

Biological Resource Assessment

Panorama Point Extension Shasta County, CA

October 2006



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Appendix A – USFWS and CNDDDB Special-status Species Lists

Attachment A – Electronic Copy of Report on CD

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Summary of Findings and Conclusions

As requested, Gallaway Consulting, Inc. performed biological surveys within the approximately 188.6 acre Panorama Point Extension biological survey area (BSA), located northeast of the town of Cottonwood in Shasta County, California. Surveys were conducted on September 14, 2006 by biologist Brooks Taylor and botanists Elena Alfieri and Shirley Innecken, to determine the presence of sensitive biological resources within the BSA and to determine if these resources would be impacted by potential development activities. Optimal habitat for special-status bird species exists within the BSA including white-tailed kite (*Elanus leucurus*) and Lewis' woodpecker (*Melanerpes lewis*). Blue oak woodlands, which occur in the BSA, are considered a sensitive biological resource and are subject to the terms of Senate Bill 1334 which requires county governments to protect oak woodlands and to require mitigation for the loss of oak woodlands. Five CNPS listed plant species (fox sedge, pointed broom sedge, silky cryptantha, Red-Bluff dwarf rush, and four-angled spikerush) have the potential to occur within the BSA. Protocol-level surveys will be required during appropriate flowering windows to determine the presence/absence of pointed broom sedge, silky cryptantha and Red-Bluff dwarf rush. Vernal pools were delineated within the BSA; therefore, in the absence of protocol-level surveys, the presence of two federally listed vernal pool invertebrate species must be assumed. No federal or state endangered, threatened or sensitive wildlife or plant species were observed within the BSA; however, several special-status species are known to occur within a 5-mile radius of the BSA in similar habitats constituting the potential for occurrence within the BSA. Due to the presence of suitable nesting and foraging habitat for raptors, pre-construction raptor surveys should be conducted April-May, or no later than 30 days prior to construction activities, to determine if nesting raptors occur in, or in close proximity to the BSA. Should nesting raptors be observed, appropriate mitigation or avoidance measures will be required per the California Department of Fish and Game (CDFG) (Fish and Game code sections 2080 and 3500). A total of 0.062 acres of vernal pools occur on-site. Additionally, 1.350 acres (16782.2 linear feet) of Other Waters of the U.S. occur on-site, including 0.353 acres of ephemeral drainages, 0.452 acres of

intermittent drainages, and 0.541 acres of ponds. These features should be avoided to the greatest extent possible through the implementation of setbacks of enough width to adequately protect the resource. Where complete avoidance is not possible, impacts should be minimized to the greatest extent practicable. Before construction occurs that will impact Waters of the U.S., including wetlands and Other Waters, the project proponent will be required to notify CDFG regarding construction within waters under their jurisdiction (Streambed Alteration, Fish and Game Code 1600-1616) and obtain a water quality certification from the Regional Water Quality Control Board (Clean Water Act, Section 401). Additionally, the Regional Water Quality Control Board has begun requiring post-construction stormwater management plans for all new developments, to insure off-site water quality is not degraded as a result of the development. The issuance of the Streambed Alteration Agreement and Water Quality Certification are contingent upon successfully completing the CEQA process. An individual and/or nationwide permit from the Army Corps of Engineers (Clean Water Act, Section 404), and final approval by CDFG will also be required.

I. Introduction

As requested, Gallaway Consulting, Inc. performed a biological survey within the Panorama Point biological survey area (BSA) located in Shasta County, California in the northern Sacramento Valley (**Figure 1**). For the purposes of this report the BSA is considered to be the same as the project site, no areas beyond the site identified by the client are addressed. The approximately 188.6-acre BSA is located in Section 36, T30N R4W, of the Cottonwood U.S.G.S. 7.5-minute quadrangle. Surveys were conducted on September 14, 2006 by biologist Brooks Taylor and botanists Elena Alfieri and Shirley Innecken. to determine the presence of sensitive natural resources and to determine if these resources would be impacted by the potential projects within the BSA.

II. Methods

Consultation with State and Federal Agencies

Special-status Species

Gallaway Consulting, Inc. consulted the U.S. Fish and Wildlife Service (USFWS) species lists, the California Native Plant Society (CNPS) rare plant inventory, and California Natural Diversity Database (CNDDDB), a positive-sighting database managed by the California Department of Fish and Game (CDFG), to identify potential and/or known occurrences of special-status species within the BSA.

