APPENDIX R

BIOLOGICAL RESOURCES ASSESSMENT

BIOLOGICAL RESOURCES ASSESSMENT
FOR THE

±560-ACRE CREEKVIEW SPECIFIC PLAN

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

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NOVEMBER 30, 2010

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

BIOLOGICAL RESOURCES ASSESSMENT
FOR THE
CREEKVIEW SPECIFIC PLAN

INTRODUCTION

North Fork Associates (NFA) conducted a Biological Resource Assessment for the 559.9-acre Creekview Specific Plan Area (hereinafter, the Study Area) west of the City of Roseville in Placer County, California. (The Study Area acreage has been rounded to 560 acres for convenience.) Figure 1 is a site and vicinity map showing the location of the Study Area.

Study Area Components

The Study Area has the following components (Figure 2):

- Creekview Specific Plan Area On-site – often referred to in the text as the main on-site portion of the Study Area
- The Harris Property
- Creekview Off-site Area

Figure 2 shows the Study Area and the three components. The Creekview on-site area and the Harris property encompass 501.3 acres.

Creekview On-site Area

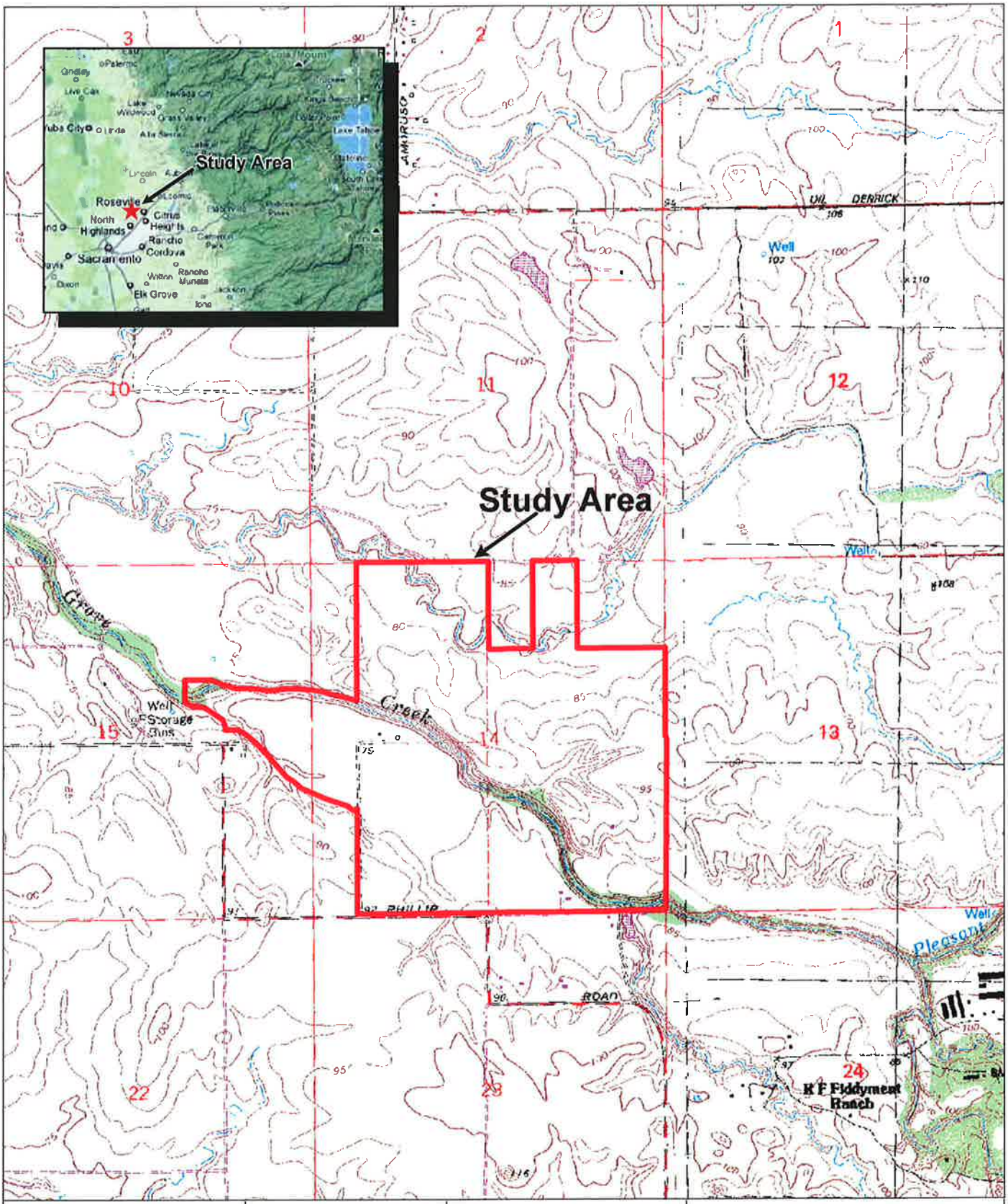
This area covers 461.4 acres of the Creekview Specific Plan on-site area. It was studied as described in the methods section, including surveys for vernal pool crustaceans and special-status plant species. It does not include the 39.9-acre Harris property.

The Harris Property

The Harris property consists of 39.9 acres of the Creekview Specific Plan. However, it is a non-participating portion of the Specific Plan Area and biological surveys were not completed on this parcel. Consequently, it is analyzed in this document at a programmatic level.

Creekview Off-site Area

The Creekview off-site area occurs to the west of the Creekview Specific Plan Area and encompasses 58.6 acres. This portion of the Study Area has a preliminary wetland delineation and partial biological surveys, but more focused surveys have not been completed, primarily because it has been cultivated and the lack of wetlands likely precludes the presence of special-status species. The off-site area is located on property owned by the City of Roseville known as Reason Farms.



CREEKVIEW

N

0 1,000 2,000

Scale in Feet

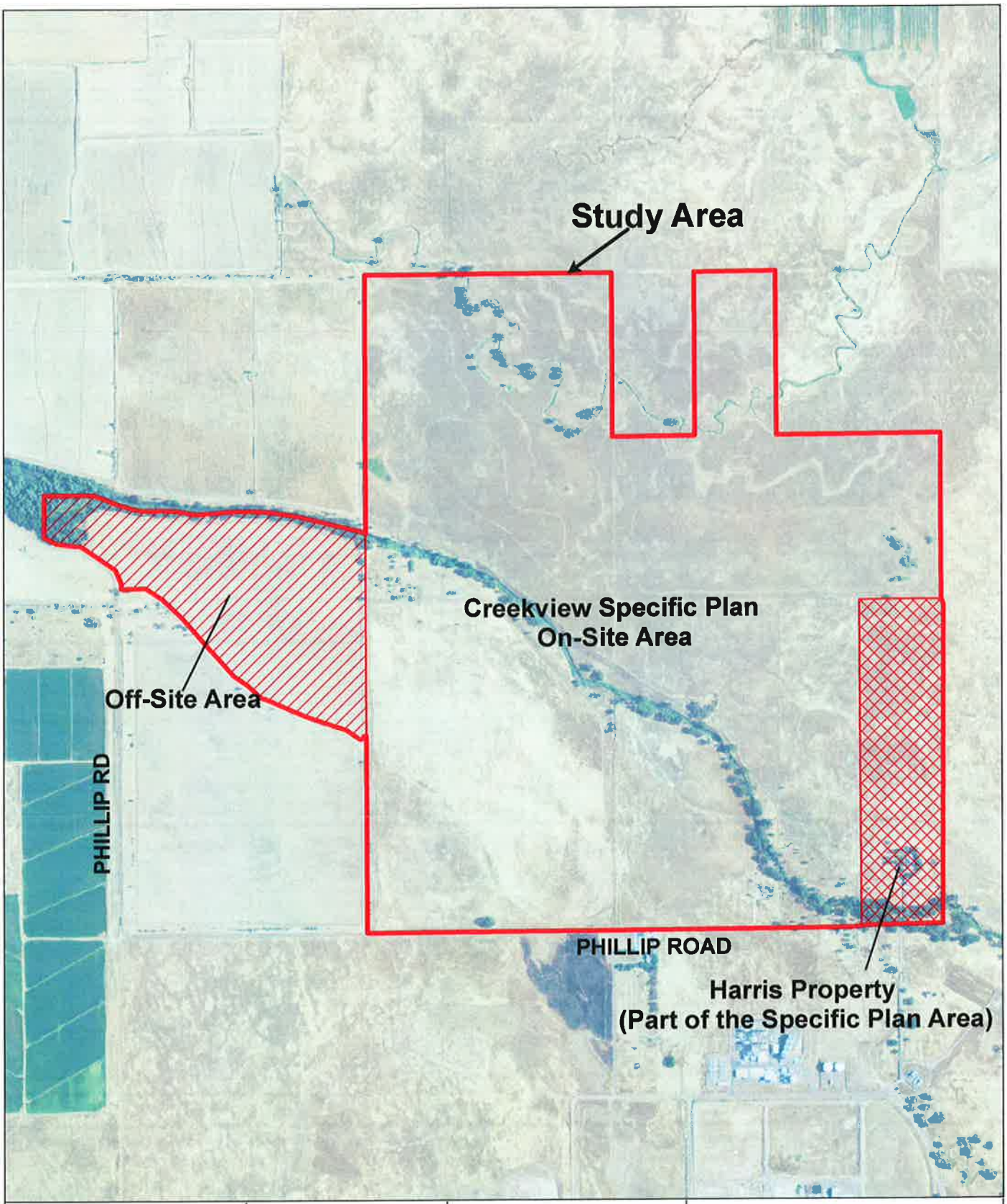
Base map: Pleasant Grove, CA, USGS
7.5 minute topographic quadrangle
Sections: 14 & 15
Township: 11N
Range: 05E

Figure 1

SITE & VICINITY MAP

Creekview

Placer County, California



CREEKVIEW

N

0 250 500 1,000

Scale in Feet

Aerial Photo: 2009 (NAIP)

Figure 2

STUDY AREA

Creekview

Placer County, CA

Project Location

The 560-acre Study Area is located north of Phillip Road, south of Sunset Boulevard West, east of Pettigrew Road, and west of Fiddyment Road. The location corresponds to Section 14, 15, and 23 of Township 11 North and Range 05 East on the 7.5 minute Pleasant Grove United States Geological Survey (USGS) quadrangle (see Figure 1). The latitude and longitude of the approximate center of the site are 38.80216° North and 121.38806° West. The Assessor's parcel numbers (APNs) are 017-101-007, 017-001-008 (portion), 017-101-009, 017-001-012, 017-001-013, and 017-001-014.

Setting

The Study Area consists of level to gently rolling annual grassland and valley oak riparian woodland located near the northern limits of the city of Roseville. Pleasant Grove Creek enters in the Study Area in the southeastern corner of the Study Area, flows in a northwesterly direction, and exits the Study Area at the western Study Area boundary. Land north of the creek has been used for cattle grazing and other agricultural enterprises. Most of the land located south of the creek has been idle since 1989. Elevation ranges from approximately 75 to 95 feet above sea level. Most of the land surrounding the Study Area appears to be idle or is used for grazing cattle.

At one time several structures or farmsteads occurred in the Study Area, and several have been removed. One cluster of structures located south of the creek in the central portion of the Study Area was burned in a 2007 fire. The Harris property has a house and associated structures. No other developed features exist on the landscape with the exception of a 12 kV power line that extends just south of and generally paralleling Pleasant Grove Creek, dirt ranch roads, fences, and farming and ranching implements.

Surrounding lands to the north, west, and southwest are similar to the Study Area. Land use consists primarily of grazed annual grasslands and vernal pool grasslands. The landscape becomes more cultivated further west, consisting mostly of rice or abandoned rice fields. Encroaching development occurs immediately southeast of the Study Area as part of the West Roseville Specific Plan. The City of Roseville's Energy Park property borders the southeast corner of the Study Area, which is adjacent to recent residential development to the south and east.

Project Description

The proposed project is the Creekview Specific Plan (CSP), a comprehensive plan for annexation to the City of Roseville and development of a 501.3-acrea area with urban uses, including residential (2,011 units), commercial, commercial/business professional, public/quasi-public, park, and open space uses. The project includes construction of roadways and infrastructure to support the CSP, including construction of Pleasant Grove Creek bypass channel improvements on and off-site. The bypass channel improvements include creation of in-stream riparian areas for habitat enhancement. The limits of the project are contained in the 560-acre Study Area.

Objectives of Biological Resource Assessment

- Identify and describe the biological communities present in the Study Area.
- Record plant and animal species observed in the Study Area.
- Evaluate and identify sensitive resources and special-status plant and animal species that could be affected by project activities.
- Provide conclusions and recommendations.

METHODS

Available Literature and Other Information

A variety of resources were used in this assessment. Aerial photographs were obtained from GeoImagery and other sources. Soil information was obtained from the *Soil Survey of Placer County, California; Western Part* (USDA, NRCS 1980), and geological information was taken from the *Geologic Map of the Sacramento Quadrangle* (California Department of Conservation 1987).

Prior to conducting the field survey, available information regarding biological resources on or near the Study Area was gathered and reviewed. Sources included: California Department of Fish and Game Swainson's Hawk surveys from 2002 and 2003, City of Roseville General Plan, Placer County General Plan, Pleasant Grove Creek and Curry Creek Ecosystem Restoration Plan, Placer Legacy Open Space and Agricultural Conservation Program, and West Roseville Specific Plan.

Plant names in this document are according to *The Jepson Manual* (Hickman 1993), except for changes obtained from the Jepson Online Interchange, an Internet database maintained by the University and Jepson Herbaria of the University of California. In general, common names are used in this report, with scientific names presented in the appendices.

The project applicant, Granite Bay Development II, LLC, has undertaken several environmental studies and surveys used for this document. The studies cover different portions of the Study Area, as outlined below (also see Figure 2). The following studies are used and referenced throughout this Biological Resources Assessment.

- Wildlife Resource Assessment for the Creekview Specific Plan, dated January 2008 (Estep 2008a).
- Nesting Raptor Survey Results, May 19, 2008 (Estep 2008b).
- Federally-Listed Large Branchiopods Sampling at the Creekview Project, dated June 2007 (Helm Biological Consulting 2007).
- Second Year of Federally-Listed Large Branchiopod Wet-Season Sampling at the Creekview Project, dated November 2008 (Helm Biological Consulting 2008b).
- Western Spadefoot Toad (*Spea hammondii*) Surveys at the Creekview Project, dated August 2008 (Helm Biological Consulting 2008a).

- Wetland Delineation for the ±470-acre Creekview Project, dated November 14, 2006 (North Fork Associates 2006) – This delineation covers the on-site area and did not include the Harris `property or the off-site area. The October 26, 2006 delineation map was verified by the Corps on November 22, 2006.
- Initial and Supplemental Arborist Report and Tree Inventory Summary, dated January 19, 2007, February 14, 2007, June 12, 2007, November 17, 2008 (Sierra Nevada Arborists 2007, 2008) and Consolidated Inventory Summary (Sierra Nevada Arborists 2008).
- Special-status Plant Surveys conducted by North Fork Associates in 2006 and 2008.
- Wetland Delineation of the off-site portion of the Study Area has been completed by North Fork Associates (field work done in 2007 and 2008), but it is unverified at this time.

Surveys Conducted in the Study Area

Surveys conducted in each of these areas are identified in the following subsections.

Creekview On-site (461.4 acres)

- General wildlife surveys (Estep 2008a).
- Nesting raptor surveys (Estep 2008b).
- Vernal pool crustaceans (Helm Biological Consulting 2007, 2008b).
- Western spadefoot surveys (Helm Biological Consulting 2008a).
- Wetland delineation (North Fork Associates 2006).
- Arborist surveys (Sierra Nevada Arborists 2007 and 2008).
- Special-status plant species surveys (surveys conducted in 2006 and 2008).

The Harris Property (39.9acres)

- Aerial interpretation for a wetland assessment; not completed and not part of the verified Creekview wetland delineation map.

Creekview Off-site Area (98.6 acres)

- Wildlife Resource Assessment for the Creekview Specific Plan, dated 2006, 2007, and January 2008 (Estep 2008a).
- Nesting Raptor Survey Results, May 19, 2008 (Estep 2008b).
- Wetland delineation; fieldwork completed in 2007 and 2008 by North Fork Associates, but not verified by the Corps.
- General botanical surveys in 2005, 2006, and 2008 by North Fork Associates biologists. No focused rare plant surveys because they were felt to be unnecessary because the area has been cultivated and rare plants are unlikely in cultivated areas.

Special-Status Species

North Fork Associates queried the California Natural Diversity Data Base (CDFG 2010) for location records for special-status species known to occur in the region surrounding the Study Area. Quadrangles included in the query were Pleasant Grove, Citrus Heights, Rio Linda, Verona, Nicolaus, Taylor Monument, Roseville, Lincoln, and Sheridan. North Fork Associates biologists also reviewed the special-status species lists for the Pleasant Grove USGS quadrangle and Placer County created by the U.S. Fish and Wildlife Service (USFWS). The California Native Plant Society (CNPS) Inventory was checked for special-status plants occurring in the area.

For the purposes of this report, special-status species are those that fall into one or more of the following categories, including those:

- listed as endangered or threatened under the federal Endangered Species Act (including candidates and species proposed for listing),
- listed as endangered or threatened under the California Endangered Species Act (including candidates and species proposed for listing),
- designated as rare, protected, or fully protected pursuant to California Fish and Game Code,
- designated a Species of Concern by the California Department of Fish and Game (CDFG),
- defined as rare or endangered under Section 15380 of the California Environmental Quality Act (CEQA), or
- occurring on List 1 or 2 maintained by the California Native Plant Society.

Field Surveys

North Fork Associates has been conducting botanical and wetland surveys in the Study Area since 2005. Field surveys took place in 2005, 2006, and 2008. The 2006 and 2008 surveys were conducted on March 1 and 24, April 28, May 6 and 16, 2006 and May 6, 2008 specifically for special-status plants. Botanists taking part in the surveys include Jeff Glazner, Barry Anderson, Erin Gottschalk Fisher, and Pat Britton. All botanical surveys were floristic, according to guidelines issued by the California Department of Fish and Game (CDFG 2000). Each individual plant observed was identified to the extent necessary for determining its rarity status. Species unknown to the surveyors were collected and identified in the office using a stereo zoom microscope and standard plant identification manuals. A list of plants observed during field surveys is located in Appendix A.

Wildlife surveys were conducted on November 9, 20, and 22, December 9, 20, and 22, 2006, July 11, 2007, and May 15, 2008 (Estep 2008a; Estep 2008b). The surveys were conducted to assess habitat conditions and determine the potential for occurrence of special status plant and wildlife species, and consisted of walking the Study Area, recording notes of species observed or their respective sign (nests, burrows, tracks, scat),

and assessing habitat conditions. Appendix B is list of wildlife observed in the Study Area.

Specialized surveys were conducted by several subconsultants, including Helm Biological Consulting, and Sierra Nevada Arborists.

SURVEY AND LITERATURE SEARCH RESULTS

Climate

The closest National Weather Service (NWS) cooperative weather station is located in the city of Rocklin (Western Regional Climate Center 2008). Data from this station is presented here as a reasonable approximation of climate conditions at the Study Area.

The average annual maximum temperature at the NWS station in Rocklin is 74.6 degrees Fahrenheit and average annual minimum temperature is 44.8 degrees Fahrenheit. Mean annual precipitation (28-year period of record) is 22.7 inches, with most falling as rain between the months of November and March.

Geology and Soils

The geology map for the region (California Department of Conservation 1987) shows Turlock Lake formation present in north of Pleasant Grove Creek and riverbank formation present south of Pleasant Grove Creek. Basin deposits comprising of poorly sorted stream and basin deposits from clay to boulder size is present in the northeastern portion of the Study Area. Both formations including basin deposits do not include ultramafic rocks that create soils known to support special-status plant species.

Eight soil units are mapped in the Study Area (USDA, NRCS 1980):

- Alamo-Fiddyment complex, 0 to 5 percent slopes
- Cometa-Fiddyment complex, 1 to 5 percent slopes
- Cometa-Romona sandy loams, 1 to 5 percent slopes
- Fiddyment loam, 1 to 8 percent slopes
- Fiddyment-Kaseberg loams, 2 to 9 percent slopes
- Xerofluvent, occasionally flooded
- Xerofluvent, frequently flodded
- Xerofluvent, hardpan substratum

Alamo soils are Typic Duraquolls that are poorly drained and have very slow permeability. They generally form in basins and swales, and have an indurated hardpan at a depth of 20 to 40 inches. In addition, the water table in Alamo soils during the winter is usually very near the surface. Most Alamo soils are considered hydric.

Cometa soils are Alfisols formed from granitic rocks. The clay layer in Cometa soils is below 17 inches. A horizon chromas are between 2 and 4. The soils are well drained.

These soils have very slow permeability, and depressions may be inundated or saturated for portions of the winter.

