

A P P E N D I X D

BIOLOGICAL RESOURCES SURVEY  
REPORT





DANVILLE 2030 GENERAL PLAN

BIOLOGICAL AND WETLAND RESOURCES  
BACKGROUND REPORT

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7 October 2011

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## I. PURPOSE AND BACKGROUND

### A. PURPOSE

This *Biological and Wetland Resources Background Report* provides information on the regulatory framework related to sensitive biological and wetland resources, a general description of resources in the Danville planning area, and a discussion of key issues, opportunities, and possible constraints. Its purpose is to provide preliminary background information on sensitive resources in the Danville planning area vicinity, regulations and programs which provide for their protection, and important planning considerations in updating and refining the relevant goals and policies of the Resources and Hazards section of the *Town of Danville 2030 General Plan*.

### B. BACKGROUND AND METHODS

This *Background Report* was based primarily on the review of available information and existing mapping, and no detailed field surveys were conducted during preparation of this report. Visits to each of the Housing Opportunity Sites were conducted to provide an initial understanding of possible biological and wetland constraints, including presence of creeks and other wetland types, native trees and other natural features, and the potential to support occurrences of special-status species. Available literature and resource mapping reviewed included: current policies and programs from Resources and Hazards section of the *Town of Danville 2030 General Plan*; the Town's Tree Preservation Ordinance (Section 32-79 of the Municipal Code); vegetation and habitat mapping prepared as part of the CalVeg program (USDA Forest Service, 2007); the special-status species and sensitive natural communities occurrence records of the California Natural Diversity Data Base (CNDDDB, 2011); and the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California* (2001 and electronic edition); among other information sources. A list of references used during preparation of this report is provided in Section V.

## II. REGULATORY FRAMEWORK

Local, State, and federal regulations have been enacted to provide for the protection and management of sensitive biological and wetland resources. On the federal level, the U.S. Fish and Wildlife Service (USFWS) is responsible for protection of terrestrial and freshwater organisms through implementation of the federal Endangered Species Act<sup>1</sup> and the Migratory Bird Treaty Act, and the National Marine Fisheries Service (NOAA Fisheries) is responsible for protection of anadromous fish and marine wildlife. The U.S. Army Corps of Engineers (Corps) has primary responsibility for protecting wetlands under Section 404 of the Clean Water Act. At the state level, the California Department of Fish and Game (CDFG) is responsible for administration of the California Endangered Species Act, and for protection of streams and waterbodies through the Streambed Alteration Agreement process under Section 1600 of the California Fish and Game Code. Certification from the California Regional Water Quality Control Board is also required when a proposed activity may result in discharge into navigable waters, pursuant to Section 401 of the Clean Water Act and EPA Section 404(b)(1) Guidelines, which also regulates waters of the State under the Porter-Cologne Water Quality Control Act.

### A. SPECIAL-STATUS SPECIES

Special-status species<sup>2</sup> are plants and animals that are legally protected under the State and/or federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. Species with legal protection under the federal and State Endangered Species Acts often represent major constraints to development, particularly when they are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a “take” of these species. “Take” as defined by the federal Endangered Species Act (ESA) means “to harass, harm, pursue, hunt, shoot, would, kill, trap, capture, or collect” a threatened or endangered species. “Harm” is further defined by the USFWS to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e. breeding, feeding, or sheltering) through significant habitat modifications or degradation. The CDFG also considers the loss of listed species habitat as “take”, although this policy

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<sup>1</sup> The federal Endangered Species Act (ESA) of 1973 declares that all federal departments and agencies shall utilize their authority to concern endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of the ESA and pertains to California species.

<sup>2</sup> Special-status species include: designated (rare, threatened, or endangered) and candidate species for listing by the CDFG; designated (threatened or endangered) and candidate species for listing by the USFWS; species considered to be rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act Guidelines, such as those identified on lists 1A, 1B, and 2 in the *Inventory of Rare and Endangered Plants of California* (electronic edition) by the California Native Plant Society (CNPS); and possibly other species which are considered sensitive due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on list 3 in the CNPS *Inventory* or identified as California “Species of Special Concern” (SSC) species by the CDFG. Animal species designated as SSC have no legal protective status under the CESA but are of concern to the CDFG because of severe decline in breeding populations and other factors.

lacks statutory authority and case law support under the California Endangered Species Act (CESA).

The primary information source on the distribution of special-status species in California is the California Natural Diversity Database (CNDDDB) inventory, which is maintained by the Biogeographic Data Branch of the CDFG. The CNDDDB inventory provides the most comprehensive statewide information on the location and distribution of special-status species and sensitive natural communities. Occurrence data is obtained from a variety of scientific, academic, and professional organizations, private consulting firms, and knowledgeable individuals, and entered into the inventory as expeditiously as possible. The occurrence of a species of concern in a particular region is an indication that an additional population may occur at another location if habitat conditions are suitable. However, the absence of an occurrence in a particular location does not necessarily mean that special-status species are absent from the area in question; only that no data has been entered into the CNDDDB inventory. Detailed field surveys are generally required to provide a conclusive determination on presence or absence of sensitive resources from a particular location, where there is evidence of potential occurrence.

### **Federal Authority**

The USFWS and NOAA Fisheries have jurisdiction over species that are formally listed as threatened or endangered under the federal ESA. The federal ESA is a complex law enacted in 1973 to protect and recover plant and animal species in danger of becoming extinct and to conserve their ecosystems, with an ultimate goal being the recovery of a species to the point where it is no longer in need of protection. An “endangered” plant or animal species is one that is considered in danger of becoming extinct throughout all or a significant portion of its range. A “threatened” species is one that is likely to become endangered within the foreseeable future. The USFWS also maintains a list of species proposed for listing as endangered or threatened, and a list of candidate species for which sufficient information is available to support issuance of a proposed listing rule.

It is illegal to take any listed species without specific authorization. Any activity that could result in take of a federally-listed species requires a Section 10 take permit authorization from the USFWS or NOAA Fisheries. Should another federal agency be involved with permitting the project, such as the Corps under jurisdiction of the Clean Water Act, Section 7 of the ESA requires the federal lead agency to consult with the USFWS and/or NOAA Fisheries before permitting any activity that may result in take of a listed species. Section 9 of the ESA and its applicable regulations restrict certain activities with respect to endangered and threatened plants. However, these restrictions are less stringent than those applicable to fish and wildlife species. The provisions prohibit the removal of, malicious damage to, or destruction of any listed plant species from areas under federal jurisdiction.

In addition to the protection offered under the ESA, the federal Migratory Bird Treaty Act (MBTA) provides for protection of migratory bird species, birds in danger of extinction, and their active nests. It is illegal to possess or take any bird protected under

the act without a depredation permit from the USFWS, which includes protection of eggs, young, and nests in active use. Although the MBTA technically provides for protection of most bird species, it is typically applied as a mechanism to protect active nests of raptors and colonial nesting species through the breeding and nesting season.

### **State Authority**

The CDFG has jurisdiction over threatened or endangered species that are formally listed under the CESA. The CESA is similar to the federal ESA both in process and substance, providing additional protection to listed species in California. The CESA does not supersede the federal ESA, but operates in conjunction, with some species having different listing status. The CESA is intended to conserve, protect, restore, and enhance listed species and their habitat. Compliance with the CESA is required when a take is considered likely by the CDFG.

The CDFG also maintains informal lists of California “Special Concern Species” (SSC) species. These species are broadly defined as animals that are of concern to the CDFG because of population declines and restricted distribution, and/or because they are associated with habitats that are declining in California. These species are inventoried in the CNDDDB, focusing on nesting, roosting, and congregation sites for non-listed species. In addition, wildlife species designated as “Fully Protected” or “Protected” may not be taken or possessed without a permit from the Fish and Game Commission and/or the CDFG. The CESA prohibits the take of any plant listed as endangered, threatened, or rare. A “rare” plant species is one not presently threatened with extinction but may become endangered if its present environment worsens. State listing of plants began in 1977 with passage of the Native Plant Protection Act (NPPA). The CESA expanded upon the NPPA and enhanced legal protection for plants. To align with federal regulations, CESA created the categories of threatened and endangered species. It grandfathered all rare animals into the CESA as threatened species, but did not do so for rare plants.