The results of the search included species and habitats falling into one of the following categories (see **Appendix A** for a complete listing by USGS quadrangle):

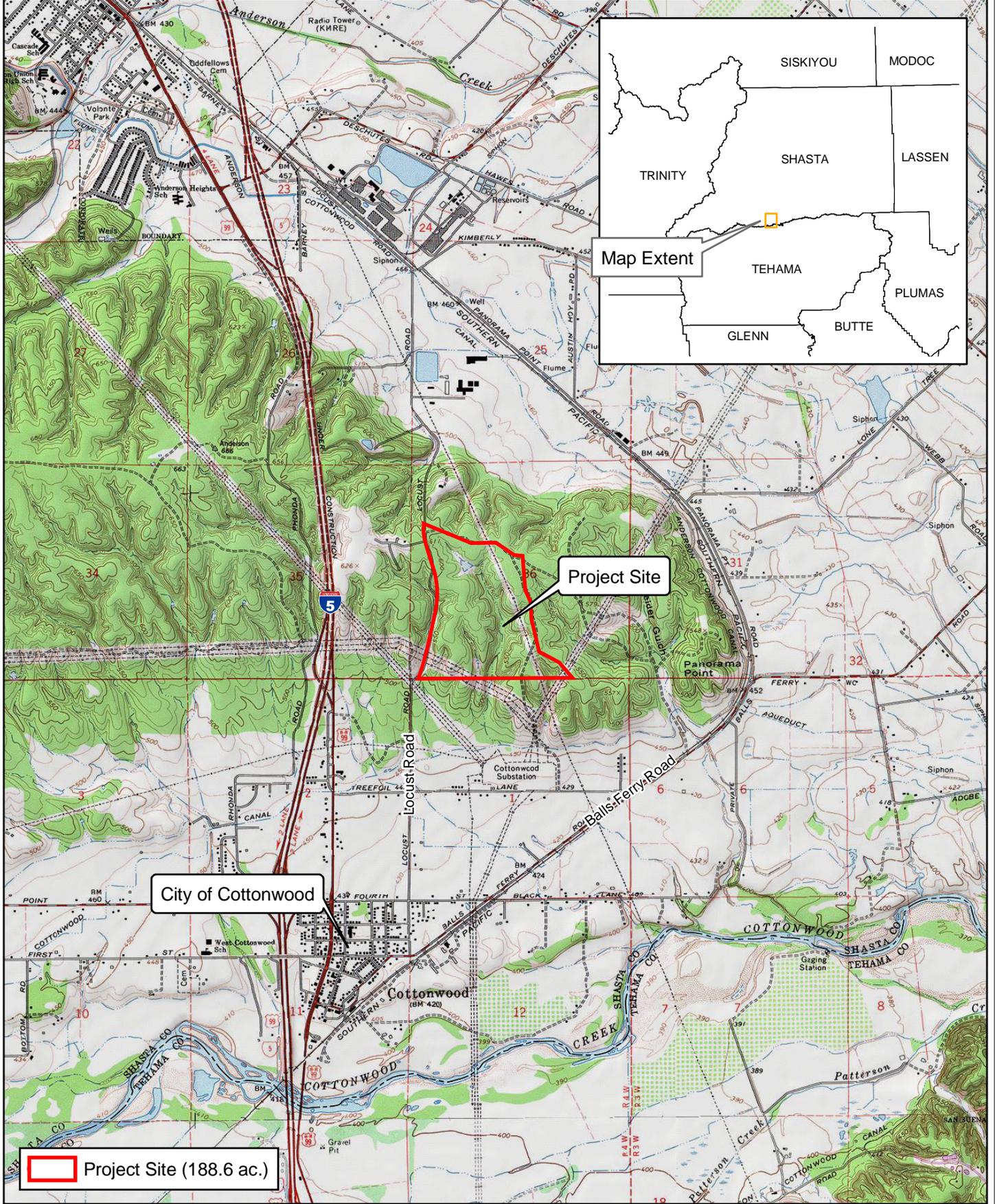
- Designated as rare, threatened, endangered, proposed or candidates for listing by the state or federal governments (ESA, 50 CFR 17.12 for listed plants and various notices in the Federal Register, California ESA, 14 CCR 670.5)
- California listed Species of Concern
- Included on the California Native Plant Society (CNPS) List 1A, 1B, and 2 (Skinner and Pavlik, 2001).
- Plants and wildlife that meet the definitions of rare or endangered species under the California Environment Quality Act (CEQA) (State CEQA Guidelines, Section 15380).
- Critical habitat and sensitive natural communities designated by USFWS and CDFG.

Field Surveys

Field surveys were conducted on September 14, 2006 by biologist Brooks Taylor and botanists Elena Alfieri and Shirley Innecken. The BSA was systematically surveyed on foot to ensure 100% coverage. During the field surveys attention was given to identifying areas on the site with the potential for supporting special-status species and sensitive habitats. During the field surveys field personnel recorded incidental observations of plant and animal species and characterized biological communities occurring on-site.

Panorama Point Extension

Location



City of Cottonwood

Project Site

Map Extent

Project Site (188.6 ac.)



Within Section 36 of
T30N, R4W Shasta County, CA.
Cottonwood USGS 7.5' Quad.
Map Date: Sept. 21, 2006.

0 0.25 0.5 Miles



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Figure 1.

Habitat Characterization

A characterization of habitat, based on the classification system of Mayer and Laudenslayer (1988), was conducted by incorporating field observations, GIS data (including aerial photos, and an existing delineation of wetlands) and reviewing species, inventories and database lists. The species and habitats included on the aforementioned lists were cross referenced with the results of the habitat characterization to develop a list of special status-species with the potential for occurrence within the BSA.

