

# **CHAPTER TWO**

## **NATURAL SETTING**

### **INTRODUCTION**

The following summarizes the Grass Valley Planning Area's natural setting. This Chapter, in combination with Chapter 9, Open Space and Conservation, is intended to provide a basis for understanding opportunities and constraints presented by the natural environment.

### **GEOGRAPHIC SETTING**

The Grass Valley Planning Area is located at approximately 2200 to 2800 feet above mean sea level in the central/western portion of Nevada County, approximately 30 miles east of Marysville and about 20 miles north of Auburn. This region of the western Sierra Nevada foothills separates the low-lying Sacramento Valley from the Sierra Nevada Mountains and is characterized by rolling forested hills incised by steep canyons.

### **GEOLOGY**

Nevada County is part of the Sierra Nevada Range, a geologic block approximately 400 miles long and 80 miles wide which extends in a north-south band along the eastern portion of California. The terrain of Nevada County is distinctly characterized by two features of the Sierra Nevada Range. The western third of the county is comprised of rolling foothills which form a transition between the low-lying Sacramento Valley and the mountains to the east. The area extending from the Yuba County line to just northeast of the Grass Valley/Nevada City area is generally comprised of metavolcanic (Mesozoic Jura-Trias Metavolcanic) and granitic (Mesozoic Granitic) formations.

As seen in Figure 2-1, a geologic map of the Planning Area, the central Grass Valley area is located on Quartz diorite, tonalite, trondhjemite, and quartz monzonite rocks. East and west of this area are Lake Combie complex rocks and serpentized ultramafic rocks at the northwest edge of the existing city limits. The Glenbrook area has gabbro and diabase, while Miocene-Pliocene volcanic rocks are found at the northwest area along Deadman Flat Road and at the east end of the Planning Area around the Nevada County Airpark.

Figure 2-2 illustrates regional faulting. Generally, the degree of earthquake hazard is based on the interrelationships between faults, weak geologic materials, and human activity. Faults within California are divided into three categories: prequaternary (older than two million years), quaternary (younger than two million years), and historic (less than 200 years). Faults in the county's western half are prequaternary. Quaternary and historic active faults are found in the eastern portion of the county near Truckee. The western half of the county, in which Grass Valley is located, is in the low intensity zone for earthquake severity.

Grass Valley is not within an Alquist-Priolo zone as defined in DMG Special Report 42 (DMG 1997); the closest active fault is the Cleveland Hill fault near Oroville (Figure 2-2). However, ground movement can be felt in Grass Valley from earthquakes at intermediate distances (i.e., the Truckee quake of 1968) and from distant earthquakes (i.e., the Winters-Vacaville 1892 event) (Sydnor 1998).

## **SOILS**

Grass Valley and the surrounding region are located in an area of mountainous upland soils (USDA 1993). Nine soil associations occur in Nevada County and those that occur within the Grass Valley Planning Area are described below. Figure 2-3 illustrates these soil associations, and the text below provides general description of the soils in the area.

Central Grass Valley and land to the east, generally south of Wolf Creek, is located with the Josephine-Sites-Mariposa association, which exhibits undulating to very steep, well-drained loams formed over metasedimentary and metabasic rock. Vegetation in this area is mostly conifer-hardwood forest. Most of the soils in this association have depths of 40-60 inches to weathered bedrock. Josephine-Sites-Mariposa association soils have permeabilities in the range of 0.6 to 2.0 inches per hour (generally moderate permeabilities).

Land to the northeast of central Grass Valley, generally north of Wolf Creek, is located in Secca-Boomer association soils, which have undulating to steep, well-drained and moderately well-drained gravelly silt loams and loams formed over metabasic rock. These soils have depths of 40-60 inches to weathered bedrock. Secca-Boomer association soils have permeabilities in the range of 0.2 to 0.6 inches per hour (moderately slow to slow permeabilities).