Fiddyment soils are Typic Durixeralfs that are moderately deep, well drained soils formed in material from consolidated sediments. Fiddyment soils are on undulating to rolling hills and terraces. Slopes are 1 to 15 percent.

Kaseberg soils are Typic Durixerepts that consist of shallow, well drained soils formed in material weathered from consolidated sediments of mixed rock sources. Kaseberg soils are on nearly level to sloping low lying terraces and hill slopes of dissected terraces, slopes are 0 to 30 percent.

Ramona soils are fine-loamy, mixed Typic Haploxeralfs formed in alluvium from predominately granitic sources. They are undulating, very deep, well drained soils on low terraces. Permeability is moderately slow.

Xerofluvents soils consist of young poorly developed alluvial soils that typically occur on floodplains and terraces. These undeveloped soils are not sufficiently characterized to the extent necessary to be classified at a lower taxonomic level.

Hydrology

Hydrology on the site is driven by two forces: precipitation and stream flow. Most of the precipitation falling on the property is captured in upland and wetland swales and in ephemeral streams. These eventually flow into an intermittent stream (known locally as University Creek) or the perennial stream, Pleasant Grove Creek.

Pleasant Grove Creek, a regionally substantial stream, flows in a northwesterly direction through the Study Area and supports oak woodland riparian vegetation throughout most of its length. It drains the area between Auburn Ravine to the north and Dry Creek to the south as it flows west through Rocklin, Roseville, and unincorporated lands in western Placer County before entering the Pleasant Grove Creek Canal in Sutter County. Pleasant Grove Creek Canal joins with the Natomas East Main Drainage Canal in the American Basin, which discharges into the Sacramento River, a navigable water.

The reach of Pleasant Grove Creek located within the boundaries of the Study Area flows year-round. Most of the Study Area drains to Pleasant Grove Creek by overland flow or through the few wetland swales and ephemeral drainages occurring onsite. Roughly the northern third of the site drains towards University Creek, which joins Pleasant Grove Creek approximately one mile west of the Study Area.

Other significant natural features include vernal pools found primarily north of Pleasant Grove Creek, wetland swales and seasonal wetlands found throughout most of the uncultivated portions of the Study Area, and a seasonal marsh located immediately north of Pleasant Grove Creek in the northwestern corner of the Study Area.

Biological Communities

Five general biological communities were observed within the Study Area and include annual grassland, cultivated land, valley oak riparian corridor, and waters of the United States. Table 1 provides the acreage of the habitat types, and Figure 3 is a habitat map. The vegetation and variations within these biological communities are described below. Appendix A lists the plant species that were observed during field surveys. Study Area photographs are included in Figures 4 and 5.

Table 1. Biological Communities Present Within the Creekview Study Area

Biological Community	Acreage
Annual Grassland	455.50
Valley Oak Riparian	11.00
Developed/Disturbed	3.41
Cultivated Land	56.26
Waters of the United States	33.83
Total	**560**

Annual Grassland

The majority of the 501.3-acre on-site portion of the Study Area (including Harris) north of Pleasant Grove Creek consists of 454 acres of annual grassland. Dominant grasses include soft chess, ripgut brome, and wild oat. Other non-native herbaceous species include yellow star thistle, filaree, Fitch's tarweed, and tarplant. In late 2006, the area was being lightly grazed with 50-100 cattle present, and the vegetation was between one and two feet high. Wetland features such as emergent marsh, wetland swales, vernal pools, seasonal wetlands, and streams are embedded in this habitat. The portion of the on-site area south of the creek is considered annual grassland as well, but much of it has been disturbed by past agricultural activities, and it has several large seasonal wetlands.

The annual grassland includes small patches of valley oaks around University Creek. These may represent remnants of a once larger valley oak woodland, and they do provide some habitat for woodland species. However, the patches are now too small to map individually as woodland.

Valley Oak Riparian

The 11-acre riparian corridor located along Pleasant Grove Creek, in both on-site and off-site portions, is dominated by valley oak but supports cottonwood, blue oak, and Goodding's black willow. Himalayan blackberry is common and forms a shrubby understory. Willows are the primary understory tree along with an occasional white alder. In more open areas, the understory consists of nonnative annual grasses and forbs.

The portion of University Creek in the northwest corner of the Study Area supports 20 to 30 mature valley oak trees along its upper bank. There are no other trees or shrubs or other associated streamside vegetation. Thus, University Creek is not considered a riparian corridor.

On the western end of the off-site portion of the Study Area, the riparian corridor along Pleasant Grove Creek becomes wider and denser. Willows, cottonwoods, and valley

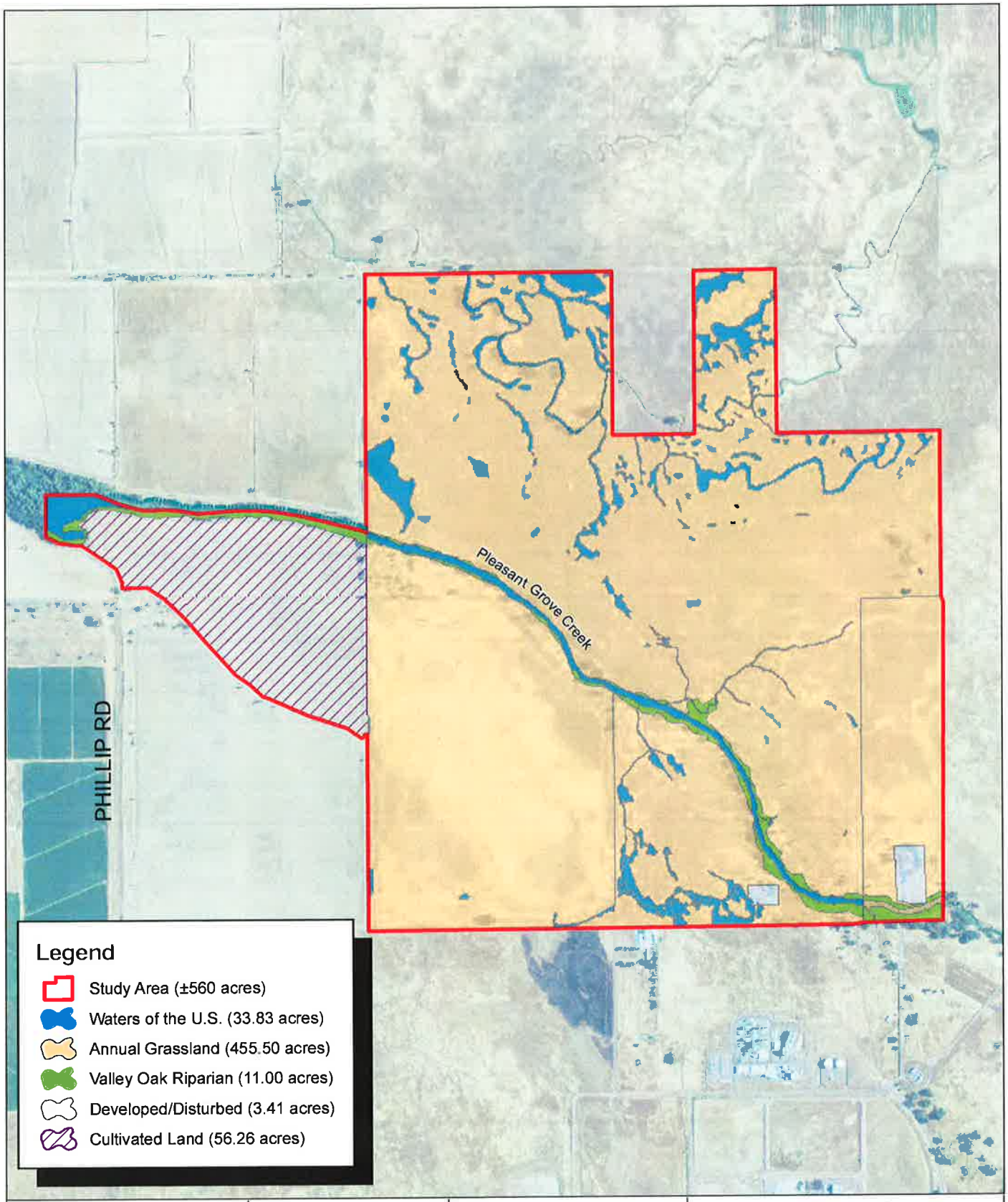


Figure 3

HABITAT MAP

Creekview

Placer County, CA

a. Valley oak riparian with willows and cottonwood habitat along Pleasant Grove Creek in offsite area.

b. Cultivated land on Reason Farms in offsite area just west of Creekview.

c. Looking east and upstream from bridge at Pleasant Grove Creek and riparian corridor.

d. Vernal pool in grassland.

CREEKVIEW

Photo Dates: August 9, 2005, March 1 & 24, 2006, & July 25, 2008

Figure 4

SITE PHOTOS
Creekview
Placer County, California

a. Dwarf downingia in wetland swale north of Pleasant Grove Creek.

b. Vernal pool #04 with Gratiola heterosepala.

c. Gratiola heterosepala in vernal pool #04.

d. Man-made ditch with dwarf downingia in south central area of site.

CREEKVIEW

Photo Dates: May 16, 2005 & May 25, 2006

Figure 5

SITE PHOTOS
Creekview
Placer County, California

oaks are the main species. The understory is Himalayan blackberry, but herbaceous species are common in some places.

The open water portion of Pleasant Grove Creek is not included in the acreage for the riparian corridor. Instead, it is included in the perennial stream component of waters of the United States (see below).

Developed/Disturbed

The developed/disturbed habitat components are associated with the buildings, associated structures, and other habitat in the on-site portion of the Study Area. These areas show a high level of disturbance and include an occupied ranch residence on the Harris property. These areas are highly disturbed and support sparse and ruderal vegetation. The developed and disturbed portions of the Study Area cover three acres.

Cultivated Land

Cultivated lands within the Study Area occur on the 58.6 off-site portion of the Study Area and cover 56 acres. These areas undergo rotational agricultural activities; they are cultivated every three years and currently support cattle. Vegetation in these cultivated lands is indicative of long-term disturbance and agricultural activity. Most of the species are non-native and often described as ruderal. Even some of the native species observed in this portion of the Study Area are well adapted to disturbance and may be considered weeds. Plant species include Italian ryegrass, wheat, oats, and common vetch. Berms and raised building pads support primarily ruderal species.

Waters of the United States

North Fork Associates produced a Wetland Delineation for the ±470-acre Creekview Project on November 14, 2006 (NFA 2006), which was verified by the Corps of Engineers on November 22, 2006. This corresponds to the on-site portion of the Study Area, excluding the Harris property. The delineation mapped 33.83 acres of waters of the United States. North Fork Associates also conducted a preliminary wetland delineation on the off-site portion of the Study Area in 2007 and 2008. Although this delineation has not been verified by the Corps, the only waters of the United States mapped are associated with Pleasant Grove Creek. The Harris property was part of the initial wetland delineation, but it is not included on the verified map.

The habitat map in Figure 3 shows all waters of the United States as a single unit. However, this designation includes perennial streams, intermittent streams, ephemeral streams, vernal pools, seasonal wetlands, wetland swales, and seasonal marsh. These designations are also used in the Impact section of this resources assessment. The acreage of waters of the United States in the full Study Area (37 acres) is derived from the 2006 verified delineation, the preliminary off-site delineation, and the estimated acreage on the Harris property.

Table 2. Waters of the United States in the Study Area

Type	Acreage
Wetlands:	
Vernal Pool	1.75
Seasonal Wetland	7.43
Wetland Swale	14.42
Seasonal Marsh	2.7
Other Waters	
Ephemeral Stream	0.08
Intermittent Stream	1.77
Perennial Stream	5.68
Estimated Wetlands on Harris	3.20
Total Waters of the US	**37.03**

Perennial Stream

Perennial streams, unlike ephemeral or intermittent streams, flow year-round. They typically exhibit bed-and-bank morphology. One perennial stream, Pleasant Grove Creek, is located within the Study Area. It occurs on both on-site and off-site portions. Valley Oak riparian habitat is associated with Pleasant Grove Creek and narrow bands of wetland vegetation also occur on the low floodplains and toeslopes along most of its length. Pleasant Grove Creek is hydrologically connected to the Sacramento River through the Natomas East Main Drainage Canal.

Intermittent Stream

Intermittent streams flow during and some time after the winter rainy season. Intermittent streams usually have a groundwater component or another water source that provides water in the absence of precipitation. University Creek is one of two intermittent streams mapped during the wetland delineations. The second is a small tributary to Pleasant Grove Creek near the southeastern portion of the Study Area. Much like Pleasant Grove Creek, the reach of University Creek that runs through the Study Area is characterized by a deep, incised channel and relatively steep banks. University Creek joins with Pleasant Grove Creek just west of the Study Area. Intermittent streams occur only on the on-site portion of the Study Area.

Ephemeral Stream

Ephemeral streams have more-or-less continuous scour marks that locate the ordinary high water mark. Ephemeral streams are not common on the site, possibly because of the relatively flat topography. However, two small ephemeral tributaries of Pleasant Grove Creek occur within the on-site portion of the Study Area.

Vernal Pools

Vernal pools are relatively deep depressional wetlands that support a mostly native flora. These are characterized by Vasey's coyote-thistle, stipitate popcornflower, dwarf wooly marbles, needle-leaved navarretia, and white-flowered navarretia, separating them from other depressional seasonal wetlands and wetland swales that are dominated by non-native facultative species. According to the soil survey of western Placer County

(USDA 1980), all of the vernal pools onsite are underlain by relatively impermeable claypans or silica cemented hardpans at depths ranging from 16 to 40 inches below the ground surface. It is these shallow restrictive layers that cause the vernal pools to develop wetland hydrology during the wet season. Precipitation is likely the main source of water for most of the pools onsite, although some may receive appreciable amounts of runoff from surrounding uplands as well. Vernal pools occur only in the on-site portion of the Study Area.

Seasonal Wetland

Seasonal wetlands are similar to vernal pools and swales, except that they tend to be shallower and have a non-native flora. Italian ryegrass and long-beaked hawkbit are usually the dominant species in the seasonal wetlands onsite. Seasonal wetlands in the western portion of the Study Area are dominated by waxy mannagrass and Italian ryegrass. Seasonal wetlands occur only in the on-site portion of the Study Area.

Wetland Swale

Wetland swales are water conveyance features that usually do not develop the bed-and-bank morphology typical of streams. Wetland swales are the most extensive type of wetland within the on-site portion of the Study Area. Wetlands swales mapped are located primarily on the older alluvial landforms located north of Pleasant Grove Creek. Most of the wetland swales onsite appear to be natural features, but several are manmade drainage ditches.

Most of the wetland swales onsite have plant species assemblages similar to those found in shallow seasonal wetlands. They tend to be dominated by non-native species such as Italian ryegrass, Mediterranean barley, and long-beaked hawkbit. Native species also occur in wetland swales, but they are less common than other species.

Seasonal Marsh

One seasonal marsh occurs in the on-site portion of the Study Area. The center of the seasonal marsh supports a dense stand of bulrush and cattail. The shallower portions of the pond are dominated by creeping spikerush, and the edges have a mixture of vernal pool species. In 2006 this marsh had standing water into the summer, but it was dry during the August 2005 field surveys.

Oak Woodland and Tree Resources

The majority of the site is treeless and no oak woodland habitat occurs within the Study Area except for a narrow band of Valley Oak Riparian associated with Pleasant Grove Creek. Blue oaks and interior live oaks also occur in this zone. Valley oak trees and ornamental trees occur along the south side of Pleasant Grove Creek, near the southeastern portion of the Study Area, and the Harris property. A few scattered oaks are located near University Creek in the northern portion of the Study Area. Several isolated valley oak trees, including a tall, mature valley oak, grow on the north side of Phillip Road along the southern edge of the Study Area. Fires in 2007, 2008, and 2010 affected some of these trees.

The *Initial Arborist Report and Tree Inventory Summary* (Sierra Nevada Arborists 2007) and supplemental reports (Sierra Nevada Arborists 2008) inventoried 528 blue oak, interior live oak, and valley oak trees within the Creekview Specific Plan Area except for the Harris property.

Wildlife Occurrence and Use

The following section describes the general wildlife use of the Study Area. Appendix B lists the wildlife species that were observed during field surveys.

The Study Area is characteristic of western Placer County, west of Roseville, consisting of wide open flat to gently rolling grasslands dotted with vernal pools and swales, narrow perennial streams, and a network of small ephemeral drainages. Patches of emergent marsh and oak, cottonwood, and willow-dominated riparian woodland occur along the drainages and scattered trees and shrubs occur throughout the grassland. The area is becoming increasingly urbanized, however, with residential development continuing to extend westward from Roseville. As a result, wildlife populations are becoming increasingly constrained in the region as open grazing and agricultural lands are removed and fragmented from the gradual transformation into urban communities, and as urban-related disturbances increase.

Land management practices in the Study Area and throughout western Placer County have also constrained wildlife populations. For example, cultivation of vernal pool grasslands has affected watershed function and the spread of invasive nonnative species, such as yellow star-thistle, has altered vegetation patterns. Also, rodent control practices have limited opportunities for subterranean species such as burrowing owls, reptiles and amphibians. These species often require underground refuges provided by squirrel and rodent burrows.

Still, the Study Area and surrounding open landscape continue to provide essential habitat for many wildlife species. During the winter and spring months when vernal pools and swales and other seasonal wetlands are inundated, these habitats support a variety of aquatic invertebrates, including several special-status species, and are key habitats for wintering waterfowl, wading birds, shorebirds, and several amphibian species such as Pacific tree frog and western spadefoot.

The open grassland habitats are also essential to several breeding and wintering raptors, particularly as foraging habitat. Several important prey species were detected during surveys, including pocket gopher, meadow vole, and black-tailed jackrabbit. During the spring and summer seasons, locally breeding raptors such as Swainson's hawk, red-tailed hawk, white-tailed kite, northern harrier, and American kestrel are dependant on grassland and agricultural foraging habitats.

During the nesting raptor surveys in 2007, two active red-tailed hawk nests and one Swainson's hawk nest were observed within the Study Area (Estep 2008a). Surveys in 2008 observed two active red-tailed hawk nests, two Swainson's hawk nests, and two white-tailed kite nests onsite (Estep 2008b). In addition, white-tailed kite, great-horned owl, northern harrier, and American kestrel were observed foraging onsite and likely

nest on or near the Study Area. During winter, additional species, such as ferruginous hawk, rough-legged hawk, Cooper's hawk, and sharp-shinned hawk also occupy these landscapes.

The grassland habitats are also important nesting habitat for many ground-nesting birds, such as western meadowlark and horned lark and are home to several common reptiles such as gopher snake, valley garter snake, and western fence lizard.

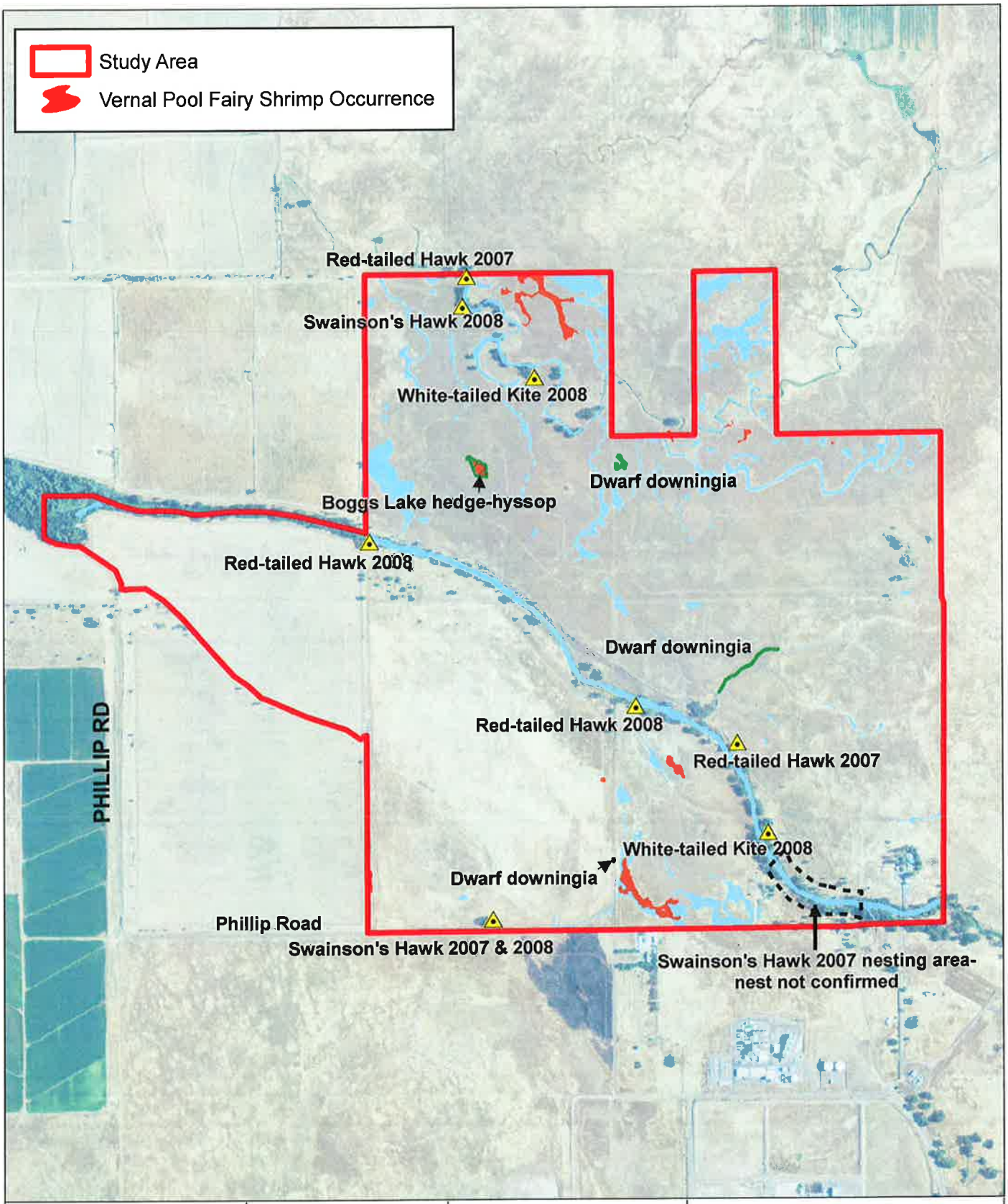
Other habitat types such as emergent marsh, perennial and ephemeral streams, riparian woodlands, and isolated trees or groups of trees further enhance the value of this landscape by providing nesting, roosting, and cover habitat for species that also use the open grassland and vernal pool grassland community. The seasonal marsh north of Pleasant Grove Creek provides important nesting opportunities for red-winged blackbirds and other species that also forage in grassland habitats. The stream channels and associated vegetation provide cover for many species and denning opportunities for coyote and other mammals. The flowing and pooled water provide an important source of drinking water for many birds and mammals.