The California Native Plant Society (CNPS) is a non-profit conservation organization dedicated to the preservation of native flora in California. The CNPS has been involved in assembling, evaluating, and distributing information on special-status plant species in the state, as listed in the *Inventory of Rare and Endangered Plants of California* (2001 and electronic inventory update). CNPS has recently updated their rating system for the rarity of special-status plants, and now include both a California Rare Plant Rank and a Threat Rank. For the California Rare Plant Rank, species are rated as follows:

- 1A = Presumed extinct in California.
- 1B = Rare, threatened, or endangered in California and elsewhere.
- 2 = Rare and endangered in California, but are more common elsewhere.
- 3 = Plant species for which additional data is needed (a review list).
- 4 = Plant species of limited distribution (a watch list).

The “Threat Rank” replaces the former rarity code used in the CNPS *Inventory*, and consists of the following rankings:

- 0.1 = Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).
- 0.2 = Fairly threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat).
- 0.3 = Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

All of the plant species with a California Rare Plant Rank of 1A, 1B, and 2 meet the requirements of the NPPA (Section 1901, Chapter 10) or Section 2062 and 2067 of CESA, and are eligible for state listing. Species maintained by CNPS with these three rankings should be considered special-status species under the California Environmental Quality Act (CEQA). Some species with a Rare Plant Rank of 3 also meet the requirements for state listing. Very few plants with a Rare Plant ranking of 4 are eligible for listing but may be locally important and their listing status could be elevated if conditions change.

The CEQA requires government agencies to consider environmental impacts of discretionary projects and to avoid or mitigate them where possible. Under Section 15380, CEQA provides protection for both State-listed species and for any other species which can be shown to meet the criteria for State listing. The CDFG recognizes that special-status plants with a California Rare Plant Rank of 1A, 1B, and 2 in the CNPS *Inventory* consist of plants that, in a majority of cases, would qualify for listing and these species should be addressed under CEQA review. In addition, the CDFG recommends, and local governments may require, protection of species which are regionally significant, such as locally rare species, disjunct populations, essential nesting and roosting habitat for more common wildlife species, or plants with a CNPS California Rare Plant Rank of 3 and 4.

## **B. SENSITIVE NATURAL COMMUNITIES**

Sensitive natural communities are natural community types considered to be rare or of a “high inventory priority” by the CDFG. Although sensitive natural communities have no legal protective status under the federal ESA or CESA, they are provided some level of consideration under CEQA. Appendix G of the CEQA Guidelines identifies potential impacts on a sensitive natural community as one of six criteria to consider in determining the significance of a proposed project. While no thresholds are established as part of this criterion, it serves as an acknowledgement that sensitive natural communities are an important resource and, depending on their rarity, should be recognized as part of the environmental review process. The level of significance of a project’s impact on any particular sensitive natural community will depend on that natural community’s relative abundance and rarity.

The CNDDDB provides an inventory of sensitive natural communities considered to have a “high inventory priority” in the State by the CDFG. Initially, the classification of natural communities used by the CNDDDB was a habitat-based approach defined by dominant or characteristic plant species as described in the *Preliminary descriptions of the terrestrial natural communities of California* (Holland, 1986). The classification of natural communities now used by the CNDDDB is based on the system described in the *Manual of California Vegetation* (Sawyer and Keeler-Wolf, 1995). While the classification system is still being refined by the CNDDDB, it provides greater definition for which natural communities are considered sensitive and have a high inventory priority that should be recognized during CEQA review. CDFG ranks natural communities (also referred to as alliances) based on rarity rank using a system derived from NatureServe’s standard heritage program,<sup>3</sup> as indicated in the *List of California Vegetation Alliances*.<sup>4</sup>

### **Federal and State Authority**

Although sensitive natural communities have no legal protective status under the state or federal Endangered Species Acts, they are provided some level of protection under CEQA. The CEQA Guidelines identify potential impacts on a sensitive natural community as one of six significance criteria. As an example, a discretionary project that has a substantial adverse effect on any riparian habitat, native grassland, valley oak woodland, or other sensitive natural community would normally be considered to have a significant effect on the environment. Further loss of a sensitive natural community could be interpreted as substantially diminishing habitat, depending on its relative abundance, quality and degree of past disturbance, and the anticipated impacts to the specific community type. Where determined to be significant under CEQA, the potential impact would require mitigation through avoidance, minimization of disturbance or loss, or some type of compensatory mitigation when unavoidable.

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<sup>3</sup> Each community type is ranked with a Global (G) and a State (S) code of 1, 2, 3, 4, or 5, with a 1 representing the most sensitive and 5 representing relatively common types. If an alliance is marked with a 1 through 3 code on the State or Global level, this means that all of the associations within it will also be considered of high inventory priority and should be considered as part of the CEQA review process. If marked as G4 or G5, these alliances are generally considered common enough to not be of concern. As an example, most alliances of native willow have a State rank of 3 or less in the *List of California Vegetation Alliances*, meaning they have a high inventory priority and are generally considered a rare vegetation type by the CDFG.

<sup>4</sup> California Department of Fish and Game, Biogeographic Data Branch, Vegetation Classification and Mapping Program, *List of California Vegetation Alliances*. December 28, 2009, list updated by CNDDDB on September 2010.

## C. WETLANDS

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the Corps and the USFWS, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

### **Federal Authority**

The Clean Water Act was enacted to address water pollution, establishing regulations and permit requirements regarding construction activities that affect storm water, dredge and fill material operations, and water quality standards. This regulatory program requires that discharges to surface waters be controlled under the National Pollutant Discharge Elimination System permit program, which applies to sources of water runoff, private developments, and public facilities.

Under Section 404 of the Clean Water Act, the Corps is responsible for regulating the discharge of fill material into waters of the United States. The term “waters” includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. All three of the identified technical criteria must be met for an area to be identified as a wetland under Corps jurisdiction, unless the area has been modified by human activity. In general, a permit must be obtained before fill can be placed in wetlands or other waters of the U.S. The type of permit depends on the amount of acreage and the purpose of the proposed fill, subject to discretion of the Corps.

Certain activities in wetlands or “other waters” are automatically authorized, or granted a nationwide permit which allows filling where impacts are considered minor. Eligibility for a nationwide permit simplifies the permit review process. Nationwide permits cover construction and fill of waters of the U.S. for a variety of routine activities such as minor road crossings, utility line crossings, streambank protection, recreational facilities and outfall structures. To qualify for a nationwide permit, a project must demonstrate that it has no more than a minimal adverse effect on the aquatic ecosystem, including species listed under the ESA. This typically means that there will be no net loss of either habitat acreage or habitat value, resulting in appropriate mitigation where fill activities are proposed.

The Corps assumes discretionary approval over proposed projects where impacts are considered significant, requiring adequate mitigation and permit approval. To provide compliance with the Environmental Protection Agency's Section 404(b)(1) Guidelines, an applicant must demonstrate that the proposed discharge is unavoidable and is the least environmentally damaging practicable alternative that will achieve the overall project purpose. The 1990 Memorandum of Agreement between the EPA and Corps concerning the Determination of Mitigation under the Guidelines prioritizes mitigation, with the first

priority to avoid impacts, the second to minimize impacts, and the third to provide compensatory mitigation for unavoidable impacts. Recent U.S. Supreme Court decisions have limited the extent of waters regulated by the Corps.

### **State Authority**

Jurisdictional authority of the CDFG over wetland areas is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake without notifying the CDFG, incorporating necessary mitigation, and obtaining a Streambed Alteration agreement. The Wetlands Resources Policy of the CDFG states that the Fish and Game Commission will “strongly discourage development in or conversion of wetlands...unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage”. The Department is also responsible for commenting on projects requiring Corps permits under the Fish and Wildlife Coordination Act of 1958.

In addition, the California Regional Water Quality Control Board (RWQCB) is responsible for upholding state water quality standards. Pursuant to Section 401 of the Clean Water Act, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit must obtain water quality certification. Following the U.S. Supreme Court SWANCC decision in 2001, the RWQCB has taken an increasing role over regulating wetlands that are hydrologically isolated, and therefore no longer considered jurisdictional by the Corps under Section 404. These hydrologically isolated features are regulated under authority of Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act.

