striped racer] (T)

Thamnophis sirtalis tetrataenia
San Francisco garter snake (E)

Birds

Brachyramphus marmoratus
Critical habitat, marbled murrelet (X)
marbled murrelet (T)

Charadrius alexandrinus nivosus
western snowy plover (T)

Diomedea albatrus
short-tailed albatross (E)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Mammals

Arctocephalus townsendi
Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis
sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis
southern sea otter (T)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Critical Habitat, Steller (=northern) sea-lion (X) (NMFS)
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Acanthomintha duttonii
San Mateo thornmint (E)

Arctostaphylos hookeri ssp. ravenii
Presidio (=Raven's) manzanita (E)

Arenaria paludicola
marsh sandwort (E)

Chorizanthe robusta var. robusta
robust spineflower (E)

Cirsium fontinale var. fontinale
fountain thistle (E)

Clarkia franciscana
Presidio clarkia (E)

Dudleya setchellii
Santa Clara Valley dudleya (E)

Eriophyllum latilobum
San Mateo woolly sunflower (E)

Hesperolinon congestum
Marin dwarf-flax (=western flax) (T)

Lasthenia conjugens
Contra Costa goldfields (E)

Layia carnosa
beach layia (E)

Lessingia germanorum
San Francisco lessingia (E)

Pentachaeta bellidiflora
white-rayed pentachaeta (E)

Potentilla hickmanii
Hickman's potentilla (=cinquefoil) (E)

Streptanthus albidus ssp. albidus
Metcalf Canyon jewelflower (E)

Suaeda californica
California sea blite (E)

Trifolium amoenum
showy Indian clover (E)

Proposed Species

Plants

Arctostaphylos Franciscana
Critical Habitat, Franciscan Manzanita (X)

Quads Containing Listed, Proposed or Candidate Species:

SAN JOSE WEST (427C)
SAN JOSE EAST (427D)
MOUNTAIN VIEW (428A)
PALO ALTO (428B)
CUPERTINO (428D)

WOODSIDE (429A)
REDWOOD POINT (447C)
SAN FRANCISCO SOUTH (448B)
MONTARA MOUNTAIN (448C)

MONTARA MOUNTAIN (448C)
SAN MATEO (448D)
SAN FRANCISCO NORTH (466C)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them

for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be September 05, 2013.