The riparian habitat along Pleasant Grove Creek, the valley oak trees along University Creek, and the few isolated ornamental trees and patches of trees throughout the Study Area, provide important nesting habitat for breeding raptors and many other birds common to the area, including American crow, western scrub jay, yellow-billed magpie, mourning dove, and a variety of songbirds. Trees associated with farm and ranch residences provide similar nesting and roosting habitat value.

Streams occurring within the Study Area, including Pleasant Grove Creek and University Creek, are not known to support anadromous salmonids such as Chinook salmon or steelhead (NMFS 2008; DWR 2005). The portion of Pleasant Grove Creek (and other streams, such as University Creek) located within the Study Area are therefore expected to support only resident cold- and warm-water fish species. Pleasant Grove Creek drains into the northern part of the Natomas East Main Drainage Canal (NEMDC), which flows into the Sacramento River. Although there is a connection to the Sacramento River, the Natomas East Main Drainage Canal is an "impaired" waterway and has significant water quality issues. The NEMDC, however, provides a migratory route to Dry Creek, which supports marginal salmonid habitat (NMFS 2007).

Special-Status Species

Appendix C is a list of potentially occurring special-status plants, and Appendix D is a similar list of special-status wildlife compiled from our queries as described in the Methods section above. Figure 6 shows the locations of special-status species known to occur in the Study Area. Species requiring habitats not occurring in or around the Study Area and species occurring far outside the Study Area are not considered in Appendices C or D. Field surveys and the best professional judgment of North Fork Associates biologists were used to further refine the tables in Appendices C and D. Additionally, plants species found on the CNPS List 3 and 4 are not considered further in the document.



CREEKVIEW

N

0 250 500 1,000

Scale in Feet

Aerial Photo: 2009 (NAIP)

Figure 6

Special-Status Species Locations

Creekview

Placer County, CA

This refined list of special-status species in the region surrounding the Study Area includes 12 plants and 34 animals (Appendix C and Appendix D, respectively). Of the 12 plant species in Appendix C and 34 animal species in Appendix D, 10 plants and 11 animals either occur onsite or they are rated likely or possible to occur because the site has some areas of suitable habitat or they are known from nearby locations. Some species rated unlikely to occur are discussed if they have high status or when further clarification is needed. Table 3 is a summary of those species, and they are discussed in more detail in the paragraphs following the table. Colonial nesting egrets and herons are listed in Appendix D and Table 3 because their rookeries are tracked and of interest to California Department of Fish and Game (CDFG); however, they are technically not considered special status birds.

Helm Biological Consulting conducted federally-listed large branchiopod surveys during the dry-season in 2006 and 2007 and wet-season in 2006- 2007 and 2007-2008, and western spadefoot surveys in 2007 and 2008 (Helm Biological Consulting 2007, 2008a, 2008b). Estep Environmental Consulting conducted raptor surveys in 2007 and 2008 (Estep 2008a, 2008b). NFA conducted special-status plant surveys primarily in 2006 (with a one day follow up in 2008). These surveys are referenced in the following discussion.

Table 3. Special-Status Species That Could Occur Within the Creekview Study Area

Species	Status* Federal	State	CNPS	Habitat	Potential for Occurrence** and Findings
Plants					
Big-scale balsam-root *Balsamorhiza macrolepis macrolepis*	-	-	List 1B.2	Cismontane woodland; valley and foothill grassland; [sometimes serpentinite]	Possible. Marginal habitat is present in the Study Area. Not observed onsite.
Dwarf downingia *Downingia pusilla*	-	-	List 2.2	Valley and foothill grassland (mesic); vernal pools, seasonal wetlands, and wetland swales.	Occurs. Observed in a basin vernal pool, wetland swale, and a man-made ditch onsite in 2006.
Bogg's Lake hedge-hyssop *Gratiola heterosepala*	-	CE	List 1B.2	Marshes and swamps (lake margins); vernal pools. Below 1200 m	Occurs. Observed in one deep basin vernal pool onsite in 2006 and 2008.
Ahart's dwarf rush *Juncus leiospermus ahartii*	-	-	List 1B.2	Vernal pools	Possible. Suitable habitat is present in the Study Area. Not observed onsite.

Red Bluff dwarf rush *Juncus leiospermus leiospermus*	-	-	List 1B.1	Chaparral; cismontane woodland; valley and foothill grassland; vernal pools; [vernally mesic]	Unlikely. Nearest documented occurrence is considered to be a misidentification (CNDDB 2008). Not observed onsite.
Legenere *Legenere limosa*	-	-	List 1B.1	Vernal pools	Possible. Suitable habitat is present in the Study Area. Not observed onsite.
Pincushion navarretia *Navarretia myersii myersii*	-	-	List 1B.1	Vernal pools	Possible. Suitable habitat is present in the Study Area. Not observed onsite.
Slender Orcutt grass *Orcuttia tenuis*	FT	CE	List 1B.1	Vernal pools	Unlikely. Marginal habitat onsite and no known occurrences within Placer County. Not observed onsite.
Sacramento Valley Orcutt grass *Orcuttia viscida*	FE	CE	List 1B.1	Vernal pools	Unlikely. Marginal habitat onsite and no known occurrences within Placer County. Not observed onsite.
Sanford's arrowhead *Sagittaria sanfordii*	-	-	List 1B.2	Marshes and swamps (assorted shallow freshwater)	Possible. Marginal habitat is present in the Study Area. Not observed onsite.
Species	**Status* Federal**	**State**	**Other**	**Habitat**	**Potential for Occurrence****
Invertebrates					
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	-	-	Vernal pools, swales, seasonal wetlands	Occurs. *Branchinecta* spp. cysts present onsite, assumed to be *B. lynchi*. No adult *B. lynchi* observed onsite (Helm 2007 and 2008b).

Conservancy fairy shrimp *Brachinecta conservatio*	FE	-	-	Vernal pools, swales, seasonal wetlands	Unlikely. Marginal habitat in Study Area. Not observed during surveys (Helm 2007). Very rare in region.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	-	-	Vernal pools, swales, seasonal wetlands	Unlikely. Marginal habitat in Study Area. Not observed during surveys (Helm 2007). Not observed onsite.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	-	-	Elderberry shrubs with stems greater than 1 inch diameter are considered potential habitat.	None/Unlikely. No elderberry shrubs are present in the Study Area (Estep 2008a). Harris property not surveyed. Not observed onsite.
Reptiles					
Western pond turtle *Actinemys marmorata*	-	CSC	-	Ponds, marshes, river, streams and ditches with basking sites and vegetation	Possible. Suitable habitat occurs in the Study Area. Not observed onsite.
Giant garter snake *Thamnophis gigas*	FT	CT	-	Streams, irrigation channels, seasonal wetlands	Unlikely. Marginally suitable habitat occurs in the Study Area (see the discussion below). Not observed onsite.
Amphibians					
California tiger salamander *Ambystoma californiense*	FT	CT	-	Vernal pools, vernal pool grasslands, and ponds	Unlikely. None detected during the Branchiopod and western spadefoot surveys (Helm 2007, 2008). Very rare in project region.
California red-legged frog *Rana draytonii*	FT	CSC	-	Deeper pools and streams with emergent or overhanging vegetation	Unlikely. Marginal habitat occurs in the Study Area. None detected during on site surveys Pleasant Grove Creek (Estep 2008a).

Western spadefoot *Spea hammondii*	-	CSC	-	Seasonally inundated basins	Possible. Not detected during surveys in the Study Area (Helm Biological Consulting 2008a). Surveys did not include the Harris property portion of the Study Area.
Birds					
Great egret (rookery) *Ardea alba*	-	*	-	Colonial nester in tall trees.	Unlikely. Marginal rookery habitat occurs in the Study Area. Not observed onsite.
Great blue heron(rookery) *Ardea Herodias*	-	*	-	Colonial nester in tall trees.	Unlikely. Marginal rookery habitat occurs in the Study Area. Not observed onsite.
Snowy egret (rookery) *Egretta thula*	-	*	-	Colonial nester in dense tules.	Unlikely. Marginal rookery habitat occurs in the Study Area. Not observed onsite.
Black-crowned night-heron (rookery) *Nycticorax nycticorax*	-	*	-	Colonial nester in trees and sometimes tule patches.	Unlikely. Marginal rookery habitat occurs in the Study Area. Not observed onsite.
Tricolored blackbird *Agelaius tricolor*	-	CSC	-	Open water areas with tall emergent vegetation or in willow and blackberry thickets	Possible for foraging, unlikely to nest. Colony observed ±4,000 feet downstream but not observed onsite.
Grasshopper sparrow *Ammodramus savannarum*	-	CSC	-	Breeds in grasslands and savannahs in rolling hills and lower mountain hillsides up to 5000 feet elevation.	Unlikely. Marginal habitat occurs in the Study Area. Not observed onsite.

Burrowing owl *Athene cunicularia*	-	CSC	-	Grasslands, agricultural lands	Possible. Suitable habitat occurs in the Study Area. Not observed onsite.
Swainson's hawk *Buteo swainsoni*	-	CT	-	Grasslands, agricultural lands	Occurs. Observed nests in 2007 and 2008 and species foraging in the Study Area (Estep 2008a, 2008b).
Northern harrier *Circus cyaneus*	-	CSC	-	Grasslands, seasonal wetlands, agricultural lands	Occurs. Observed foraging during surveys (Estep 2008a, 2008b). Not observed nesting onsite.
White-tailed kite *Elanus leucurus*	-	CFP	-	Open grassland, meadows, and farmlands. Nests in tall trees near foraging areas	Occurs. Observed two nests in 2008 and species foraging in the Study Area.
California black rail *Laterallus jamaicensis*	-	T	-	Shallow, perennial, freshwater marshes.	Unlikely. Only very marginal habitat is present, and the existing marsh is seasonal.
Greater sandhill crane *Grus canadensis tabida*	-	CT	CFP	Seasonal wetlands, irrigated pastures, alfalfa and corn fields	Unlikely. Marginally suitable habitat occurs in the Study Area. Not observed onsite.
Long-billed curlew *Numenisu americanus*	-	"watch list"	-	Winters in pastures, seasonal wetlands, and some cultivated lands.	None for breeding habitat. Winter foraging habitat is present, but the species does not breed in this area.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC	CE	-	Riparian forests along the broad, lower floodplains of larger rivers. Nests in thickets of willows and cottonwoods with an understory of blackberry, nettle, or wild grape.	Unlikely. Marginal habitat in western portion of Pleasant Grove Creek. Generally not considered a nesting bird in Placer County. Not observed onsite.

Loggerhead shrike *Lanius ludovicianus*	-	CSC	-	Grasslands, pastures, agricultural lands	Occurs. Observed foraging in the Study Area (Estep 2008a, 2008b). Not observed nesting onsite.
Purple martin *Progne subis*	-	CSC	-	Breeds in riparian woodland, oak woodland, open coniferous forests. Secondary cavity nester. Requires nest sites close to open foraging areas of water or land.	Unlikely. Marginal habitat occurs in the Study Area. Not observed onsite.
Mammals					
Pallid bat *Antrozous pallidus*	-	CSC	-	Shrublands, grasslands, woodlands, forests; rocky areas, caves, mines, hollow trees for roosting	Possible. May forage on site but unlikely to roost. Not observed onsite.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	-	CSC	-	Most low to mid-elevation habitats; caves, mines, and buildings for roosting	Possible. May forage on site but unlikely to roost. Not observed onsite.

*Status Codes:

Federal

FE Federal Endangered
FT Federal Threatened
FP Federal Proposed Species

State

CE California Endangered
CT California Threatened
CR California Rare (plants only)
CSC California Species of Concern
CFP California Fully Protected

CNPS

List 1B Rare, Threatened, or Endangered in California
List 2 R, T, or E in California, more common elsewhere
1- Seriously threatened in California
2- Fairly threatened in California
3- Not very threatened in California

**Definitions for the Potential to Occur:

None. Habitat does not occur.

Unlikely. Some habitat may occur, but disturbance or other activities may restrict or eliminate the possibility of the species occurring. Habitat may be very marginal, or the Study Area may be outside the range of the species.

Possible. Marginal to suitable habitat occurs, and the Study Area occurs within the range of the species.

Likely. Good habitat occurs, but the species was not observed during surveys.

Occurs: Species was observed during surveys.

Plants

NFA conducted floristic special-status plant surveys for portions of the Study Area (see the Methods section) on March 1 and 24, April 28, and May 6 and 16, 2006, with a follow-up survey on May 6, 2008. Figure 6 shows the location of special-status plants in the Study Area (surveys did not include the Harris property or the off-site portion of the Study Area).

Big-scale balsam-root (*Balsamorhiza macrolepis* var. *macrolepis*) is an herbaceous perennial member of the sunflower family (Asteraceae). It has no state or federal status, but it is on the CNPS List 1B.2. This species has large yellow flowering heads and leaves that arise from the ground. It differs, in part, from other balsam-roots by having coarsely

serrate leaves. Big-scale balsam-root grows in open woodlands and grasslands at widely scattered locations in northern California, and will tolerate serpentine soil. It blooms from March to June.

Marginal habitat for big-scale balsam-root occurs within the grasslands in Study Area although no serpentine soils are found onsite. No *Balsamorhiza* species were observed during the floristic surveys and are unlikely to occur onsite.

Dwarf downingia (*Downingia pusilla*) is a small annual member of the bellflower family (Campanulaceae). It has no state or federal status. The CNPS places the dwarf downingia on their List 2.2, meaning that, although it is rare in California, it is more widespread elsewhere. Dwarf downingia also occurs in Chile where the type specimen was collected. Dwarf downingia is distinguished from other members of the genus by having very small flowers that are not upside down at blooming time. The species is an obligate wetland plant that occurs primarily in vernal pools. It blooms from March to May, depending on the amount and distribution of winter rains.

During the floristic special-status plant surveys in 2006, three populations of dwarf downingia were observed and mapped (Figure 6). Dwarf downingia was found in one basin vernal pool, wetland swale (several thousand plants), and a man-made ditch. Associated species include vernal pool buttercup, stipitate popcornflower, and Vasey's coyote-thistle. Surrounding landscape consists of undulating grassland with vernal pools, swales, and Pleasant Grove Creek.

Bogg's Lake hedge-hyssop (*Gratiola heterosepala*) is a small annual member of the figwort family (Scrophulariaceae). It is given endangered status by the state Endangered Species Act, although it has no federal status. The CNPS places it on its List 1B.2. It differs from the common *G. ebracteata* by having blunt tips on the leaves and sepals, which are smaller and of different lengths. It occurs in vernal pools and the moist margins of marshes in northern California. It blooms from April to June, usually as the pools begin to dry.

One population of Bogg's Lake hedge-hyssop was observed during the special-status plant floristic surveys in 2006 and May 6, 2008 (see Figure 6). Bogg's Lake hedge-hyssop occurs in a unique, relatively deep vernal pool (VP #04) in the northwestern corner of the main on-site portion of the Study Area (north of Pleasant Grove Creek). The vernal pool is located in a depression on top of a slightly higher portion of the landscape. It was the only vernal pool in area that had standing water at time of the May 25, 2006 survey (1-2" standing water). Bogg's Lake hedge-hyssop is located throughout the pool with the highest density of individuals located in the center of pool. The center of pool supports approximately 50% bare ground and 50% vegetative cover where associated species include Vasey's coyote-thistle, double-horned downingia, least spikerush, smooth goldfields, and fringed water-plantain. Around the outer edges if the pool, associated species include white-flowered navarretia, double-horned downingia, dwarf woolly-heads, stipitate popcornflower, dodder, Vasey's coyote-thistle, smooth goldfields, and bractless hedge-hyssop. Approximately 1,000 to 1,500 Bogg's Lake hedge-hyssop plants occur in the vernal pool.

Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*) and **Red Bluff dwarf rush** (*Juncus leiospermus* var. *leiospermus*) are very small annual members of the rush family (Juncaceae). They have no state status, Ahart's dwarf rush is on CNPS List 1B.2 and Red Bluff dwarf rush is on CNPS List 1B.1. They differ from the more common toad rush by having terminal flowers and from the introduced capped rush by having inconspicuous bracts. Ahart's dwarf rush grows in vernal pools along the east side of the Central Valley from Butte County to Calaveras County. Red Bluff dwarf rush grows in a variety of habitats that are seasonally wet. They both bloom from March to May. Suitable habitat is present within the Study Area for both species; however, it is unlikely that Red Bluff dwarf rush would occur within the Study Area because the typical reported range of the species is within Butte, Shasta, and Tehama counties and the nearest reported occurrence is thought to be a misidentification (CDFG 2008).

Ahart's dwarf rush and Red Bluff dwarf rush were not found during floristic surveys, although two widespread and common annual members of the genus *Juncus* were observed.

Legenere (*Legenere limosa*) is small annual member of the bellflower family (Campanulaceae). It has no state or federal status, but it is a CNPS List 1B.1 species. The genus name is an anagram of E.L. Greene, one of California's early botanists. It is the only species in the genus and has small, inconspicuous flowers that have pedicels rather than being sessile. Legenere prefers the drying mud of late season vernal pools and swales and it blooms from April to June. It has also been found in vernal pools in the Pleasant Grove Creek watershed to the east of the Study Area and could occur in the vernal pools within the Study Area.

Legenere was not observed during the floristic surveys.

Pincushion navarretia (*Navarretia myersii* subsp. *myersii*) is an annual member of the phlox family (Polemoniaceae). It is on the CNPS List 1B.1, but has no state or federal status. Pincushion navarretia differs, in part, from the more common *N. leucocepahala* by its larger flowers. It is confined to vernal pools at a relatively few locations in the eastern Central Valley. It generally blooms in May. It is possible for this species to occur within the vernal pools in the Study Area.

Pincushion navarretia was not found during the floristic field surveys. *Navarretia intertexta* and *N. leucocephala*, both wetland species, were observed in the Study Area.

Slender Orcutt grass (*Orcuttia tenuis*) is an annual member of the grass family (Poaceae). It is a federal threatened species and a California endangered species. It is also on the CNPS List 1B.1. Slender Orcutt grass differs from other members of the genus by a number of technical characteristics. This species is better known from more northern California, but it also occurs in Sacramento County, where it prefers large, deep vernal pools. It blooms late in the season, usually between May and July. Marginal habitat occurs in the vernal pools within the Study Area; slender Orcutt grass prefers larger, deeper vernal pools than those that occur within the Study Area. It is highly unlikely that this species would occur within the Study Area since no occurrences have been found in Placer County and the pools in the Study Area are too shallow.

Slender Orcutt grass was not observed during the floristic surveys.

Sacramento Valley Orcutt grass (*Orcuttia viscida*) is annual member of the grass family (Poaceae). It is a federal endangered species and a California endangered species. It is also on the CNPS List 1B.1. Technical characteristics, such as longer lemma awns, separate this species from other members of the genus. It prefers large, deep vernal pools, and is know to occur only in Sacramento County. Sacramento Valley Orcutt grass blooms late, typically from May to June. Very marginal habitat (this species prefers larger, deeper pools) occurs within the Study Area. It is highly unlikely that this species would occur within the Study Area.