### **D. HABITAT CONNECTIVITY**

As noted previously, protecting habitat on an ecosystem-level is essential to sustaining native plant and animal populations. Viability is a function of numerous factors, including the size and health of local plant and animal populations, habitat quality and diversity, habitat connectivity, and ecosystem dynamics such as fire, flooding, seasonal changes, and other natural disturbances, predation, and plant-herbivore pressures. Human-induced changes to the landscape have significant affects on the health and productivity of the natural environment, resulting in habitat loss and fragmentation due to urban, suburban, and even rural development, conversion to agricultural crops, and the network of roadways, flood control modifications to drainages, and other infrastructure that supports our existence.

Protecting and enhancing habitat connectivity and functional movement corridors between the remaining natural areas is essential to sustaining populations and allowing for the continued dispersal of native plant and animal species. Natural linkages include riparian corridors and drainages, canyons, ridgelines, and corridors across valley floors

where impermeable barriers such as dense urban development, exclusionary fencing, and heavily traveled roadways haven't yet eliminated options for wildlife movement and plant dispersal. While narrow corridors may be the only option in some locations due to the extent of existing development, habitat linkages are most effective through maintenance of a permeable landscape, one that allows for uninhibited movement of species across large areas.

### **Federal and State Authority**

Although there are no state or federal laws directly addressing habitat connectivity and preserving biodiversity, the Endangered Species Acts provide for protection of essential habitat for listed species. In addition, one of the six significance criteria in the CEQA Guidelines focuses on potential impacts on the movement of any native resident or migratory fish or wildlife species, established wildlife corridors, and native wildlife nursery sites. This CEQA significance criterion serves to address potential impacts of discretionary projects on fish and wildlife species, but not the dispersal of native plant species which can be particularly vulnerable to extirpation in isolated occurrences. Another significance criterion in the CEQA Guidelines pertains to the degree to which a discretionary project conforms with local policies or ordinances protecting biological resources. This significance criterion does provide an opportunity to established specific local policies and perhaps ordinances pertaining to habitat connectivity and biodiversity on a local level.

### III. SETTING

#### A. VEGETATION AND WILDLIFE HABITAT

The developed nature of the suburban landscape dominates the vegetation in the Danville planning area. The developed area is bordered by the remaining undeveloped grasslands, woodlands of the surrounding hillsides, and traversed by the bands of riparian forest and scrub along the numerous creeks and drainages. Most of the valley floors and lower hillsides have been developed with urban and suburban uses, supporting a cover of primarily ornamental landscaping. Remnant native valley oaks and coast live oaks occur in scattered locations throughout the developed valley floor. Figure 1 shows the extent of urbanization and various vegetative cover types in the planning area, based on the CalVeg mapping by the USDA Forest Service. Estimates of various vegetation cover types within the Town limits and overall planning area are summarized in Table 1, based on the CalVeg mapping.

Although native vegetation within the planning area has been substantially altered, the presence of large areas of undeveloped lands to the east and west, and along the remaining riparian corridors along stream channels contributes to a diverse assemblage of resident and migrant wildlife species. In general, each habitat differs in its relative value to specific species and can be characterized by both vegetation, or habitat and animal species that are dependent on that habitat, although some wildlife species may utilize more than one habitat type. The relative value and wildlife species typically associated with each of these habitat types is summarized below.

**Table 1**  
**Estimates of Vegetation Cover in Planning Area**

<b>Vegetation Cover</b>	<b>Town Limits (acres)</b>	<b>Planning Area (acres)</b>
Annual Grass	3,703	5,535
Blue Oak Woodland	433	484
Coastal Oak Woodland	621	691
Chamise-Redshank Chaparral	33	63
Cropland	28	29
Montane Hardwood	43	67
Urban	6,598	7,051
Valley Oak Woodland	6	6
Valley Foothill Riparian	105	145
<b>TOTAL</b>	<b>11,570</b>	<b>14,071</b>

## Developed Areas/Ornamental Landscaping

Ornamental landscaping has been planted throughout developed areas and in the vicinity of residences around the fringe of the valley floor. An estimated 7,051 acres of the planning area is mapped as urban, which includes impervious surfaces, structures and ornamental landscaping. Most species used in landscaping are non-native ornamentals, consisting of a wide variety of tree, shrub, groundcover, and turf species. Native trees are scattered throughout the established residential neighborhoods and urbanized downtown area, including specimen valley oaks (*Quercus lobata*), coast live oaks (*Q. agrifolia*), California bay laurel (*Umbellularia californica*), California buckeye (*Aesculus californica*), and Fremont cottonwood (*Populus fremontii*). Larger ornamental and non-indigenous native species include: coast redwood (*Sequoia sempervirens*), Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*), incense cedar (*Calocedrus decurrens*), deodar cedar (*Cedrus deodara*), and blue gum (*Eucalyptus globulus*), among many others.

The Town's Tree Preservation Ordinance (Section 32-79 of the Municipal Code), serves to regulate the removal of any tree within Danville. The ordinance identifies several types of trees qualifying as a "protected tree". These consist of 1) one of 13 primarily native species with a trunk diameter of 10 inches or greater measured 4.5 feet above natural grade (dbh), or for a multiple trunked-tree, a combination of trunks totaling 20 inches or greater dbh; 2) a "heritage tree" which is any single trunked-tree which has a dbh of 36 inches or greater; 3) a "memorial tree" planted on public property in memory of or commemoration of an individual or individuals; 4) a tree to be preserved on an approved Development Plan or specifically required to be retained as a condition of approval of an entitlement; and 5) a tree required to be planted as mitigation for the removal of a protected tree. The primary species regulated as protected trees include: coast live oak, valley oak, canyon live oak (*Q. chrysolepis*), blue oak (*Q. douglassi*), California black oak (*Q. kelloggi*), interior live oak (*Q. wislizeni*), white alder (*Alnus rhombifolia*), California bay, California buckeye, California sycamore (*Platanus racemosa*), madrone (*Arbutus menziesii*), coast redwood, and London plane tree (*Platanus acerifolia*).

In general, urbanized areas have low to poor wildlife habitat value due to replacement of natural communities, fragmentation of remaining open space areas and parks, and intensive human disturbance. The diversity of urban wildlife depends on the extent and type of landscaping and remaining open space, as well as the proximity to natural habitat. Trees and shrubs used for landscaping provide nest sites and cover for wildlife adapted to developed areas. Typical native bird species include: mourning dove, scrub

jay, northern mockingbird, American robin, northern flicker, brown towhee, and American kestrel. Introduced species include: rock dove, European starling, house finch, and house sparrow. Urban areas also provide habitat for several species of native mammals such as black-tailed deer, California ground squirrel, raccoon, and striped skunk, as well as the introduced eastern fox squirrel and eastern red fox. Introduced pest species such as Norway rat, house mouse, and opossum are also abundant in developed areas. As discussed above, urbanization now generally separates the remaining undeveloped lands west, northeast, and southeast of the planning area.

### **Non-Native Grasslands**

Non-native grasslands occupy most of the remaining undeveloped lands in the planning area, composed of introduced grasses and broadleaf weedy species which quickly recolonize disturbed areas. An estimated 3,703 acres in the Town limits and 5,535 acres in the entire planning area remain as grassland cover, according to the CalVeg mapping program. Intensive grazing, dryland farming, and other disturbance have eliminated most of the native grasslands throughout California over the past 100 years, including the historic rangelands of the Danville vicinity. Common species in the grasslands today include: wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus mollis*), foxtail barley (*Hordeum leporinum*), field mustard (*Brassica campestris*), wild radish (*Rhaphanus sativus*), bindweed (*Convolvulus arvensis*), cheeseweed (*Malva parviflora*), bur clover (*Medicago polymorpha*), and yellow-star thistle (*Centaurea solstitialis*). The remaining native species are common perennials, such as California poppy (*Eschscholzia californica*), Douglas' lupine (*Lupinus nanus*), and wild hyacinth (*Dichelostemma pulchellum*).