Northwest of the city center, Aiken-Cohasset association soils exhibit gently sloping to steep, well-drained loams and cobbly loams formed over andesitic conglomerate and metabasic rock. Soil depths in this association are about 42-60 inches or more. Aiken-Cohasset association soils have permeabilities in the range of 0.2 to 0.6 inches per hour (moderately slow permeabilities).

Finally, southeast of the central city, are Boomer-Sites-Sobrante association soils with undulating to steep, well-drained loams formed over metabasic rock. Most of these soils have depths of 40-60 inches or more to weathered bedrock. Boomer-Sites-Sobrante association soils have permeabilities in the range of 0.2 to 0.6 inches per hour, but Sobrante soils can have permeabilities up to about 2.0 inches per hour (moderately slow to moderate permeabilities).

## **HYDROLOGY**

The Planning Area is almost entirely within the Wolf Creek drainage basin. Wolf Creek enters the Planning Area from the east in an east-west direction, makes a 90° turn to the south as it passes through downtown Grass Valley, and continues south to its confluence with the Bear River. The South Fork of Wolf Creek and Little Wolf Creek drain the southeastern portion of the Planning Area and discharge into Wolf Creek in the central Grass Valley area.

Wolf Creek tributaries located within the City's boundaries include: French Ravine, Rhode Island Ravine, Slide Ravine, Murphy Hill, Matson Creek, South Fork Wolf Creek, Little Wolf Creek, Unnamed Ravine, Woodpecker Ravine and Olympia Creek.

Alta Hill is located on the divide between the Wolf Creek and Deer Creek watersheds. Drainage north of this divide flows to Deer Creek. Figure 2-4 shows creeks and canals.

Flooding during the 100-year flood event is limited to relatively narrow areas along Wolf Creek and its tributaries, as shown on Figure 2-5.

## **VEGETATION**

The Planning Area is located in a transition zone between the lower foothill elevations and the higher Sierra Nevada mountains. Because it is a transition zone, the species that occur in the area are a variety of intermingled species that typically occur at zones of either higher or lower elevations.

As well as being surrounded by ponderosa pines (*Pinus ponderosa*) and blue oaks (*Quercus douglasii*), Grass Valley also accommodates many other locally important natural communities. Localized areas of serpentine or gabbro support native plant species that have adapted to unique soil conditions other species cannot tolerate. Vernal pools, seasonally flooded depressions underlain with clay or hardpan soils, accumulate water and support unique native vegetation and wildlife species. Such specialized species include plants with floating leaves and air-filled stems and species of invertebrates and crustaceans that can sustain droughts as eggs or cysts. Other areas of interest are the riparian corridors, creeks and tributaries in the Grass Valley area. These corridors support native trees, shrubs, and herbaceous vegetation as well as native wildlife, including special status species listed by the United States Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and/or California Native Plant Society (CNPS).

The following is a brief discussion of these, using the system of Holland (1986).

## **NORTHERN MIXED CHAPARRAL**

Located on rocky, south-facing slopes with sparse soil, this dense habitat type usually consists of little or no understory vegetation and is adapted to frequent fires. Dominant species include Nuttall's scrub oak (*Quercus dumosa*), chamise (*Adenostoma fasciculatum*), and various species of manzanita (*Arctostaphylos*) and California lilac (*Ceanothus*). Additional characteristic species include: California buckeye (*Aesculus californica*), western redbud (*Cercis occidentalis*), mountain-mahogany (*Cercocarpus betuloides*), flannelbush (*Fremontia californica*), twinberry (*Lonicera involucrata*), canyon live oak (*Quercus chrysolepis*), interior live oak (*Q. wislizenii*), sugar bush (*Rhus ovata*), and poison oak (*Toxicodendron diversilobum*).

