45-Day Public Review Draft EIR Comment Period: March 30, 2004 to May 13, 2004

Recirculation of Biological Resources Section: March 2, 2005

REVISED BIOLOGICAL RESOURCES SECTION
of the
DRAFT ENVIRONMENTAL IMPACT REPORT
for the
MOON CAMP
RESIDENTIAL SUBDIVISION PROJECT
(Tentative Tract No. 16136)

SCH NO. 2002021105

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1.0 Introduction

1.0 INTRODUCTION

The County of San Bernardino is the Lead Agency under the California Environmental Quality Act (CEQA), and is responsible for preparing the Environmental Impact Report (EIR) for the Moon Camp Residential Subdivision, Tentative Tract No. 16136 project (State Clearinghouse No. 2002021105). The EIR has been prepared in conformance with the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.), California CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.), and the rules, regulations, and procedures for implementation of CEQA, as adopted by the County of San Bernardino.

In February 2002, the County of San Bernardino issued a Notice of Preparation (NOP) of an EIR for the proposed Moon Camp project. The NOP was publicly noticed by the County and submitted to the State Clearinghouse (SCH) within the Governor's Office of Planning and Research for distribution to responsible public agencies for comments (State Clearinghouse No. 2002021105). The NOP review period started on February 21, 2002 and concluded on March 22, 2002.

Pursuant to CEQA Guidelines Section 15087 (Public Review of Draft EIR), the Public Review Draft EIR was circulated for public review (45-days) from March 30, 2004 to May 13, 2004. During the public review period, the County of San Bernardino received comments from both public agencies and the general public. The comments, as well as responses to comments, prepared by the County of San Bernardino, will be incorporated into Section 14.0, *Responses to Comments*, of the Final EIR. Although the public review period ended on May 13, 2004, the County did accept comment letters after this date, as late as July 2, 2004, to which responses are provided.

Upon evaluation of the comments received on the Public Review Draft EIR, the County of San Bernardino has determined that additional public review is warranted for the Biological Resources section of the EIR (Section 5.8). Thus, the section is being recirculated as part of this document for public review due to significant new information being added to the EIR. The revisions are intended to clarify cumulative impacts to the bald eagle species and present modifications to mitigation measures. The principal CEQA Guidelines section governing the recirculation of the Biological Resources section of the Public Review Draft EIR document is Section 15088.5 (Recirculation of an EIR Prior to Certification).

The revised Biological Resources section is being recirculated for a 45-day review period. All comments received by the County of San Bernardino during the 45-day review period that pertain to the recirculated Biological Resources section will be evaluated by the County and responses to comments will be incorporated into Section 14.0, *Responses to Comments*, of the Final EIR. It is noted that responses will be provided to comments received during the 45-day review period that pertain to the recirculated Biological Resources section only.

5.8 Biological Resources

5.8 BIOLOGICAL RESOURCES

The purpose of this Section is to identify existing biological resources on-site and in the vicinity, analyze potential Project-related impacts to these resources (including sensitive species) and recommend mitigation measures to reduce the significance of impacts that are identified. This Section describes the biological character of the site in terms of plants, wildlife, and wildlife habitats and analyzes the biological significance of the site in view of Federal, State and local laws and policies. Information in this Section is based on the *Biological Resources Assessment* and Focused Surveys conducted by BonTerra Consulting (July 2003). The Biological Technical Report was prepared in accordance with accepted scientific and technical standards that are consistent with the requirements of the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). This Section is also based on the Delineation of Jurisdictional Waters conducted by RBF Consulting (March 2002). Information is included in Appendix 15.6, *Biological Resources Information*, of the Draft EIR.

EXISTING CONDITIONS

SURVEY METHODOLOGIES

This section describes the methodologies used to conduct the biological field surveys for the proposed Project. The results of these survey efforts are discussed in the *Existing Biological Resources* Section.

VEGETATION MAPPING AND GENERAL PLANT SURVEYS

A general reconnaissance field survey was conducted in December, 2001 to evaluate the potential of the Project site to support special status plants and animals and determine the need for further focused biological surveys. Additional field survey were conducted in May and June, 2002 to identify the vegetation types and plant species present on the Project site. All plant species observed were recorded in field notes. Plant species were identified in the field or collected for later identification. Plants were identified using taxonomic keys in Hickman, Munz, and Abrams. Taxonomy follows Hickman for scientific and common names. Plant community classifications follow Holland.

GENERAL WILDLIFE SURVEYS

Wildlife species observed during the general reconnaissance field survey were recorded in field notes. The Project site was also evaluated for its potential to support special status wildlife species that are known or are expected to occur in the region. Additionally, all wildlife species observed during focused surveys were recorded in field notes. Active searches for reptiles and amphibians included lifting, overturning, and carefully replacing rocks and logs. Birds were identified by visual and auditory recognition. Mammals were identified by visual recognition and by identifying diagnostic sign, including scat, footprints, scratch-outs, burrows, and trails. Taxonomy and nomenclature for wildlife generally follow American

Ornithologist's Union (AOU) for birds and Laudenslayer et al. for all other terrestrial vertebrates.

FOCUSED SURVEYS

Special Status Plant Species. Special status plant surveys were conducted in the spring and summer of 2002. All areas of the Project site containing native habitats potentially suitable for special status species were sampled using meandering transects. For a detailed discussion of survey methods refer to Appendix 15.6, *Biological Resources Information*, of the Draft EIR.

Rubber Boa. Focused surveys for the rubber boa (*Charina bottae*) were conducted in the spring and summer of 2002. The survey effort consisted of three-drift fence and pitfall trapping periods, and five visual encounter surveys. For a detailed discussion of survey methods refer to Appendix 15.6, *Biological Resources Information*, of the Draft EIR.

Southwestern Willow Flycatcher. Five focused surveys for the southwestern willow flycatcher (*Empidonax trailii*) were conducted during the spring and summer of 2002 per the guidelines of the U.S. Fish and Wildlife Service (USFWS). For a detailed discussion of survey methods refer to Appendix 15.6, *Biological Resources Information*, of the Draft EIR.

California Spotted Owl. Focused surveys for the California spotted owl (*Strix occidentalis*) were conducted from April through June 2002. Six nighttime surveys and one roost location survey were performed on the Project site. Adjacent areas in the vicinity of the Project site were also surveyed to determine if off-site individuals or pairs were foraging on the Project site. For a detailed discussion of survey methods refer to Appendix 15.6, *Biological Resources Information*, of the Draft EIR.

Bald Eagle. Focused surveys for the bald eagle (*Haliaeetus leucocephalus*) were conducted in February 2002. Four surveys were conducted to identify which trees on the Project site were used most frequently by the bald eagle for perching and/or roosting. In addition, a records search was conducted to characterize historic bald eagle wintering activity and tree use on the Project site and in the vicinity of Big Bear Lake. For a detailed discussion of survey methods refer to Appendix 15.6, *Biological Resources Information*, of the Draft EIR.