Remnant native grasslands still occur in some locations in the planning area such as parts of Las Trampas Ridge to the west and the open hillsides north and south of Camino Tassajara to the east, forming valley needlegrass grassland. This natural community is characterized by several species of native grasses such as purple needlegrass (*Nassella pulchra*), California melic (*Melica californica*), blue wildrye (*Elymus glaucus*), and beardless wildrye (*Elymus triticoides*), together with common wildflowers such as California poppy, lupines, and wild hyacinth. Most of the native grasslands throughout the state have been eliminated, which has led the CNDDDB to now recognize native grasslands as a sensitive resource with a high inventory priority. The CNDDDB considers grasslands containing ten percent or greater cover by native grass species to represent a natural grassland community. This ten percent threshold is a loosely applied standard that has been used by the state for many years. As most of the remaining native grassland communities have been highly modified by past and

on-going disturbance, the remaining native grassland communities generally form a mosaic of different cover classes, sometimes interspersed with areas dominated by non-native species.

Native and nonnative grasslands support a variety of mammals, birds, and reptiles, and provide foraging habitat for raptors. Many species use the grassland for only part of their habitat requirements, foraging in the grassland and seeking cover in the limited tree and scrub cover. Grassland cover provides foraging, nesting, and denning opportunities for resident species such as western fence lizard, northern alligator lizard, gopher snake, western meadowlark, goldfinch, ring-necked pheasant, red-winged blackbird, California ground squirrel, California vole, Bottae pocket gopher, black-tailed jackrabbit, and black-tailed deer. The rodent, bird, and reptile populations offer foraging opportunities for avian predators such as black-shouldered kite, northern harrier, American kestrel, red-tailed hawk, golden eagle, barn owl, and great horned owl. At the edges of the planning area, larger mammalian predators which utilize the grasslands include coyote, red fox, gray fox, long-tailed weasel, bobcat, and occasionally mountain lion.

### **Remnant Oak Woodlands**

Oak woodland occurs in scattered locations at the fringe of the planning area, and as remnant stands and scattered trees through the valley floor in developed areas. Woodlands comprise an estimated 1,103 acres within the Town limits and about 1,248 acres within the entire planning area. Trees in the woodland are dominated by coast live oak, California bay, and valley oak. Other tree and shrub species found in the remaining woodlands include: California buckeye, blue oak, black oak, toyon (*Heteromeles arbutifolia*), and poison oak (*Toxicodendron diversilobum*). Understory in the woodlands varies, from non-native grassland to existing development in urbanized areas. Valley oak woodlands occupy an estimated 6 acres of the planning area, and are recognized as a sensitive natural community by the CNDDDB of the CDFG due to their rarity and threats from agricultural and urban development.

The mature oaks and bays provide nesting and foraging opportunities for birds, including raptors. They also provide essential food resources for eastern fox squirrels, native grey squirrels, acorn woodpeckers, scrub jay, and other birds. Wildlife commonly associated with well-developed woodland habitat include: dusky-footed woodrat, deer mouse, western flycatcher, chestnut-backed chickadee, plain titmouse, Hutton vireo, orange-crowned kinglet, rufous-sided towhee, fox sparrow, bushtit, ringneck snake, California newt, and California slender salamander. Wildlife use of the understory in the remaining woodland and savanna varies depending on cover type. In undeveloped areas, the understory is typically composed of grassland cover and is utilized by species associated with grassland habitat. In developed areas, the understory has typically been

replaced by parking lots, structures, and ornamental landscaping, and supports wildlife common in urbanized habitats.

### **Riparian Woodland and Scrub**

Riparian vegetation occurs along creeks and tributary drainages, with trees and shrubs often forming stands characteristic of riparian forest and willow scrub natural communities. Particularly well-developed corridors of riparian cover occur along San Ramon Creek, Sycamore Creek, Green Valley Creek, Tassajara Creek, and segments of the East and West Branches of Alamo Creek. Additional habitat occurs in scattered locations along tributary drainages throughout the planning area, including intermittent streams and some ephemeral drainages. Dominant cover includes valley oak, coast live oak, California bay laurel, California buckeye and willows (*Salix* spp.), with several other tree, shrub, and vine species contributing to the typically dense cover formed by riparian vegetation. These other species include: Fremont cottonwood, black walnut (*Juglans hindsii*), wild blackberry (*Rubus ursinus*), and wild rose (*Rosa californica*). Stands of highly invasive non-native species such as arundo (*Arundo donax*), Himalayan blackberry (*Rubus discolor*), English ivy (*Hedera helix*) and Bermuda grass (*Cynodon dactylon*), have become particularly problematic in some reaches of the riparian corridors in the planning area, outcompeting and replacing native shrub and groundcover species, and severely limiting wildlife habitat values.

Surface water is available for aquatic-dependent organisms, and as a source of drinking water for terrestrial mammals and birds. The channels serve as movement corridors for aquatic and terrestrial species which use the protective cover found along the creeks. Wildlife dependent on the cover provided by the riparian woodland and scrub include black-tailed deer, black-tailed jackrabbit, brushrabbit, red and grey fox, rufous-sided towhee, scrub jay, flycatchers, and warblers. Dense riparian growth provides essential cover in the open grasslands for larger mammals, such as striped skunk, raccoon, opossum, black-tailed deer and predatory species as they forage throughout their range. Mammals and birds typically found in adjacent grassland most likely use areas of dense riparian growth as protective cover and refuge from summer heat and drought.

### **Freshwater Marsh**

Freshwater marsh is also associated with drainages and the fringe of freshwater bodies mapped as lacustrine in Figure 1. Marsh areas are typically dominated by emergent monocots such as narrow-leaf cattail (*Typha angustifolia*). Wetland indicator species characteristic of poorly developed freshwater marsh habitat include: curly dock (*Rumex crispus*), bristly ox-tongue (*Picris echioides*), and wild celery (*Apium graveolens*). The larger creeks in the planning area which do not support woody

riparian vegetation most likely support some type of freshwater marsh cover along the margins of the active channel. Freshwater marsh species also dominate the ground cover at the remaining freshwater seeps and springs in the planning area.

Freshwater aquatic habitats and the associated riparian and marsh vegetation are of high value to wildlife, providing a source of drinking water, protective cover, and serving as movement corridors. Riparian forest and scrub provides nesting and roosting substrate for numerous species of resident birds, and stopovers for migrant songbirds such as yellow-rumped warbler. The creeks, streams, ponds provide aquatic habitat for amphibians, such as Pacific tree frog, California newt, western toad, and California slender salamander, and large populations of invertebrates

### **Other Cover Types and Wildlife Habitat Features**

A number of native and non-native vegetative cover types occur within or just outside the planning area, such as mixed chaparral, coastal sage scrub, and northern coastal scrub. These cover types are dominated by woody shrubs such as coyote brush (*Baccharis pilularis*), yerba santa (*Eriodictyon californicum*), toyon (*Heteromeles arbutifolia*), chamise (*Adonostoma fasciculatum*), poison oak, buckbrush (*Ceanothus cuneatus*), chaparral pea (*Pickeringia montana*), California sagebrush (*Artemisia californica*), and black sage (*Salvia mellifera*). Areas of chaparral occur on the slopes of Las Trampas Ridge in the western edge of the planning area.

Several other landforms and cover types provide habitat for wildlife, such as rock outcrops and groves of non-native blue gum eucalyptus. Rock outcrops occur in the remaining grassland and oak woodlands at the fringe of the planning area, and provide a unique habitat for wildlife. These landforms provide perches for raptors, and ledges may also serve as nests in more isolated locations. Crevices provide abundant hiding places for numerous lizards and snakes, and larger cavities may be used as shelter locations by mammalian predators such as bobcat, coyote, and mountain lion. Although eucalyptus is native to Australia, this naturalized species provides important nesting habitat for raptors and other bird species, and cover for larger mammals. The presence of eucalyptus in the open grasslands where protective cover and perching habitat is scarce emphasizes the importance of the dense tree stands to birds and larger mammals.