## **NON-NATIVE GRASSLAND**

Often associated with wildflowers, this habitat typically occurs on fine-textured, clay soils that alternate between excessively moist to drought-like conditions. Prior to urbanization and extensive agriculture, non-native grasslands once occupied vast portions of the Sacramento and San Joaquin Valleys. Growth, flowering, seed setting and germination occur during the moist seasons. Characteristic grass species commonly include: wild oat (*Avena* spp.), brome (*Bromus* spp.), rye (*Lolium* spp.), and vulpia (*Vulpia* spp.), while associated annual wildflower species include filaree (*Erodium* spp.), California poppy (*Eschscholtzia californica*), Gilia (*Gilia* spp.), lupines (*Lupinus* spp.), and fiddleneck (*Amsinckia* spp.).

## **BLACK OAK WOODLAND**

This community between 2500 and 5000 feet consists of moderately open to dense stands of California black oak (*Quercus kelloggii*) associated with Ponderosa pine (*Pinus ponderosa*). Although black oaks are fairly fire resistant, young stands (<60 years) often cannot withstand a hot blaze. These trees are very intolerant to shade and will often decline in numbers where taller trees have created a denser canopy.

## **BLUE OAK WOODLAND**

Even though this community is dominated by blue oak (*Quercus douglassii*), it may also include other oak species along with foothill pine (*Pinus sabiniana*). While the associated foothill pines do not tolerate frequent fires, blue oaks have adapted to them by becoming vigorous stump-sprouters. Although most commonly observed as an intermingled woodland, pure stands of blue oaks occur in a thin zone between foothill pine woodlands (lower elevations) and black oak woodland (higher elevations). Other common associated plants include manzanita (*Arctostaphylos* spp.), lilac (*Ceanothus* spp.), yerba santa, (*Eriodictyon californicum*), spiny redberry (*Rhamnus crocea*), California coffeeberry (*R. californica*), and Hansen's larkspur (*Delphinium hansenii*).

## **CANYON LIVE OAK FOREST**

This dense, evergreen vegetation community is dominated by canyon live oak (*Quercus chrysolepis*) and typically forms forests with little understory in canyons on north-facing slopes, while on south-facing slopes it forms low-growing, chaparral-like stands. Soils are typically rocky and have little soil development. Trees often have multiple trunks, a condition probably resulting from crown-sprouting after fire. Associated species include incense cedar (*Calocedrus decurrens*), Douglas fir (*Pseudotsuga menziesii*), and California bay (*Umbellaria californica*).

## **FOOTHILL PINE-OAK WOODLAND**

This community contains a mixture of foothill pines (*Pinus sabiniana*) and blue oak (*Quercus douglasii*), and is much more common than pure stands of either species. It is found on well-drained soils along rocky ridges or in canyons. Understories usually consist of annual

herbaceous plants, and other associated species include various oak species such as canyon live oak (*Q. chrysolepis*), Nuttall's scrub oak (*Q. dumosa*), California black oak (*Q. kelloggii*), valley oak (*Q. lobata*), and interior live oak (*Q. wislizenii*).

## **WESTSIDE PONDEROSA PINE FOREST**

This is the dominant plant community in the Planning Area. It is an open forest dominated by ponderosa pine (*Pinus ponderosa*) with sparse scattered chaparral shrubs and young trees. This community is probably maintained by fire (fueled by leaf litter) which temporarily allows the chaparral species to dominate. It usually occurs on coarse soils and will intermingle with a number of other vegetation communities. Growth is limited to the period spring to midsummer. Most plants associated with this community are dormant in winter. Other species that may occur in this community include white fir (*Abies concolor*), greenleaf manzanita (*Arctostaphylos patula*), coffeeberry (*Rhamnus californica*), incense cedar (*Calocedrus decurrens*), mountain misery (*Chamaebatia foliolosa*), sugar pine (*Pinus lambertiana*), canyon live oak (*Quercus chrysolepis*), and California black oak (*Q. kelloggii*). This community, which contains a mixture of foothill pines (*Pinus sabiniana*) and blue oak (*Quercus douglassii*), is much more common than pure stands of either species and is found on well-drained soils along rocky ridges or in canyons. Understory usually consists of annual herbaceous plants and other associated species, including various oak species such as coast live oak (*Quercus agrifolia*), canyon live oak (*Q. chrysolepis*), Nuttall's scrub oak (*Q. dumosa*), California black oak (*Q. kelloggii*), valley oak (*Q. lobata*), and interior live oak (*Q. wislizenii*).