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acanthomintha duttonii San Mateo thorn-mint	PDLAM01040	Endangered	Endangered	G1	S1	1B.1
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S3	WL
Adela oplerella Opler's longhorn moth	IILEE0G040	None	None	G2G3	S2S3	
Allium peninsulare var. franciscanum Franciscan onion	PMLIL021R1	None	None	G5T2	S2.2	1B.2
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SSC
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G2?	S2?	1B.2
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Arctostaphylos andersonii Anderson's manzanita	PDERI04030	None	None	G2	S2?	1B.2
Arctostaphylos franciscana Franciscan manzanita	PDERI040J3	None	None	G1	S1	1B.1
Arctostaphylos imbricata San Bruno Mountain manzanita	PDERI040L0	None	Endangered	G1	S1	1B.1
Arctostaphylos montana ssp. ravenii Presidio manzanita	PDERI040J2	Endangered	Endangered	G3T1	S1	1B.1
Arctostaphylos montaraensis Montara manzanita	PDERI042W0	None	None	G2	S2.2	1B.2
Arctostaphylos pacifica Pacific manzanita	PDERI040Z0	None	Endangered	G1	S1	1B.2
Arctostaphylos regismontana Kings Mountain manzanita	PDERI041C0	None	None	G2	S2.2	1B.2
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Arenaria paludicola marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
Asio flammeus short-eared owl	ABNSB13040	None	None	G5	S3	SSC
Astragalus pycnostachyus var. pycnostachyus coastal marsh milk-vetch	PDFAB0F7B2	None	None	G2T2	S2.2	1B.2
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Banksula incredula incredible harvestman	ILARA14100	None	None	G1	S1	
Caecidotea tomalensis Tomales isopod	ICMAL01220	None	None	G2	S2	
Calicina minor Edgewood blind harvestman	ILARA13020	None	None	G1	S1	
California macrophylla round-leaved filaree	PDGER01070	None	None	G2	S2	1B.1
Callophrys mossii bayensis San Bruno elfin butterfly	IILEPE2202	Endangered	None	G4T1	S1	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2.1
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G4T2	S2	1B.1
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G4T1	S1	1B.2
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G4T3	S2	SSC
Chloropyron maritimum ssp. palustre Point Reyes bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2.2	1B.2
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	PDPGN04081	None	None	G2T2	S2.2	1B.2
Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S1	
Circus cyaneus northern harrier	ABNKC11010	None	None	G5	S3	SSC
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G2	S2.2	1B.2
Cirsium fontinale var. campylon Mt. Hamilton fountain thistle	PDAST2E163	None	None	G2T2	S2	1B.2
Cirsium fontinale var. fontinale fountain thistle	PDAST2E161	Endangered	Endangered	G2T2	S1	1B.1
Cirsium occidentale var. compactum compact cobwebby thistle	PDAST2E1Z1	None	None	G3G4T2	S2.1	1B.2
Cirsium praeteriens lost thistle	PDAST2E2B0	None	None	GX	SX	1A
Clarkia concinna ssp. automixa Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3.3	4.3
Clarkia franciscana Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Collinsia corymbosa round-headed Chinese-houses	PDSCR0H060	None	None	G1	S1	1B.2
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2.2	1B.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2S3	SSC
Danaus plexippus monarch butterfly	IILEPP2010	None	None	G5	S3	
Dipodomys venustus venustus Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2G3	S2S3	1B.2
Dudleya abramsii ssp. setchellii Santa Clara Valley dudleya	PDCRA040Z0	Endangered	None	G3T2	S2	1B.1
Dufourea stagei Stage's dufourine bee	IIHYM22010	None	None	G1?	S1?	
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Enhydra lutris nereis southern sea otter	AMAJF09012	Threatened	None	G4T2	S2	FP
Eriogonum nudum var. decurrens Ben Lomond buckwheat	PDPGN08492	None	None	G5T2	S2.1	1B.1
Eriophyllum latilobum San Mateo woolly sunflower	PDAST3N060	Endangered	Endangered	G1	S1	1B.1
Eryngium aristulatum var. hooveri Hoover's button-celery	PDAPI0Z043	None	None	G5T2	S2.1	1B.1
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S2S3	SSC
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
Falco columbarius merlin	ABNKD06030	None	None	G5	S3	WL
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T3	S2	FP
Fritillaria biflora var. ineziana Hillsborough chocolate lily	PMLIL0V031	None	None	G1QT1Q	S1	1B.1
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T2	S2	SSC
Gilia capitata ssp. chamissonis blue coast gilia	PDPLM040B3	None	None	G5T2	S2.1	1B.1
Gilia millefoliata dark-eyed gilia	PDPLM04130	None	None	G2	S2.2	1B.2
Grindelia hirsutula var. maritima San Francisco gumplant	PDAST470D3	None	None	G5T1Q	S1	3.2
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hemizonia congesta ssp. congesta white seaside tarplant	PDAST4R065	None	None	G5T2T3	S2S3	1B.2
Hesperevax sparsiflora var. brevifolia short-leaved evax	PDASTE5011	None	None	G4T2T3	S2S3	1B.2