### **B. SPECIAL-STATUS SPECIES**

A record search conducted by the CNDDDB, together with other relevant information, indicates that occurrences of several plant and animal species with special-status have been recorded from or are suspected to occur in the central Contra Costa County area

and Danville vicinity. Several of these have been reported from the planning area, and most of these are associated with the remaining undeveloped lands to the east, northwest, and southwest. Some historic occurrences, such as those for California tiger salamander on the valley floor, are from collections made decades ago and are no longer believed to occur where urbanization has replaced natural cover.

## **PLANT SPECIES**

Several plant species with special-status have been reported in the planning area, and based on recorded geographic range and preferred habitat, numerous other species may potentially occur in the Danville vicinity. These have varied status, and many are considered rare (list 1B) by the CNPS. Table 2 provides information on the name, status, habitat characteristics, distribution, and flowering period of the 46 plant species reported in or having the highest probability of occurrence in the planning area. Of these, four have actually been reported within or at the edge of the planning area. These include: Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), San Joaquin spearscale (*Atriplex joaquiniana*), Mt. Diablo buckwheat (*Eriogonum truncatum*), and slender silver moss (*Anomobryum julaceum*). The locations of known or historic populations are shown in Figure 2.

Existing development limits the likelihood of continued occurrence of any populations of special-status plant species on the valley floor. San Joaquin spearscale and Congdon's tarplant which were once known from the valley floor near downtown Danville but have presumably been extirpated where urbanization now occurs, although intact stands of these species remain at the eastern edge of the planning area. Many of the special-status plant occurrences in the protected open space lands at the fringe of the planning area remain today, but are vulnerable to changes such as overgrazing, fire, invasive weeds, and other threats. There remains a possibility that additional populations of one or more species occurs on the remaining undeveloped lands to the west, northeast and southeast fringes of the planning area. Detailed surveys would be required to provide confirmation on presence or absence from undeveloped portions of the planning area where thorough studies have not been conducted.

## **ANIMAL SPECIES**

A number of bird, mammal, reptile, fish, and invertebrate species with special-status are known or suspected from central Contra Costa and the Danville vicinity. These include: Cooper's hawk (*Accipiter cooperi*), sharp-shinned hawk (*Accipiter striatus*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), tricolored blackbird (*Agelaius tricolor*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus caeruleus*), prairie falcon (*Falco mexicanus*), American peregrine falcon (*Falco peregrinus anatum*), loggerhead shrike (*Lanius ludovicianus*), Antioch efferian robberfly (*Efferia antiochi*),

California tiger salamander (*Ambystoma californiense*), northwestern pond turtle (*Clemmys marmorata*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), steelhead (*Oncorhynchus mykiss*), Chinook salmon (*Oncorhynchus tshawytscha*), pallid bat (*Antrozous pallidus*), Townsend's western big-eared bat (*Plecotus townsendii townsendii*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), and San Joaquin kit fox (*Vulpes macrotis mutica*). Table 3 provides information on the name, status, preferred habitat, and potential for occurrence of each of these species in the planning area. Of these, eight have actually been reported by the CNDDDB from within or near the edge of the planning area, but many non-listed special-status species are not monitored by the CNDDDB and occurrence data is therefore not available.

Most of the special-status animal species known or suspected from the planning area are bird species which forage in the remaining undeveloped habitats. These include: burrowing owl, Cooper's hawk, loggerhead shrike, northern harrier, sharp-shinned hawk, tricolored blackbird, and white-tailed kite. Other special-status animal species known or reported from the planning area vicinity are generally presumed to occupy suitable habitat in the remaining natural areas at the western and eastern fringes. These include: Alameda whipsnake, American badger, Antioch efferian robberfly, California tiger salamander, California red-legged frog, pallid bat, San Francisco dusky-footed woodrat, Joaquin kit fox, and western pond turtle. Historic occurrences of California tiger salamander have been reported by the CNDDDB from the valley floor, but suitable breeding habitat for this species is no longer present where urbanization has occurred. However, this species is still present in occurrences at the eastern and western edges of the planning area, where suitable breeding and upland aestivation habitat remains. California red-legged frog is known from Alamo Creek, Tassajara Creek, Green Valley Creek, and a tributary to Bollinger Creek, and may occur in other locations where suitable riparian and aquatic habitat remains. Similarly, western pond turtle has been reported from a number of locations and could still disperse along San Ramon and larger creeks through the planning area. Several occurrences of San Joaquin kit fox have been reported from the rolling grasslands in the eastern portion of the planning area, but this represents the westernmost range of this species. San Francisco dusky footed woodrat is believed to occur in areas of dense woodland cover with relatively undisturbed understory. Pallid bat and other species of bat may occur in abandoned buildings and structures with limited human disturbance, even in relatively urbanized areas. Both Chinook salmon and steelhead are returning to the lower segments of Walnut Creek, but upstream barriers preclude their natural occurrence in San Ramon Creek and tributary drainages.

It should be noted that there remains a potential for occasional use of the planning area vicinity by other species of concern as well, such as prairie falcon, peregrine falcon, ferruginous hawk (*Buteo regalis*), Aleutian Canada goose (*Branta canadensis leucopareia*), and merlin (*Falco columbarius*). This, however, would be limited to occasional wintering activity by migratory bird species or possible occasional foraging activity by species for which essential breeding habitat is absent from the planning area.

### **C. SENSITIVE NATURAL COMMUNITIES**

Several of the natural communities within the planning area are considered to have a high inventory priority with the CNDDDB, and should receive appropriate recognition in planning for the General Plan update. These communities have been designated as sensitive due to rarity and continuing loss as a result of development, flood control improvements, and other factors. Sensitive natural communities which may occur in the planning area include: freshwater marsh, freshwater seeps and springs, riparian forest and woodland, willow riparian scrub, valley oak woodland, and valley needlegrass grassland. While coast live oak woodland is not considered as having a high inventory priority with the CNDDDB, it should be recognized as an important habitat type in the planning area due to its relatively high wildlife value and presence of mature native trees. With the exception of the valley needlegrass grasslands, which intergrades with non-native grasslands, all of the other community types are easily distinguished and mapped. Detailed field surveys would be required to determine the extent of natural communities in the remaining undeveloped portions and designated open space lands of the planning area.

### **D. WETLANDS**

Wetlands in the planning area include areas of freshwater marsh around stockponds, seeps, springs, and other waterbodies, seasonal wetlands in ephemeral drainages and possibly depressions on undeveloped parcels on the valley floor, and emergent marsh and willow scrub along creeks. As discussed previously, the Corps and CDFG generally exercise authority over these various wetland habitat types. A detailed wetland delineation and verification by the Corps would be required to determine the extent of jurisdictional wetlands on sites where modifications are proposed. Lacustrine wetlands associated with ponds and lakes, and some of the palustrine wetlands associated with streams and drainages in upland areas may not meet all three technical criteria used by the Corps in determining jurisdiction. Riparian wetland areas are generally defined by the "ordinary high water mark" rather than the band of adjacent riparian vegetation, limiting Corps jurisdiction where dense willow riparian scrub and forest extend a considerable distance from the channel bank. Similarly, authority of the CDFG under the Streambed Alteration Agreement process is technically limited to the confines of a channel bank and bed, but the CDFG typically requests that all associated riparian vegetation be protected and that up to a 100-foot setback be established to protect the wildlife habitat provided by riparian corridors as part of environmental review for specific development plans.

#### **D. HABITAT CONNECTIVITY**

As noted previously, protecting habitat on an ecosystem-level is essential to sustaining native plant and animal populations. The extent of urbanization on the valley floor and barriers created by the I-680 freeway and larger roadways limit opportunities for movement and dispersal of native terrestrial wildlife and plant species across the Planning Area. The remaining undeveloped lands at the western, northeastern and southeastern fringes of the planning area compliment the protected parklands and watershed lands which border these areas. The network of creeks and streams continues to provide limited opportunities for wildlife movement and dispersal through parts of the planning area, and are frequently used by a number of larger species such as black-tailed deer, raccoon, and numerous species of birds. These include the San Ramon Creek undercrossing of I-680, which provides an important link between the western and eastern sections of the planning area.