## **RIPARIAN HABITATS**

Riparian and aquatic communities are represented by several creeks in the Grass Valley area, namely, the lower portion of Wolf Creek, Squirrel Creek and South Fork Wolf Creek. Dominant vegetation found along these waterways includes dogwood (*Cornus* sp.), box elder (*Acer negundo*), alder (*Alnus* sp.), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and big leaf maple (*Acer macrophyllum*). Located throughout the Planning Area, these communities contain declining native populations of riparian valley oaks (*Quercus lobata*), northwestern pond turtles (*Clemmys marmorata marmorata*), foothill yellow-legged frogs (*Rana boylei*), and western spadefoot toads (*Scaphiopus hammondi*). Portions of these streams are becoming increasingly urbanized, therefore jeopardizing the health of these native populations. With urbanization, the quality of the streams and their tributaries decreases, causing the communities they support to suffer.

## **WILDLIFE**

Due to the variety of vegetation communities, many different types of wildlife are present or have a high potential to be present in the Planning Area. Resident deer, and migratory deer from the Downieville and Nevada City deer herds, are known to inhabit the area. The Downieville/Nevada City Deer Herd Management Plan (CDFG/USFWS 1985) and California Department of Fish and Game, Grass Valley Regional Wildlife Manager Jeff Finn were consulted for current herd statistics and critical habitat designations. Of particular concern is the portion of the herd's range known as Critical Winter Range. These are areas determined by state

and federal agencies to be critically important in the life cycle of migratory deer. Also of interest is a potential fisheries resource along Wolf Creek. Historically, the creek housed a variety of native fishes but, through development, the portion of the creek that flows through the City of Grass Valley is no longer hospitable for native wildlife. Extensive revegetation efforts as well as restocking the stream with native fish species would be required to create a viable fisheries resource. Following is a brief description of wildlife species that may potentially occur within the Planning Area.

## **MIGRATORY AND UPLAND BIRD SPECIES**

The Grass Valley area is a prime location for migrating bird species due to the riparian, grassland and tree covered areas. Because California is located within the Pacific Flyway (the migration route through the western portion of the United States), various species of waterfowl routinely migrate through the area. Common migratory waterfowl that may utilize the Grass Valley area include such species as: Canada geese (*Branta canadensis*), mallard (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), American wigeon (*Anas americana*), common goldeneye (*Bucephala clangula*), bufflehead (*Bucephala albeola*), and common merganser (*Mergus merganser*). Observed raptor species include red-tailed hawk (*Buteo jamaicensis*), sharp-shinned hawk (*Accipiter striatus*) and American kestrel (*Falco sparverius*). There are also many passerine and nonpasserine birds that migrate from colder climates to the warmer weather of the southern United States and elsewhere. Upland bird species such as California quail (*Callipepla californica*) are also commonly observed in the Grass Valley vicinity. Because upland species are non-migratory, spending their lives in the same area, good nesting and foraging habitat is essential to their prosperity. All migrating bird species are afforded protection under the Federal Migratory Bird Treaty Act. Although many of the upland and waterfowl species are hunted, there are strict guidelines as to when, where, and how the birds can be taken.

## **OTHER COMMON SPECIES**

The Grass Valley area is also host to many other wildlife species. Documented rodent species include deer mouse (*Peromyscus maniculatis*), western harvest mouse (*Reithrodontomys megalotis*), California meadow vole (*Microtis californicus*), Botta's pocket gopher (*Thomomys bottae*) and beaver (*Castor canadensis*). These populations provide a constant food source for predatory species such as the coyote (*Canis latrans*), bobcat (*Lynx rufus*), and gray fox (*Urocyon cinereoargenteus*), as well as for several raptors. In addition, the Grass Valley area also supports limited potential winter habitat for the bald eagle (*Haliaeetus leucocephalus*) in the form of riparian corridors.