Tree Surveys. A Forester Report was prepared in July 2001 to provide information on timber stand composition, condition, site quality, soil classification and characteristics, and impact of construction and development on the Project site. The report also provides guidelines for the protection of trees and prevention of insect infestation during the construction process. A complete copy of the report is included in Appendix 15.6, *Biological Resources Information*, of the Draft EIR.

EXISTING BIOLOGICAL RESOURCES

This section describes the biological resources that either occur or potentially occur within the Project site or in the immediate vicinity. Vegetation types, wildlife populations and movement patterns, special status vegetation types, and special

status plant and wildlife species either known or potentially occurring are discussed below.

VEGETATION TYPES

Four vegetation types occur within the Project site. Exhibit 5.8-1, *Biological Resources*, illustrates their distribution and Table 5.8-1, *Existing Vegetation Types on the Project Site*, summarizes the extent of vegetation types present within the Project site. Each of the vegetation types observed during field surveys are described below.

Table 5.8-1
Existing Vegetation Types on the Project Site

Vegetation Type	Acreage
Jeffrey Pine Forest	54.91
Pebble Plain	0.69
Lake Shoreline	4.14
Developed	2.82
Total	**62.56**

Jeffrey Pine Forest. Jeffrey pine forest occurs on 54.91 acres of the eastern half of the Project site. This area is dominated by Jeffrey pine (*Pinus jeffreyi*) with white fir (*Abies concolor*), incense cedar (*Calocedrus decurrens*), western juniper (*Juniperus occidentalis*), singleleaf pinyon pine (*Pinus monophylla*), and black oak (*Quercus kellogii*) occurring at lower densities. The understory is sparse, consisting of scattered chaparral shrubs including greenleaf manzanita (*Arctostaphylos patula*), mountain whitethorn (*Ceanothus cordulatus*), Greg's ceanothus (*Ceanothus greggii*), deer brush (*Ceanothus integerrimus*), California mountain mahogany (*Cercocarpus betuloides*), and curl-leaf mountain mahogany (*Cercocarpus ledifolius*). Herbaceous cover is generally low, consisting of grasses and forbs in scattered patches. Jeffrey pine forest occurs at elevations ranging from 3,200 to 7,800 feet above msl in southern California.

Portions of the Jeffrey pine forest on the Project site provide suitable habitat for listed Threatened and Endangered plant species. In particular, approximately 17.38 acres containing few trees and fairly open canopy where Wright's matting buckwheat (*Eriogonum wrightii* ssp. *subscaposum*) occurs are suitable habitat for the Federally-listed Threatened ash-gray Indian paintbrush, CNPS 1B listed Parish's rock-cress (*Arabis parishii*), and CNPS 1B listed silver-haired ivesia. For this reason, open Jeffrey pine forest is shown as a separate vegetation type on Exhibit 5.8-1. Additionally, areas within the Jeffrey pine forest where herbaceous cover is dominated by Wright's matting buckwheat are identified on Exhibit 5.8-1.

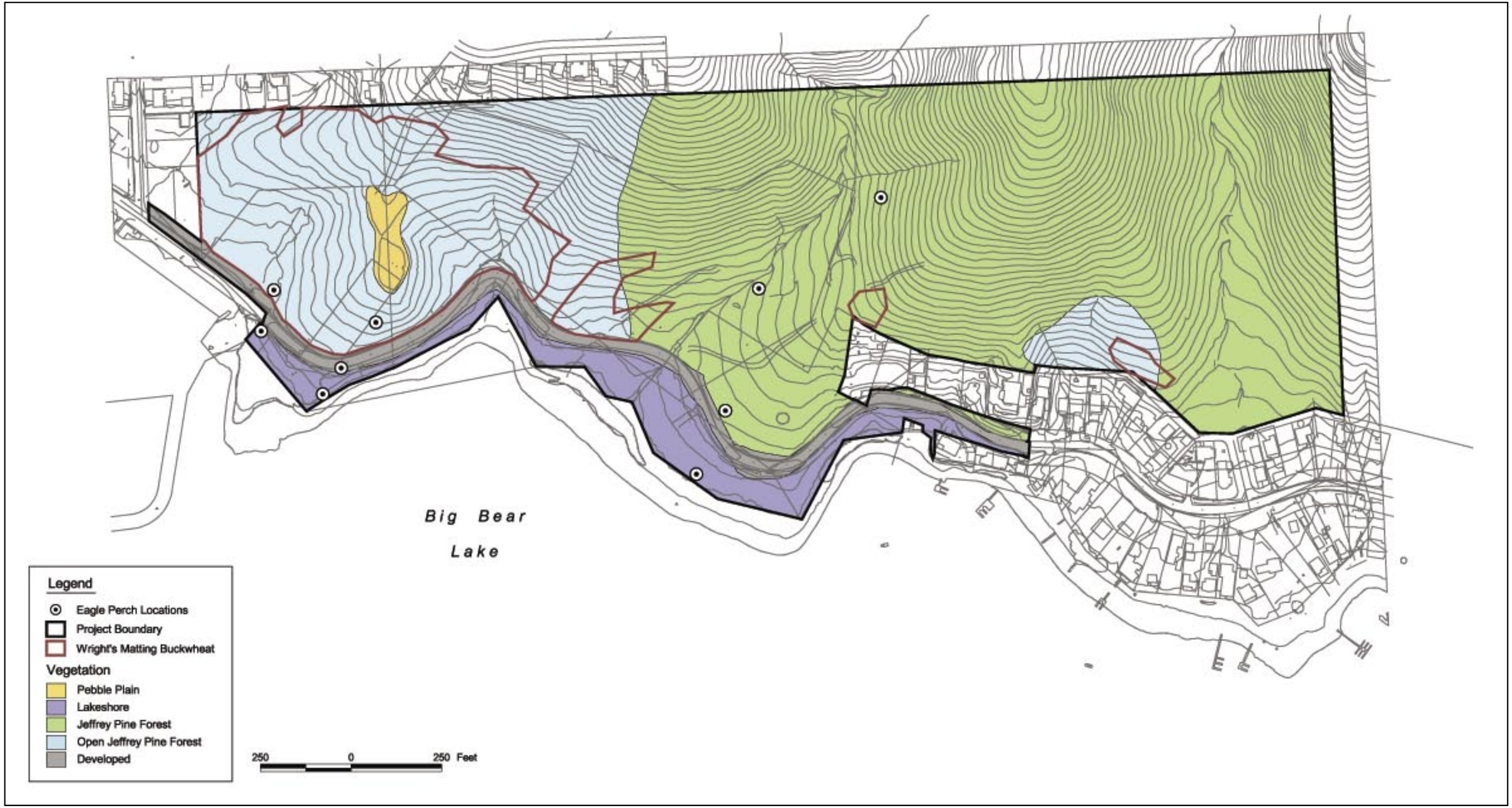
Within the Jeffrey pine forest onsite, tree resources consist of unevenly aged, pine stands composed of approximately 85 percent Jeffrey pine, eight percent western juniper, six percent singleleaf pinyon pine, and less than 1 percent of scattered white fir and black oak. Site quality has been rated medium Class 4 according to the criteria in the Forester's Handbook. The medium Class 4 rating describes the site as having 40 to 59 percent tree cover (medium cover) with small trees of conifer crown diameter 12 to 24 feet, and trunk diameter at breast height (dbh) of 11 to 24 inches. A total of 2,772 trees six inches in diameter or larger was calculated from aerial photographs. These trees grow on soils classified as 2/3 Morical-Hecker in the southern portion and 1/3 Pacifico-Wapi in the northern portion. Morical-Hecker soils are very deep with an effective rooting depth of 40 inches, and have high moisture retention capability, moderate erosion hazard, and a good timber productivity rating. Pacifico-Wapi soils are shallow, with a 10-20 inch effective root depth, low moisture holding capacity, high erosion hazard, and a poor capacity for tree seedling survival and growth without supplemental irrigation.