Sacramento Valley Orcutt grass was not observed during the floristic surveys.

Sanford's arrowhead (*Sagittaria sanfordii*) is an herbaceous perennial member of the water-plantain family (Alismataceae). It is on the CNPS List 1B.2. Sanford's arrowhead lacks the arrow shaped (sagittate) leaves of other members of the genus. It has sharply triangular petioles (leaf stems) that distinguish it in the vegetative state from *Alisma*, in which the back of the petioles are rounded. Its preferred habitat is marshes associated with slow-moving water in sloughs and ditches. It is known to occur in concrete lined channels with only a few inches of soil. It has a long blooming period, starting as early as May and sometimes lasting until August. It is possible for this species to occur within the marsh and drainages in the Study Area.

Sanford's arrowhead was not observed during the floristic surveys.

Wildlife

Aquatic Invertebrates

Several special-status invertebrates have the potential to occur in vernal pools and seasonal wetland habitats in the broader project region, including vernal pool tadpole shrimp and conservancy fairy shrimp, both federally listed endangered species, and vernal pool fairy shrimp, a federally listed threatened species. Each of these species occurs in vernal pools and other seasonal wetland habitats throughout the Central Valley and each is known to occur in western Placer County. The conservancy fairy shrimp was recently detected in western Placer County (USFWS 2007), which has resulted in a range expansion for this species that includes the Study Area. As a result of the substantial loss of vernal pool habitats in the Central Valley from urbanization and agricultural conversion, populations of these species have declined throughout their range (U.S. Fish and Wildlife Service 1994).

Collectively, these species occur within a range of specific environmental conditions that include soil type, vegetation characteristics, water depth, water temperature, inundation duration, and water quality (Ericksen and Belk 1999). Emergence of adult animals is also dependent on these and other environmental factors (Eng et al 1990). Detection of these species can be difficult and inconclusive in the absence of multi-seasonal survey effort. Therefore, in general, vernal pool and seasonal wetland habitats that meet the definition of habitat suitability are considered potentially occupied by these species. To

confirm absence of these species requires adherence to standard U.S. Fish and Wildlife Service two-year survey protocol (U.S. Fish and Wildlife Service 1995).

Protocol surveys were conducted by Helm Biological Consulting during the 2006-2008 dry and wet seasons within the Study Area, excluding the Reason Farms portion and the Harris property. Dry season sampling was conducted in October 2006 and May 2007, and wet season sampling was conducted between December 2006 and April 2007, and December 2007 and April 2008. Results of the surveys are presented in *Federally-Listed Large Branchiopods Sampling at the Creekview Project* (Helm Biological Consulting 2007 and 2008b). A total of 202 basins (21 vernal pools, 35 wetland swales, 90 seasonal wetlands, and one seasonal marsh identified by NFA (2007) and 55 additional basins identified by Helm Biological Consulting (2007) were sampled during dry sampling surveys, and 139 of these were sufficiently inundated to conduct wet-season sampling (Helm Biological Consulting 2007 and 2008b).

Of the 202 basins sampled that were initially considered as having potential to support special-status Branchiopods only 11 were found to be occupied by *Branchinecta* species during dry season sampling (Figure 6). Based on the detection of cysts in the basins, these sites were presumed to be occupied by one of several potentially occurring special-status *Branchinecta* species. Species of the cysts that are detected during dry season surveys cannot be confirmed without hatching the cysts and grow1ing them to maturity. Therefore, cysts that were observed during the dry season surveys associated with this study were therefore not identified to the species-level, but were presumed to most likely be those of vernal pool fairy shrimp (*B. lynchi*). The conservancy fairy shrimp was determined to have minimal potential for occurrence due to the rarity of the species within the project region and the absence of additional documented occurrences locally since the 2007 observation in western Placer County.

No special-status Branchiopods were detected during wet-season surveys; however, it is not uncommon to not detect these species following detection during dry-season sampling (Helm Biological Consulting 2007).

Valley Elderberry Longhorn Beetle (VELB) (*Desmocerus californicus dimorphus*) is a federally-listed threatened species. VELB is a medium-sized woodboring beetle, about 0.8 inches long.

VELB is endemic to California's Central Valley and watersheds that drain into the Central Valley (Barr 1991). Its presence is entirely dependent on the presence of its host plant, the elderberry shrub (*Sambucus* spp.).

VELB is a specialized herbivore that feeds exclusively on elderberry shrubs, the adults feeding on leaves and flowers, and the larvae on the stem pith. Habitat for VELB consists of elderberry shrubs with stems greater than 1 inch in basal diameter. Elderberry grows in upland riparian forests or savannas adjacent to riparian vegetation, but also occurs in oak woodlands and savannas and in disturbed areas. It usually co-occurs with other woody riparian plants, including Fremont cottonwood, California sycamore, various willows, wild grape, blackberry, and poison-oak (U.S. Fish and Wildlife Service 1984; Collinge et al. 2001).

The Harris property was not surveyed for elderberry shrubs due to limited access at the time of the field surveys. However, no elderberry shrubs were detected in remaining portions of the Study Area.

Western pond turtle (*Actinemys marmorata*) is designated as a state species of special concern. The western pond turtle is a moderate sized turtle with drab brown coloring. The carapace lacks any prominent markings (Holland 1991). There are two recognized subspecies, the northwestern pond turtle and the southwestern pond turtle. Placer County lies within a diffuse intergrade of both subspecies. In California, the western pond turtle is distributed throughout the state from sea level to mid-elevation Sierra Nevada (Jennings and Hayes 1994).

Western pond turtles are closely associated with permanent water bodies, such as lakes, ponds, slow moving streams, and irrigation canals that include basking sites as down logs or rocks, and that support sufficient aquatic prey. Western pond turtles also require upland habitat that is suitable for building nests, to aestivate, and to overwinter. Suitable upland habitat must have the proper thermal and hydric conditions in which to build nests (Jennings and Hayes 1994). Nests are constructed in sandy banks immediately adjacent to aquatic habitat or if necessary, females will climb hillsides and sometimes move considerable distances to find suitable nest sites. Females deposit their eggs in the nest from March to August depending on local conditions.

Western pond turtles are omnivorous and opportunistic feeders. Their diet includes slow-moving aquatic invertebrates and carrion. Aquatic vegetation may also be consumed, especially by females who have recently laid eggs. Hatchlings and juveniles feed primarily on zooplankton (Jennings and Hayes 1994).

No pond turtles were observed during the field survey; however, Pleasant Grove Creek and adjacent upland habitat is considered suitable habitat for this species. The perennial flows and pools in Pleasant Grove Creek could support this species.

Giant garter snake (GGS) (*Thamnophis gigas*) is a state and federally listed threatened species. Giant garter snake is an aquatic species endemic to the Central Valley. Loss or degradation of aquatic habitat resulting from agricultural and urban development has caused dramatic population declines and has resulted in the recognition of only 13 extant populations between Butte County and Fresno County (U.S. Fish and Wildlife Service 1999). The Natomas Basin population, approximately 5 miles west of the Plan Area, is the nearest of these to the Plan Area.

Described as among California's most aquatic garter snakes, giant garter snakes are associated with low-gradient streams and valley floor wetlands and marshes, and have adapted successfully to rice agriculture (Hansen 2002). Giant garter snakes occur in sloughs, creeks, and other watercourses including agricultural ditches that support sufficient water, aquatic prey, and emergent vegetation for basking sites. They generally are found in more open habitats and do not typically occur along watercourses that support dense riparian cover. Aquatic habitats are characterized by sufficient water during the snake's active season to supply cover and food such as small fish and amphibians; emergent herbaceous wetland vegetation such as cattails and bulrushes for

basking, foraging, and escape cover; upland habitat (for example, bankside burrows, holes, and crevices for short-term refugia; and high ground upland habitat for cover and refugia during the dormant winter period (Hansen and Brode 1980).

Portions of Pleasant Grove Creek support at least marginally suitable habitat for giant garter snake with perennial flow, steep-sided banks, and emergent wetlands. However, the potential for occurrence is considered unlikely due in part to the lack of records of the species east of the NEMDC. Eric Hansen, a GGS expert, was consulted regarding the suitability of the area immediately east of the NEMDC for GGS and the potential for the species to occur in this area. Mr. Hansen noted that the area appeared to be generally suitable for GGS and did not appear to be significantly different from habitat conditions found in the Natomas Basin other than slightly shifting soil and hydrologic profiles. Mr. Hansen has attempted to trap GGS east of the NBMDC and has to date been unsuccessful. Thus, to date despite the apparent suitable conditions, GGS has not been detected east of the NBMDC (Hansen pers. comm.). Pleasant Grove Creek from the Panhandle (just west of Creekview proper) to just east of Brewer Road supports a dense canopy of riparian cover, greatly reducing the potential as a migration corridor from the Natomas Basin populations to the Study Area. For these reasons, the giant garter snake is presumed to be absent from the Creekview Study Area and it is highly unlikely to occur onsite.

California tiger salamander (*Ambystoma californiense*) is a federally threatened species and was recently listed as a state threatened species in May 2010. It is a large, stocky, terrestrial salamander with a broad, rounded snout. Adults are from 7 to 8 inches in length with white or pale yellow spots or bars on a black background on the back and sides. The belly varies from almost uniform white or pale yellow to a variegated pattern of white or pale yellow and black (USFWS 2005b).

This species is restricted to California and does not overlap with any other species of tiger salamander. California tiger salamanders are restricted to deep vernal pools and seasonal ponds, including many constructed stockponds, in grassland and oak savannah plant communities from sea level to about 1,500 feet in central California (USFWS 2005b).

No specific surveys were conducted for California tiger salamander, but the species was not detected during vernal pool and seasonal wetland surveys for listed Branchiopods on the Study Area (surveys did not include the Harris property or the Panhandle SOI). There are no recent occurrences of California tiger salamander from western Placer County and CNDDB (CDFG 2008) reports no occurrences for county. Thus, it is unlikely that the species occurs in the Study Area.

California red-legged frog (*Rana draytonii*) is a federally-listed threatened species and is designated as a state species of special concern. The California red-legged frog is one of two subspecies of red-legged frogs endemic to California and is the largest native frog in California. Its dorsal coloration is brown to reddish brown with small black flecks and larger dark blotches. The posterior abdomen and hind legs of adults are largely red or salmon pink colored (U.S. Fish and Wildlife Service 2002).

The California red-legged frog was once common in the Coast Ranges of California from Redding south to Baja California and in the northern Sierra Nevada. Its current range is much reduced with most of the remaining populations occurring in the Coast Ranges from Marin County south to Ventura County (Jennings and Hayes 1994). Historically, the California red-legged frog occurred in the Central Valley and Sierra Nevada foothills. Most of these populations were extirpated during the gold rush period, and few remain. Small populations have been found in Butte, Nevada, Placer, El Dorado, and Calaveras counties, and there is an unconfirmed report near Folsom Lake in Sacramento County. Existing literature indicates that CRLF may have been extirpated from the floor of the Central Valley prior to the 1960s (USFWS 2002).

The California red-legged frog occurs in a variety of habitats that contain the required elements of aquatic habitat and upland/dispersal habitat. Breeding habitat can be found in pools of streams and creeks, ponds, marshes, springs, sag ponds, and artificial stock ponds (U.S. Fish and Wildlife Service 2002). Juvenile frogs seem to favor open, shallow aquatic habitats with dense submergent vegetation (Jennings and Hayes 1994). During periods when aquatic habitat is not available, red-legged frogs will disperse from their breeding habitat and seek upland refugia under boulders or rocks, under fallen leaves and branches, and small mammal burrows (U.S. Fish and Wildlife Service 2002). Introduced bullfrogs, crayfish, and fishes (especially bass, sunfish, and mosquito fish) prey on various stages of red-legged frogs (U.S. Fish and Wildlife Service 2002).

Although Pleasant Grove Creek supports the basic habitat elements required for California red-legged frog presence, it is considered only marginally suitable habitat for this species. Urbanization in the vicinity (upstream) of the Study Area, historic and current disturbances to the creek from farming and ranching practices (prior to agricultural and urban development, Pleasant Grove Creek probably did not contain perennial flows), and the presence of bullfrogs substantially reduces habitat integrity. Pleasant Grove Creek also has no connectivity with other drainages known to have or with the potential to support this species. California red-legged frog also has not been detected during several recent biological surveys along Pleasant Grove Creek within the Creekview Study Area. Due to the absence of known occurrences in the project region, the lack of observations during the field surveys, and marginal quality of habitat available, California red-legged frog is not expected to occur within the Study Area.

Western spadefoot (*Spea hammondii*) is designated a state species of special concern. The western spadefoot is a near endemic to California and occurs throughout the Central Valley and adjacent foothills from near Redding, Shasta County south to northwestern Baja California, Mexico. Elevation occurrences extend from sea level up to 4,500 feet (Jennings and Hayes 1994).

Western spadefoot requires temporary rainpools (such as vernal pools) in which to breed, and in order to metamorphose successfully, rainpools must remain inundated for more than three weeks (Jennings and Hayes 1994). Most known occurrences in the Central Valley are in grassland habitats, but they have also been found in valley-foothill hardwood woodlands.

Most of the western spadefoot's life is spent in underground burrows. They will use burrows created by small mammals or excavate their own using the distinctive, tear-shaped spade on each hindfoot. Western spadefoot is almost completely terrestrial and only enters the water to breed. Breeding and egg laying occurs in late winter and early spring. Recently metamorphosed juveniles will hide in drying mud cracks, under boards, and even decomposing cow dung that are located in the vicinity of breeding ponds. Tadpoles consume planktonic organisms, algae, and dead amphibian larvae. Adults prey on insects, worms, and other invertebrates. Predators include various fishes, bullfrogs, crayfish, California tiger salamanders, garter snakes, herons, and raccoons (Jennings and Hayes 1994).

The CNDDB (2010) reports two occurrences within one mile of the Study Area and additional three occurrences within 5 miles of the Study Area. All of these detections were made during development-related resource assessments and all are either extirpated or threatened due to past and ongoing urbanization in the Roseville area. The Study Area and much of the surrounding landscape support suitable grassland, vernal pool, and other aquatic habitat for spadefoot. Surveys for spadefoot have been conducted in the Study Area excluding the Harris property and Reason Farms and no evidence of the western spadefoot was detected. Additionally, no adult vocalization calls were heard during the surveys (Helm Biological Consulting 2008a).

Heron/Egret Rookeries. Rookeries are colonial nesting sites for several heron and egret species, including great blue heron (*Ardea herodias*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), and black-crowned night heron (*Nycticorax nycticorax*). While these species are not considered special-status species, heron and egret rookeries are included on the CDFG special animals list because these breeding colonies can support the reproductive potential of a large segment of a local population. They are thus considered unique and important biological sites.

There are currently no rookeries for any of these species in the Study Area, although some portions of Pleasant Grove Creek have mature valley oak/cottonwood riparian woodland that could support a rookery. Also, the small valley oak woodland along University Creek in the northwest corner of the Study Area could support a small rookery. However, these habitats are considered to have only marginal potential to support these species due to the relatively small number of mature trees with sufficient height and structure to support nests. In addition, these species typically nest in association with marshes, seasonal wetlands, irrigated pastureland, or irrigated cropland that provide a greater source of food than do the non-irrigated pasturelands on and around the Study Area. Thus, while it is possible that these species may nest onsite, it is considered unlikely.

Tricolored Blackbird (*Agelaius tricolor*) is a state species of special concern. Tricolored blackbirds are small blackbirds, very similar in appearance to the closely related red-winged blackbird (*Agelaius phoeniceus*). They differ from species by the slightly thinner bill, darker red shoulder patches, and broad white (not yellow) median coverts (Sibley 2000).

Tricolored blackbirds are nearly endemic to California, and more than 99 percent of the global population occurs in the state. In any given year, more than 75 percent of the breeding population can be found in the Central Valley. Small breeding populations also exist at scattered sites in Oregon, Washington, Nevada, and western coastal Baja California (Beedy and Hamilton 1999). This species has suffered dramatic population declines throughout its range due to the loss of protected wetland nesting habitats.

Tricolored blackbirds breed in colonies from several dozen to several thousand breeding pairs. They have three basic requirements for selecting their breeding colony sites: open accessible water; a protected nesting substrate, including either flooded, thorny, or spiny vegetation, and; a suitable foraging space providing adequate insect prey within a few miles of the nesting colony (Beedy and Hamilton 1999).

Nesting colonies have been reported in freshwater marshes dominated by cattails and bulrushes, or in willows, blackberry bramble, thistles, or nettles. While freshwater marsh was once considered the primary breeding habitat type for tricolored blackbirds, an increasing percentage of tricolored blackbird colonies in the 1980s and 1990s were reported in Himalayan blackberries, and some of the largest recent colonies have been in silage and grain fields (Beedy and Hamilton 1999).

Foraging habitats in all seasons include annual grasslands; wet and dry vernal pools and other seasonal wetlands; agricultural fields (for example, large tracts of alfalfa with continuous mowing schedules and recently tilled fields); cattle feedlots; and dairies. Tricolored blackbirds also forage occasionally in riparian scrub habitats and along marsh borders (Beedy and Hamilton 1999).

Tricolored blackbird was not observed during the field surveys. CNDDB (2007) reports an active colony as recently as 2000 within 2-3 miles northeast of the Study Area. This site was threatened by urbanization (CNDDB 2007) and may no longer be extant. Humple and Churchwell (2002) report no breeding activity in Placer County during the 2001 statewide survey; however, they report relatively large groups of non-breeding birds at two sites in the county. Beedy et al. (1991) report only three historic colonies from Placer County, all near Lincoln. All are considered extirpated. During a June 3, 2008 biological survey downstream of the Creekview Study Area, North Fork Associates biologists observed a tricolored blackbird colony approximately 4,000 feet west of the Study Area. The colony was located in a large, open cattail and tule marsh within Pleasant Grove Creek (similar Pleasant Grove Creek habitat is not found within the Study Area).

Grasshopper Sparrow (*Ammodramus savannarum*) is a California species of special concern associated with grassland habitats where it nests and forages. They are generally found in dry, well-drained native and non-native grasslands, especially areas with a variety of grasses and tall forbs for foraging and nesting and scattered shrubs for singing perches. Open bunch grasslands are preferred because they retain openings or gaps that allow movement and access. Dense, grazed, non-native grasslands preclude effective foraging and restricts nesting opportunities and are thus considered marginal habitats.

No grasshopper sparrows were observed in the Study Area during surveys and few have been reported recently from western Placer County. Most reported occurrences are migrating birds. CNDDB reports only one possible breeding record for Placer County. Thus, while it is possible that this species could nest in the Study Area, it is considered unlikely.

Burrowing Owl (*Athene cunicularia*) is designated as a state species of special concern. The burrowing owl is a small ground-dwelling owl with a round head, yellow eyes, and long legs (Haug et al. 1993).

The burrowing owl occurs throughout most of western United States and northern Mexico. They also occur in southern Florida and on some Caribbean islands (Haug et al. 1993). In California, burrowing owls occur in open habitats throughout most of the state with the exception of the northwestern corner. Burrowing owls are found in open, dry grasslands, agricultural and range lands, and desert habitats. In the Central Valley, they are associated with remaining grassland habitats, pasturelands, and edges of agricultural fields. They also occur in vacant lots within urbanizing areas, such as south Sacramento and south Stockton. Historically nesting in colonies, due to limited nesting habitat availability, many of the more recent occurrences are individual nesting pairs or several loosely associated nesting pairs.

The burrowing owl is a subterranean-nesting species, typically occupying the burrows created by California ground squirrels *(Spermophilus beecheyi)*. They also occupy artificial habitats, such as those created by rock piles and occasionally in open pipes and small culverts. They forage for small rodents and insects in grassland and agricultural habitats with low vegetative.

No burrowing owls or active burrows of the species were detected within the Study Area during the field survey. CNDDB (2007) reports an active burrowing owl site just south of the southeastern portion of the Study Area. This site was reported as active in 1998, but no activity and no owls were observed at this location in 2003 (CNDDB 2007). The site may have been subsequently eliminated as a result of the development of the West Roseville Specific Plan Area and the Roseville Energy Park.

An evaluation of burrowing owl habitat in the Study Area during the field survey indicated that there is relatively little ground squirrel activity on site and thus few potential nesting opportunities for burrowing owl. This may be due to past and/or ongoing ground squirrel control measures, common in cattle grazing areas or to hardpan soil conditions that are less conducive to ground squirrel activity. The entire Study Area is otherwise considered suitable for burrowing owls and is likely occasionally used for foraging; however, burrowing owls have not been observed onsite during any of the biological surveys associated with this study.

Swainson's Hawk (*Buteo swainsoni*) is a state-listed threatened species. It is a medium-sized hawk with long (3.5 to 4 feet) narrow wings, dark breast and head, and with several distinctive plumage variations on the underwing coverts and belly (England et al. 1997).