Hesperolinon congestum Marin western flax	PDLIN01060	Threatened	Threatened	G2	S2	1B.1
Hoita strobilina Loma Prieta hoita	PDFAB5Z030	None	None	G2	S2	1B.1
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T2	S2?	1B.1
Horkelia marinensis Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2.2	1B.2
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G1G2	S1S2	
Hydroporus leechi Leech's skyline diving beetle	IICOL55040	None	None	G1?	S1?	
Ischnura gemina San Francisco forktail damselfly	IIODO72010	None	None	G2	S2	
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3?	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4?	
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G4T1	S1	FP
Layia carnosa beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
Leptosiphon croceus coast yellow leptosiphon	PDPLM09170	None	None	G1	S1	1B.1
Leptosiphon rosaceus rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lessingia arachnoidea Crystal Springs lessingia	PDAST5S0C0	None	None	G1	S1	1B.2
Lessingia germanorum San Francisco lessingia	PDAST5S010	Endangered	Endangered	G1	S1	1B.1
Lichnanthe ursina bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
Malacothamnus aboriginum Indian Valley bush-mallow	PDMAL0Q020	None	None	G2	S2	1B.2
Malacothamnus arcuatus arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2.2	1B.2
Malacothamnus davidsonii Davidson's bush-mallow	PDMAL0Q040	None	None	G2	S2	1B.2
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2Q	S2	1B.2
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2?	SSC
Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W	None	None	G5T2?	S2?	SSC
Microcina edgewoodensis Edgewood Park micro-blind harvestman	ILARA47010	None	None	G1	S1	
Microcina homi Hom's micro-blind harvestman	ILARA47020	None	None	G1	S1	
Microseris paludosa marsh microseris	PDAST6E0D0	None	None	G2	S2.2	1B.2
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G2G3	S2S3	1B.2
Mylopharodon conocephalus hardhead	AFCJB25010	None	None	G3	S3	SSC
Myotis evotis long-eared myotis	AMACC01070	None	None	G5	S4?	
Myotis thysanodes fringed myotis	AMACC01090	None	None	G4G5	S4	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4?	
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S3	
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S2	SSC
Oncorhynchus mykiss irideus steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2Q	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S3	WL
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	PDBOR0V061	None	None	G3T2Q	S2.2	1B.2
Plagiobothrys diffusus San Francisco popcornflower	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
Plagiobothrys glaber hairless popcornflower	PDBOR0V0B0	None	None	GH	SH	1A
Plebejus icarioides missionensis Mission blue butterfly	IILEPG801A	Endangered	None	G5T1	S1	
Polemonium carneum Oregon polemonium	PDPLM0E050	None	None	G4	S1	2.2
Potentilla hickmanii Hickman's cinquefoil	PDROS1B0U0	Endangered	Endangered	G1	S1	1B.1
Rallus longirostris obsoletus California clapper rail	ABNME05016	Endangered	Endangered	G5T1	S1	FP
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G4T2T3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2S3	
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2.2	1B.1
Scapanus latimanus insularis Angel Island mole	AMABB02032	None	None	G5T1	S1	
Silene verecunda ssp. verecunda San Francisco campion	PDCAR0U213	None	None	G5T2	S2.2	1B.2
Sorex vagrans halicoetes salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
Speyeria zerene myrtleae Myrtle's silverspot	IILEPJ6089	Endangered	None	G5T1	S1	
Stebbinsoseris decipiens Santa Cruz microseris	PDAST6E050	None	None	G2	S2.2	1B.2
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2S3	FP
Streptanthus albidus ssp. albidus Metcalf Canyon jewel-flower	PDBRA2G011	Endangered	None	G2T1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Stuckenia filiformis slender-leaved pondweed	PMPOT03090	None	None	G5	S3	2.2
Suaeda californica California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
Taxidea taxus American badger	AMAJF04010	None	None	G5	S4	SSC
Thamnophis sirtalis tetrataenia San Francisco garter snake	ARADB3613B	Endangered	Endangered	G5T2	S2	FP
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	G1	S1	
Trifolium amoenum showy rancheria clover	PDFAB40040	Endangered	None	G1	S1	1B.1
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Triphysaria floribunda San Francisco owl's-clover	PDSCR2T010	None	None	G2	S2.2	1B.2
Triquetrella californica coastal triquetrella	NBMUS7S010	None	None	G1	S1	1B.2
Tryonia imitator mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2G3	S2S3	
Usnea longissima long-beard lichen	NLLEC5P420	None	None	G4	S4.2	
Vespericola marinensis Marin hesperian	IMGASA4140	None	None	G2G3	S2S3	
Zapus trinotatus orarius Point Reyes jumping mouse	AMAFH01031	None	None	G5T1T3Q	S1S3	SSC