Focused Surveys

Focused surveys for special-status plant species were conducted on September 14, 2006 by Elena Alfieri and Shirley Innecken botanists, to determine presence or absence of special-status plant species. The surveys were conducted by transecting the site on foot, with special attention given to areas that provide suitable habitat for special-status plant species, in accordance with the 2001 *CNPS Botanical Survey Guidelines*. The following special status plant species were included in the survey:

- fox sedge (*Carex vulpinoidea*)
- four-angled spikerush (*Eleocharis quadrangulata*)
- pointed broom sedge (*Carex scoparia*)
- Red-Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*)
- silky cryptantha (*Cryptantha crinita*)

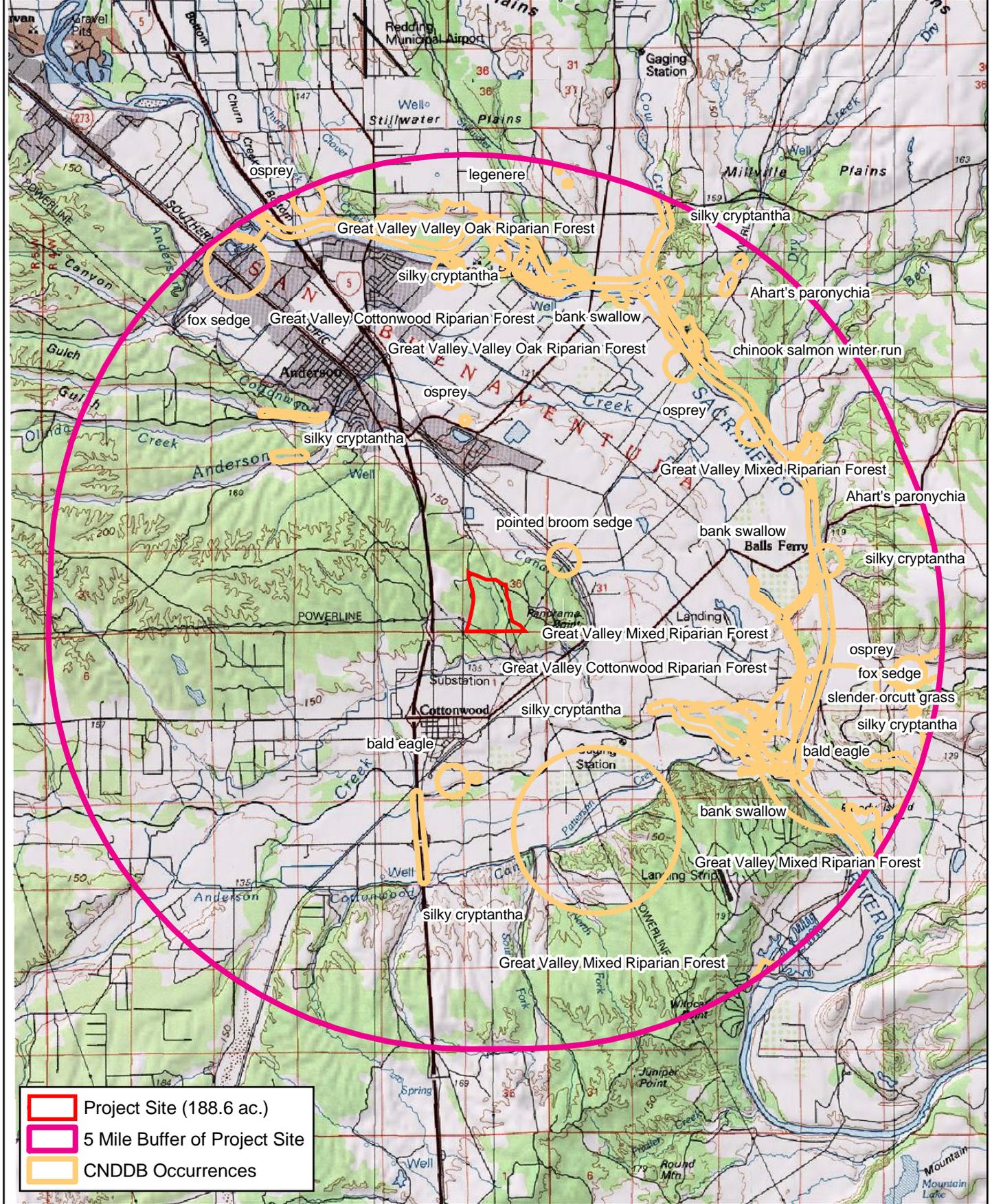
III. Results

Environmental Setting

The project site is located in Shasta County, California, northeast of the town of Cottonwood. The site is surrounded by mixed rural development to the south and east and open savannah/woodland to the north and northwest. Topography consists mainly of rolling foothills which slope down to open grassland south of the BSA. Project elevation ranges from 450 to 600 feet above sea level. The average annual precipitation is 25 inches and the average temperature is 62.8°F.

Special-status Species

No federal or state endangered, threatened or sensitive wildlife or plant species were observed within the BSA; although, several special-status species are known to occur within a 5-mile radius of the BSA in similar habitats constituting the potential for occurrence within the BSA (**Figure 2**). In addition, suitable foraging for raptors and nesting habitat for white-tailed kites occurs on-site. The USFWS Sacramento Office no longer maintains a Species of Concern list. Therefore, as this project occurs within the jurisdiction of the Sacramento Office, federal Species of Concern are not included in this



- Project Site (188.6 ac.)
- 5 Mile Buffer of Project Site
- CNDDB Occurrences



CNDDB Occurrences provided by CDFG (2003)
Cottonwood USGS 7.5' Quad.
Map Date: Sept. 29, 2006.