The overall condition of trees on the property is classified as fair. Scattered groups of large Jeffrey pine and juniper are host to moderate amounts of dwarf mistletoe (*Phorodendron* sp.) and several saplings and small pole pines under these trees have become heavily infested. Although a large number of dead trees were observed on the site, only one tree was observed to have been recently killed by bark beetles. Given the current drought situation and beetle population, there is a high potential for additional tree mortality from insect attack.

Pebble Plain. Pebble plain occurs on 0.69 acre of the Project site north of State Route 38. It appears as a distinct open patch within open Jeffrey pine forest in the western portion of the Project site. The substrate in this area consists of clay soil mixed with quartzite pebbles and gravel that are continually pushed to the surface through frost action. This substrate supports a high floristic diversity consisting of small cushion-forming plants, tiny annuals, grasses, and succulents that are well spaced, low growing, and sun tolerant. Several rare and special status plants are associated with pebble plain habitat, including Federally-listed Threatened and Endangered species.

Portions of the pebble plain habitat on the Project site have been subjected to disturbance by off-road vehicles. The Pebble Plain Habitat Management Guide and Action Plan was developed by the San Bernardino National Forest to provide management direction for long-term conservation of pebble plains and the rare plants associated with them. Closure of unauthorized vehicle routes through pebble plain habitat, signage, increased patrol, habitat acquisition, removal of non-native grasses, and public education are actions being taken to protect and enhance the habitat.

Lake Shoreline. Approximately 4.14 acres of the southern boundary of the Project site is formed by the shore of Big Bear Lake. Plant species along the shore itself consisted primarily of herbaceous native and non-native species of periodically saturated soils, including willowherb (*Epilobium* sp.), wire-grass (*Juncus mexicanus*), cursed buttercup (*Ranunculus sceleratus*), and several cinquefoil species (*Potentilla* spp.). Several seedling cottonwood trees (*Populus balsamifera* spp. *trichocarpa*)



Source: BonTerra Consulting, July 2003.

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also occur in this vegetation type. Small patches of meadow transitioning into upland grassland occur along the lakeshore south of State Route 38. The extent of the meadows could not be determined or mapped in 2002 due to dry conditions. The lake was well below its maximum level in 2001 to 2002 due to acute drought conditions. Vegetation is patchy above the high-water level where small areas of Jeffrey pine forest are interspersed among open meadows and grasslands and scattered patches of arroyo willow (*Salix lasiolepis*) and red willow (*Salix laviegata*).

Developed. Developed areas occur on 2.82 acres along the shoreline of the site. Plants found in this vegetation type consist of native and non-native ornamental species which offer very little habitat value for native wildlife species. Paved areas such as State Route 38 and existing turnouts are included in this vegetation type.

Jurisdictional Waters. A Delineation of Jurisdictional Waters was prepared in order to delineate U.S. Army Corps of Engineers' and California Department of Fish and Game's (CDFG) jurisdictional authority for unnamed drainages located within the Project site.

Prior to visiting the site, RBF conducted a review of USGS topographic maps (Quadrangle *Fawnskin, California*, dated 1996) and aerial photographs to identify areas that *may* fall under an agency's jurisdiction. Corps jurisdictional wetlands are delineated using the methods outlined in the Corps of Engineers *Wetland Delineation Manual* (1987) based on hydrologic and edaphic features of the site, and on the vegetation composition of the site. Non-wetland waters of the U.S. are delineated based on the limits of the ordinary high water mark (OHWM) as determined by erosion, the deposition of vegetation or debris, and changes in the vegetation. Generally, California Department of Fish and Game (CDFG) takes jurisdiction to the bank of the stream/channels or to the limit of the adjacent riparian vegetation, whichever is greater. Analysis of the Project site consists of field surveys and verification of current conditions conducted in March 2002.

Vegetation within the drainages of the Project site consisted of upland habitat, dominated by Jeffery pines. Soils within the drainage were documented to be silty-sand (large grain). Soil samples taken on-site were generally dry and lacked characteristics of hydric soils (i.e., odor, streaking, mottling). No flow within the on-site drainages was observed during the March 15, 2002 field visit. However, evidence of an OHWM was observed within the drainages, primarily indicated by sediment deposits. It should also be noted that Big Bear Lake adjoins the project site to the south. Based on discussions with the Big Bear Municipal Water District, the current water level of Big Bear Lake (as of June 28, 2004) is 6,727.8-feet above mean sea level (msl). The high water mark is reported to be 6,743.2 feet above msl. There are three key agencies that regulate activities within inland streams, wetlands and riparian areas in California. The U.S. Army Corps of Engineers (Corps) Regulatory Program regulates activities pursuant to Section 404 of the Federal Clean Water Act, and Section 10 of the Rivers and Harbors Act. The California Department of Fish and Game (CDFG) regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Water Quality Control Board (RWQCB) under Section 401 of the Federal Clean Water Act and the California Porter-Cologne Act.

Waters of the U.S. (Wetland) Determination. The Corps and the EPA jointly define wetlands as: *Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas* (33 CFR Section 328.3(b)).

In order to be considered a wetland, an area must exhibit all three of the wetland parameters (i.e., vegetation, soil, and hydrology) per the evaluation criteria in the Wetland Delineation Manual. Based on the results of the field investigations, it was determined that all three parameters were not present within the drainages (hydric soils nor riparian vegetation were present). As a result, RBF identified no Corps wetlands on the Project site.

Waters of the U.S. (Non-Wetland) Determination. The unnamed drainages within the Project site exhibited evidence of flow (i.e., sediment/silt deposition) sufficient to document the OHWM (i.e., channel bed and bank lines), thus meeting the criteria for jurisdictional waters. Refer to Exhibit 5.8-2, *Jurisdictional Map*, for an illustration of jurisdictional boundaries.