### **IV. SUMMARY OF KEY ISSUES, CONSTRAINTS, AND OPPORTUNITIES**

The current Danville 2010 General Plan serves as the principal planning document regulating development and providing for conservation of important resources on a local level for Danville. The existing General Plan contains only a few goals, objectives, and policies from the Resources and Hazards section which address the protection of sensitive biological and wetland resources. The Planning Department is responsible for reviewing individual development applications to ensure compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

The General Plan update process provides an opportunity to reevaluate the appropriateness and deficiencies of current policies and associated programs, and determine any additional goals and policies necessary to provide a framework to adequately identify, protect, and manage natural resources within the planning area.

The majority of the Housing Opportunity Sites are already developed, and have been extensively disturbed by construction of structures, impervious surfaces, and ornamental landscaping. Sensitive biological resources are generally absent on these sites, with the possible exception of trees that qualify as “protected trees” under the Town’s Tree Preservation Ordinance. A number border Green Valley Creek and San Ramon Creek (Sites 8, 17, 18, 19 and 27), the relationship of which would have to be considered in any redevelopment of these locations. And a few have natural features such as creeks, riparian corridor, and potential wetlands, or remain relatively undeveloped (Sites 3, 12, and 24) and would require further detailed surveys and environmental review to confirm presence or absence of sensitive resources, in addition to the presence of “protected trees” on these sites. Table 4 provides a summary of the general condition and any sensitive features associated with each of the Housing Opportunity Sites.

**Table 4**  
**Summary of Conditions on Housing Opportunity Site**

Housing Site #	General Condition	Observed Sensitive Resource*
3	Undeveloped dominated by grassland, with oaks and other trees, bisected by creek/drainage	Creek, PT, PW, RS
6	Developed with landscaping	PT
7	Developed	None
8	Developed but borders natural habitat along San Ramon Creek	Creek, PT, RS
11	Developed	PT in frontage
12	Partially developed but bisected by creek with riparian cover and still supporting grassland areas	Creek, PW, RS
16	Developed with landscaping	PT
17	Developed with landscaping and borders Green Valley Creek	PT, PW, RS
18	Developed with landscaping and borders San Ramon Creek	PT, PW, RS
19	Developed with landscaping and borders San Ramon Creek	PT, PW, RS
21	Developed	None
23	Developed with landscaping	PT
24	Fallow walnut orchard with grassland understory	Possible PT, RS
26	Developed with landscaping	PT
27	Developed with landscaping and borders San Ramon Creek	PT, PW, RS

\* Abbreviations: PT- Protected Tree  
PW – Potential Wetland  
RS – Remote Potential for Special-Status Species Occurrence

## V. REFERENCES

### A. PEOPLE RESPONSIBLE FOR REPORT PREPARATION

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**Table D-1 Special-Status Plant Species with Potential for Occurrence in Danville Vicinity**

Species	Status USFWS/CDFG/CNPS	Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
<b>Adoxacea</b>			
Oval-leaved viburnum <i>Viburnum</i>	--/--/2.3	Chaparral, woodlands, and forest. Known from Washington through northern California.	May-June/Perennial deciduous shrub
<b>Apiaceae</b>			
Rock sanicle <i>Sanicula saxatilis</i>	--/CR/1B.2	Broadleaf upland forests, chaparral, valley/foothill grassland, on bedrock outcrops and talus slopes. Restricted to Contra Costa and Santa Clara counties. Occurs on Mt. Diablo and Eagle Peak.	April-May Perennial herb
<b>Asteracea</b>			
Big tarplant <i>Blepharizonia plumosa</i>	--/CEQA/1B.1	Valley/foothill grasslands, on dry sites. Extant in Alameda and possibly Contra Costa counties. Believed extirpated in San Joaquin, Stanislaus and Solano counties.	July-October Annual herb
Jepson's woolly sunflower <i>Eriophyllum jepsonii</i>	--/CEQA?/4.3	Chaparral, cismontane woodland, coastal scrub, sometimes on serpentine. Known from Alameda, Contra Costa, San Benito, Santa Clara, Kern, Stanislaus, and Ventura counties.	April-June Perennial herb
Diablo helianthella <i>Helianthella castanea</i>	--/CEQA/1B.2	Broadleaf upland forest, chaparral, cismontane woodland coastal scrub, riparian woodland, and valley/foothill grassland. Occurs in Alameda, Contra Costa and San Mateo counties; presumed extirpated in Marin and San Francisco counties. Occurs on Mt. Diablo, Las Trampas Ridge, and Shell Ridge.	April-June Perennial herb
Congdon's tarplant <i>Centromadia</i> ssp. <i>congdonii</i>	--/CEQA/1B.2	Valley/foothill grasslands in alkaline soils. Restricted to San Luis Obispo, Monterey, and possibly Santa Clara counties; presumed extirpated in Alameda, Contra Costa, Santa Cruz and Solano counties.	June-November Annual herb
Santa Cruz tarplant <i>Holocarpha macradenia</i>	FT/CE/1B.1	Coastal prairie, valley/foothill grassland, often clay soils. Known from Contra Costa, Santa Cruz counties; presumed extirpated in Marin and Alameda counties. Last remaining natural population in Bay Area believed extirpated in 1993.	June-October Annual herb
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE/CEQA/1B.1	Mesic sites in valley/foothill grassland, vernal pools. Restricted to Alameda, Contra Costa, Napa and Solano counties.	March-June Annual herb
Showy madia <i>Madia radiata</i>	--/CEQA/1B.1	Valley/foothill grasslands below 250 feet, and cismontane woodland. Once occurred throughout the Central Coast and Central Valley.	March-May Annual herb

**Table D-1 Special-Status Plant Species with Potential for Occurrence in Danville Vicinity (continued)**

Species	Status		Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
	USFWS/CDFG/CNPS			
Mt. Diablo cottonweed <i>Micropus amphibolus</i>	--/CEQA?/3.2		Broadleaf upland forest, cismontane woodland, valley/foothill grassland. Known from Lake to Santa Cruz counties, San Francisco Bay Area.	April-May Annual herb
Rayless ragwort <i>Senecio aphanactis</i>	--/CEQA?/2.2		Chaparral, cismontane woodland and coastal scrub (alkaline).	January-April Annual herb
<b>Boraginaceae</b>				
Large-flowered fiddleneck <i>Amsinckia grandiflora</i>	FE/SE/1B.1		Cismontane woodland, valley/foothill grassland. Known from only three natural occurrences in Alameda, Contra Costa and San Joaquin counties. Occurs at Black Diamond Mines Regional Preserve.	April-May Annual herb
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	--/CEQA?/1B.2		Open woods, valley/foothill grasslands. Reported from the vicinity of San Francisco Bay to Lake, Shasta and Siskiyou counties.	March-June Annual herb
Hoover's cryptantha <i>Cryptantha hooveri</i>	--/CEQA?/1A		Valley/foothill grassland, on sandy soils. Recorded from Alameda, Contra Costa, Madera, Merced, Stanislaus and San Joaquin counties, but now believed extinct.	April-May Annual herb
<b>Brassicaceae</b>				
Most beautiful jewel-flower <i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	FE/CEQA/1B.1		Chaparral, cismontane woodland and valley/foothill grasslands on serpentinite. Known from Alameda, Santa Clara and Contra Costa counties. Occurs on Mt. Diablo.	April-June Annual herb
Mt. Diablo jewel-flower <i>Streptanthus hispidus</i>	--/CEQA/1B.3		Chaparral and valley/foothill grassland on serpentinite rock outcrops. Restricted to Contra Costa County. Occurs on Mt. Diablo and Eagle Peak.	March-June Annual herb
Caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i>	--/CEQA/1B.1		Valley/foothill grasslands (alkaline hills). Known historically from Alameda, Contra Costa, Glenn, Monterey, Santa Clara and San Joaquin counties; presumed extinct, until recently rediscovered in Sonoma County. Known to have occurred in Clayton.	March-April Annual herb
<b>Chenopodiaceae</b>				
San Joaquin spearscale <i>Atriplex joaquiniana</i>	--/CEQA/1B.2		Chenopod scrub, meadows/playas, valley/foothill grasslands (alkaline).	April-October Annual herb
<b>Convolvulaceae</b>				
Small-flowered morning-glory <i>Convolvulus simulans</i>	--/CEQA?/4.2		Chaparral (openings), coastal scrub, valley/foothill grassland, in clay and serpentine seeps. Known from the San Francisco Bay Area and San Joaquin Valley, Central Coast and Channel Islands to San Diego County.	March-June Annual herb