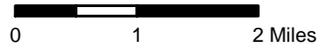


Figure 2.

BRA. A summary of special-status species known to occur, or with the potential of occurring in the BSA, that could potentially be affected by project activities is presented in **Table 1**.

Special-status species with potential to occur in the BSA:

Vernal Pool Branchiopods

Two species of vernal pool branchiopods, in the absence of protocol-level surveys, must be assumed to occur on-site including vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardii*).

The vernal pool tadpole shrimp are small crustacean in the Triopsidae family and are federally listed as endangered. Their diet consists of organic debris and living organisms such as fairy shrimp or other invertebrates. Tadpole shrimp inhabit vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the former Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie. The vernal pool tadpole shrimp is known from 18 populations in the Central Valley, ranging from east of Redding in Shasta County south to the San Luis National Wildlife Refuge in Butte County, and from a single vernal pool complex on the San Francisco Bay National Wildlife Refuge in the City of Fremont, Alameda County (USFWS 1996).

The vernal pool fairy shrimp is federally listed as threatened and is widespread but not abundant. Known populations extend from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County. Along the central coast, they range from northern Solano County to Pinnacles National Monument in San Benito County. Four additional, disjunct populations exist: one near Soda Lake in San Luis Obispo County, one in the mountain grasslands of northern Santa Barbara County, one on the Santa Rosa Plateau in Riverside County, and one near Rancho California in Riverside County. The vernal pool fairy shrimp occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, and turbid, alkaline, grassland valley floor pools. Although the species has been collected from large vernal pools, including one exceeding 25 acres, it tends to occur in smaller pools. It is most frequently found in pools measuring less than 0.05 acre. These are most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp have been collected from early December to early May.

Table 1. Special-status species that occur, or may occur within the BSA.

Common Name <i>(Scientific Name)</i>	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence
PLANTS			
RED BLUFF DWARF RUSH <i>(Juncus leiospermus var. leiospermus)</i>	--/--/1B	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools / vernal mesic areas.	<u>Low</u> ; sub-marginal habitat present on-site; however protocol level surveys will be necessary during the proper flowering period (March-June)
SILKY CRYPTANTHA <i>(Cryptantha crinita)</i>	--/--/1B	Cismontane woodland, lower montane coniferous forest, riparian forest and woodland, valley and foothill grassland and gravelly streambeds.	<u>Low</u> ; not detected during protocol level surveys.
FOX SEDGE <i>(Carex vulpinoidea)</i>	--/--/2	Marshes, swamps and riparian areas	<u>Moderate</u> ; suitable habitat present on-site.
POINTED BROOM SEDGE <i>(Carex scoparia)</i>	--/--/1B	Great Basin Scrub	<u>Low</u> ; not detected during protocol level surveys.
FOUR-ANGLED SPIKERUSH <i>(Eleocharis quadrangulata)</i>	--/--/2	Marshes and swampy areas.	
BIRDS			
BALD EAGLE <i>(Haliaeetus leucocephalus)</i>	FT/SE/--	Requires large, old-growth trees or snags in remote, mixed stands near open bodies of water.	<u>Low nesting potential</u> ; only potential winter/foraging habitat presented on-site.
WHITE-TAILED KITE <i>(Elanus leucurus)</i>	BCC/DFG: Fully Protected/--	Uses herbaceous lowlands with variable tree growth and dense population of voles; Substantial groves of dense, broad-leafed deciduous trees used for nesting and roosting.	<u>High</u> ; optimal habitat present on-site.
LEWIS' WOOPECKER <i>(Melanerpes lewis)</i>	BCC/--/--	Open, deciduous and conifer habitats with brushy understory, and scattered snags for cavity nesting.	<u>High</u> ; optimal habitat present on-site.
REPTILES AND AMPHIBIANS			
WESTERN SPADEFOOT <i>(Spea hammondi)</i>	--/CSC/--	Grasslands with shallow temporary pools; washes, playas, and floodplains of rivers.	<u>Low</u> ; sub-marginal breeding and foraging habitat present on-site.
INVERTEBRATES			
VERNAL POOL FAIRY SHRIMP <i>(Branchinecta lynchi)</i>	FT/--/--	Northern hardpan vernal pools	<u>Moderate</u> , vernal pools present throughout the BSA, presence must be assumed absent of protocol level surveys.
VERNAL POOL TADPOLE SHRIMP <i>(Lepidurus packardii)</i>	FE/--/--	Northern hardpan vernal pools.	

Sources:

- CNDDDB, California Department of Fish & Game, July 2006.
- *Restoring Central Valley Streams: A Plan for Action*, California Department of Fish & Game, 1993.
- California Native Plant Society (CNPS). 2003. Inventory of Rare and Endangered Plants (online edition). Rare Plant Scientific Advisory Committee, David P. Tibor, convening editor. CNPS. Sacramento, CA.
- California Department of Fish & Game website.
- US Fish and Wildlife Service, Sacramento Office website.
- NMFS (NOAA) website.
- California Partners in Flight, Point Reyes Bird Observatory, website.