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Plant List

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Search Criteria

Found in Quad 37122F4

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	1B.2	S2?	G2?
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	4.3	S3.3?	G3
Arctostaphylos franciscana	Franciscan manzanita	Ericaceae	perennial evergreen shrub	1B.1	S1	G1
Arctostaphylos imbricata	San Bruno Mountain manzanita	Ericaceae	perennial evergreen shrub	1B.1	S1	G1
Arctostaphylos montana ssp. ravenii	Presidio manzanita	Ericaceae	perennial evergreen shrub	1B.1	S1	G3T1
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2.2	G2
Arctostaphylos pacifica	Pacific manzanita	Ericaceae	evergreen shrub	1B.2	S1	G1
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	4.2	S3.2	G3T3
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	1B.2	S2	G2T2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	1B.2	S1	G4T1
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	1B.2	S2.2	G2T2
Chorizanthe robusta var. robusta	robust spineflower	Polygonaceae	annual herb	1B.1	S1	G2T1
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	1B.2	S2.2	G2
Cirsium occidentale var. compactum	compact cobwebby thistle	Asteraceae	perennial herb	1B.2	S2.1	G3G4T2
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2.2	G2
Equisetum palustre	marsh horsetail	Equisetaceae	perennial rhizomatous herb	3	S1S2	G5
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
Gilia capitata ssp. chamissonis	blue coast gilia	Polemoniaceae	annual herb	1B.1	S2.1	G5T2
Grindelia hirsutula var. maritima	San Francisco gumplant	Asteraceae	perennial herb	3.2	S1	G5T1Q
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	1B.2	S2	G2

Hemizonia congesta ssp. congesta	white seaside tarplant	Asteraceae	annual herb	1B.2	S2S3	G5T2T3
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	1B.2	S2S3	G4T2T3
Horkelia cuneata var. sericea	Kellogg's horkelia	Rosaceae	perennial herb	1B.1	S2?	G4T2
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	4.2	S3.2	G3
Lessingia germanorum	San Francisco lessingia	Asteraceae	annual herb	1B.1	S1	G1
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2.2	G2Q
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	1B.1	S1	G1
Plagiobothrys chorisianus var. chorisianus	Choris' popcorn-flower	Boraginaceae	annual herb	1B.2	S2.2	G3T2Q
Silene verecunda ssp. verecunda	San Francisco campion	Caryophyllaceae	perennial herb	1B.2	S2.2	G5T2
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	1B.1	S1	G1
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	1B.2	S2.2	G2
Triquetrella californica	coastal triquetrella	Pottiaceae	moss	1B.2	S1	G1

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Search Criteria

Found in Quad 37122C1

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	4.2	S3.2?	G4
Clarkia concinna ssp. automixa	Santa Clara red ribbons	Onagraceae	annual herb	4.3	S3.3	G5?T3
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	1B.2	S2S3	G2G3
Hoita strobilina	Loma Prieta hoita	Fabaceae	perennial herb	1B.1	S2	G2
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	4.2	S3.2	G3
Malacothamnus aboriginum	Indian Valley bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	1B.2	S2S3	G2G3
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	1B.1	S1	G1

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Search Criteria

Found in Quad 37122E4

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	1B.2	S2.2	G5T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	1B.2	S2?	G2?
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	4.3	S3.3?	G3
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2?	G2
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2.2	G2
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2.2	G2
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	4.2	S3.2	G3T3
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	1B.2	S2.2	G2T2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	1B.2	S1	G4T1
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	1B.2	S2.2	G2T2
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	1B.2	S2.2	G2
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2.2	G2
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	1B.2	S2S3	G2G3
Elymus californicus	California bottle-brush grass	Poaceae	perennial herb	4.3	S3.3	G3
Eriophyllum latilobum	San Mateo woolly sunflower	Asteraceae	perennial herb	1B.1	S1	G1
Erysimum franciscanum	San Francisco wallflower	Brassicaceae	perennial herb	4.2	S3.2	G3
Fritillaria biflora var. ineziana	Hillsborough chocolate lily	Liliaceae	perennial bulbiferous herb	1B.1	S1	G1QT1Q
Fritillaria lanceolata var. tristulis	Marin checker lily	Liliaceae	perennial bulbiferous herb	1B.1	S2	G5T2

Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
Grindelia hirsutula var. maritima	San Francisco gumplant	Asteraceae	perennial herb	3.2	S1	G5T1Q
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	1B.2	S2S3	G4T2T3
Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	1B.2	S2.2	G2
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	4.2	S3.2	G3
Leptosiphon croceus	coast yellow leptosiphon	Polemoniaceae	annual herb	1B.1	S1	G1
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	1B.1	S1	G1
Lessingia arachnoidea	Crystal Springs lessingia	Asteraceae	annual herb	1B.2	S1	G1
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	3	S3	G3
Lupinus arboreus var. eximius	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	3.2	S2.2	G2Q
Malacothamnus aboriginum	Indian Valley bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2.2	G2Q
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2	G2Q
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	1B.2	S2S3	G2G3
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	1B.1	S1	G1
Plagiobothrys chorisianus var. chorisianus	Choris' popcorn-flower	Boraginaceae	annual herb	1B.2	S2.2	G3T2Q
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	2.2	S1	G4
Potentilla hickmanii	Hickman's cinquefoil	Rosaceae	perennial herb	1B.1	S1	G1
Silene verecunda ssp. verecunda	San Francisco campion	Caryophyllaceae	perennial herb	1B.2	S2.2	G5T2
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	1B.2	S2.2	G2
Triquetrella californica	coastal triquetrella	Pottiaceae	moss	1B.2	S1	G1

Suggested Citation

California Native Plant Society (CNPS). 2013. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Accessed on Tuesday, June 04, 2013.

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Advanced Search
Glossary

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About the Rare Plant Program
CNPS Home Page
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Search Criteria

Found in Quad 37122D1

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	4.2	S3.2?	G5? T3T4
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2?	G2
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	1B.2	S2	G2T2
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	1B.1	S2	G4T2
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2.2	G4?T2
Eryngium aristulatum var. hooveri	Hoover's button-celery	Apiaceae	annual / perennial herb	1B.1	S2.1	G5T2
Stuckenia filiformis	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb	2.2	S3	G5
Suaeda californica	California seablite	Chenopodiaceae	perennial evergreen shrub	1B.1	S1	G1

Suggested Citation

California Native Plant Society (CNPS). 2013. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Accessed on Friday, June 07, 2013.

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Search Criteria

Found in Quad 37122D2

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	1B.1	S1	G1
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	1B.2	S2.2	G5T2
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	4.2	S3.2?	G5? T3T4
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2.2	G2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	4.2	S3.2?	G4
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	1B.1	S2	G4T2
Cirsium fontinale var. fontinale	Crystal Springs fountain thistle	Asteraceae	perennial herb	1B.1	S1	G2T2
Cirsium praeteriens	lost thistle	Asteraceae	perennial herb	1A	SX	GX
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2.2	G2
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	1B.2	S2S3	G2G3
Eryngium aristulatum var. hooveri	Hoover's button-celery	Apiaceae	annual / perennial herb	1B.1	S2.1	G5T2
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	1B.1	S2	G2
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	3	S3	G3
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2.2	G2Q
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3.2?	G3
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	1B.2	S2S3	G2G3
Stuckenia filiformis	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb	2.2	S1S2	G5

Trifolium amoenum	two-fork clover	Fabaceae	annual herb	1B.1	S1	G1
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	1B.1	S1	G1

Suggested Citation

California Native Plant Society (CNPS). 2013. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Accessed on Tuesday, June 04, 2013.