Swainson's hawk is an open country species found throughout the plains and deserts of the western United States. Associated primarily with open grassland habitats, throughout much of its range, it is currently known to also occur in agricultural habitats, which has displaced much of the grassland habitat throughout North America. Formerly occurring throughout the lowland areas of California, as a result of habitat loss and conversion to agriculture, populations are now restricted to the Central Valley and Great Basin portions of the state.

In the Central Valley, Swainson's hawks nest in riparian forests, remnant oak woodlands, isolated trees, and roadside trees. They forage primarily in agricultural habitats, particularly those that optimize availability of prey (for example, alfalfa and other hay crops, some row and grain crops), but also use irrigated pastures and annual grasslands. The principal prey item of Swainson's hawks in the Central Valley is the California vole, but other small mammals, birds, reptiles, and insects are also taken (Estep 1989, England et al. 1997).

The Study Area is near the eastern edge of the Swainson's hawk range in the Central Valley. The open grasslands provide suitable foraging habitat for this species. Potential nesting trees, including valley oak, cottonwood, and willow, occur along Pleasant Grove Creek, University Creek, and in several isolated trees in the Study Area. Nesting Swainson's hawks could also occur in similar habitat on adjacent properties and throughout the general area.

CNDDB (2007) reports seven nest locations within five miles of the Study Area, six of which were documented as active as recently as 2001, including a site along Pleasant Grove Creek within one mile of the eastern border of the Study Area. Another active site was located in 2006 within two miles south of the Study Area in the Sierra Vista Specific Plan Area (NFA 2007). Numerous additional nest sites are known to occur in the cultivated landscape west of the Study Area (CNDDB 2007; Jones & Stokes 2007).

Nesting raptor surveys were conducted in the Study Area, excluding the Harris property and the off-site area, during 2007 and 2008. Figure 6 shows the mapped locations of the Swainson's hawk nests found during nesting raptor surveys. During the July 11, 2007 surveys, one Swainson's hawk nest was found. It is located in an isolated mature valley oak tree on the north side of Phillip Road along the southern boundary of the Study Area. This nest appeared to have failed, but both adults were present at the nest tree during the survey. Adult Swainson's hawks were also observed along Pleasant Grove Creek just east of the occupied residence near the southeastern portion of the Study Area. A nest was not confirmed at this location but, based on the behavior of the birds and the suitability of nesting habitat, the potential for a nest along this portion of Pleasant Grove Creek is high.

In 2008, two active Swainson's hawk nests were observed within the Study Area. One nest occurs in a willow tree along Pleasant Grove Creek on the western end of the Study Area. Another was observed in a valley oak tree along the south side of Pleasant Grove Creek in the central portion of the Study Area. Most of he Study Area and surrounding open grasslands are considered suitable foraging habitat for the Swainson's hawk.

Northern Harrier (*Circus cyaneus*) is designated as a state species of special concern. It is a medium-sized hawk with a slight build and relatively long tail and wings (3.5 foot wingspan). Adult males are pale gray, while juveniles and females are brown. All plumages show a distinctive white rump patch in flight (Sibley 2003).

In California, this species is a permanent resident of the northeastern plateau, coastal areas, and the Central Valley. It is also a widespread winter visitor and migrant in suitable habitat. While declines in the California population have been noted for many years (Grinnell and Miller 1944, Remsen 1978), the species can be locally abundant where suitable habitat remains free of disturbance, especially from intensive agriculture. Breeding populations have declined from destruction of wetland habitats, native grasslands, and moist meadows, and in agricultural areas from burning and plowing of nest sites during early stages of the breeding cycle (Remsen 1978, MacWhirter and Bildstein 1996).

Throughout its range, northern harriers occur primarily in open wetland, grassland, and agricultural habitats. The northern harrier is a ground-nesting raptor, constructing rudimentary nest sites on the ground in marsh, grassland, and some agricultural habitats, particularly grain fields. They forage in seasonal wetland, grassland, and agricultural habitats for voles and other small mammals, birds, frogs, and small reptiles, crustaceans, and insects. They also roost on the ground, using tall grasses and forbs in wetlands, or along wetland/field borders for cover (MacWhirter and Bildstein 1996).

Several adult northern harriers were observed foraging in the Study Area during the survey. The seasonal marsh and seasonal wetland habitats provide suitable nesting habitat for this species. However, while northern harrier nests are sometimes difficult to detect because they are often concealed in dense vegetation, no defensive or nest-attentiveness behavior was noted that would suggest a possible active breeding site.

White-tailed Kite (*Elanus leucurus*) is designated as a state fully protected species. The white-tailed kite is a highly specialized and distinctively marked bird of prey; smaller than most hawks with a wingspan of just over three feet, white underneath and light gray above, black shoulder patches, and white tail (Dunk 1995). The species name is derived from its distinctive hunting behavior, kiting, hovering in the air while hunting for prey.

The white-tailed kite is known primarily from the Central Valley and coastal areas of California; however, breeding has also been documented in parts of Oregon and Washington, southern Texas, Florida, and south from northern Mexico to South America.

In the Central Valley, white-tailed kites nest in riparian forests and woodlands, woodlots, and occasionally in isolated trees. They forage in grasslands, seasonal wetlands, and agricultural fields. Like most raptors, its distribution is determined more by prey abundance and vegetation structure than by specific plant associations. They appear to be more sensitive to intensive farming practices and while they are found in agricultural areas, populations have likely declined as a result of conversion from native grassland and seasonal wetland habitats to agriculture. White-tailed kites prey mainly

on small rodents, especially California vole, but also take small birds, reptiles, and insects (Dunk 1995, Erichsen 1995).

A white-tailed kite was observed foraging in the grassland habitat in the Study Area during the July 11, 2007 survey and two white-tailed kite nests were found in 2008 in the Study Area (see Figure 6). Virtually the entire Study Area is considered suitable foraging and nesting habitat for white-tailed kite.

Black rail (*(Laterallus jamaicensis coturnculus)* is a scarce and secretive resident bird that occurs in saline, brackish, and freshwater wetlands (Zeiner et al. 1990). In northern California, this resident subspecies is mainly known from the San Francisco Bay area and Sacramento-San Joaquin Delta, and is usually found in the immediate vicinity of tidal sloughs. California black rail primarily occurs in tidal emergent wetlands dominated by pickleweed or in brackish marshes with tall, emergent vegetation. Recently, California black rail has also been documented in isolated locations within the northern Sierra Nevada foothills. Populations in the foothills region have mostly been found in association with dense cattail or bulrush dominated marshes with very shallow (approximately 1 inch or less), but perennial surface water. This subspecies is carnivorous and feeds mostly on isopods, insects and arthropods from the surface of mud and vegetation. The nest of the California black rail consists of a deep, loose cup of grasses with a woven, domed canopy constructed in dense vegetation. The nest is typically located just above the water or ground. Nesting generally takes place from mid-March through mid-July. California black rail lays from 6 to 10 eggs and young leave the nest within 24 hours after hatching.

There have been no documented occurrences of California black rail in the region surrounding the study area. However, the CNDDB documents two occurrences of this subspecies within Placer County and numerous occurrences to the north in Yuba and Nevada counties, primarily in association with Camp Far West Reservoir (CNDDB 2010). Within Placer County, California black rail was detected in a large, cattail-dominated wetland associated with Clover Valley Creek (2006), approximately 9 miles east of the study area in the Loomis region. In 2005, this subspecies was also detected along Coon Creek, approximately 14 miles northeast of the study area. Limited areas of freshwater marsh habitat occur within the study area along Pleasant Grove Creek. The amount of vegetative cover present within and around wetland areas of the study area is not expected to be suitable for this secretive bird, which requires dense areas of emergent vegetation. Based on the rare occurrence of this species within the region, and the limited amount of suitable habitat available, the potential for occurrence of this species within the study area is considered to be unlikely.

Greater Sandhill Crane (*Grus canadensis tabida*) is a state-listed threatened species and California fully protected species. The greater sandhill crane is the largest of six recognized subspecies of sandhill crane (Littlefield and Ivey 2000), standing nearly four feet tall and with a nearly seven-foot wingspan (Sibley 2000). The Central Valley population of greater sandhill crane breeds from northern California to British Columbia and winters in the Central Valley. Portions of the Sacramento-San Joaquin Delta and the Cosumnes River basin are the principal wintering grounds of this population (Pogson

and Lindstedt 1988; Littlefield and Ivey 2000). Thus, while the species does not breed in the Central Valley, maintaining suitable roosting and foraging habitat within its wintering range is critical to sustaining this population.

Both roosting and foraging habitat are essential to the Central Valley population during winter. Greater sandhill cranes congregate in communal roosts at night and fly off each morning to forage in suitable fields, pastures, or other shallow wetland habitats. Most traditional foraging areas are near (within two or three miles) communal roost sites. Communal roost sites are typically large fields (100+ acres), flooded with several inches of standing or slowly moving water, and with relatively low relief shorelines (Pogsdon and Lindstedt 1988). Most roost sites in the Central Valley are on private duck clubs; however, in recent years the California Department of Fish and Game and conservation organizations such as The Nature Conservancy have acquired and protected important roost areas within the wintering range.

Foraging habitat includes harvested fields, irrigated pastures, alfalfa fields, and seasonally flooded habitats. The primary source of carbohydrates in the Delta and Cosumnes regions is waste corn. Cranes also forage on wheat sprouts in newly planted winter wheat fields and on sprouts, shoots, tubers, invertebrates, and seeds in fallow fields and in uncultivated habitats (field borders, levees, canal and irrigation ditch banks) (Pogsdon and Lindstedt 1988).

The Study Area is not within the designated essential winter range of greater sandhill crane (Littlefield and Ivey 2000). Although it is within an area that may receive incidental use by roosting or migrating cranes, the potential for occurrence is considered low and the value of the Study Area to this species in the context of its regional wintering range is considered low.

Long-billed curlew (*Numenius americanus*) is an uncommon to locally very common winter visitor from July to early April along the California coast and the Central Valley. This species has no formal status but is designated as a CDFG "watch list" species. Preferred winter habitats include large coastal estuaries, open grassland, and croplands. In valley areas, this species feeds on insects, worms, spiders, berries, crayfish, snails and small crustaceans. Within California, breeding is primarily limited to wet meadows and shortgrass prairies located on the Northeastern Plateau. Breeding takes place from mid-April to September. The nest consists of a sparsely-lined depression, often located far from water. Usually 4 eggs are laid and incubated from 27 to 28 days.

The CNDDB does not list any known occurrences of long-billed curlew within the project region or in Placer County. This "watch list" species is not expected to breed within the study area or surrounding region, since breeding is primarily limited to the northeastern-most corner of California. However, there is some potential for individuals of this species to visit and forage in open grassland and agricultural land of the study area throughout the winter months or during migration.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a state-listed endangered species. This riparian obligate species primarily occurs in association with willow-cottonwood riparian forest. Nests are primarily in willow trees; however, other

species are occasionally used, including alder and box elder. Canopy cover is typically dense (averaging 96.8 percent at the nest) and large patch sizes (generally greater than 20 hectares) are typically required (Laymon 1998b).

Although yellow-billed cuckoos nest primarily in willow (*Salix* spp.) trees, cottonwood trees are important as foraging habitat, particularly as a source of insect prey. The principal food item is green caterpillar (primarily sphinx moth larvae), with lesser amounts of katydids, tree frogs, and grasshoppers. The diet also includes cicadas, dragonflies, butterflies, moths, beetles, and spiders (Laymon et al. 1997).

All studies indicate a highly significant association with relatively expansive stands of mature cottonwood-willow forests; however, yellow-billed cuckoos will occasionally occupy a variety of marginal habitats, particularly at the edges of their range (Laymon 1998b).

Pleasant Grove Creek extends east-west through the Study Area along a narrow corridor (less than 100 feet from levee to levee) of sparse to relatively dense oak-dominated riparian forest. However, beginning at the western border of the off-site portion, the Pleasant Grove Creek basin widens to an average of approximately 300 feet and supports a much more diverse mixed riparian forest for a little over one mile before returning to a narrow, sparse to relatively dense oak-dominated riparian forest.

The creek meanders through this approximately 1.2 mile distance with lateral channels, relatively large patches of emergent wetland, and areas that become inundated during rain events. This has promoted the establishment of a willow-dominated riparian forest with valley oak as a co-dominant species and live oak and blue oak as associated overstory species. There are also several mature cottonwood trees occurring periodically along this reach; however, not in sufficient abundance in association with willow to be regarded as cottonwood-willow riparian forest.

While the basin width and vegetation diversity continue throughout the 1.2 mile reach, the willow-dominated portion extends for approximately 0.8 miles west of the off-stite area, creating an approximately 30-acre patch of willow-oak-dominated riparian forest. In some areas the willow overstory is fairly dense; although it generally occurs in association with valley, live, or blue oak. The few cottonwood trees occur periodically along the reach and do not represent a dominant overstory component. Thus, while this 30-acre patch supports some elements of suitable habitat for yellow-billed cuckoo, it is considered quite marginal.

There are no reported occurrences of nesting yellow-billed cuckoos from Pleasant Grove Creek or from western Placer County. Local bird lists generally regard the species as a rare migrant, but not a nesting bird in western Placer County. The nearest confirmed nesting sites are from the Feather River area. Therefore, because habitat conditions are considered marginal, the habitat patch is small (approximately 30 acres), and isolated from other potential habitat, and because the species has not been reported in the vicinity of the project area, this species is considered highly unlikely to occur along the reach of Pleasant Grove Creek west of off-site area.

Loggerhead Shrike (*Lanius ludovicianus)* is designated as a state species of special concern. Loggerhead shrike is a permanent resident and winter visitor in foothills and lowlands throughout California, where it is considered a fairly common resident (Small 1994). It is a medium-sized (9 inches), stout, short-winged passerine that is often seen perched on barbed wire fences. The underparts and back are grey, with black tail, wings and facemask (Sibley 2000).

Shrikes prefer open habitats with scattered trees, shrubs, posts, fences, utility lines, or other perches. It nests in small trees and shrubs and forages for small rodents and insects in pastures and agricultural lands.

Two loggerhead shrikes were observed during the site visit; however, no nests were located. Potential nesting habitat exists along Pleasant Grove Creek, ornamental trees and shrubs around rural residences, and in the small trees along Phillip Road. The entire Study Area is suitable foraging habitat for shrikes.

Purple martin (*Progne subis*) is a species of species concern with a range in California largely restricted to the Modoc Plateau, northern Sierra Nevada, the mountains of southern California, and in some urban areas in the Sacramento area.

Purple Martins develop colonial nests in cavities of large trees in oak or riparian woodlands and low-elevation coniferous forests. Nests are in old woodpecker cavities in dead snags and are often in residual snags in burned or logged forests. With the extensive loss of mature riparian trees throughout much of their range in California, Purple Martins have begun using man-made structures such as buildings, bridges, and highway overpasses for nesting. CNDDB reports a recent nest site in a Highway 65 freeway overpass in the City of Rocklin.

This species was not observed during surveys nor has it been reported from the Study Area. Portions of the riparian habitat along Pleasant Grove Creek and the small oak grove along University Creek support marginal, but potential habitat for this species. But the general lack of snags, hollowed trees, large cavities, or other essential habitat elements in the Study Area make the potential for occurrence of this species unlikely.

Special-status Bats

Two special status bats potentially occur in the Study Area, including pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii townsendii*) both a state species of special concern. Pallid bat occurs primarily in shrublands, woodlands, and forested habitats, but also can occur in grasslands. Townsends's big-eared bat occurs in a variety of woodland and open habitats. Both species roost in mines, caves, rocky crevices, large hollow trees, and occasionally in large open buildings that area usually abandoned or infrequently inhabited.

Although the Study Area may support suitable foraging habitat these and other common bat species, there is little habitat onsite to support roosting or maternity sites. There are no structures in the Study Area suitable for roosts. There are also no rocky areas, mines, caves, or other features that would support roosts. Several of the larger

trees along Pleasant Grove Creek and University Creek, and the few large isolated trees could support roosting bats, but most are not sufficiently decadent to create large hollow spaces that would support significant roost sites.

ASSESSMENT OF IMPACTS AND MITIGATION

The following provides a preliminary assessment of impacts to various habitats, waters of the United States, nesting raptors, and special-status species. Mitigation alternatives are also discussed. Impacts are based on the area impacted by the project (see Figure 7). Table 4 is an assessment of habitat impacts from the Creekview project. Figure 7 shows these impacts graphically.

Table 4: Potential Habitat Impacts (in Acres) from the Creekview Project

Habitat	Existing Acres*	On-Site Impacts	Harris Impacts	Off-Site Impacts	Total Impacts
Upland Habitats					
Annual Grassland	455.50	313.26	0	0	313.26
Valley Oak Riparian	11.00	0.37	0	0.13	0.50
Cultivated Land	56.26	0	0	54.70	54.70
Developed/Disturbed	3.41	0.82	0	0	0.82
Subtotal	**526.17**	**314.45**	**0**	**54.83**	**369.28**
Wetland Habitats					
Vernal Pools	1.75	1.28	0	0	1.28
Seasonal Wetlands	7.43	4.68	0	0	4.68
Seasonal Marsh	2.70	2.70	0	0	2.70
Swales	14.42	5.15	0	0	5.15
Streams	7.53	0.14	0	0.22	0.36
Subtotal	**33.83**	**13.84**	**0**	**0.22**	**14.17**
Total	**560.00**	**328.29**	**0**	**55.05**	**383.45**

*Existing acreage does not include Harris.

Annual Grassland

The removal of 313.26 acres of annual grasslands will constitute a substantial reduction of habitat for many wildlife species that are dependent on these habitats. This reduction represents approximately 56 percent of the grasslands in the 560-acre Study Area. Thus, this could be considered significant. Combined with similar losses from other projects (for example, Sierra Vista), this represents a contribution to a significant cumulative loss of grassland habitat in western Placer County.

Several mitigation options are available to address this impact, including:

- Retain some portion of the affected landscape as an onsite preserve. This is typically addressed through project design to reduce the footprint of the project or preserve open spaces and important habitat features. Thus potentially reducing the impact to a less than significant level.

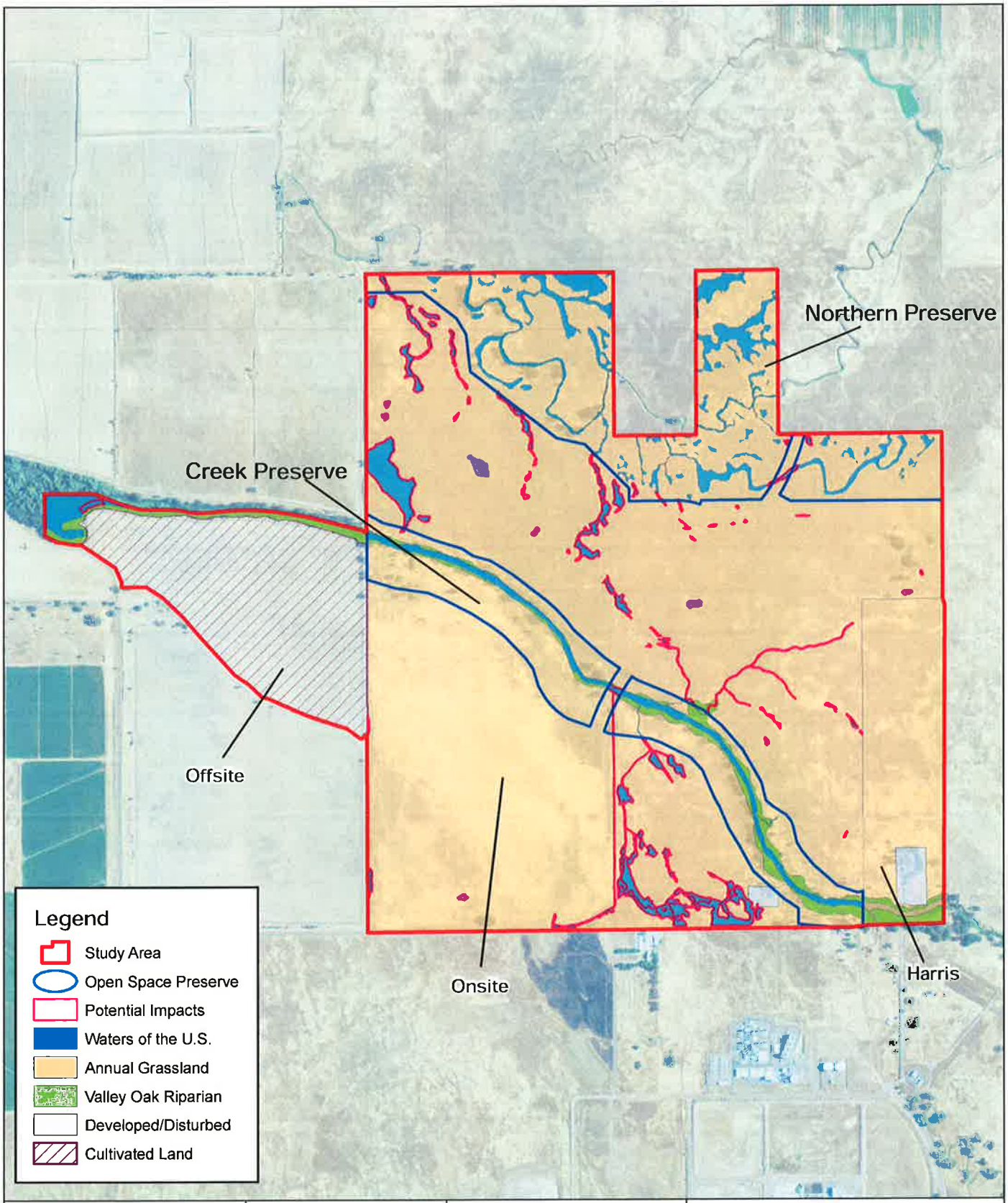


Figure 7

HABITAT IMPACTS
Creekview
Placer County, CA

- Required mitigation for other impacts, such as loss of Swainson's hawk habitat (see below), may accommodate this impact through acquisition and preservation of offsite lands.
- Coordinate the project with Placer County PCCP planning efforts to develop mitigation plans that complement those efforts and to ensure that Creekview mitigation is part of an overall conservation strategy.