CODE DESIGNATIONS
FE = Federally-listed Endangered
FT = Federally-listed Threatened
FPT = Federally Proposed Threatened
FPD = Federally Proposed Delisted
FC = Federal Candidate Species
FD = Federal Delisted
BCC = Federal Birds of Conservation Concern
SE = State-listed Endangered
ST = State-listed Threatened
SPT = State Proposed Threatened
CFP = California Department of Fish and Game Fully Protected
CSC = California Species of Concern
CNPS 1B = Rare or Endangered in California and Elsewhere
CNPS 1A = Plants presumed extinct in California
CNPS List 2 = Rare, threatened, or endangered in California, but more common elsewhere.

Amphibians

Western spadefoot toads, which are a state species of concern, breed from January to May in temporary pools where water temperatures must be between 48° F and 86° F. Typical of toads; they forage on a variety of insects, worms, and other invertebrates, including grasshoppers, true bugs, moths, ground beetles, predaceous diving beetles, ladybird beetles, click beetles, flies, ants and earthworms. Eggs are deposited on plant stems or pieces of detritus in temporary rain pools, or sometimes pools in ephemeral stream courses. Eggs hatch in 0.6-6 days depending on temperature. Larval development can be completed in 3 to 11 weeks and must be completed before pools dry. Age at sexual maturity is unknown, but considering the relatively long period of subterranean dormancy (8 to 9 months), individuals may require at least two years to mature.

Historically, the western spadefoot ranged from Redding to northwestern Baja California throughout the Central Valley, Coast Ranges and coastal lowlands. The species is found mostly below 3000 feet, but can occur up to 4500 feet. The average elevation of sites where the species still occurs is significantly higher than the average elevation for historical sites, suggesting that declines have been more pronounced in lowlands.

Birds

Passerines

Lewis' woodpecker, a bird of conservation concern, has the potential to occur within the BSA, but was not found during the survey. Lewis' woodpeckers inhabit open, deciduous and conifer habitats with a brushy understory, and scattered snags and live in trees for nesting and perching. The species seasonally winters in blue-oak woodlands.

Raptors

White-tailed kites, a California fully protected species, typically inhabit herbaceous lowlands with variable tree growth and dense populations of voles. They use substantial groves of dense, broad-leafed deciduous trees for nesting and roosting. The white-tailed kite preys on rodents that may be harmful to agricultural crops, primarily voles and other small, diurnal mammals, and occasionally on birds, insects, reptiles, and amphibians. The kite forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands. It soars, glides, and hovers less than 30 m (100 ft) above ground in search of prey and slowly descends vertically upon prey with wings held high, and legs extended; it rarely dives into tall cover. The kite is a yearlong resident in coastal and valley lowlands; rarely found away from agricultural areas, the white-tailed kite has extended its range and increased numbers in recent decades. Although not detected during surveys, the white-tailed kite does have the potential to forage within the project area.

Plants

No special-status plants were located during the field survey; however, surveys were not conducted during the proper flowering period. Because of the proximity of special-status species to the BSA, including Red Bluff dwarf rush, and silky cryptantha, additional surveys should be conducted prior to construction or disturbance of hydrologic features. Protocol-level surveys should be conducted during the proper flowering window (March-June).

Waters of the United States, Including Wetlands and Other Waters of the U.S.

There are a total of 1.412 acres of jurisdictional features on-site including 0.062 acres of vernal pools and 1.350 acres of Other Waters of the United States. Other Waters of the United States (OW) are seasonal or perennial water bodies, including lakes, stream channels, ponds, drainages, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33CFR 328.4). The above definition was applied when delineating and mapping all OW. OW occurring on-site, included 0.353 acre of ephemeral drainages, 0.452 acre of intermittent drainages, and 0.541 acre of ponds, please refer to **Table 2** and the *Draft Delineation of Waters of the United States for the Panorama Point Extension* project prepared by Gallaway Consulting, Inc. (2006)

Table 2. Summary of Pre-Jurisdictional Waters of the United States within the BSA

Type	Length (ft.)	Area (ft. ²)	Acres
Ephemeral Total =	8977.89	15386.905	0.353
Intermittent Total =	8140.87	19694.570	0.452
Pond Total =	n/a	23562.709	0.541
Culvert Total =	59.25	177.750	0.004
Total of All OWOTUS =	17178.01	58821.934	1.350
Vernal Pool Total =	n/a	2690.608	0.062
Total of All Wetland =	n/a	2690.608	0.062
Total of All Features =	n/a	61512.542	1.412

Habitat Characterization

We surveyed the extent of all habitat types and other biological resources including waters of the United States that may be impacted by the proposed project using a classification system based on Mayer and Laudenslayer's (1988). In addition to the wetlands described above, the following habitat types occur within the BSA:

Annual Grassland

Early human settlement brought with it exotic annual grasses including wild oats, soft chess, ripgut brome, red brome, wild barley and foxtail fescue, which now largely replace native perennial counter parts. Common forbs include broadleaf filaree, redstem filaree, turkey mullein, true clovers, bur clover and many others. Typically, annual grassland provide important foraging areas for many birds including the white-tailed kite, red-tailed hawk, northern harrier, American kestrel, prairie falcon, yellow-billed magpie, loggerhead shrike, savannah sparrow, western meadowlark, mourning dove and many others. Other bird species such as killdeer, ring-necked pheasant, western kingbird, western meadowlark and horned lark nest in grassland habitat. Mammals found in this habitat-type generally include deer mouse, California vole, black-tailed jackrabbit, California ground squirrel, Botta's ground squirrel all of which support badgers and coyotes. Characteristic reptiles and amphibians include western fence lizard, common kingsnake, racer, western rattlesnake and gopher snake.