## **SENSITIVE SPECIES**

Together, the Federal Endangered Species Act (1973) and the California Endangered Species Act (1984) provide legal protection for plant and animal species in danger of becoming extinct. The United States Fish and Wildlife Service (USFWS) is regulated by laws mandated by the Federal Endangered Species Act that require them to provide a findings report on any federally accredited actions that could jeopardize the existence of any federally listed species. The California Department of Fish and Game (CDFG) analyzes projects for possible impacts to

species as well as their habitats. The California Native Plant Society (CNPS) helps to determine which plant species and habitats should be listed as special status under the California Endangered Species Act. Consultation with the CDFG *Natural Diversity Data Base* (NDDDB, 1997) revealed 6 sensitive species that are potentially located within the Grass Valley and Chicago Park USGS 7.5 minute quadrangles. These species are listed in Table 2-1. The following is a description of each:

### **STEBBIN'S MORNING GLORY (*CALYSTEZIA STEBBINS II*)**

Stebbin's morning glory occurs on red clay soils of gabbro or perhaps serpentine origins in chaparral at elevations of about 1,000 feet. However, a query of the California Department of Fish and Game Natural Diversity Database (NDDDB 1997) revealed that this species may occur near the Planning Area in open grassland near the junction of South Ponderosa Way and Squirrel Creek Road. One plant was seen there in 1989 but it is not known if more exist in the area. This plant is listed as endangered by both the USFWS and the CDFG.

### **PINE HILL FLANNELBUSH (*FREMONTODEMDRON CALIFORNICUM SSP. DECUMBENS*)**

Pine Hill flannelbush is a gabbro or serpentine endemic, growing on rocky ridges with these substrates in chaparral or cismontane woodlands at elevations of about 1,400 to 2,000 feet. In Nevada County it is known from near the old Nevada County Landfill on McCourtney Road. It is partially protected at this site via the establishment of designated endangered plant protection areas that have been fenced. This plant is listed as endangered by the USFWS and as Rare in California.

### **RED-ANTHERED RUSH (*JUNCUS MARGINATUS VAR. MARGINATUS*)**

Red-anthered rush is found in marshes and swampy places in the foothills of the Sierra Nevada at elevations below about 3,300 feet. It is a CNPS List 2 Species (Plants categorized as Rare, Threatened, or Endangered in California but more common elsewhere).

### **FOLLETT'S MONARDELLA (*MONARDELLA FOLLETTI*)**

Follett's monardella grows on open, rocky, serpentine slopes in lower montane coniferous forests at elevations ranging from about 1,800 to 6,500 feet. It is known from Plumas and Nevada Counties, and is on the CNPS List as a 1B species (Plants categorized as Rare, Threatened, or Endangered in California and elsewhere).

### **SCADDEN FLAT CHECKERBLOOM (*SIDALCEA STIPULARIS*)**

*Sidalcea stipularis* is known only from the Scadden Flat area along Highway 20, just west of Grass Valley. It grows in marshy areas at an elevation of about 2,400 feet. It is listed as a Federal Species of Concern and an Endangered species in California.

## **CALIFORNIA HORNED LIZARD (*PHRYNOSOMA CORONATUM FRONTALE*)**

The horned lizard occurs in valley-foothill hardwood, conifer and riparian habitats as well as in pine-cypress, juniper and annual grass habitats. It ranges from southern Tehama County to the southern California Desert Regions. It prefers open country, especially sandy areas, washes and flood plains. It is listed as a Federal Species of Concern.

## **BLACKTAIL DEER**

According to California Department of Fish and Game (CDFG) Regional Wildlife Manager, Jeff Finn, deer are not a significant issue to the City of Grass Valley. However, the herd does migrate from higher elevations in the Sierra Nevada to just north of the City of Grass Valley. The Planning Area does not contain any designated Critical Winter Range for the Downieville/Nevada City Deer Herd (CDFG 1985) (Figure 2-6). However, as urbanization continues past the established city limits and into the undeveloped Planning Area, potential deer foraging habitat and cover will be lost.