Based on the results of the field observations and data collection, 0.15-acre of Corps jurisdictional "waters of the U.S." were identified within the Project site. In addition to on-site ephemeral drainages, the Corps considers Big Bear Lake jurisdictional. The Corps' jurisdictional limits are delineated at the high water line, which is reported to be at 6,743.2-foot elevation (and below).

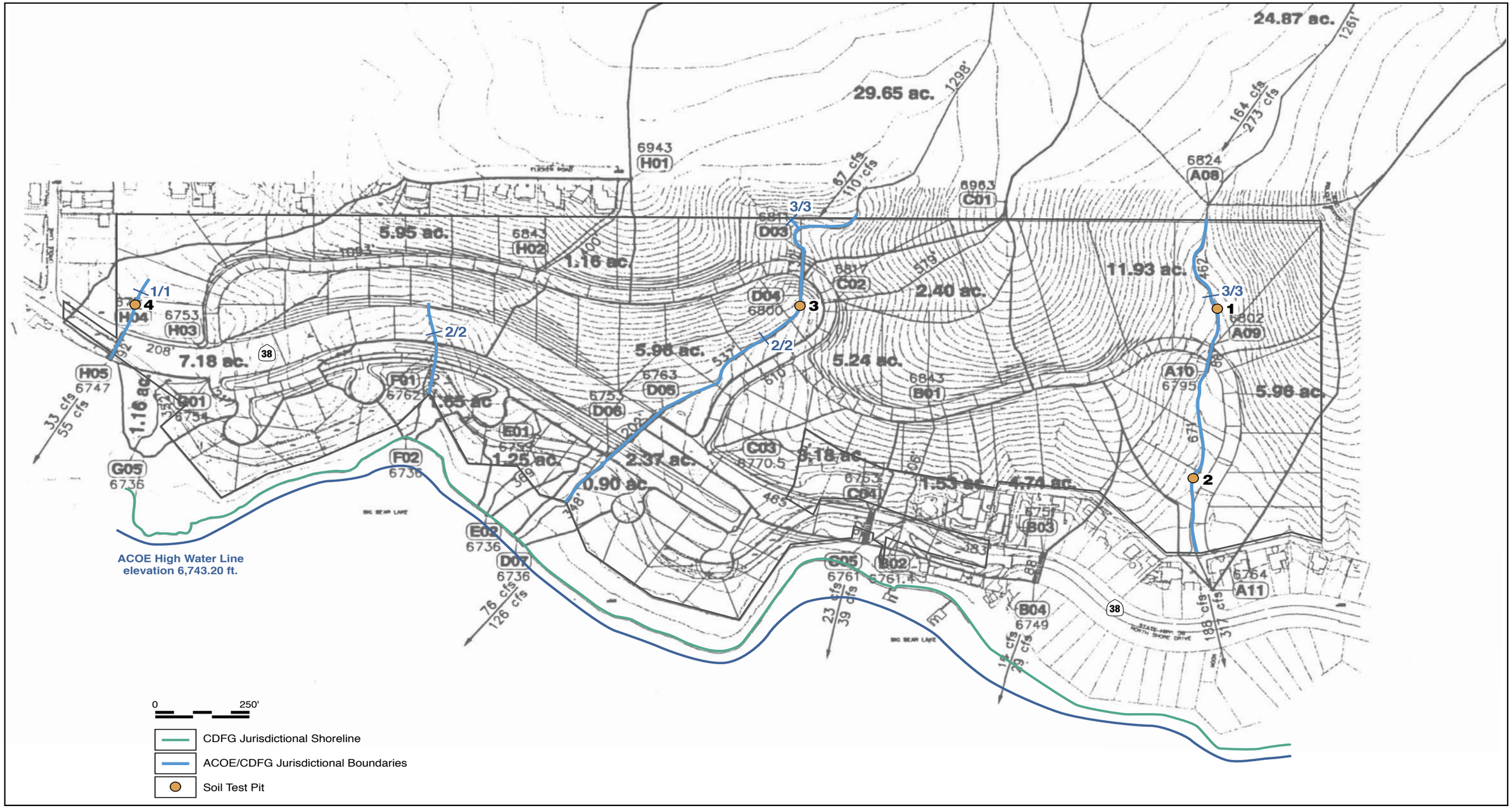
California Department of Fish and Game (1602) Jurisdiction. Based on the results of the field observations and data collection, 0.15-acre of CDFG jurisdictional streambed was identified within the Project site. As with the Corps, Big Bear Lake would be considered jurisdictional by the CDFG, including the approximate 4.14-acre lake shoreline.

WILDLIFE INVENTORY

WILDLIFE

Amphibians

Amphibians require moisture for at least a portion of their life cycle and many require standing or flowing water for reproduction. Although more typical in mesic conditions, there are a number of amphibians species that occur or potentially occur even in the more xeric habitats. Terrestrial species may or may not require standing water for reproduction. These species are able to survive in dry areas by remaining beneath the soil in burrows, under logs or leaf litter, and emerging only when temperatures are low and humidity is high. Many of these species' habitats are associated with water, and they emerge to breed once the rainy season begins. Soil moisture conditions can remain high throughout the year within some habitat types, depending on factors such as amount of vegetation cover, elevation, and slope aspect.



Source: Delineation of Jurisdictional Waters, Moon Camp TT #16136, prepared by RBF, July 2004.

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MOON CAMP TT #16136
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Jurisdictional Map

Exhibit 5.8-2

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No amphibians were detected during the field surveys; however, leaf litter and rotting logs on the Project site provide potential habitat for the Pacific slender salamander (*Batrachoseps pacificus*). The western toad (*Bufo boreas*) would also be expected to occur on the Project site.

Reptiles

Reptilian diversity and abundance typically vary with vegetation type and character. Many species prefer only one or two vegetation types; however, most will forage in a variety of habitats. Most species occurring in open areas use rodent burrows for cover, and protection from predators and extreme weather conditions. Those species discussed below, which were not observed during surveys, are expected to occur based on the presence of suitable habitat (substrate and vegetation) within the Project site.

Reptile species observed during the surveys include the western fence lizard (*Scleroporus occidentalis*), sagebrush lizard (*Sceloperus graciosus*), western skink (*Eumeces skiltonianus*), southern alligator lizard (*Elgaria multicarinatus*), and southern Pacific rattlesnake (*Crotalus viridis helleri*). Common reptile species expected to occur on the Project site include the side-blotched lizard (*Uta stansburiana*) and gopher snake (*Pituophis melanoleucus*).

Birds

Montane conifer forests in the San Bernardino Mountains can experience severe winter conditions during the winter months. Nonetheless, several resident bird species are expected to occur on the Project site, using the habitats throughout the year. Other species are present only during certain seasons. For example, the Anna's hummingbird (*Calypte anna*), which was observed on the Project site, is expected to occur during the breeding season (i.e., spring and summer) and will then migrate south for the winter.