Blue Oak Woodlands

Blue Oak woodlands are similar to the blue oak-gray pine woodlands with the absence of conifers. These woodlands generally have an overstory of scattered trees, but the canopy can be nearly closed on better quality sites. Blue oak is the dominant species comprising 85-100 percent of the trees present. Common associates in the canopy include coast live oak and valley oak. Associated shrub species include poison oak, California coffeeberry, buckbrush, redberry, California buckeye and manzanita species. The ground cover usually consists of annual grasses. According to Mayer and Laudenslayer (1988), with the exception of riparian habitat, hardwood habitats including blue oak woodlands,

provide breeding habitat for more wildlife species than any other habitat in California. They estimated in 1980 that these woodlands provide important breeding habitat for over 29 amphibian and reptile species, 57 bird species and 10 mammal species.

Resident Wildlife

In addition to numerous species of special concern, the BSA supports several other wildlife species. These include: black-tailed deer, mountain lion, bobcat, grey fox, coyote, cottontail rabbit, jack-rabbit, ground-squirrel, gray squirrel, raccoon, ringtail, Virginia opossum, striped skunk, and numerous small rodents. Bird species within the BSA include: California quail, wild turkey, and numerous other species of passerines and waterfowl. Although these species are not listed as species of special concern, they may still require special attention, particularly because of the large size of this project and the potential for it to affect a significant amount of habitat for the species listed above.

IV. Potential Impacts and Mitigation

Blue Oak Woodland

The California Department of Fish and Game has designated blue oak woodland, including blue oak-gray pine woodlands, as a “threatened” natural community in California (State Rank 3.2). The removal of blue oaks will be done at the discretion of the lead CEQA agency, which will be Shasta County (the County), and will involve consultation with CDFG. The county may require a tree removal permit and CDFG may recommend mitigation for loss of blue oak woodland habitat.

Blue oak woodlands play a significant role in wildlife movement corridors. Wildlife movement corridors are routes frequently utilized by wildlife that provide shelter and sufficient food supplies to support wildlife species during migration. Movement corridors generally consist of riverine, woodlands, or forested habitats that span contiguous acres of undisturbed habitat. Wildlife movement corridors are an important element of resident species home ranges, including black bear, mountain lion, deer, and coyote. Due to the size of this project and the potential to adversely affect a substantial amount of wildlife habitat, especially black-tailed deer habitat, CDFG may impose measures to reduce habitat fragmentation and impacts to wildlife migration corridors. The BSA lies within the North Coast Deer Assessment Unit (DAU). Population trends within this DAU show declining numbers, mainly due to loss of habitat. Due to the importance of oak woodlands to deer populations and the potential to negatively affect oak woodlands, a net loss of deer habitat may prompt CDFG to require a mitigation and monitoring plan.

Waters of the U.S. Including Wetlands and Other Waters of the U.S.

There are a total of 1.412 acres of jurisdictional features on-site including 0.062 acres of vernal pools and 1.350 acres of Other Waters of the United States. These features should be avoided to the greatest extent possible through the implementation of setbacks of

enough width to adequately protect the resource. Where complete avoidance is not possible, impacts should be minimized to the greatest extent practicable.

Before construction occurs that will impact Waters of the U.S., including wetlands and Other Waters, the project proponent will be required to notify CDFG regarding construction within waters under their jurisdiction and obtain a water quality certification from the Regional Water Quality Board (Clean Water Act, Section 401); both of these requirements are contingent upon successfully completing the CEQA process. A Nationwide and/or Individual permit from COE (Clean Water Act, Section 404), and final approval by CDFG will also be required.

Vernal Pool Species

The BSA contains eight naturally occurring vernal pools; therefore, in the absence of protocol level surveys, we must assume presence of vernal pool invertebrates

Fill or disturbance of vernal pools within the BSA has the potential of negatively impacting vernal pool species including vernal pool tadpole shrimp, Conservancy fairy shrimp, vernal pool fairy shrimp, and western spadefoot toad directly and indirectly. Indirect effects are caused by or result from a proposed action, occur later in time, and are reasonably certain to occur. Potential indirect effects from the proposed action include:

Changes in hydrology: In addition to the direct impacts associated with filling, development can have impacts on the hydrology of remaining habitat (e.g., pools/swales) and surrounding areas. Projects involving storm water drains, deep ripping, or the coverage of land surfaces with concrete, asphalt, or irrigated recreation parks, etc., can affect the amount and quality of water available to the perched water tables characteristic of vernal pool areas. Changes to the perched water table can lead to alterations in the rate, extent and duration of inundation (water regime) of remaining habitat. The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1996). Survival of aquatic organisms like fairy shrimp is directly linked to the water regime of their habitat (Zedler 1987). Therefore, development near vernal pool areas may, at times, result in the failure of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp (USFWS 1996). The project proponent will ensure that activities inconsistent with the maintenance of remaining vernal pool habitat and the affected watershed are prohibited.