The impacts to annual grasslands do not include impacts to waters of the United States. These impacts are discussed below.

Valley Oak Riparian

Riparian woodlands support one of the most diverse assemblages of wildlife species of any habitat type in the state. Riparian woodland habitat provides essential nesting, roosting, and cover habitat for many species and enhances the species richness and value of the adjacent grassland habitat. Because of the extensive loss of riparian habitats in California, any loss is usually considered significant.

The Study Area includes 11 acres of riparian habitat and 0.5 acre will be impacted. Roughly 95 percent of the riparian corridor will be preserved.

Mitigation for loss of riparian habitat should be consistent with the no-net-loss policies of CDFG, the City, and the County. Mitigation could take the form of preservation and enhancement of onsite or offsite lands, or purchase of enhancement/creation credits through an established and approved mitigation bank. Avoidance is also an option and can be achieved largely through protection of Pleasant Grove Creek and associated riparian area.

Cultivated Land

The off-site portion of the Study Area encompasses 56 acres of cultivated lands, of which 54.7 acres will be impacted. Approximately 13 acres of cultivated land will be used to construct the Pleasant Grove Creek bypass channel and southern berm. Because the bypass channel will provide diverse aquatic habitat currently lacking in the same location, the impact to cultivated land is not considered significant. Excavated soil will be spread over the area south of the channel and the topography will not be altered significantly. Eventually, this area will be returned to agriculture.

Developed/Disturbed

Existing structures and outbuildings will be removed on developed and disturbed lands. The loss of 0.82 acres of developed and disturbed lands is not considered significant.

Waters of the United States

The Study Area has approximately 37 acres of resources within the jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the federal Clean Water Act. Activities affecting waters of the United States would require a permit from the Corps.

Table 4 summarizes impacts to waters of the United States in the Study Area. As shown on Table 4, a total of 14.17 acres of waters of the United States would be impacted in the Study Area, not including the Harris property. A total of 19.66 acres would be preserved in the project open spaces.

Impacts to waters of the United States would require that the applicant obtain a water quality certification from the Regional Water Quality Control Board pursuant to Section 401 of the Clean Water Act. Specific wetland types and other water resources are discussed below.

Vernal Pools

Of the 1.75 acres of vernal pools in the Study Area, the project will impact a total of 1.28. Loss of 1.28 acres of vernal pools is considered a significant impact due to the increasing rarity of these habitats, their value to plants and wildlife, their hydrologic function, and their association with many special-status species.

Mitigation for losses of vernal pools and other jurisdictional wetlands will likely be addressed through the Section 404 process and Section 7 consultation and negotiation with the Corps and the USFWS. Mitigation could take the form of onsite preservation and/or enhancement, offsite acquisition and enhancement, or purchase of credits through an established and approved wetland mitigation bank.

Seasonal Wetlands

Of the 7.43 acres of seasonal wetlands, the project will impact a total of 4.68 acres. Loss of 4.68 acres of seasonal wetlands is considered a significant impact due to the continuing decline of wetland habitats in California and their importance to hydrologic function and plant and wildlife species. Protection and/or mitigation are also encouraged through city and county policy and through CDFG's policy of no-net-loss of function and value.

Mitigation for losses of seasonal wetlands may also be addressed through the Section 404 process. Mitigation could take the form of onsite enhancement, offsite acquisition and enhancement, or purchase of credits through an established and approved wetland mitigation bank.

Seasonal Marsh

Of the 2.70 acres of seasonal marsh, the project will impact a total of 2.70 acres. This habitat type occurs along the western edge of the on-site area north of Pleasant Grove Creek. It is a bermed area that abuts a small levee adjacent to Reasons Farms. Marsh vegetation also occurs along the edges of Pleasant Grove Creek and other natural drainages, although most of this is included in creek or swale habitat types. This is a biologically important habitat feature in the Study Area supporting a variety of wetland-associated species. Loss of this habitat is considered a significant impact for similar reasons as described above. Protection and/or mitigation are also encouraged through city and county policy and through CDFG's policy of no-net-loss of function and value.

As with other wetland types in the Study Area, mitigation for losses of seasonal marsh habitat may also be addressed through Section 404. Mitigation could take the form of onsite preservation and/or enhancement, offsite acquisition and enhancement, or purchase of credits through an established and approved wetland mitigation bank.

Wetland Swales

Of the 5.15 acres of wetland swales, the project will impact 5.15 acres. Loss of 5.15 acres of wetland swales is considered a significant impact due to the increasing rarity of these important habitats, their value to plants and wildlife, their hydrologic function, and their association with many special-status species.

Streams

Approximately 0.36 acres of streams will be impacted from construction of the Creekview project, including a small amount of ephemeral stream in the on-site portion of the Study Area will be impacted. The bypass channel outfall will affect an additional 0.22 acre of Pleasant Grove Creek in the off-site portion. The road crossing the creek will span the ordinary high water mark and will not directly impact Pleasant Grove Creek.

Ordinarily, impacts to streams would be considered significant. However, features in the bypass channel will more than offset the small impacts of 0.36 acre. The Corps 404 permit may require mitigation for impacts to water of the United States. Credits may be available in local mitigation banks that can help offset this impact.

Special-Status Species

Special-status species were described in the Methods section. The following sections discuss potential impacts to special-status species and provide a range of potential mitigation measures.

Special-Status Plants

Surveys for special-status plants were conducted by NFA for the main on-site portion of the Study Area in 2006 and 2008. No surveys were conducted on the Harris property. General botanical surveys were conducted for the off-site portion of the Study Area. Because of long-term agricultural activities and the lack of vernal pool habitats, the presence of special-status plants in the off-site portion is highly unlikely.

All botanical surveys were floristic and were done at the appropriate time of the year according to the guidelines issued by CDFG (1983) and USFWS (1996). Two special-status plant species were found: dwarf downingia and Bogg's Lake hedge-hyssop. No other special-status species were found during surveys.

Dwarf downingia is not state or federally listed, but is on the CNPS List 2.2. Bogg's Lake hedge-hyssop is a California threatened species and on CNPS List 1B. Bogg's Lake hedge-hyssop is located in the central portion of the Study Area and dwarf downingia occurs throughout the Study Area in three different areas. Development will result in direct impacts to both Bogg's Lake hedge-hyssop and dwarf downingia populations.

The project proponent should retain a qualified botanist to develop and implement a mitigation and management plan, subject to the approval of CDFG. If impacts to the species are determined to be unavoidable, possible measures may include onsite or offsite restoration and/or other salvage methods.

Oak Tree Resources

The *Initial Arborist Report and Tree Inventory Summary and supplemental reports* (Sierra Nevada Arborists 2007 and 2008) inventoried 528 blue oak, interior live oak and valley oak trees (greater than six inches DBH) within the Study Area, except for the Harris property. The surveys covered protected trees as defined by the both the Placer County Tree Preservation Ordinance and City of Roseville Tree Preservation Ordinance. The County Tree Ordinance protections (1) native tree species, except foothill pine, that measure equal to or greater than 6 inches DBH and multi-trunked trees measuring equal to or greater than 10 inches aggregate DBH; (2) all size riparian zone tees and (3) landmark trees as specified by the County Board of Supervisors. The City Tree Ordinance protects native oak trees equal to or greater than 6 inches DBH measured as a total of a single trunk or multiple trunks.

The Study Area (excluding the Harris property) includes 528 blue oak, interior live oak and valley oak trees. Most trees within the Study Area are located within the riparian corridor along Pleasant Grove Creek and there are some scattered trees in the northern portion of the Study. Most trees will be preserved within the open space preserves along Pleasant Grove Creek and University Creek in the northern portion of the Study Area.

Construction of the backbone infrastructure related to the project will result in impact to trees. Backbone infrastructure includes grading and construction of the bypass channel improvements (in the on-site and off-site areas), creek crossings, arterial roadways (Blue Oaks Boulevard and Westbrook Boulevard) and backbone sewer, water, drainage, recycled water improvements. Construction of backbone infrastructure will result in removal of 67 oak trees totaling approximately 1,300 inches. The primary locations of tree removal would be south of Pleasant Grove Creek where construction of the bypass channel would occur and along the alignments of Westbrook Boulevard (at the Pleasant Grove Creek crossing) and Blue Oaks Boulevard.

The project will comply with the City's Tree Preservation chapter of the Roseville Zoning Ordinance which requires replacement of native oak trees with a DBH of 6 inches or greater that are lost as a result of development activities on an inch for inch basis. Tree replacement can be accomplished through planting of new trees on an inch for inch basis using the required number of fifteen (15) gallon sized native oak trees, or by paying an in-lieu mitigation fee that is based on the required number of fifteen gallon sized trees, in either the Native Oak Tree Propagation Fund, or the Nonnative Tree Fund as described in Section 19.66.070 – Oak Tree Planting and Replacement Program. At this time, the Applicant proposes to plant oak trees in locations within the open space preserves along Pleasant Grove Creek and the northern portion of the site.

Special-Status Wildlife

Aquatic Invertebrates

Protocol level Branchiopod surveys were conducted in the on-site portion of the Study Area; however, the Harris property and the off-site area have not been surveyed. The Harris property may support Branchiopod habitat. The preliminary wetland delineation map for the off-site area does not indicate vernal pools or other wetlands that could be Branchiopod habitat.

Branchinecta species was found in the Study Area during dry season surveys in 2006 and 2007 (Figure 6). In the absence of species confirmation, these are assumed to be the federally-listed vernal pool fairy shrimp (*B. lynchi*), which is known to occur in the area.

Loss of occupied vernal pools is considered significant. Mitigation to address impacts on federally listed Branchiopods will be determined on the basis of occupied habitat according to standard USFWS guidelines. Since the Corps will likely assume jurisdiction over vernal pools in the Study Area, mitigation will ultimately be determined through consultation between the Corps and the USFWS pursuant to Section 7 of the federal Endangered Species Act and issuance of a Biological Opinion.

Valley Elderberry Longhorn Beetle (VELB)

Although the Study Area is within the range of the VELB, no elderberry shrubs were detected in the in the main on-site or the off-site portion of the Study Area during surveys. If the Harris property does not area also does not support elderberry shrubs, there is no potential for VELB to occur in the Study Area and no consultation, mitigation, or further work is required. If, however, elderberry shrubs are detected along that portion of Pleasant Grove Creek that runs through the Harris property, the following two options are available:

- Avoid impacts to VELB through protection of Pleasant Grove Creek and adjacent buffer, or

- Consult with the USFWS and follow compensation and conservation guidelines identified in the USFWS' *Conservation Guidelines for Valley Elderberry Longhorn Beetle* (USFWS 1999a).

If the project impacts elderberry shrubs, credits can usually be purchased at one of the VELB mitigation banks in the area.

Fisheries

Anadromous fish species (salmonids), including Chinook salmon and steelhead, are not expected to occur within the portion of Pleasant Grove Creek located in the Study Area. The sections of Pleasant Grove Creek and University Creek within the Study Area, are expected to support only resident cold- and warm-water fish species. However, Pleasant Grove Creek ultimately connects downstream to the Sacramento River. In order to ensure water quality for downstream fish habitat, standard Best Management Practices for work within and adjacent to Pleasant Grove Creek, University Creek, and

tributaries would greatly reduce the potential for adverse affects to fish habitat downstream. Another option would be to implement strategies in the *Pleasant Grove Creek and Curry Creek Ecosystem Restoration Plan* (Foothill Associates 2006b), which proposes various water quality and habitat improvements for Curry Creek, Pleasant Grove Creek, and the East Main Drain. It is not fully clear whether this would have any real impact on salmonids, but implementation of the Curry Creek Restoration Plan would be one way to ensure and improve water quality both in Pleasant Grove Creek and downstream.

Western Pond Turtle

Because pond turtles can be elusive and difficult to detect, particularly in stream habitats with associated riparian vegetation (as opposed to open pond habitat), absence of this species cannot be ruled out on the basis of reconnaissance surveys conducted for this species. Because Pleasant Grove Creek has suitable habitat for this species, western pond turtle should be regarded as potentially occurring unless definitive presence/absence surveys are conducted.

If Pleasant Grove Creek is found or presumed to be occupied, disturbances to the creek that could affect pond turtles could be considered significant based on both Appendix G of the State CEQA guidelines and Section 15065 (Mandatory Findings of Significance). The following options are available to avoid or offset potential impacts.

- Avoid impacts to western pond turtle by incorporating Pleasant Grove Creek and associated riparian and upland buffer along each side of the creek into an open space preserve, and maintain the functions and values of the creek.

- Consult with California Department of Fish and Game to determine appropriate pre-construction survey requirements and avoidance measures in the event that disturbance of Pleasant Grove Creek and western pond turtle habitat may occur.

Most of the potential pond turtle habitat will be avoided by project activities. However, impacts to individual turtles could occur if a turtle wanders into construction areas. Measures to prevent this usually include fencing off work areas and surveying the work area for turtles before starting work. In addition, some project elements can be designed to deter pond turtles. For example, low barriers can be erected to prevent turtles from crossing roads and other hazards.

Giant Garter Snake

Portions of Pleasant Grove Creek in the Study Area support marginally suitable habitat for giant garter snake, including perennial flow, steep-sided banks, and emergent wetlands. However, the potential for occurrence is considered unlikely due to the lack of records of the species east of the Natomas East Main Drainage Canal and the lack of a suitable migration corridor. Pleasant Grove Creek from the Reason Farms (off-site area) west to near Brewer Road supports a dense canopy of riparian cover, reducing the potential as a migration corridor from the Natomas Basin populations to the Study Area. Consequently, the giant garter snake is presumed to be absent from the Creekview Study Area and highly unlikely to occur.

Although there are no recent occurrences of the giant garter snake in Placer County, this species is a covered species under the proposed Placer County HCP/NCCP. The rationale for including it is based on the proximity of the currently occupied range (Natomas Basin) and the suitable habitat conditions in portions of western Placer County, including the Study Area.

As part of the 404 permit process, the Corps may consult with the USFWS pursuant to Section 7 of the federal Endangered Species Act. At that time, the USFWS may determine that additional surveys are required to show absence. Should surveys show that the Study Area is occupied, avoidance and mitigation measures would be part of the USFWS Biological Opinion.

California Tiger Salamander (CTS)

Although there are no recent occurrences of the California tiger salamander in Placer County, including the Study Area, this species is a covered species under the proposed Placer County HCP/NCCP. The rationale for including it is based on the proximity of the current range and the suitable habitat conditions in portions of western Placer County, including the Study Area. The vernal pool grassland/swale habitat in the Study Area may be marginal habitat for California tiger salamander. Most, if not all, of the wetland features in the Study Area are not inundated long enough to allow CTS larvae to mature, further reducing the potential for the species.

The USFWS supported the rationale for including CTS in the proposed Placer County HCP/NCCP (also known as the PCCP). Thus, in the absence of surveys using standard USFWS protocols, assuming absence may be inconsistent with the USFWS determination that may result from consultation between the USFWS and the U.S. Army Corps of Engineers during the Section 404 review.

Nevertheless, the Corps may initiate a Section 7 consultation with the USFWS as part of the 404 process. At that time, the USFWS would determine whether additional surveys are needed. Should surveys be required, and CTS shown to be present, avoidance and mitigation measures would be part of the USFWS Biological Opinion.

California Red-Legged Frog (CRLF)

Although Pleasant Grove Creek contains the basic habitat elements required for California red-legged frog presence, it is considered only marginally suitable habitat for this species for several reasons: (1) the extent of urbanization in the vicinity of the Study Area; historic and current disturbances to the creek from farming and ranching practices (prior to agricultural and urban development, Pleasant Grove Creek probably did not contain perennial flows); and (2) the presence of bullfrogs. Pleasant Grove Creek also has no connectivity with other drainages that are known or have potential to support California red-legged frog. Thus, presence of this species in the Study Area is considered highly unlikely.

Nevertheless, the Corps may initiate a Section 7 consultation with the USFWS as part of the 404 process. At that time, the USFWS would determine whether additional surveys are needed. Should surveys be required, and CRLF shown to be present, avoidance and

mitigation measures would be part of the USFWS Biological Opinion. However, it is unlikely that the USFWS would allow direct take of this species.

Western Spadefoot

Although no western spadefoot were found during surveys in the Study area, it has been reported in the vicinity of the Study Area in conditions and habitats similar to those in the Study Area. Vernal pools and pool habitats in streams in the Study Area are considered high quality habitat for spadefoot and the species is considered likely to occur. Surveys for spadefoot were conducted in the on-site portion of the Study Area (excluding the Harris property) and no evidence of the western spadefoot was detected. Additionally, no adult vocalization calls were heard during the surveys (Helm Biological Consulting 2008a). The Harris property and the off-site area have not been surveyed for western spadefoot.

Because of continuing loss of vernal pool grasslands in western Placer County, impacts to over 346 acres of grassland habitat would be regarded as a potentially significant cumulative impact on western spadefoot. If impacts are considered significant, mitigation options include the following:

- Mitigate impacts by retaining an appropriately sized and configured area on or off-site as habitat for western spadefoot. This area would require connectivity with other offsite protected lands in order to ensure movement potential and protection of sufficiently large landscapes to ensure long-term viability.

- Purchase credits in a mitigation bank that has potential western spadefoot habitat (banks don't directly sell credits for this unlisted species and purchasing credits for vernal pool impacts will likely cover impacts to the western spadefoot).

- Coordinate the project with Placer County PCCP planning efforts to develop mitigation plans that complement those efforts and to ensure that Creekview mitigation is part of an overall conservation strategy.

Heron/egret rookeries

There are currently no rookeries for great blue heron, great egret, snowy egret, or black-crowned night heron in the Study Area. However, portions of the riparian habitat along Pleasant Grove Creek and the small oak grove along University Creek are considered marginally suitable and could support a small rookery for these species. Because rookeries can support a substantial portion of a local breeding population of one or more of these species, disturbance to active rookeries could be regarded as significant.

To avoid disturbance to active rookeries, preconstruction surveys should be conducted and buffers between the rookery and project disturbance should be established during the breeding season.

Tricolored Blackbird

The nearest known tricolored blackbird occurrence is a June 3, 2008 undocumented observance of a colony approximately 4,000 feet west of the off-site portion of the Study

Area. The colony was located in a large, open cattail and tule marsh in Pleasant Grove Creek. The nearest known recently active tricolored blackbird nesting colony is on the BKS preserve, a property owned and managed by the Natomas Basin Conservancy, in the Natomas Basin approximately 6-7 miles west of the Study Area.

Tricolored blackbird was not observed nesting onsite. Within the Creekview Study Area, Pleasant Grove Creek does not support similar large, open marshes where the tricolored blackbird colony was found downstream. However, the Study Area probably receives some foraging use by tricolored blackbird. Because the species was not observed nesting in the Study Area, impacts to tricolored blackbird are regarded as less than significant and no mitigation would be required. The seasonal marsh just north of Pleasant Grove Creek may represent suitable habitat for tricolored blackbird nesting. If this site were to be occupied by this species prior to development, this could represent a significant impact. Under this potential scenario, the following mitigation options are suggested:

- Create an onsite preserve that incorporates the seasonal marsh, Pleasant Grove Creek, and a substantial open space buffer on both sides of the creek and surrounding the seasonal marsh. Tricolored blackbirds are highly sensitive to human disturbances and changes in the landscape, so this possible mitigation may be controversial in that it may not be possible to ensure long-term occupancy regardless of the size of the buffer area if the surrounding landscape is altered.

- Coordinate the project with Placer County PCCP planning efforts to develop mitigation plans that complement those efforts and to ensure that Creekview mitigation is part of an overall conservation strategy.

- Implementation of either of the above measures would be based on the presence of tri-colored blackbirds. An initial preconstruction survey would also likely be required in order to determine the presence or absence of nesting tri-colored blackbirds in the seasonal marsh. If absent, then the above measures would not be applicable with regard to impacts on this species.