Common resident bird species observed on the Project site during surveys include the following:

- wild turkey (*Meleagris gallopavo*)
- band-tailed pigeon (*Columba fasciata*), great-horned owl (*Bubo virginianus*)
- acorn woodpecker (*Melanerpes formicivorus*)
- red-breasted sapsucker (*Sphyrapicus ruber*)
- hairy woodpecker (*Picoides villosus*)
- Nuttall's woodpecker (*Picoides nuttallii*)
- northern flicker (*Colaptes auratus*)
- black phoebe (*Sayornis nigricans*)
- Stellar's jay (*Cyanocitta stelleri*)
- common raven (*Corvus corax*)
- mountain chickadee (*Poecile gambeli*)
- bushtit (*Psaltriparus minimus*)
- red-breasted nuthatch (*Sitta canadensis*)
- white-breasted nuthatch (*Sitta carolinensis*)
- house wren (*Troglodytes aedon*)

- western bluebird (*Sialia mexicana*)
- northern mockingbird (*Mimus polyglottos*)
- European starling (*Sturnus vulgaris*)
- spotted towhee (*Pipilo maculatus*)
- dark-eyed junco (*Junco hyemalis*)
- Brewer's blackbird (*Euphagus cyanocephalus*)
- brown-headed cowbird (*Molothrus ater*)
- house finch (*Carpodacus mexicanus*)
- red crossbill (*Loxia curvirostra*)

Other resident species expected to occur on the Project site include the following:

- pied-billed grebe (*Podilymbus podiceps*)
- great blue heron (*Ardea herodias*)
- mallard (*Anas platarynchos*)
- gadwall (*anas strepera*)
- ruddy duck (*Oxyura jamaicensis*)
- red shouldered hawk (*Buteo lineatus*)
- red-tailed hawk (*Buteo jamaicensis*)
- American kestrel (*Falco sparverius*)
- American coot (*Fulica americana*)
- killdeer (*Charadrius vociferus*)
- rock dove (*Columbia livia*)
- mourning dove (*Zenaida macroura*)
- pygmy nuthatch (*Sitta pygmaea*)
- brown creeper (*Certhia americana*)
- Bewick's wren (*Thryomanes bewickii*)
- American robin (*Turdus migratorius*)
- pine siskin (*Carduelis pinus*)

Montane conifer habitats in the San Bernardino Mountains typically experience mild, warm summer months. Given the mild climate and abundance of nesting habitat, several bird species are expected to occur on the Project site during the breeding season. Common breeding bird species observed on the Project site during surveys include Ana's hummingbird and western wood-peewee (*Contopus sordidulus*). Other common breeding species expected to occur on the Project site include the spotted sandpiper (*Actitis macularia*), violet green swallow (*Tachycineta thalassina*), and yellow-rumped warbler (*Dendroica coronata*).

Mammals

The ornate shrew (*Sorex ornatus*), brush mouse (*Peromyscus boylii*), western grey squirrel (*Sciurus griseus*), California ground squirrel (*Spermophilus beecheyi*), dusky-footed woodrat (*Neotoma fuscipes*), California vole (*Microtus californicus*), and coyote (*Canis latrans*) were observed on the Project site during the surveys. Other mammals expected to occur on the Project site include the following:

- dusky shrew (*Sorex monticolus*)
- broad-footed mole (*Scapanus latimanus*)
- Merriam's chipmunk (*Tamias merriami*)

- lodgepole chipmunk (*Tamias speciosus*)
- golden-mantled ground squirrel (*Spermophilus lateralis*)
- deer mouse (*Peromyscus maniculatus*)
- western harvest mouse (*Reithrodontomys megalotis*)
- Botta's pocket gopher (*Thomomys bottae*)
- house mouse (*Mus musculus*)

Easily detectable mammals that are expected to occur on the site include the following:

- Virginia opossum (*Didelphis virginiana*)
- porcupine (*Erethizon dorsatum*)
- long-tailed weasel (*Mustela frenata*)
- striped skunk (*Mephitis mephitis*)
- raccoon (*Procyon lotor*)
- mule deer (*Odocoileus hemionus*)
- bobcat (*Felis rufus*)

Larger mammals that may occur on the Project site include the gray fox (*Urocyon cinereoargenteus*), black bear (*Ursus americanus*), badger (*Taxidea taxus*), and mountain lion (*Felis concolor*).

Bats occur throughout most of southern California and may use any portion of the Project site as foraging habitat. Most of the bats that could potentially occur onsite are inactive during the winter and either hibernate or migrate, depending on the species. The California myotis (*Myotis californicus*) and big brown bat (*Eptesicus fuscus*) may occur on the Project site. Gaps in peeling bark and hollow snags or limbs provide potential roosting and maternal colony opportunities for these and other bat species.

WILDLIFE MOVEMENT

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (e.g., foraging for food or water, defending territories, searching for mates, accessing breeding areas, or securing cover). A number of terms have been used in various wildlife movement studies, such as "travel route", "wildlife corridor", and "wildlife crossing" to refer to areas in which wildlife move from one area to another.

To clarify the meaning of these terms and to facilitate the discussion on wildlife movement in this analysis, these terms are briefly defined as follows:

- *Travel Route* – A landscape feature such as a ridgeline, drainage, canyon, or riparian strip within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites).

- *Wildlife Corridor* – A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another.

- *Wildlife Crossing* – A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement.

As defined above, the Project site does not contain wildlife crossings or corridors. Nonetheless, the Project site could be used as a travel route connecting forest habitat to the north with Big Bear Lake. However, direct connection to open space areas north and east of the Project site are obstructed by State Route 38. The importance of this travel route may be diminished by the vehicle traffic hazard associated with crossing State Route 38 as well as the availability of similar habitat immediately adjacent to the east of the Project site.

SPECIAL STATUS BIOLOGICAL RESOURCES

The following discussion addresses special status biological resources observed, reported, or having the potential to occur on the Project site. These resources include plant and wildlife species that have been afforded special status and/or recognition by Federal and State resource agencies, as well as the California Native Plant Society (CNPS). In general, the principal reason an individual taxon (i.e., species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and/or distribution resulting in most cases from habitat loss. Table 5.8-2, *Special Status Plant Species*, and Table 5.8-3, *Special Status Wildlife Species*, provide a summary of special status plant and wildlife species known to occur in the Project region including information on the status, potential for occurrence, and definitions for the various status designations. In addition, special status biological resources include vegetation types and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. Federal, State, and local government conservation programs have defined these resources. Sources used to determine the special status of biological resources are as follows:

- Plants – *Electronic Inventory of Rare and Endangered Vascular Plants of California.* (California Native Plant Society [CNPS] [2000]). California Natural Diversity Database (CNDDB) *List of Special Plants* (CDFG [1998]). Various Federal Register notices from the USFWS regarding listing status of plant species.

- Wildlife – California Wildlife Habitat Relationships Database System (CDFG 1991); CNDDB (CDFG 2000), Various Federal Register notices from the USFWS regarding listing status of wildlife species.