Roads: Grading for roads may affect the water regime of vernal pool habitat, especially when the substrata in or near habitat areas is cut or cut (USFWS 1996). Exposure of sub-surface layers of soil at road cuts may hasten the loss of water from adjacent habitat by mass flow through networks of cracks, layers of coarser material, mammal burrows, or old root channels. Any decrease in the duration of inundation of habitat can affect the reproductive success of vernal pool species. Other negative effects associated with roads include increased erosion and consequently, sedimentation and conversion of vernal pool habitat, and increases in surface runoff and contamination by petroleum pollutants (USFWS 1996). The project proponent will ensure that activities that are inconsistent

with the maintenance of remaining vernal pool habitat and the affected watershed are prohibited.

Pesticides/Herbicides: Development often results in the introduction of pesticides or herbicides into the environment. These chemical compounds are believed to have negative effects on all of the listed vernal pool invertebrates and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals (USFWS 1996). The project proponent will ensure that activities that are inconsistent with the maintenance of remaining vernal pool habitat and the affected watershed are prohibited.

Human intrusion: Development frequently results in human intrusion into surrounding areas. Human intrusion is a mechanism by which trash or hazardous waste can be introduced into remaining areas. Improper disposal of waste materials can eliminate habitat, disrupt pool hydrology, or release substances into pools that are toxic or that adversely affect water chemistry. The project proponent will ensure that activities inconsistent with the maintenance of remaining vernal pool habitat and the affected watershed are prohibited.

If impacts, direct or indirect, are expected to occur within 250 feet of a vernal pool, consultation with the US Fish and Wildlife Service will be required. Appropriate mitigation includes avoidance if possible; if not, the creation or preservation (**Table 3**) of “in-kind” vernal pools onsite, or offsite within a certified mitigation bank (USFWS 1996).

Table 3. Vernal pool mitigation ratios for credits in USFWS-approved mitigation banks or for acres of habitat outside of mitigation banks

	Bank	Non-bank
Preservation	2:1	3:1
Creation	1:1	2:1

Raptors

Raptors in the orders Falconiformes (hawks, eagles, and falcons) and Strigiforms (owls) are protected in varying degrees under California Fish and Game Code, Section 3503.5, the Migratory Bird Treaty Act (MBTA), and CEQA. The BSA currently provides suitable foraging and nesting habitat for several of these species, and the proposed action has the potential of significantly impacting nesting raptors. Direct take of active nests, eggs, or birds is prohibited by the MBTA and CDFG and measures must be taken to minimize disturbance. Therefore, a qualified wildlife biologist should conduct a pre-construction raptor survey during April-May, or no more than 30 days prior to construction activities, to determine the presence/absence of nesting raptors in the BSA. Should nesting raptors be observed, appropriate spatial and temporal buffers will be required by CDFG. In addition, larger trees (i.e., ≥ 12 " dbh) to be removed should be

removed between September 1 and March 1 to ensure that active raptor nests are not removed as a result of construction related activities.

Migratory Bird Treaty Act Compliance for Nesting Birds

All vegetation (i.e., trees, shrubs) that will need to be removed for construction should be cut down between September 1 and March 1 to ensure that active nests are not removed as a result of the project. To avoid potential erosion impacts, vegetation removal should be limited to cutting of shrubs and trees at ground level to maintain the root system. Once the rainy season has passed, the root systems can be removed. If all vegetation removal associated with construction activities is completed between September 1 and March 1, no pre-construction surveys or additional mitigation is required.

To protect the nesting habitat of song birds and raptors, the removal of trees should be minimized or avoided to the greatest extent practicable. Dead trees and snags provide nesting and foraging habitat for numerous passerines and raptors. Whenever possible and when not in conflict with fire hazard policies and public safety, dead trees and snags should be left standing.

V. Regulatory Framework

The following laws and regulations were identified as possible constraints to development within the BSA based on the identified resources:

Federal Endangered Species Act

The USFWS and National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) (formerly the National Marine Fisheries Service or NMFS) have jurisdiction over species listed as threatened or endangered under Section 9 of the federal ESA. The ESA protects listed species from harm, or take, which is broadly defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct,” Under Section 7 of the ESA, a federal agency must consult with the USFWS and NOAA Fisheries if the agency’s action may affect a threatened or endangered species and/or its critical habitat under the authority of each agency.

California Endangered Species Act

CDFG has jurisdiction over species listed as threatened or endangered under Section 2080 of the California Fish and Game Code. Section 2080 prohibits the take of a species listed by CDFG as threatened or endangered. The state definition of take is similar to the federal definition, except that Section 2080 does not prohibit indirect harm to listed species by way of habitat modification. To qualify as take under the state ESA, an action must have direct, demonstrable detrimental effect on individuals of the species. Impacts on habitat that may ultimately result in effects on individuals are not considered take under the state ESA but can be considered take under the federal ESA.