## **WETLANDS**

Wetland communities are areas that support aquatic and other hydrophytic vegetation. Wetland sites are typically flooded marshy areas that vary in size and proportion to the particular topography and hydrology of the area. These sites are either seasonally or permanently wet, and are dominated by perennial, emergent monocots such as cattail (*Typha* spp.), sedge (*Carex* spp.), rush (*Juncus* spp.), spikerush (*Eleocharis* spp.) and tule (*Scirpus* spp.). According to the USGS Wetlands Inventory Map for the Grass Valley and Chicago Park USGS 7.5 minute quadrangles, there are several identified wetlands that occur within the Planning Area (Figure 2-7). A United States Army Corps of Engineers Section 404 Clean Water Act permit, California Regional Water Quality Control Board Clean Water Certification or Waiver, and California Department of Fish and Game Streambed Alteration Agreement will be required if any work is to be conducted in any “jurisdictional” wetland.

## **IMPORTANT BIOLOGICAL RESOURCE AREAS**

The 1982 General Plan Update for the City of Grass Valley listed four sensitive habitats. Following are brief descriptions of these areas, as found in the 1981-82 General Plan, and three more recently identified areas.

### **SCADDEN FLAT MARSH**

Four acres north of the Nevada County Fairgrounds contain a freshwater marsh as well as a variety of plants that typically do not occur at such low elevations. These two criteria make the Scadden Flat Marsh area unique. This is also the habitat area for the Endangered Scadden Flat Checkerbloom (*Sidalcea stipularis*). Located west of Grass Valley along Highway 20, this small freshwater marsh supports a wet and dry meadow surrounded by a ponderosa pine forest. Scadden Flat hosts the only documented population of Scadden Flat Checkerbloom (*Sidalcea*

*stipularis*). This area is threatened by grazing, encroachment of non-native plant species, poor water quality and destruction due to vehicles.

## **HELL'S HALF ACRE**

Hell's Half Acre is a local example of vernal pool habitat about 1.5 miles northwest of Grass Valley. This habitat consists of open, rocky flats surrounded by Foothill and Ponderosa Pines. The 70-acre area contains over 100 species of indigenous or rare plants (Lonsdorf 1998), including the best example of a low elevation wildflower field in the north-central Sierra Nevada. It supports many native plant species such as Sanborn's onion (*Allium sanbornii* var. *sanbornii*), Lemon's stipa (*Achnatherum lemmonii* var. *pubescens*), Kettledome buckwheat (*Eriogonum prattenianum* var. *avium*), Orcutt's quillwort (*Isoetes orcuttii*) and wildlife species such as Cooper's hawk (*Accipiter cooperii*) and several species of bats (*Myotis* spp).

## **SLATE CREEK AREA**

Adjacent to the southern boundary of the Hell's Half Acre (north of Grass Valley and south of Deer Creek) lies the Slate Creek area. This region supports serpentine soils and contains natural vegetation communities such as mixed serpentine chaparral, serpentine foothill pine chaparral woodland, northern interior (MacNab) cypress forest, and leather oak chaparral. According to Lonsdorf (1998), this is a possible location of Pine Hill flannelbush (*Fremontodendron decumbens*) and additional rare plants and butterflies. Because the northern edge of this site is adjacent to Hell's Half Acre, conservation opportunities are significant.

## **SERPENTINE AND GABBRO SOIL PLANT COMMUNITIES**

North of Grass Valley near Highway 20, along Dorsey Drive/Hughes Road is another local example of a serpentine soil inclusion community consisting of approximately 160 acres. Plant communities located in this region include mixed serpentine chaparral (Holland), serpentine foothill pine chaparral woodland, northern interior (MacNab) cypress forest, and leather oak chaparral. Also documented in this area is Sanborn's onion and an endemic butterfly species (Lonsdorf 1998).