- Habitats – CNDDB (CDFG 2000).

Table 5.8-2
Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Abronia nana ssp. *covillei* Coville's dwarf abronia	—	—	4	Low; marginally suitable habitat
Allium parishii Parish's onion	—	—	4	Low; above known elevation range
Antennaria marginata White-margined everlasting	—	—	2	None; outside of known geographic range (only local occurrences in Barton Flats area)
Arabis breweri var. *pecuniaria* San Bernardino rock-cress	—	—	1B	None; far below known elevation range
Arabis dispar Pinyon rock-cress	—	—	2	None; outside known geographic range (only occurs on desert-facing slopes)
Arabis parishii Parish's rock-cress	—	—	1B	Observed
Arabis shockleyi Shockley's rock-cress	—	—	2	None; outside known geographic range (only local occurrences on desert-facing slopes)
Arenaria lanuginosa ssp. *saxosa* Rock sandwort	—	—	2	Moderate; marginally suitable habitat
Arenaria ursina Big Bear Valley sandwort	FT	—	1B	High; suitable habitat
Astragalus albens Cushenbury milk-vetch	FE	—	1B	None; no suitable habitat (carbonate soils)
Astragalus bicristatus Crested milk-vetch	—	—	4	High; suitable habitat
Astragalus lentiginosus var. *sierrae* Big Bear Valley milk-vetch	—	—	1B	High; suitable habitat
Astragalus leucolobus Big Bear Valley woollypod	—	—	1B	Observed
Atriplex parishii Parish's smallscale	—	—	1B	None; no suitable habitat (alkali sink)
Berberis fremontii Fremont's barberry	—	—	3	None; no suitable habitat (presumed extinct in Cushionbury area)
Botrychium crenulatum Scalloped moonwort	—	—	2	None; no suitable habitat (marshes, bogs)
Calochortus palmeri var. *palmeri* Palmer's mariposa lily	—	—	1B	Moderate; marginally suitable habitat
Calochortus plummerae Plummer's mariposa lily	—	—	1B	None; above known elevation range
Castilleja cinerea Ash-gray Indian paintbrush	FT	—	1B	Observed
Castilleja lasiorhyncha San Bernardino Mountain owl's clover	—	—	1B	High; suitable habitat
Dryopteris filix-mas Male fern	—	—	2	Low; local rarity; outside known range

Table 5.8-2 – Continued
Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Dudleya abramsii ssp. *affinis* San Bernardino Mountains dudleya	—	—	1B	Moderate; marginally suitable habitat
Erigeron breweri var. *jacinteus* San Jacinto Mountains daisy	—	—	4	None; below known elevation range
Erigeron parishii Parish's daisy	FT	—	1B	None; no suitable habitat (carbonate soils)
Erigeron unicaulis Limestone daisy	—	—	2	None; outside known geographic range (local reports erroneous)
Eriogonum foliosum Leafy buckwheat	—	—	1B	High; suitable habitat
Eriogonum kennedyi var. *austromontanum* Southern mountain buckwheat	FT	—	1B	Low; suitable habitat (see text)
Eriogonum ovalifolium var. *vineum* Cushenbury buckwheat	FE	—	1B	None; no suitable habitat (carbonate soils)
Eriophyllum lanatum var. obovatum Southern Sierra wooly sunflower	—	—	4	Low; margin of known geographic range
Fimbristylis thermalis Hot springs fimbristylis	—	—	4	None; no suitable habitat (alkaline meadows, hot springs)
Galium jepsonii Jepson's bedstraw	—	—	4	High; suitable habitat
Galium johnsttonii Johnston's bedstraw	—	—	4	High; suitable habitat
Gentiana fremontii Moss gentian	—	—	2	None; below known elevation range
Gilia leptantha ssp. *leptantha* San Bernardino Mountains gilia	—	—	1B	Low (see text)
Helianthus nuttalli ssp. *parishii* Los Angeles sunflower	—	—	1A	None; presumed extinct, above known elevation range
Heuchura hirsutissima Shaggy-haired alum root	—	—	1B	Low; limited suitable habitat
Heuchura parishii Parish's alumroot	—	—	1B	Low; limited suitable habitat
Horkelia wilderae Barton Flats horkelia	—	—	1B	None; outside known geographic range, endemic to Barton Flats area
Hulsea vestita ssp. *parryi* Parry's sunflower	—	—	4	None; outside known geographic range (only occurs on desert-facing slopes)
Hulsea vestita ssp. *pygmaea* Pygmy hulsea	—	—	1B	None; below elevation range
Ivesia argyrocoma Silver-haired ivesia	—	—	1B	Observed
Juncus duranii Duran's rush	—	—	4	High; suitable habitat
Lesquerella kingii var. *bernardina* San Bernardino Mountains bladderpod	FE	—	1B	None; no suitable habitat (carbonate soils)

Table 5.8-2 – Continued
Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Lewisia brachycalyx Short-sepaled lewisia	—	—	2	Moderate; limited suitable habitat
Lilium humbodtii ssp. *ocellatum* *Ocellated Humboldt lily*	—	—	4	None; above known elevation range
Lillium parryi Lemon lily	—	—	1B	Low; limited suitable habitat
Linanthus killipii Baldwin Lake linanthus	—	—	1B	High; suitable habitat
Malaxiis monohyllos ssp. *brachypoda* Adder's mouth	—	—	2	None; below known elevation range
Mimulus exiguus San Bernardino Mountain monkeyflower	—	—	1B	High; suitable habitat
Mimulus purpureus var. *purpureus* Purple monkeyflower	—	—	2	High; suitable habitat
Monardella macrantha ssp. *hallii* Hall's monardella	—	—	1B	None; outside known geographic range
Navarretia peninsularis Baja navarretia	—	—	1B	Low; limited suitable habitat
Oxytheca caryophylloides Chickweed oxytheca	—	—	4	High; suitable habitat
Oxytheca parishii var. *cienegensis* Cienega seca oxytheca	—	—	1B	None; outside known geographic range
Oxytheca parishii var. *goodmaniana* Cushenbury oxytheca	FE	—	1B	None; no suitable habitat (carbonate soils)
Oxytropis oreophila Mountain oxytrope	—	—	2	None; below known elevation range
Perideridia parishii ssp. *parishii* Parish's yampah	—	—	2	High; suitable habitat
Phacelia exilis Transverse Range phacelia	—	—	4	High; suitable habitat
Phacelia mohavensis Mojave phacelia	—	—	4	High; suitable habitat
Phlox dolichantha Bear Valley phlox	—	—	1B	High; suitable habitat
Poa atropurpurea San Bernardino bluegrass	FE	—	1B	High; suitable habitat
Poliomintha incana Frosted mint	—	—	1A	None; no suitable habitat (dunes and sandy flats), above known elevation range
Polystichum kruckebergii Krukeberg's sword fern	—	—	4	None; limited suitable habitat, outside known geographic distribution
Populus angustifolia Narrow-leaved cottonwood	—	—	2	None; outside known geographic range