**Table D-1 Special-Status Plant Species with Potential for Occurrence in Danville Vicinity (continued)**

Species	Status		Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
	USFWS/CDFG/CNPS			
<b>Cyperaceae</b>				
Bristly sedge <i>Carex comosa</i>	--/CEQA/2.1		Marshes and swamps, lake margins. Extant populations in several counties in California as well as Oregon, Idaho and Washington.	May-September Perennial herb (rhizomatous)
<b>Bryaceae</b>				
Slender liver moss <i>Anomobryum filiforme</i>	--/--/2.2		Damp rock and soil on outcrops in forests of coast from Oregon to Santa Barbara.	NA/Moss
<b>Ericaceae</b>				
Mt. Diablo manzanita <i>Arctostaphylos auriculata</i>	--/CEQA/1B.3		Chaparral on sandstone. Known from fewer than twenty occurrences on Mt. Diablo, including Lime Ridge.	January-March Evergreen shrub
Contra Costa manzanita <i>Arctostaphylos manzanita</i> <i>ssp. laevigata</i>	--/CEQA/1B.2		Chaparral (rocky). Endemic to Contra Costa County.	January-February Evergreen Shrub
Pallid manzanita <i>Arctostaphylos pallida</i>	FT/CE/1B.1		Broadleaf upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub. Known from thirteen occurrences in Contra Costa Hills of Diablo Range.	December-March Evergreen shrub
<b>Fabaceae</b>				
Alkali milk vetch <i>Astragalus tener</i> var. <i>tener</i>	--/CEQA/1B.2		Playas, valley/foothill grasslands on adobe clay, and alkaline vernal pools. Extant in Merced, Solano and Yolo counties. Believed extirpated throughout the Bay Area and San Joaquin Valley.	March-June Annual herb
<b>Geraniaceae</b>				
Round-leaved filaree <i>California macrophyllum</i>	--/CEQA/1B.1		Cismontane woodland, valley/foothill grassland. Known throughout coastal and Central Valley counties.	March-May Annual herb
<b>Hydrophyllaceae</b>				
Mt. Diablo phacelia <i>Phacelia phacelioides</i>	--/CEQA/1B.2		Chaparral and cismontane woodland (rocky). Known only from the Diablo Range in Contra Costa, Santa Clara, Stanislaus and San Benito counties; possibly Alameda County.	April-May Annual herb
<b>Juglandaceae</b>				
Northern California black walnut <i>Juglans hindsii</i>	--/CEQA/1B.1		Riparian forests and riparian woodlands. Known from only two extant populations in Napa and Contra Costa counties. Presumed extirpated in Sacramento, Solano and Yolo counties. Widely naturalized in cismontane California, and used as a root stock for <i>J. regia</i> .	April-May Deciduous tree

**Table D-1 Special-Status Plant Species with Potential for Occurrence in Danville Vicinity (continued)**

Species	Status USFWS/CDFG/CNPS	Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
<b>Liliaceae</b>			
Mt. Diablo fairy lantern <i>Calochortus pulchellus</i>	--/CEQA/1B.2	Chaparral, cismontane woodland, valley/foothill grassland. Recorded from Contra Costa County in the vicinity of Mt. Diablo.	April-June Perennial herb (bulbiferous)
Oakland star-tulip <i>Calochortus umbellatus</i>	--/CEQA?/4.2	Broadleafed and upland forest, chaparral, lower montane coniferous forest, valley/foothill grassland, often in serpentinite. Known from Alameda, Contra Costa, Marin, Santa Clara and San Mateo counties. Presumed extirpated in Santa Cruz County.	March-May Perennial herb (bulbiferous)
Stinkbells <i>Fritillaria agrestis</i>	--/CEQA?/4.2	Chaparral, cismontane woodland, valley/foothill grassland on clay or sometimes serpentinite. Fairly widespread from Santa Barbara to Mendocino counties and east to the Sierra foothill counties.	February-April Perennial herb
Fragrant fritillary <i>Fritillaria liliaceae</i>	--/CEQA/1B.2	Coastal prairie, coastal scrub, valley/foothill grassland near coast, on clay soil often serpentinite. Known from San Francisco Bay Area, Monterey. San Benito, Sonoma and Solano counties.	February-April Perennial herb (bulbiferous)
<b>Laminaceae</b>			
Robust monardella <i>Monardella villosa</i> ssp. <i>globosa</i>	--/CEQA/1B.2	Broadleafed upland forest, chaparral cismontane woodland, valley/foothill grassland. Known from Alameda, Contra Costa, Humboldt, Lake, Mendocino, Napa, San Mateo and Sonoma counties.	June-July Perennial herb
<b>Linaceae</b>			
Brewer's dwarf flax <i>Hesperolinon breweri</i>	--/CEQA/1B.2	Chaparral, cismontane woodlands, valley/foothill grassland, mostly on serpentinite. Found in Napa, Solano and Contra Costa counties. Occurs on Mt. Diablo.	May-July Annual herb
<b>Malvaceae</b>			
Hall's bush mallow <i>Malacothamnus hallii</i>	--/CEQA/1B.2	Chaparral. Known from Contra Costa, Merced, Santa Clara and possibly Alameda counties	May-September Shrub (evergreen)
<b>Onagraceae</b>			
Persidio clarkia <i>Clarkia franciscana</i>	FE/CE/1B.1	Coastal scrub, valley/foothill grassland on serpentinite. Known from fewer than five occurrences in Alameda and San Francisco counties.	May-July Annual herb
<b>Papaveraceae</b>			
Diamond-petaled California poppy <i>Eschscholzia rhombipetala</i>	--/CEQA/1B.1	Valley/foothill grassland on clay soils. Presumed extinct. Known historically from Alameda, Contra Costa, Colusa, San Luis Obispo and Stanislaus counties. Recently rediscovered.	March-April Annual herb

**Table D-1 Special-Status Plant Species with Potential for Occurrence in Danville Vicinity (continued)**

Species	Status		Habitat Affinities and Reported Locations in the Project Area	Bloom Period/Life Form
	USFWS/CDFG/CNPS			
<b>Polemoniaceae</b>				
Serpentine linanthus <i>Linanthus ambiguus</i>	--/CEQA?/4.2		Cismontane woodland, coastal scrub, valley/foothill grassland, usually on serpentinite. Known from the San Francisco Bay Area and San Joaquin Valley.	March-June Annual herb
<b>Polygonaceae</b>				
Robust spineflower <i>Chorizanthe robusta</i> <i>var. robusta</i>	FE/CEQA/1B.1		Openings in cismontane woodland, coastal dunes and scrub in sandy/gravelly substrate. Most populations extirpated, known from only four occurrences in Santa Cruz county.	April-September Annual herb
Mt. Diablo buckwheat <i>Eriogonum truncatum</i>	--/CEQA/1B.1		Chaparral, coastal scrub, valley/foothill grassland on sandy soils. Presumed extinct; known historically from Alameda, Contra Costa and Solano counties. Recently rediscovered north of Mt. Diablo.	April-September Annual herb
<b>Portulacaceae</b>				
Brewer's calandrinia <i>Calandrinia breweri</i>	--/CEQA?/4.2		Chaparral and coastal scrub on sandy or loamy, disturbed and burned sites. Known from Napa and Mendocino counties, throughout the Central Coast to San Diego.	March-June Annual herb
<b>Potamogetonaceae</b>				
Eel-grass pondweed <i>Potamogeton zosteriformis</i>	--/CEQA/2.2		Assorted freshwater marshes and swamps. Known from Contra Costa, Lake counties, Modoc, Lassen and Shasta counties, and Washington and Oregon.	June-July Annual herb (aquatic)
<b>Primulaceae</b>				
California androsace <i>Androsace elongata</i> <i>ssp. acuta</i>	--/CEQA?/4.2		Chaparral, cismontane woodland and coastal scrub. Known from the Bay Area and Central Coast to Siskyou and San Diego counties.	March-June Annual herb
<b>Ranunculaceae</b>				
Recurved larkspur <i>Delphinium recurvatum</i>	--/CEQA/1B.2		Chenopod scrub, cismontane woodland, coastal scrub, valley/foothill grassland (alkaline). Known from the interior of the Coast Ranges from Colusa and Solano counties south to San Luis Obispo and Kern counties.	March-May Perennial herb
Lobb's aquatic buttercup <i>Ranunculus lobbii</i>	--/CEQA?/4.2		Mesic sites in cismontane woodland, valley/foothill grassland, northern coniferous forest and vernal pools. Known in the San Francisco Bay Area to Mendocino and Napa counties.	March-May Annual herb (aquatic)
<b>Scrophulariaceae</b>				
Mt. Diablo bird's beak <i>Cordylanthus nidularlus</i>	--/CR/1B.1		Chaparral (serpentine). Known only from a single occurrence in Mt. Diablo.	July-August Annual herb (hemiparasitic)