Grasshopper Sparrow

There are no breeding records of grasshopper sparrow from the Study Area and few recent occurrences from western Placer County. It is likely that the conversion to nonnative grasslands, human encroachment, and incompatible land use practices have reduced populations of this species locally and regionally. Although this species is considered unlikely to occur in the Study Area, the open grassland habitats provide marginal habitat. Due to the rarity of the species in western Placer County, disturbance to active nests could be regarded as significant.

To avoid disturbance to active nests, conduct preconstruction surveys and provide protection buffers around active nests until the young have fledged.

Burrowing Owl

There are currently no active breeding or wintering burrowing owl burrows in the Study Area. However, it remains possible that breeding or wintering owls could occupy the Study Area prior to development and potentially result in losses of breeding or wintering burrows and associated foraging habitat. This would be considered a significant impact.

In the event that burrowing owls occupy the Study Area in the future but prior to development, implementation of the standard recommendations by CDFG (California Department of Fish and Game 1995) would be the most likely mitigation scenario. These include:

- Conduct surveys and identify occupied burrows.
- Do not disturb active breeding burrows during the nesting season (February 1 through August 31).
- During the non-breeding season, use passive relocation techniques (e.g., one-way doors) to exclude owls from active winter burrows and potential burrows.
- Compensate for loss of active burrows and associated foraging habitat at a minimum of 6.5 acres per pair or unpaired resident bird. This can be accomplished through an approved mitigation bank.
- Install artificial burrows at a ratio of 2:1 at compensation site or other approved location.

In addition, the species likely uses the Study Area at least occasionally for foraging. Development of the Study Area would effectively eliminate over 368 acres of foraging habitat (annual grassland and cultivated land) for burrowing owl. While standard CDFG guidelines do not address impacts to foraging habitat where active breeding or wintering burrows do not occur, 368 acres lost for the project, especially cumulatively, could represent a significant impact to burrowing owls. Mitigation measures include the following:

- Required mitigation for other impacts, such as loss of Swainson's hawk habitat (See above), may accommodate this impact through acquisition and preservation of offsite lands. No additional compensation would be required.
- Mitigate onsite by retaining an appropriately sized and configured portion of the Study Area as habitat for burrowing owl and other grassland-associated species.
- Coordinate the project with Placer County PCCP planning efforts to develop mitigation plans that complement those efforts and to ensure that Creekview mitigation is part of an overall conservation strategy.

Nesting Raptors

In addition to special-status raptors (see below) several other common raptors are known to or have potential to nest in the Study Area. In 2008, two active red-tailed

hawk nest sites were located during surveys, and great-horned owl and American kestrel were observed in the Study Area during surveys. Although these species are relatively common throughout their range, disturbances and habitat loss could cause permanent nest abandonment and along with impacts from other neighboring projects, affect a substantial portion of the local population. This could potentially be considered significant pursuant to both Appendix G of the State CEQA guidelines and Section 15065 (Mandatory Findings of Significance). Disturbance to nesting raptors and/or removal of active nests also violates Fish and Game Code 3503.5.

If construction occurs during the typical breeding season (approximately March 1 through August 31), potential disturbance of nesting activities could occur. To avoid take of active raptor nests, pre-construction surveys should be conducted by a qualified biologist no more than 30 days prior to initiation of proposed development activities. Survey results should then be submitted to CDFG. If active raptor nests are found on or immediately adjacent to the site, consultation should be initiated with CDFG to determine appropriate avoidance measures. If no nests are found, tree removal could proceed without further surveys.

The loss of habitat could be sufficiently addressed through mitigation for grassland habitat (see the discussion in the grassland section) or Swainson's hawk foraging habitat (see below). The direct loss of eggs or young from construction-related disturbances is generally avoided through seasonal restrictions on construction activity within pre-established no-disturbance buffers.

Swainson's Hawk

Swainson's hawk is known to nest in the Study Area and there are other known nesting locations in the vicinity. Two nest sites were identified in the Study area in 2007 and 2008. Development of the Study Area would likely cause the permanent abandonment of the onsite nest sites and effectively eliminate over 368 acres of foraging habitat (grassland and cultivated land) for this species. This would constitute a significant impact. Mitigation options include the following:

- Develop a Management Agreement through consultation with CDFG pursuant to Section 2081 of the Fish and Game Code, and mitigate according to standard CDFG guidelines (California Department of Fish and Game 1995).

- Calculate mitigation requirement according to standard CDFG guidelines (California Department of Fish and Game 1995) and compensate through an established and approved mitigation bank.

- Mitigate onsite by retaining an appropriately sized and configured portion of the Study Area as habitat for Swainson's hawk and other grassland-associated species.

- Coordinate the project with Placer County PCCP planning efforts to develop mitigation plans that complement those efforts and to ensure that Creekview mitigation is part of an overall conservation strategy.

Northern Harrier

The entire Study Area is considered suitable foraging habitat for northern harrier and many of the seasonal wetland and seasonal marsh habitats are suitable for nesting. Development of the Study Area would effectively result in the loss of over 368 acres of annual grassland and cultivated land foraging habitat and nearly 25 acres of potential seasonal wetland nesting habitat.

Because 368 acres would be affected by the project, and, in the context of continuing cumulative loss of grassland and wetland habitats in western Placer County, this loss could be considered a significant impact. Mitigation could be combined with other open space/grassland mitigation requirements. Options for mitigation could include the following.

- Required mitigation for other impacts, such as loss of Swainson's hawk habitat, may accommodate this impact through acquisition and preservation of offsite lands.

- Mitigate onsite by retaining an appropriately sized and configured portion of the Study Area as habitat for northern harrier and other grassland-associated species.

- Coordinate the project with Placer County PCCP planning efforts to develop mitigation plans that complement those efforts and to ensure that Creekview mitigation is part of an overall conservation strategy.

- Preconstruction surveys and protection of active nest sites will likely also be required pursuant to CDFG Code 3503.5.

White-tailed Kite

The White-tailed Kite occurs in the Study Area. Two active white-tailed kite nests were located along Pleasant Grove Creek in the main on-site portion of the Study Area. Because of the large number of acres that would be affected and in the context of a continuing cumulative loss of grassland habitat in western Placer County, this could be considered a significant impact. Mitigation could be combined with other open space/grassland mitigation requirements. Options could include the following.

- Required mitigation for other impacts, such as loss of Swainson's hawk habitat (see below), may accommodate this impact through acquisition and preservation of offsite lands. No additional compensation would be required.

- Mitigate onsite by retaining an appropriately sized and configured portion of the Study Area as habitat for white-tailed kite and other grassland-associated species.

- Coordinate the project with Placer County PCCP planning efforts to develop mitigation plans that complement those efforts and to ensure that Creekview mitigation is part of an overall conservation strategy.

- Preconstruction surveys and protection of active nest sites will likely also be required pursuant to CDFG Code 3503.5.

In addition, unlike listed species for which take authorization can be provided under the state or federal endangered species acts, there are no provisions for take of state fully protected species in the Fish and Game Code. This in effect prohibits removal or disturbance actively nesting birds, which can result in limitations to project implementation during the nesting season.

Greater Sandhill Crane

The potential for occurrence is considered to be low. Thus, this is likely to be considered a less than significant impact that would not require mitigation.

Western Yellow-billed Cuckoo

There are no breeding records of yellow-billed cuckoo from the Study Area and no recent occurrences from western Placer County. Most reported occurrences are of migrants, and the species is generally not considered a nesting bird in Placer County. The approximately 30-acre patch of willow/oak-dominated forest with occasional cottonwood trees located in the Study Area is considered highly marginal due the small patch size and its isolation from other suitable habitat areas. However, although considered highly unlikely to occur in the Study Area, this small patch provides a remote potential for occurrence of yellow-billed cuckoo. Due to the extreme rarity of the species, disturbance to active nests could be regarded as significant.

To avoid disturbance to active nests, preconstruction surveys should be conducted within the bypass channel portion of the project area and if nests are located, no disturbance buffers should be established during the breeding season. Surveys should be conducted according to standard protocols found in Wiggins (2005) and prepared by Laymon (1998a).

Loggerhead Shrike

Two loggerhead shrikes were observed during raptor surveys in 2008; however, no nests were located. Potential nesting habitat exists along Pleasant Grove Creek, ornamental trees and shrubs around the rural residence, and in the small trees along Phillip Road. The entire Study Area is suitable foraging habitat for shrikes. Development of the Study Area would remove over 368 acres of foraging habitat (annual grassland and cultivated land) and possibly potential breeding habitat for this species.

The loggerhead shrike is fairly widespread and thus habitat losses from development-related projects are typically considered less than significant. However, from a cumulative perspective, and because 368 acres would be lost, this could be regarded as significant. Additional cumulative analysis would be required to make this determination. In the event that it was considered significant, the following mitigation options are recommended:

- Required mitigation for other impacts, such as loss of Swainson's hawk habitat (See above), may accommodate this impact through acquisition and preservation of offsite lands. No additional compensation would be required.

- Mitigate onsite by retaining an appropriately sized and configured portion of the Study Area as habitat for loggerhead shrike and other grassland-associated species.

- Coordinate the project with Placer County PCCP planning efforts to develop mitigation plans that complement those efforts and to ensure that Creekview mitigation is part of an overall conservation strategy.

- Preconstruction surveys and protection of active nest sites may also be required pursuant to CDFG Code 3503.

Purple Martin

There are no breeding records of purple martin from the Study Area and few recent occurrences from western Placer County. The lack of mature riparian or oak woodland habitat that supports essential habitat elements such as snags, hollow trees, or cavities has likely contributed to the reduction of populations of this species locally and regionally. Although this species is considered unlikely to occur in the Study Area, the riparian habitat along Pleasant Grove Creek and the small oak woodland along University Creek provide at least marginal potential. Due to the rarity of the species in western Placer County, disturbance to active nests could be regarded as significant based on both Appendix G of the State CEQA guidelines and Section 15065 (Mandatory Findings of Significance).

To avoid disturbance to active nests, preconstruction surveys should be conducted and no disturbance buffers should be established during the breeding season.

Special-Status Bats

Although the Study Area may support suitable foraging habitat for common bat species, there is little habitat onsite to support roosting or maternity sites. There are no structures in the Study Area suitable for roosts. There are also no rocky areas, mines, caves, or other features that would support roosts. Several of the larger trees along Pleasant Grove Creek and University Creek, and the few large isolated trees could potentially support roosting bats, but most are not sufficiently decadent to create large hollow spaces that would support significant roost sites.

Grassland foraging habitat that is potentially used by special-status bats would be removed and reduce available foraging habitat for these species in the region. It is unlikely, however, that in the absence of potential roosting habitat within or in the immediate vicinity of the Study Area (other than several large trees), that this could be demonstrated to have a significant impact on these bat populations. In the event that a significant cumulative loss of grassland foraging habitat for bats could be determined, mitigation that would be required for other grassland species would likely be considered sufficient to reduce this potential impact to a less than significant level.

The Harris Property

The Harris Property was studied at a programmatic level, and the surveys conducted on the rest of the Study Area were not conducted on the Harris Property. Nevertheless,

aerial photographs show that the Harris property is mostly grassland with a few scattered wetlands. It also has a segment of Pleasant Grove Creek.

Many of the species discussed in the previous sections could occur or could use the Harris property. Therefore, impacts to those species would be considered significant to be consistent with impacts elsewhere in the Study Areas. Mitigation measures for impacts to species and habitats on the Harris property would be the same as those on the rest of the Study Area.

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Appendix A.
Plant Species Observed Within the Creekview Study Area

Appendix A

Plant Species Observed Within the Creekview Study Area

Ferns and Allies

Marsileaceae

Marsilea vestita subsp. vestita	Water shamrock

Angiosperms - Dicots

Amaranthaceae

**Amaranthus albus*	Tumble pigweed

Anacardiaceae

Toxicodendron diversilobum	Western poison-oak

Apiaceae (Umbelliferae)

**Anthriscus caucalis*	Bur-chervil
Eryngium vaseyi	Vasey's coyote-thistle
**Scandix pecten-veneris*	Venus' needle
**Torilis arvensis*	Field hedge-parsley

Apocynaceae

Asclepias fascicularis	Narrow-leaf milkweed

Asteraceae (Compositae)

Achillea millefolium	Common yarrow
Achyrachaena mollis	Blow-wives
Ambrosia psilostachya	Western ragweed
**Anthemis cotula*	Mayweed
Artemisia douglasiana	California mugwort
Baccharis pilularis	Coyote brush
Blennosperma nanum var. nanum	Yellowcarpet
**Carduus pycnocephalus*	Italian thistle
**Centaurea solstitialis*	Yellow starthistle
Centromadia fitchii	Fitch's spikeweed
**Cichorium intybus*	Chicory
**Cirsium vulgare*	Bull thistle
Conyza canadensis	Horseweed
Grindelia hirsutula	Gumplant
**Helminthotheca echioides*	Bristly ox-tongue
Holocarpha virgata subsp. virgata	Virgate tarweed
**Hypochaeris glabra*	Smooth cat's-ear
**Hypochaeris radicata*	Rough cat's-ear
**Lactuca serriola*	Prickly lettuce
Lasthenia fremontii	Fremont's goldfield
Lasthenia glaberrima	Smooth goldfields
Layia fremontii	Fremont's tidytips
**Leontodon saxatilis*	Long-beaked hawkbit
**Logfia gallica*	Narrowleaf cottonrose
Madia elegans subsp. vernalis	Common madia

* Indicates a non-native species

Micropus californicus subsp. californicus	Cottontop
Psilocarphus brevissimus var. brevissimus	Dwarf woolly-heads
Psilocarphus oregonus	Oregon woolly-heads
Psilocarphus tenellus var. globiferus	Round woolly-marbles
**Senecio vulgaris*	Common groundsel
**Silybum marianum*	Milk thistle
**Sonchus asper*	Prickly sow-thistle
**Sonchus oleraceus*	Common sow-thistle
Wyethia angustifolia	Narrowleaf mules ears
Xanthium strumarium	Cocklebur

Betulaceae

Alnus rhombifolia	White alder

Boraginaceae

Amsinckia menziesii	Common fiddlneck
Nemophila menziesii	Baby blue-eyes
Plagiobothrys bracteatus	Bracted popcornflower
Plagiobothrys fulvus	Fulvous popcornflower
Plagiobothrys greenei	Greene's popcornflower
Plagiobothrys stipitatus var. micranthus	Stipitate popcornflower
Plagiobothrys stipitatus var. stipitatus	Stipitate popcornflower

Brassicaceae (Cruciferae)

**Capsella bursa-pastoris*	Shepherd's purse
Cardamine oligosperma	Few-seed bitter cress
**Hirschfeldia incana*	Short-podded mustard
Lepidium nitidum var. nitidum	Shining peppergrass
**Raphanus raphanistrum*	Jointed charlock
**Raphanus sativus*	Wild radish
**Sisymbrium officinale*	Hedge mustard

Campanulaceae

Downingia bicornuta var. bicornuta	Double-horned downingia
Downingia ornatissima var. ornatissima	Solano downingia
Downingia pusilla	Dwarf downingia

Caryophyllaceae

**Cerastium glomeratum*	Mouse-ear chickweed
**Silene gallica*	Windmill-pink
**Spergula arvensis subsp. arvensis*	Stickwort
**Spergularia bocconi*	Boccone's sand-spurrey
**Stellaria media*	Common chickweed

Convolvulaceae

**Convolvulus arvensis*	Bindweed
Cuscuta sp.	Dodder

Crassulaceae

Crassula aquatica	Water pygmy-weed
**Crassula tillaea*	Mossy pygmy-weed

Cucurbitaceae

Marah fabaceus	California man-root
Marah watsonii	Watson's man-root

Euphorbiaceae

Croton setigerus	Turkey mullein

Fabaceae (Leguminosae)

**Lathyrus cicera*	Wild-pea
Lotus purshianus var. purshianus	Spanish-clover
Lotus wrangelianus	Common trefoil
Lupinus bicolor	Miniature lupine
**Medicago polymorpha*	California burclover
**Robinia pseudoacacia*	Black locust
**Trifolium campestre*	Hop clover
Trifolium depauperatum	Dwarf sack clover
**Trifolium dubium*	Little hop clover
**Trifolium glomeratum*	Clover
**Trifolium hirtum*	Rose clover
Trifolium microcephalum	Small-headed clover
**Trifolium subterraneum*	Subterranean clover
Trifolium variegatum	White-tip clover
Trifolium willdenovii	Tomcat clover
**Vicia benghalensis*	Purple vetch
**Vicia sativa*	Common vetch
**Vicia villosa*	Winter vetch

Fagaceae

Quercus douglasii	Blue oak
Quercus lobata	Valley oak
Quercus wislizeni var. wislizeni	Interior live oak

Gentianaceae

Cicendia quadragnularis	Timwort
Zeltnera muehlenbergii	June centaury

Geraniaceae

**Erodium botrys*	Broad-leaf filaree
**Erodium moschatum*	White-stem filaree
**Geranium dissectum*	Cut-leaf geranium

Hypericaceae

**Hypericum perforatum*	Klamathweed

Juglandaceae

Juglans hindsii	Northern California black walnut

Lamiaceae (Labiatae)

**Lamium amplexicaule*	Deadnettle
**Marrubium vulgare*	Horehound
**Mentha pulegium*	Pennyroyal
Pogogyne zizphoroides	Sacramento mesamint
Trichostema lanceolatum	Vinegar weed

Limnanthaceae

Limnanthes alba subsp. alba	White meadowfoam

Lythraceae

**Lythrum hyssopifolia*	Hyssop loosestrife

Malvaceae

Sidalcea calycosa subsp. calycosa	Annual checker mallow

Moraceae

**Ficus carica*	Fig

Myrsinaceae

**Anagalis arvensis*	Scarlet pimpernel
Anagalis minimus	Chaffweed

Oleaceae

**Olea europaea*	Olive

Onagraceae

Clarkia purpurea subsp. quadrivulnera	Four spot
Clarkia unguiculata	Canyon clarkia
Epilobium brachycarpum	Summer cottonweed
Epilobium ciliatum	Hairy willow-herb
Epilobium densiflorum	Dense-flower spike-primrose
Epilobium torreyi	Brook spike-primrose
Oenothera sp.	Evening primrose

Orobanchaceae

Castilleja attenuata	Valley tassels
Castilleja camprestis subsp. campestris	Owl's-clover
**Parentucellia viscosa*	Yellow glandweed
Triphysaria eriantha	Butter-and-eggs
Triphysaria versicolor subsp. faucibarbata	Triphysaria

Papaveraceae

Eschscholzia californica	California poppy

Phrymaceae

Mimulus bicolor	Monkeyflower
Mimulus guttatus	Common monkeyflower

Plantaginaceae

Callitriche heterophylla var. heterophylla	Larger water-starwort
Callitriche marginata	Winged water-starwort
Collinsia sparsiflora var. sparsiflora	Few-flowered collinsia
Gratiola ebracteata	Bractless hedge-hyssop
Gratiola heterosepala	Bogg's Lake hedge-hyssop
**Plantago coronopus*	Cut-leaf plantain
Plantago elongata	Elongate plantain
**Plantago lanceolata*	English plantain
Veronica peregrina subsp. xalapensis	Purslane speedwell

Polemoniaceae

Navarretia intertexta subsp. intertexta	Needle-leaved navarretia
Navarretia leucocephala	White-flowered navarretia
Navarretia leucocephala subsp. leucocephala	White-flowered navarretia
Navarretia pubescens	Downy navarretia

Polygonaceae

Persicaria sp.	Smartweed
**Polygonum aviculare*	Common knotweed

**Rumex acetosella*	Sheep sorrel
**Rumex crispus*	Curly dock
**Rumex pulcher*	Fiddle dock

Portulacaceae

Calandrinia ciliata	Red maids
Claytonia parviflora	Miner's lettuce
Claytonia perfoliata	Miner's lettuce
Montia fontana	Blinks

Ranunculaceae

Delphinium variegatum subsp. variegatum	Royal larkspur
Ranunculus aquatilus	Aquatic buttercup
Ranunculus bonariensis var. trisepalus	Vernal pool buttercup
**Ranunculus muricatus*	Spiny-fruit buttercup

Rosaceae

**Rubus discolor*	Himalayan blackberry

Rubiaceae

**Galium aparine*	Goose grass
**Galium parisiense*	Wall bedstraw

Salicaceae

Populus fremontii subsp. fremontii	Fremont cottonwood
Salix exigua	Narrow-leaved willow
Salix gooddingii	Goodding's black willow
Salix laevigata	Red willow

Simaroubaceae

**Ailanthus altissima*	Tree of heaven

Urticaceae

**Urtica urens*	Dwarf nettle

Verbenaceae

**Verbena litoralis*	Brazilian vervain

Angiosperms -Monocots

Agavaceae

Chlorogalum pomeridianum var. pomeridianum	Soap plant

Alismataceae

Damasonium californicum	Fringed water-plantain

Alliaceae

Allium amplectens	Clasping onion

Cyperaceae

Carex barbarae	Santa Barbara sedge
Carex praegracilis	Clustered field-sedge
Cyperus eragrostis	Tall flatsedge
Eleocharis acicularis	Least spikerush
Eleocharis macrostachya	Creeping spikerush
**Eleocharis pachycarpa*	Black sand spikerush
Schoenoplectus acutus var. occidentalis	Hard-stem tule