Table 5.8-2 – Continued
Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Pyrrocoma uniflora ssp. *gossypina* Bear Valley pyrrocoma	—	—	1B	High; suitable habitat
Rupertia rigida Parish's rupertia	—	—	4	High; suitable habitat
Scutellaria bolanderi ssp. *austromntanum* Southern mountain skullcap	—	—	1B	None, outside known geographic range, above known elevation range
Sedum niveum Davidson's stonecrop	—	—	4	None; no suitable habitat (rock ledges and cliffs)
Selaginella asprella Bluish spike-moss	—	—	4	Low; limited suitable habitat
Senecio bernardinus San Bernardino butterweed	—	—	1B	Low; limited suitable habitat
Senecio ionophyllus Tehachapi ragwort	—	—	4	Low; limited suitable habitat
Sidalcea hickmanii ssp. *parishii* Parish's checkerbloom	C	R	1B	Low; limited suitable habitat
Sidalcea pedata Bird's foot checkerbloom	FE	SE	1B	Low to moderate (see text); suitable habitat
Sphenopholis obtusata Prairie wedge grass	—	—	2	High; suitable habitat
Streptanthus bernardinus Laguna Mountains jewelflower	—	—	4	High; suitable habitat
Streptanthus campestris Southern jewelflower	—	—	1B	High; suitable habitat
Swertia neglecta Pine green-gentian	—	—	4	High; suitable habitat
Taraxacum californicum California dandelion	FE	—	1B	Low to moderate (see text); suitable habitat
Thelypodium stenopetalum Slender-petaled thelypodium	FE	—	1B	None; no suitable habitat (alkaline meadows)
Trichostema micranthum Small-flowered bluecurls	—	—	4	High; suitable habitat
Viola pinetorum ssp. *grisea* Grey-leaved violet	—	—	1B	Low; outside known geographic range

STATUS DEFINITIONS

USFWS

FE: Species designated as endangered under the Federal Endangered Species Act. Endangered = "any species in danger of extinction throughout all or a significant portion of its range."

FT: Species designated as threatened under the Federal Endangered Species Act. Threatened = "species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

FPE: Proposed for Federal listing as Endangered.

FPT: Proposed for Federal listing as Threatened.

C: Candidate for Federal listing as Threatened or Endangered.

SOC: Species of Concern

CDFG

ST: Threatened = "a species that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this Act" (California Endangered Species Act).

SE: Endangered = "a species is endangered when its prospects of survival and reproduction are in immediate jeopardy from one or more causes."

R: Rare

CNPS

1A Plants Presumed Extinct in California

1B Plants Rare, Threatened, or Endangered in California and Elsewhere

2 Plants Rare, Threatened, or Endangered in California But More Common Elsewhere

3 Plants About Which We Need More Information- A Review List

4 Plants of Limited Distribution - A Watch List

Table 5.8-3
Special Status Wildlife Species Potentially Occurring Within the Project Region

Species	Status[1]		Likelihood for Occurrence
	USFWS	CDFG	
Invertebrates			
Euchloe hyantis ssp. *andrewsi* Andrews' marble butterfly	SOC	—	Low; above known elevation range, limited suitable habitat
Amphibians			
Ensatina escholtzii croceater Yellow-blotched salamander	SOC	SSC	Low; limited marginally suitable habitat
Ensatina escholtzii klauberi Large-blotched salamander	SOC	SSC	None; above known elevation range, outside known geographic range
Rana muscosa Mountain yellow-legged frog	FPE	SSC	None; no suitable habitat
Scaphiopus hamondii Western spadefoot toad	SOC	SSC	None; above known elevation range
Taricha torosa torosa Coast range newt	SOC	SSC	None; no suitable habitat, above known elevation range
Reptiles			
Anniella pulchra pulchra Silvery legless lizard	SOC	SSC	Low; above known elevation range
Charina bottae umbricata Southern rubber boa	SOC	ST	Low; limited suitable habitat
Cnemidophorus tigris multiscutatus Coastal western whiptail	SOC	—	Moderate; suitable habitat
Coleonyx variegatus abbotti San Diego banded gecko	SOC	—	None; above known elevation range, no suitable habitat
Diadophis punctatus modestus San Bernardino ringneck snake	SOC	—	Low; limited suitable habitat
Lampropeltis zonata parvirubra San Bernardino Mountain kingsnake	SOC	—	Moderate; marginally suitable habitat
Lichanura trivirgata roseofusca Coastal rosy boa	SOC	—	None; above known elevation range
Phrynosoma coronatum ssp. *blainvillei* San Diego coast horned lizard	SOC	SSC/P	None; above known elevation, lack of suitable habitat
Sceloporus graciosus vendenbergianus Southern sagebrush lizard	SOC	—	Observed

Table 5.8-3 – Continued
Special Status Wildlife Species Potentially Occurring Within the Project Region

Species	Status[1]		Likelihood for Occurrence
	USFWS	CDFG	
Salvadora hexalepis virgultea Coast patch-nosed snake	SOC	SSC	None; lack of suitable habitat, above known elevation
Thamnophis hammondii hammondii Two-striped garter snake	—	SSC	None; no suitable habitat
Birds			
Accipiter cooperii Cooper's hawk	—	SSC	Nesting: Moderate Foraging: High
Accipiter gentilis Northern goshawk	SOC	SSC	Nesting: None Foraging: Moderate
Accipiter striatus Sharp-shinned hawk	—	SSC	Nesting: None Foraging: High in winter
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	SOC	SSC	Nesting: None Foraging: None; above known elevation range
Amphispiza belli belli Bell's sage sparrow	SOC	SSC	Nesting: None Foraging: None; above known elevation range
Aquila chrysaetos Golden eagle	—	SSC	Nesting: None Foraging: High
Asio otus Long-eared owl	—	SSC	Nesting: Low Foraging: Moderate
Buteo regalis Ferruginous hawk	SOC	SSC	Nesting: None Foraging: Low in winter
Circus cyaneus Northern harrier	—	SSC	Nesting: None Foraging: Low
Cypseloides niger Black swift	—	SSC	Nesting: None Foraging: Moderate
Dendroica petechia Yellow warbler	—	SSC	Nesting: None Foraging: Moderate
Elanus leucereus White-tailed kite	—	FP	Nesting: Low Foraging: Low
Empidonax traillii extimus Southwestern willow flycatcher	FE	SE	Nesting: Low Foraging: Moderate; rare migrant
Eremophila alpestris actia California horned lark	—	SSC	Nesting: None Foraging: None; above known elevation range

Table 5.8-3 – Continued
Special Status Wildlife Species Potentially Occurring Within the Project Region