## Table D-1 Special-Status Plant Species with Potential for Occurrence in Danville Vicinity (continued)

### Status Explanations:

#### Agencies

USFWS = U.S. Fish and Wildlife Service

CDFG = California Department of Fish and Game

CNPS = California Native Plant Society

#### CNPS California Rare Plant Rank

1A: Plants presumed extinct in California.

1B: Plants rare, threatened, or endangered in California and elsewhere.

2: Plants rare and endangered in California but more common elsewhere.

3: Plants about which additional data are needed - a review list.

4: Plants of limited distribution - a watch list.

#### CNPS Treat Ranks

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

0.2 = Fairly threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat).

0.3 = Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

#### Federal Designations

FE = Listed as endangered by the Federal Government.

FT = Listed as threatened by the Federal Government.

FPE = Proposed as endangered by the Federal Government.

FTE = Proposed as threatened by the Federal Government.

C = Candidate; taxa for which USFWS has sufficient biological information to support a proposal to list as endangered or threatened.

#### California Designations

CE = Listed as endangered by the State of California.

CR = Listed as rare by the State of California.

CT = Listed as threatened by the State of California.

CPE = Proposed for listing as endangered.

CEQA = Taxa which are considered to meet the criteria for listing as endangered, threatened or rare by the CDFG; impacts to such taxa must be addressed in CEQA documents.

CEQA? = Taxa that might be locally significant; should be evaluated for consideration during preparation of CEQA documents, as recommended by the CDFG.

Source: California Natural Diversity Database

**Table D-2 Special-Status Animal Species Known or Suspected to Occur in Danville Vicinity**

Species	Status State/Federal/CNPS	Preferred Habitat
<b>Mammals</b>		
Pallid bat <i>Antrozous pallidus</i>	--/SSC	Roosts in caves, crevices, abandoned buildings, and forages in a variety of habitats.
Ringtail <i>Bassariscus astutus</i>	--/SP	Chaparral and foothill canyons, preferring riparian areas.
Berkeley kangaroo rat <i>Dipodomys hermanni berkeleyensis</i>	--/--	Open grassy hilltops and open areas in chaparral and woodland, with fine, deep soil for burrowing.
Mountain lion <i>Felis concolor</i>	--/SP	Forested and brush habitat, tends to avoid open areas.
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	--/SSC	Dense woodlands, mixed forests, chaparral, and scrub.
Townsend western big-eared bat <i>Placates townsendi townsendi</i>	--/SSC	Roosts in caves, mines, and abandoned buildings, and forages in a variety of habitats.
American badger <i>Taxidea taxus</i>	--/SSC	Open grasslands and agricultural fields with suitable prey.
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FE/ST	Open grasslands, alkali scrub, and agricultural fields with suitable prey/retreat habitat.
<b>Birds</b>		
White-tailed kite <i>Elanus leucurus</i>	--/SP	Open grasslands with trees and shrubs used for nesting.
Sharp-shinned hawk <i>Accipiter striatus</i>	--/--	Open deciduous woodlands, mixed or coniferous forests, and thickets.
Cooper's hawk <i>Accipiter cooperii</i>	--/--	Forests or woodlands; prefers broadleaved trees in riparian areas for nesting.
Tricolored blackbird <i>Agelaius tricolor</i>	--/SSC	Forms large colonies for nesting in freshwater marsh and forages in surrounding fields and grasslands.
Western burrowing owl <i>Athene cunicularia</i>	--/SSC	Open grasslands, agricultural fields, drainages and other right-of ways with suitable burrows and retreat habitat for nesting.

**Table D-2 Special-Status Animal Species Known or Suspected to Occur in Danville Vicinity (continued)**

Species	Status State/Federal/CNPS	Preferred Habitat
Ferruginous hawk <i>Buteo regalis</i>	--/--	Western plains and prairies.
Golden eagle <i>Aquila chrysaetos</i>	--/SSC, SP	Forages in open grasslands, nests on cliff ledges and trees in hilly areas.
Northern harrier <i>Circus cyaneus</i>	--/SSC	Marshes, fields, and grasslands.
Merlin <i>Falco columbrius</i>	--/--	Frequents coastlines, open grasslands, savannas, woodlands, lakes, and wetlands.
American peregrine falcon <i>Falco peregrinus anatum</i>	Delisted/Delisted, SP	Riparian areas, open woodlands, coastal and inland wetlands.
Prairie falcon <i>Falco mexicanus</i>	--/--	Grasslands, savannas, rangeland, agricultural fields, and desert scrub areas.
California horned lark <i>Eremophila alpestris actia</i>	--/--	Fields and open grasslands.
Loggerhead shrike <i>Lanius ludovicianus</i>	--/SSC	Open brushy areas in grasslands with lookout perches.
Yellow warbler <i>Dendroica petechia</i>	--/SSC	Frequents riparian zones, woodlands, and forests with a brushy understory during breeding season. Found in a variety of sparse to dense woodland and forest habitats during migration.
<b>Reptiles</b>		
California horned lizard <i>Phrynosoma blainvillii</i>	--/SSC	Variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of insects.
Western pond turtle <i>Emys marmorata</i>	-/SSC	Ponds, marshes, rivers, and streams with retreat pools.
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	FT/ST	Restricted to valley-foothill hardwood habitat of the Coast Range. Prefers south-facing slopes and ravines where shrubs form a vegetative mosaic of woodland and grassland with available prey.
<b>Amphibians</b>		
California tiger salamander <i>Ambystoma californiense</i>	FT/ST, SSC	Breeds in vernal pools and stock ponds, and aestivates in ground squirrel burrows and other humid, protected locations.

**Table D-2 Special-Status Animal Species Known or Suspected to Occur in Danville Vicinity (continued)**

Species	Status State/Federal/CNPS	Preferred Habitat
California red-legged frog <i>Rana aurora draytonii</i>	FT/SSC	Marshes, ponds, streams, lakes and reservoirs, prefers emergent vegetation for cover. Known to disperse and forage in adjacent uplands.
Foothill yellow-legged frog <i>Rana boylei</i>	--/SSC	Perennial and intermittent streams with cobble substrate and retreat pools.
<b>Fish</b>		
Steelhead <i>Oncorhynchus mykiss</i>	FT/SSC	Open water of Pacific Ocean, Bay, and Delta, migrates to spawn in tributary rivers and streams.
Chinook salmon <i>Oncorhynchus tshawytscha</i>	FT/SSC	Open water of Pacific Ocean, Bay, and Delta, migrates to spawn in tributary rivers and streams.
<b>Invertebrates</b>		
Bridge's coast range shoulder-band <i>Helminthoglypta nickliniana bridgesi</i>	--/--	Prefers rock piles, sometimes in grassland on open hillsides.

Status Explanations:

**Federal**

- FE = Listed as endangered under the federal Endangered Species Act.
- FT = Listed as threatened under the federal Endangered Species Act.

**State**

- SE = Listed as endangered under the California Endangered Species Act.
- ST = Listed as threatened under the California Endangered Species Act.
- SP = Fully protected under CDFG Code.
- SSC = Considered a California "Species of Special Concern" by CDFG.

Source: California Natural Diversity Database