* Indicates a non-native species

Juncaceae

Juncus bufonius	Toad rush
**Juncus capitatus*	Capped rush
Juncus occidentalis	Slender rush
Juncus uncialis	Inch-high rush
Juncus xiphioides	Iris-leaf rush

Juncaginaceae

Lilaea scilloides	Flowering quillwort

Liliaceae

Calochortus albus	White globe lily

Poaceae (Gramineae)

**Aegilops triuncialis*	Barbed goatgrass
**Aira caryophyllea*	Silver European hairgrass
Alopecurus saccatus	Pacific foxtail
Aristida oligantha	Oldfield three-awn
**Avena fatua*	Wild oat
**Avena sp.*	Oat
**Briza minor*	Small quaking grass
**Bromus diandrus*	Ripgut grass
**Bromus hordeaceus*	Soft chess
**Crypsis schoenoides*	Swamp pricklegrass
**Dactylis glomerata*	Orchard grass
Deschampsia danthonioides	Annual hairgrass
Elymus glaucus	Blue wildrye
**Gastridium phleoides*	Nit grass
Glyceria x occidentalis	Western mannagrass
**Hordeum marinum subsp. gussoneanum*	Mediterranean barley
**Hordeum murinum*	Foxtail barley
**Lolium multiflorum*	Italian ryegrass
Phalaris lemmonii	Lemmon's canary grass
**Phalaris paradoxa*	Paradox canary-grass
**Poa annua*	Annual bluegrass
**Poa bulbosa subsp. vivipara*	Bulbous bluegrass
**Polypogon monspeliensis*	Annual beard grass
**Taeniatherum caput-medusae*	Medusahead
**Vulpia bromoides*	Brome fescue
Vulpia microstachys	Small fescue
**Vulpia myuros*	Rattail fescue

Potamogetonaceae

Potamogeton sp.	Pondweed

Themidaceae

Brodiaea coronaria subsp. coronaria	Harvest brodiaea
Brodiaea elegans subsp. elegans	Harvest brodiaea
Dichelostemma multiflorum	Wild hyacinth
Triteleia hyacinthina	White brodiaea
Triteleia laxa	Ithuriel's spear

Typhaceae

Typha domingensis	Southern cattail

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* Indicates a non-native species

Appendix B

Wildlife Species Observed Within the Creekview Study Area

Amphibians

Sierran treefrog	*Pseudacris regilla*
Bullfrog	*Rana catesbeiana*

Reptiles

Western fence lizard	*Sceloporus occidentalis*
Gopher snake	*Pituophis melanoleucus*
Valley garter snake	*Thamnophis sirtalis fitchi*

Birds

Great blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Snowy egret	*Egretta thula*
Green heron	*Butorides virescens*
Turkey vulture	*Cathartes aura*
Mallard	*Anas platyrhynchos*
Cinnamon teal	*Anas cyanoptera*
White-tailed kite	*Elanus leucurus*
Northern harrier	*Circus cyaneus*
Cooper's hawk	*Accipiter cooperii*
Swainson's hawk	*Buteo swainsoni*
Red-tailed hawk	*Buteo jamaicensis*
American kestrel	*Falco sparverius*
Ring-necked pheasant	*Phasianus colchicus*
Killdeer	*Charadrius vociferus*
Mourning dove	*Zenaida macroura*
Great horned owl	*Bubo virginianus*
Anna's hummingbird	*Calypte anna*
Nuttall's woodpecker	*Picoides nuttallii*
Northern flicker	*Colaptes auratus*
Black phoebe	*Sayornis nigricans*
Western kingbird	*Tyrannus verticalis*
Loggerhead shrike	*Lanius ludovicianus*
Western scrub-jay	*Aphelocoma californica*
Yellow-billed magpie	*Pica nuttalli*
American crow	*Corvus brachyrhynchos*
Tree swallow	*Tachycineta bicolor*
Cliff swallow	*Petrochelidon pyrrhonota*
Oak titmouse	*Baeolophus inornatus*
Bushtit	*Psaltriparus minimus*
Marsh wren	*Cistothorus palustris*
American robin	*Turdus migratorius*
Northern mockingbird	*Mimus polyglottos*
European starling	*Sturnus vulgaris*
Yellow-rumped warbler	*Dendroica coronata*
Lark sparrow	*Chondestes grammacus*

Savannah sparrow	*Passerculus sandwichensis*
Song sparrow	*Melospiza melodia*
Dark-eyed junco	*Junco hyemalis*
Western meadowlark	*Sturnella neglecta*
Red-winged blackbird	*Agelaius phoeniceus*
Brewer's blackbird	*Euphagus cyanocephalus*
Brown-headed cowbird	*Molothrus ater*
Bullock's oriole	*Icterus bullockii*
House finch	*Carpodacus mexicanus*

Mammals

Black-tailed jackrabbit	*Lepus californicus*
California ground squirrel	*Spermophilus beecheyi*
Botta's pocket gopher	*Thomomys bottae*
California vole	*Microtus californicus*
Coyote	*Canis latrans*
Raccoon	*Procyon lotor*

Appendix C.
Special-Status Plant Species Known to Occur in the Region of the Creekview Study Area

Appendix C

Special-Status Plant Species Known to Occur in the Region of the Creekview Study Area

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Alismataceae				
Sagittaria sanfordii Sanford's arrowhead	Fed: - State: - CNPS: List 1B.2	May-October	Marshes and swamps (assorted shallow freshwater).	Possible. Suitable habitat is present in the study area. Not observed onsite.
Asteraceae (Compositae)				
Balsamorhiza macrolepis macrolepis Big-scale balsam-root	Fed: - State: - CNPS: List 1B.2	March-June	Cismontane woodland; valley and foothill grassland; [sometimes serpentinite].	Possible. Marginal habitat is present in the study area. Not observed onsite.
Campanulaceae				
Downingia pusilla Dwarf downingia	Fed: - State: - CNPS: List 2.2	March-May	Valley and foothill grassland (mesic); vernal pools.	Occurs. Observed in a basin vernal pool, wetland swale, and a man-made ditch onsite in 2006.
Legenere limosa Legenere	Fed: - State: - CNPS: List 1B.1	April-June	Vernal pools.	Possible. Suitable habitat is present in the study area. Not observed onsite.
Juncaceae				
Juncus leiospermus ahartii Ahart's dwarf rush	Fed: - State: - CNPS: List 1B.2	March-May	Vernal pools.	Possible. Suitable habitat is present in the study area. Not observed onsite.
Juncus leiospermus leiospermus Red Bluff dwarf rush	Fed: - State: - CNPS: List 1B.1	March-May	Chaparral; cismontane woodland; valley and foothill grassland; vernal pools; [vernally mesic].	Unlikely. The nearest documented occurrence is considered to be erroneous and a possible misidentification (CNDDB 2008). Not observed onsite.

Appendix C

Special-Status Plant Species Known to Occur in the Region of the Creekview Study Area

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Liliaceae				
Fritillaria agrestis Stinkbells	Fed: - State: - CNPS: List 4.2	March-April	Chaparral; cismontane woodland; valley and foothill grassland; [clay, sometimes serpentinite].	Possible. Marginal habitat is present in the study area. Not observed onsite.
Orobanchaceae				
Cordylanthus mollis hispidus Hispid bird's-beak	Fed: - State: - CNPS: List 1B.1	June-September	Meadows; playas; [alkaline]. 1-155m.	None. Suitable habitat (alkaline) does not occur in the study area. Not observed onsite.
Plantaginaceae				
Gratiola heterosepala Bogg's Lake hedge-hyssop	Fed: - State: CE CNPS: List 1B.2	April-June	Marshes and swamps (lake margins); vernal pools. Below 1200 m.	Occurs. Observed in one deep basin vernal pool onsite in 2006 and 2008.
Poaceae (Gramineae)				
Orcuttia tenuis Slender Orcutt grass	Fed: FT State: CE CNPS: List 1B.1	May-September	Vernal pools.	Unlikely. Marginal habitat onsite and no known occurrences within Placer County. Not observed onsite.
Orcuttia viscida Sacramento Valley Orcutt grass	Fed: FE State: CE CNPS: List 1B.1	May-June	Vernal pools.	Unlikely. Marginal habitat onsite and no known occurrences within Placer County. Not observed onsite.
Polemoniaceae				
Navarretia myersii myersii Pincushion navarretia	Fed: - State: - CNPS: List 1B.1	May-May	Vernal pools.	Possible. Suitable habitat is present in the study area. Not observed onsite.

Appendix C

Special-Status Plant Species Known to Occur in the Region of the Creekview Study Area

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site

***Status**

Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CSC - California Species of Special Concern

CNPS (California Native Plant Society - List.RED Code):
List 1A - Extinct
List 1B - Plants rare, threatened, or endangered in California and elsewhere
List 2 - Plants rare, threatened, or endangered in California, more common elsewhere
List 3 - Plants about which more information is needed, a review list
List 4 - Plants of limited distribution, a watch list
RED Code
1 - Seriously endangered (>80% of occurrences threatened)
2 - Fairly endangered (20 to 80% of occurrences threatened)
3 - Not very endangered (<20% of occurrences threatened)

Appendix D.
Special-Status Wildlife Species Known to Occur in the Region of the Creekview Study Area

Appendix D

Special-Status Wildlife Species Known to Occur in the Region Surrounding the Creekview Study Area

	Status*	Habitat	Probability on Project Site
Invertebrates			
Vernal pool fairy shrimp *Branchinecta lynchi*	Fed: FT State: - Other: -	Vernal pools and other temporary bodies of water in southern and Central Valley of California. Most common in smaller grass or mud bottomed swales or basalt flow depression pools in unplowed grasslands.	Occurs. Branchinecta spp. cysts present onsite, assumed to be B. lynchi (Helm 2007).
Vernal pool tadpole shrimp *Lepidurus packardi*	Fed: FE State: - Other: -	Found in vernal pools in the Central Valley of California and in the San Francisco Bay area. Inhabits vernal pools with clear to highly turbid water.	Unlikely. Marginal habitat in study area. Not observed during surveys (Helm 2007).
Conservancy fairy shrimp *Brachinecta conservatio*	Fed: FE State: - Other: -	Endemic to the Central Valley and southern coastal regions of California. Prefers larger, turbid, cool-water vernal pools located in alluvial swales.	Unlikely. Marginal habitat in study area. Not observed during surveys (Helm 2007).
Insects			
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	Fed: FT State: - Other: *	Requires host plant, elderberry (Sambucus spp.) for most of its life cycle. Shrubs must have stem diameters at ground level of 1.0 inch or greater and shrubs must be found less than 3,000 feet in elevation.Typically riparian and upland associated.	None. No elderberry shrubs are present in the study area (Estep 2008a). Harris property not surveyed.
Fish			
Lahontan cutthroat trout *Oncorhynchus clarki henshawi*	Fed: FT State: - Other: -	Historically found in all cold waters of the Lahontan Basin, including Independence Lake.	None. No suitable habitat occurs in the study area.
Central Valley steelhead *Oncorhynchus mykiss*	Fed: FT State: - Other: -	Found in the Sacramento and San Joaquin Rivers and their tributaries. Migrates through the estuary to spawning grounds. Eggs are laid in small and medium gravel and need a good water flow to survive.	None. No suitable habitat occurs in the study area.
Central Valley spring-run Chinook salmon *Oncorhynchus tshawytscha*	Fed: FT State: CT Other: -	ESU covers spring-run salmon in Sacramento River and primarily found in the following tributaries: Butte, Big Chico, Deer, and Mill creeks and the Feather River.	None. No suitable habitat occurs in the study area.

Appendix D

Special-Status Wildlife Species Known to Occur in the Region Surrounding the Creekview Study Area

	Status*	Habitat	Probability on Project Site
Delta smelt *Hypomesus transpacificus*	Fed: FT State: CT Other: -	Endemic to the Sacramento-San Joaquin Delta in coastal and brackish waters. Occurs seasonally in Suisun and San Pablo bays. Spawning usually occurs in dead-end sloughs and shallow channels.	None. No suitable habitat occurs in the study area.
Sacramento splittail *Pogonichthys macrolepidotus*	Fed: FT State: CSC Other:	Found in: (1) the Delta, (2) Suisun Bay, (3) Suisun Marsh, (4) Napa River, (5) Petaluma River, and (6) other parts of the Sacramento-San Joaquin Estuary. Requires flooded vegetation for spawning and rearing.	None. No suitable habitat occurs in the study area.
Amphibians			
California tiger salamander *Ambystoma californiense*	Fed: FT State: CT Other: -	Occurs in annual grassland habitat (<1500 feet) and occasionally in grassy understory of valley-foothill hardwood habitats where lowland aquatic sites are available for breeding. Breeds primarily in vernal pools.	Unlikely. None were detected during the Branchiopod and western spadefoot surveys (Helm 2007, 2008).
Western spadefoot *Spea hammondii*	Fed: - State: CSC Other: -	Found primarily in grassland habitats, but may occur in valley and foothill woodlands. Requires vernal pools, seasonal wetlands, or stock ponds for breeding and egg laying. Prefers more turbid pools for predator avoidance.	Unlikely. Not detected during surveys in the CSP (Helm Biological Consulting 2008). Surveys did not include the Harris property portion of the CSP.
California red-legged frog *Rana aurora draytonii*	Fed: FT State: CSC Other: -	Occurs in lowlands and foothills in deeper pools and slow-moving streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	Unlikely. Suitable habitat occurs in the study area. However, none were detected during surveys along Pleasant Grove Creek (Estep 2008a).
Reptiles			
Western pond turtle *Actinemys marmorata*	Fed: - State: CSC Other: -	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying.	Possible. Suitable habitat occurs in the study area.
Giant garter snake *Thamnophis gigas*	Fed: FT State: CT Other: -	Primarily associated with marshes and sloughs, less with slow-moving creeks, and absent from larger rivers. Nocturnal retreats include mammal burrows and crevices. During the day, basks on emergent vegetation such as cattails and tules.	Unlikely. Marginally suitable habitat is present in the study area.

Appendix D

Special-Status Wildlife Species Known to Occur in the Region Surrounding the Creekview Study Area

	Status*	Habitat	Probability on Project Site
Birds			
Great blue heron *Ardea herodias*	Fed: - State: - Other: *	Colonial nester in tall trees near foraging areas, such as marshes, lake margins, tidal-flats, rivers, and streams. Also forages in open fields and cropland.	Unlikely. Marginal rookery habitat occurs in the study area.
Great egret *Ardea alba*	Fed: - State: - Other: *	Colonial nester in tall trees. Rookeries usually located near marshes, tidal-flats, irrigated pastures, and the margins of rivers and lakes.	Unlikely. Marginal rookery habitat occurs in the study area.
Snowy egret *Egretta thula*	Fed: - State: - Other: *	Colonial nester in dense tules. Rookeries are situated close to foraging areas, which include marshes, tidal flats, streams, meadows, and lake margins.	Unlikely. Marginal rookery habitat occurs in the study area.
Black-crowned night-heron *Nycticorax nycticorax*	Fed: - State: - Other: *	Colonial nester in trees and sometimes tule patches along large rivers and salt and freshwater marshes. Rookeries are located adjacent to foraging areas.	Unlikely. Marginal rookery habitat occurs in the study area.
White-tailed kite *Elanus leucurus*	Fed: - State: CFP Other: *	Found in lower foothills and valley margins with scattered oaks and along river bottomlands or marshes adjacent to oak woodlands. Nests in trees with dense tops.	Occurs. Observed two nests in 2008 and species foraging in the study area.
Northern harrier *Circus cyaneus*	Fed: - State: CSC Other: -	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; seldom found in wooded areas. Found in or near freshwater and salt marshes. Nests on the ground in shrubby vegetation near marsh edge.	Occurs. Observed foraging during surveys (Estep 2008a, 2008b).
Swainson's hawk *Buteo swainsoni*	Fed: - State: CT Other: *	Breeds in open areas with scattered trees; prefers riparian and sparse oak woodland habitats. Requires nearby grasslands, grain fields, or alfalfa for foraging. Rare breeding species in Central Valley.	Occurs. Observed nests in 2007 and 2008 and species foraging in the study area (Estep 2008a, 2008b).
California black rail *Laterallus jamaicensis coturniculus*	Fed: - State: CT Other: *	Inhabits salt, fresh, and brackish water marshes with little daily and/or annual water fluctuations. In freshwater habitats, preference is for dense bulrush and cattails. Several scattered populations documented from Butte Co. to southern Nevada Co.	Unlikely. Only very marginal habitat is present, and the existing marsh is seasonal.

Appendix D

Special-Status Wildlife Species Known to Occur in the Region Surrounding the Creekview Study Area

	Status*	Habitat	Probability on Project Site
Greater sandhill crane *Grus canadensis tabida*	Fed: - State: CT Other: CFP	Nesting habitat in NE California includes wet meadows that are often interspersed with emergent vegetation. Winters in the Central Valley using irrigated pastures as habitat.	Unlikely. Marginally suitable habitat occurs in the study area.
Long-billed curlew *Numenius americanus*	Fed: - State: CSC Other:	Breeds in short grass prairies and wet meadows in northeastern California. Sometimes a visitor to coastal areas. Non-breeders may be found in the Central Valley during the summer.	None for breeding habitat. Winter foraging habitat is present, but the species does not breed in this area
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Fed: FC State: CE Other: -	Inhabits riparian forersts along the broad, lower floodplains of larger rivers. Nests in thickes of willows and cottonwoods with an understory of blackberry, nettle, or wild grape.	Unlikely. Highly unlikely - marginally suitable habitat and generally not considered a nesting bird in Placer County.
Burrowing owl *Athene cunicularia*	Fed: - State: CSC Other: *	Found in annual and perennial grasslands. Nests in burrows dug by small mammals, primarily ground squirrels.	Possible. Suitable habitat occurs in the study area.
Loggerhead shrike *Lanius ludovicianus*	Fed: - State: CSC Other: *	Found in broken woodlands, shrubland, and other habitats. Prefers open country with scattered perches for hunting and fairly dense brush for nesting.	Occurs. Observed foraging in the study area (Estep 2008a, 2008b).
Purple martin *Progne subis*	Fed: - State: CSC Other: *	Breeds in riparian woodland, oak woodland, open coniferous forests. Secondary cavity nester. Requires nest sites close to open foraging areas of water or land.	Unlikely. Marginal habitat occurs in the study area.
Bank swallow *Riparia riparia*	Fed: - State: CT Other: *	Colonial nester near riparian and oher lowland habitats. Requires vertical banks or cliffs with fine-textured, sandy soils near streams, rivers, and lakes.	None. No suitable habitat occurs in the study area.
Grasshopper sparrow *Ammodramus savannarum*	Fed: - State: CSC Other: -	Breeds in grasslands and savannahs in rolling hills and lower mountain hillsides up to 5000 feet elevation.	Unlikely. Marginal habitat occurs in the study area.

Appendix D

Special-Status Wildlife Species Known to Occur in the Region Surrounding the Creekview Study Area

	Status*	Habitat	Probability on Project Site
Tricolored blackbird *Agelaius tricolor*	Fed: - State: CSC Other: *	Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging.	Possible for foraging, unlikely to nest.
Mammals			
Yuma myotis *Myotis yumanensis*	Fed: - State: - Other: -	Inhabits forests and woodlands. Requires water over which it feeds. Roosts colonially in a variety of natural and human-made sites, including caves, mines, buildings, bridges, and trees.	Likely to forage, unlikely to roost.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	Fed: - State: CSC Other: *	Found in a variety of habitats. Most common in mesic sites with forest or woodland component. Roosting and maternity sites in caves, mines, lava tubes, tunnels, and buildings. Gleans insects from brush or trees and feeds along habitat edges.	Likely to forage, unlikely to roost.
Pallid bat *Antrozous pallidus*	Fed: - State: CSC Other: *	Occurs in grasslands, woodlands, deserts & urban habitats; open habitat required for foraging. Common in dry habitats with rocky outcrops, cliffs, and crevices for roosting. Roosts include caves, mines, bridges & occasionally hollow trees, buildings.	Likely to forage, unlikely to roost.

***Status**

Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate
FPD - Federal Proposed for Delisting

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CC - California Candidate
CFP - California Fully Protected
CSC - California Species of Special Concern

Other:
Some species have protection under the other designations, such as the California Department of Forestry Sensitive Species, Bureau of Land Management Sensitive Species, U.S.D.A. Forest Service Sensitive Species, and the Migratory Bird Treaty Act. Raptors and their nests are protected by provisions of the California Fish and Game Code. Certain areas, such as wintering areas of the monarch butterfly, may be protected by policies of the California Department of Fish and Game.