Although consisting of different chemical compositions, Gabbro soils are similar to serpentine soils and tend to support similar plant species. Several endemic plants are supported by locations such as American Ranch Hill/McCourtney Road Landfill/Wolf Mountain/Ponderosa Way. According to Lonsdorf (1998), this area is a conglomeration of gabbroic soil that contains a mixture of endemic species along with other foothill communities. These areas run southeasterly from east of Rough and Ready, north of Highway 20 and south to beyond Wolf Mountain. Vegetation communities include gabbroic northern mixed chaparral and northern interior (MacNab) cypress forest. Individual native species include Stebbin's morning-glory (*Calysegia stebbinsii*), Pine Hill flannelbush, Bacigalupi's perideridea (*Perideridia bacigalupii*), California horned lizard (*Phrynosoma coronatum frontale*) and foothill yellow-legged frogs. There is also a potential for additional rare plants and animals to be identified on site. Even though this is a large area with many existing roads, ranches, and the old county landfill, there are areas that still

have high integrity. There is a potential for BLM land to be traded, allowing urban encroachment (Lonsdorf 1998).

## UNION HILL MEADOW

Union Hill Meadow is a local example of a foothill grassland located along the south fork of Wolf Creek. It supports a variety of habitats including wet and dry foothill grasslands, montane meadow, and riparian areas. This area also has Serpentine soil inclusions that support endemic species of plants and wildlife. This area has been called “the best example of a low elevation montane meadow in the western Sierra Nevada” by a State Park specialist. Although surrounded by urbanization, this area could be restored to near original quality if protected.

## WOLF CREEK

Wolf Creek runs through the City of Grass Valley, and has undergone considerable channelization and augmentation. Prior to entering the city to the northeast and upon leaving to the south, it returns to its natural course. Historically, as mentioned in the previous General Plan Update, the Creek housed many native fishes.

## CANADIAN GEESE WINTERING HABITAT

This area is located southwest of the City of Grass Valley on the 130 acre Conway Ranch. It is a large open meadow that provides wintering habitat for migratory Canada Geese. Currently, this area is not designated as Critical Habitat (Mary Moore, USFWS, pers. comm.). However, as the only wintering ground for such migratory waterfowl species in western Nevada County, it is an important part of the ecosystem.

**TABLE 2-1  
SENSITIVE SPECIES POTENTIALLY OCCURRING IN THE  
GRASS VALLEY PLANNING AREA**

Scientific Name	Common Name	Status		
		Fed	State	CNPS
<b>Animals</b>				
<i>Phrynosoma coronatum frontale</i>	California horned lizard	FSC	CE	N/A
<b>Plants</b>				
<i>Calystegia stebbinsii</i>	Stebbin’s morning-glory	FE	CE	1B
<i>Fremontodendron decumbens</i>	Pine Hill flannelbush	FE	CR	1B
<i>Juncus marginatus</i> var. <i>marginatus</i>	Red anthered rush			
<i>Monardella follettii</i>	Follett’s monardella	---	---	1B
<i>Sidalcea stipularis</i>	Scadden Flat checkerbloom	FSC	CE	1B

FE Federal Endangered Species

FSC Federal Species of Concern  
CE California State Endangered Species  
CR Species listed as Rare in California  
CNPS1B Plants categorized by the California Native Plant Society as Rare, Threatened or Endangered in California and Elsewhere  
CNPS 2 Plants categorized by the California Native Plant Society as Rare, Threatened or Endangered in California but more common Elsewhere  
N/A Not Applicable  
--- None  
Sources: California Department of Fish and Game, 1997. California Natural Diversity Data Base, California Department of Fish and Game, Sacramento, CA. Skinner, M.W., and B.M. Pavlik (eds.). 1994. Inventory of rare and endangered vascular plants of California. Special Publication No. 1 (fifth edition), California Native Plant Society, Sacramento, CA.

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