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Simple Search
Advanced Search
Glossary

Information
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Search Criteria

Found in Quad 37122E2

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2.2	G4?T2
Navarretia myersii ssp. myersii	pincushion navarretia	Polemoniaceae	annual herb	1B.1	S1	G1T1

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Simple Search
Advanced Search
Glossary

Information
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About the Rare Plant Program
CNPS Home Page
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Search Criteria

Found in Quad 37122G4

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	4.3	S3.3?	G3
Arctostaphylos franciscana	Franciscan manzanita	Ericaceae	perennial evergreen shrub	1B.1	S1	G1
Arctostaphylos montana ssp. ravenii	Presidio manzanita	Ericaceae	perennial evergreen shrub	1B.1	S1	G3T1
Arenaria paludicola	marsh sandwort	Caryophyllaceae	perennial stoloniferous herb	1B.1	S1	G1
Aspidotis carlotta-halliae	Carlotta Hall's lace fern	Pteridaceae	perennial rhizomatous herb	4.2	S3.2	G3
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	4.2	S3.2	G3T3
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	1B.2	S2	G2T2
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	2.1	S2	G5
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2.2	G4?T2
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	1B.2	S2.2	G2T2
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	1B.2	S2.2	G2
Clarkia franciscana	Presidio clarkia	Onagraceae	annual herb	1B.1	S1	G1
Collinsia corymbosa	round-headed Chinese-houses	Plantaginaceae	annual herb	1B.2	S1	G1
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2.2	G2
Eriophorum gracile	slender cottongrass	Cyperaceae	perennial rhizomatous herb	4.3	S3.3	G5
Erysimum franciscanum	San Francisco wallflower	Brassicaceae	perennial herb	4.2	S3.2	G3
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
Gilia capitata ssp. chamissonis	blue coast gilia	Polemoniaceae	annual herb	1B.1	S2.1	G5T2
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	1B.2	S2.2	G2
Grindelia hirsutula var. maritima	San Francisco gumplant	Asteraceae	perennial herb	3.2	S1	G5T1Q

Hemizonia congesta ssp. congesta	white seaside tarplant	Asteraceae	annual herb	1B.2	S2S3	G5T2T3
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	1B.1	S2	G2
Horkelia cuneata var. sericea	Kellogg's horkelia	Rosaceae	perennial herb	1B.1	S2?	G4T2
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	4.2	S3.2	G3
Layia carnosa	beach layia	Asteraceae	annual herb	1B.1	S2	G2
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	1B.1	S1	G1
Lessingia germanorum	San Francisco lessingia	Asteraceae	annual herb	1B.1	S1	G1
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3.2?	G3
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	1B.2	S2.2	G2
Plagiobothrys chorisianus var. chorisianus	Choris' popcorn-flower	Boraginaceae	annual herb	1B.2	S2.2	G3T2Q
Plagiobothrys diffusus	San Francisco popcorn-flower	Boraginaceae	annual herb	1B.1	S1	G1Q
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	2.2	S1	G4
Sanicula maritima	adobe sanicle	Apiaceae	perennial herb	1B.1	S2.2	G2
Silene verecunda ssp. verecunda	San Francisco campion	Caryophyllaceae	perennial herb	1B.2	S2.2	G5T2
Stebbinsoseris decipiens	Santa Cruz microseris	Asteraceae	annual herb	1B.2	S2.2	G2
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	1B.2	S2.2	G2
Triquetrella californica	coastal triquetrella	Pottiaceae	moss	1B.2	S1	G1

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Simple Search
Advanced Search
Glossary

Information
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CNPS Home Page
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Search Criteria

Found in Quad 37121C7

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	4.2	S3.2?	G5? T3T4
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2
California macrophylla	round-leaved filaree	Geraniaceae	annual herb	1B.1	S2	G2
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	1B.1	S2	G4T2
Cirsium fontinale var. campylon	Mt. Hamilton fountain thistle	Asteraceae	perennial herb	1B.2	S2	G2T2
Clarkia concinna ssp. automixa	Santa Clara red ribbons	Onagraceae	annual herb	4.3	S3.3	G5?T3
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2.2	G2
Dudleya abramsii ssp. setchellii	Santa Clara Valley dudleya	Crassulaceae	perennial herb	1B.1	S2	G3T2
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	1B.1	S1	G1
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2	G2Q
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3.2?	G3
Plagiobothrys glaber	hairless popcorn-flower	Boraginaceae	annual herb	1A	SH	GH
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	2.2	S2	G3?
Streptanthus albidus ssp. albidus	Metcalf Canyon jewel-flower	Brassicaceae	annual herb	1B.1	S1	G2T1