Proponents of a project affecting a state-listed species must consult with CDFG and enter into a management agreement and take permit under Section 2081. The state ESA consultation process is similar to the federal process. California ESA does not require preparation of a state biological assessment; the federal biological assessment and the CEQA analysis or any other relevant information can provide the basis for consultation. California ESA requires that CDFG coordinate consultation for joint federally listed and state-listed species to the extent possible; generally, the state opinion for the listed species is brief and references provisions under the federal opinion.

Clean Water Act, Section 404

The COE and the U.S. Environmental Protection Agency regulate the placement of dredged or fill material into “Waters of the United States” under Section 404 of the Clean Water Act. Waters of the United States include lakes, rivers, streams, and their tributaries, and wetlands. Wetlands are defined for regulatory purposes as “areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3).

The COE may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits (NWP’s) are general permits issued to cover particular fill activities. All NWP’s have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each NWP.

Clean Water Act, Section 401

Section 401 of the Clean Water Act requires water quality certification and authorization of placement of dredged or fills material in wetlands and Other Waters of the United States. In accordance with Section 401 of the Clean Water Act, criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. As such, proponents of any new project which may impair water quality as a result of the project are required to create a post construction stormwater management plan to insure offsite water quality is not degraded. The resulting requirements are used as criteria in granting National Pollution Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Central Valley Regional Water Quality Control Board (RWQCB). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

California Fish and Game Code, Sections 1600-1616

Under the California Fish and Game Code, Sections 1600-1616 CDFG regulates projects that divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake. Proponents of such projects must notify CDFG and enter into streambed alteration agreement with them.

Section 1602 of the California Fish and Game Code requires a state or local government agency, public utility, or private entity to notify CDFG before it begins a construction project that will: (1) divert, obstruct, or change the natural flow or the bed, bank, channel, or bank of any river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. Once the notification is filed and determined to be complete, CDFG issues a streambed alteration agreement that contains conditions for construction and operations of the proposed project.

California Fish and Game Code, Section 3503.5

Under the California Fish and Game Code, Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls). Take would include the disturbance of an active nest resulting in the abandonment or loss of young.

Migratory Bird Treaty Act

The MBTA (16 United States Code [USC] 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorized the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. The MBTA sets seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 CFR 21, 50 CFR 10).

Sensitive Natural Communities

The California Office of Planning and Research and the Office of Permit Assistance (1986) define project effects that substantially diminish habitat for fish, wildlife, or plants, or that disrupt or divide the physical arrangement of an established community as significant impacts under CEQA. This definition applies to certain natural communities because of their scarcity and ecological values and because the remaining occurrences are vulnerable to elimination. For this study, the term “sensitive natural community” includes those communities that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive natural communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. If the number and extent of sensitive natural communities continue to diminish, the status of rare, threatened, or endangered species could become more precarious, and populations of common species (i.e., not special-

status species) could become less viable. Loss of sensitive natural communities also can eliminate or reduce important ecosystem functions, such as water filtration by wetlands and bank stabilization by riparian woodlands for example.

California Public Resources Code 21083.4

Proposed and future developments, and their infrastructure needs, will result in the elimination of contiguous blue oak woodland onsite. Oak woodlands are rapidly disappearing in California, and as defined in CEQA, further elimination would result in a significant adverse impact. CDFG has designated blue oak woodland as a “threatened” natural community in California (State Rank 3.2), similar to Great Valley willow scrub. Senate Bill 1334, which led to the creation of Public Resources Code 21083.4, passed in February of 2004 and applies to County governments in regards to oak tree conversion. The bill states that: As part of the determination made pursuant to Section 210803, a county shall determine whether a project within its jurisdiction will result in a conversion of oak woodlands that will have a significant effect on the environment. If there is a finding of significant effect, the county shall consider the following oak woodlands mitigation alternatives:

- (1) Conserve in perpetuity, through the use of conservation easements, two oak trees of the same species for each oak tree that is removed.
- (2) Restore former oak woodlands provided that at least twice as many trees will be restored as the project removes.
- (3) Contribute funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the Fish and Game Code, for the purpose of purchasing oak woodlands conservation easements, as specified under paragraph (1) of subdivision (d) of that section and the guidelines and criteria of the Wildlife Conservation Board. The amount of the contribution shall be approximately equivalent to the cost of implementing another mitigation alternative. *A project applicant that contributes funds under this paragraph shall not receive a grant from the Oak Woodland Conservation Fund as part of the mitigation for the project.*

Shasta County

The project will require complete compliance with CEQA and Shasta County (the County) will serve as the lead agency. As such, the County will conduct an environmental review, which will include a review of all studies conducted in compliance with CEQA, and the creation and adoption of appropriate mitigation measures. The applicant will be required to conform to any goals, objectives and policies in the county’s General Plan, which protects sensitive natural resources.

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Appendix A

USFWS and CNDDDB Special-status Species Lists for
Panorama Point Extension BSA and Surrounding Area

AVAILABLE IN HARDCOPY ONLY