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Simple Search

Advanced Search

Glossary

Information

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Search Criteria

Found in Quad 37121C8

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Chorizanthe robusta var. robusta	robust spineflower	Polygonaceae	annual herb	1B.1	S1	G2T1
Hoita strobilina	Loma Prieta hoita	Fabaceae	perennial herb	1B.1	S2	G2
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2.2	G2Q
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2	G2Q
Plagiobothrys glaber	hairless popcorn-flower	Boraginaceae	annual herb	1A	SH	GH
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	1B.2	S2	G2

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Simple Search
Advanced Search
Glossary

Information

About the Inventory
About the Rare Plant Program
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Search Criteria

Found in Quad 37122E3

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	1B.1	S1	G1
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	1B.2	S2.2	G5T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	1B.2	S2?	G2?
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2?	G2
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2.2	G2
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	1B.2	S2.2	G2T2
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2.2	G4?T2
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	1B.2	S2.2	G2T2
Cirsium fontinale var. fontinale	Crystal Springs fountain thistle	Asteraceae	perennial herb	1B.1	S1	G2T2
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2.2	G2
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	1B.2	S2S3	G2G3
Eriophyllum latilobum	San Mateo woolly sunflower	Asteraceae	perennial herb	1B.1	S1	G1
Erysimum franciscanum	San Francisco wallflower	Brassicaceae	perennial herb	4.2	S3.2	G3
Fritillaria biflora var. ineziana	Hillsborough chocolate lily	Liliaceae	perennial bulbiferous herb	1B.1	S1	G1QT1Q
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	1B.2	S2S3	G4T2T3
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	1B.1	S2	G2
Lessingia arachnoidea	Crystal Springs	Asteraceae	annual herb	1B.2	S1	G1

	lessingia					
Lilium maritimum	coast lily	Liliaceae	perennial bulbiferous herb	1B.1	S2	G2
Lupinus arboreus var. eximius	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	3.2	S2.2	G2Q
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2.2	G2Q
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2	G2Q
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	1B.2	S2S3	G2G3
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	1B.1	S1	G1
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	2.2	S1	G4
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	1B.2	S2	G2
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	1B.2	S2.2	G2

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Simple Search
Advanced Search
Glossary

Information
About the Inventory
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CNPS Home Page
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Search Criteria

Found in Quad 37122D3

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	1B.1	S1	G1
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	1B.2	S2.2	G5T2
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2?	G2
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2.2	G2
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	1B.2	S2.2	G2T2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	4.2	S3.2?	G4
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Cirsium fontinale var. fontinale	Crystal Springs fountain thistle	Asteraceae	perennial herb	1B.1	S1	G2T2
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2.2	G2
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	1B.2	S2S3	G2G3
Elymus californicus	California bottle-brush grass	Poaceae	perennial herb	4.3	S3.3	G3
Erysimum franciscanum	San Francisco wallflower	Brassicaceae	perennial herb	4.2	S3.2	G3
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	1B.1	S2	G2
Leptosiphon ambiguus	serpentine leptosiphon	Polemoniaceae	annual herb	4.2	S3.2	G3
Lessingia arachnoidea	Crystal Springs lessingia	Asteraceae	annual herb	1B.2	S1	G1
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	3	S3	G3
Lupinus arboreus var. eximius	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	3.2	S2.2	G2Q

Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2.2	G2Q
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	1B.2	S2S3	G2G3
Pedicularis dudleyi	Dudley's lousewort	Orobanchaceae	perennial herb	1B.2	S2	G2
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	1B.1	S1	G1
Plagiobothrys chorisianus var. chorisianus	Choris' popcorn-flower	Boraginaceae	annual herb	1B.2	S2.2	G3T2Q
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb	4.2	S3.2	G4
Silene verecunda ssp. verecunda	San Francisco campion	Caryophyllaceae	perennial herb	1B.2	S2.2	G5T2

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Information
About the Inventory
About the Rare Plant Program
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