Species	Status[1]		Likelihood for Occurrence
	USFWS	CDFG	
Falco columbaris Merlin	—	SSC	Nesting: None Foraging: Low
Falco mexicanus Prairie falcon	—	SSC	Nesting: None Foraging: Low
Falco peregrinus anatum American Peregrine falcon	—	FE	Nesting: None Foraging : Low
Haliaeetus leucocephalus Bald eagle	FE	SE	Nesting: None Foraging: Observed in winter
Lanius ludovicianus Loggerhead shrike	SOC	SSC	Nesting: None Foraging: None; above known elevation range
Piranga flava Hepatic tanager	—	SSC	Nesting: Low Foraging: Low
Progne subis Purple martin	—	SSC	Nesting: Low Foraging: Low; local rarity
Strix occidentalis occidentalis California spotted owl	SOC	SSC	Nesting: Low/None observed during focused surveys Foraging: High/Observed in close proximity to Project site
Vireo vicinior Gray vireo	—	SSC	Nesting: None Foraging: Low
Mammals			
Antrozus pallidus Pallid bat	—	SSC	Roosting: Low Foraging: Low
Euderma maculatum Spotted bat	SOC	SSC	Roosting: None Foraging: Moderate
Eumops perotis californicus California mastiff bat	SOC	SSC	Roosting: None Foraging: Low
Glaucomys sabrinus californicus San Bernardino Mountain flying squirrel	SOC	SSC	Breeding: Low Foraging: High
Myotis ciliolabrum Small-footed myotis	SOC	—	Roosting: Low Foraging: High
Myotis evotis Long-eared myotis	SOC	—	Roosting: High Foraging: High
Myotis lucifugus Occult little brown bat	SOC	SSC	Roosting: High Foraging: High

Table 5.8-3 – Continued
Special Status Wildlife Species Potentially Occurring Within the Project Region

Species	Status[1]		Likelihood for Occurrence
	USFWS	CDFG	
Myotis thysanodes Fringed myotis	SOC	—	Roosting: Low Foraging: Moderate
Myotis volans Long-legged myotis	SOC	—	Roosting: Moderate Foraging: Moderate
Myotis yumanensis Yuma myotis	SOC	—	Roosting: Low Foraging: Moderate
Onychomys torridus ramona Southern grasshopper mouse	SOC	SSC	None; no suitable habitat
Perognathus alticola alticola White-eared pocket mouse	SOC	SSC	None; presumed extinct locally
Plecotus townsendii townsendii Pacific western big-eared bat	SOC	SSC	Roosting: None Foraging: Moderate

Status Definitions1
USFWS

FE: Species designated as Endangered under the Federal Endangered Species Act. Endangered = "any species in danger of extinction throughout all or a significant portion of its range."
FT: Species designated as Threatened under the Federal Endangered Species Act. Threatened = "species likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range."
FPE: Proposed for Federal listing as Endangered.
FPT: Proposed for Federal listing as Threatened.
SOC: Species of Concern

CDFG

SR: Rare = "a species is rare when, although not presently Threatened with extinction, it is in such small numbers throughout its range that it may become Endangered if its present environment worsens."
ST: Threatened = "a species that, although not presently Threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this Act (California Endangered Species Act)."
SE: Endangered = "a species is endangered when its prospects of survival and reproduction are in immediate jeopardy from one or more causes."
SSC: Species of Special Concern.

FP: Fully Protected species are protected by special legislation and cannot be taken at any time.
P: Protected species are also protected by special legislation and can only be taken with a permit issued by the CDFG.

DEFINITIONS OF SPECIAL STATUS BIOLOGICAL RESOURCES

Special status habitats are vegetation communities, associations, or subassociations that support concentrations of special status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. Although special status habitats are not afforded legal protection unless they support protected species, potential impacts on them may increase concerns and mitigation suggestions by resources agencies.

A Federally Endangered species is one facing extinction throughout all or a significant portion of its geographic range. A Federally Threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any Federally Threatened or Endangered species on a Project site generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct. Harm in this sense can include any disturbance to habitats used by the species during any portion of its life history.

The reference to "proposed species" are those officially proposed by the USFWS for addition to the Federal Threatened and Endangered species list. Because proposed species may become listed as Threatened or Endangered prior to or during implementation of a proposed development project, they are treated in this EIR as though they are listed species.

The State of California considers an Endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. Threatened species is a species in such small numbers throughout its range that it is likely to become an Endangered species in the near future in the absence of special protection or management. A rare species is one present in such small numbers throughout its range that it may become Endangered if its present environment worsens. Rare species applies to California native plants listed prior to the State Endangered Species Act. State Threatened and Endangered species are fully protected against take unless an incidental take permit is obtained from the wildlife agencies.

Federal Species of Concern are species (a "term of art" for former Category 2 candidates) with an informal designation by the USFWS for some declining species that are not Federal candidates for listing at this time, but are noted in the CNDDB (CDFG 2002a). This list of species is not actively maintained by the USFWS.

California Species of Special Concern is an informal designation used by the CDFG for some declining wildlife species that are not State candidates. This designation does not provide legal protection, but signifies that these species are recognized as special status by the CDFG.

Species that are California Fully Protected and Protected include those protected by special legislation for various reasons, such as the mountain lion and white-tailed kite. Fully protected species may not be taken or possessed at any time. California Protected Species include those species that may not be taken or possessed at any

time except under special permit from the department issued pursuant to Sections 650 and 670.7 of the California Code of Regulations, or Section 2081 of the Fish and Game Code.

Special Plant and Special Animal are general terms that refer to all of the species the CNDDB is interested in tracking, regardless of their legal or protection status. This term includes species designated as any of the above terms but also includes species that may be considered biologically rare, restricted in distribution, declining throughout their range, are on the periphery of their range and are threatened with extirpation in California, are associated with special status habitats, or are considered by other State or Federal agencies or private organizations to be sensitive or declining. Species of Local Concern are those that have no official status with the resource agencies, but are being watched because either there is a unique population in the region or the species is declining in the region.

The California Native Plant Society is a private organization that has developed an inventory of California's special status plant species. This inventory summarizes the distribution, rarity, and endangerment of California's vascular plants. This rare plant inventory is comprised of four lists. CNPS presumes that List 1A plant species are extinct in California because they have not been seen in the wild for many years. CNPS considers List 1B plants as rare, threatened, or endangered throughout their range. List 2 plant species are considered rare, threatened, or endangered in California but more common elsewhere. Plant species for which CNPS needs additional information are included on List 3. List 4 plant species are those of limited distribution in California whose susceptibility to threat appears low at this time.

SPECIAL STATUS VEGETATION TYPES

Pebble Plain

The pebble plain community found on the Project site is recognized as a special status vegetation type by local, State, and Federal resources agencies. Pebble plain (also called pavement plain) is endemic to a 92-square-mile area in the San Bernardino Mountains at elevations between 6,000 and 7,500 feet above msl. Vegetation structure of pebble plain habitat is similar to the mat-forming structure of alpine sites at much higher elevations. Vegetation consists largely of well-spaced cushion-forming perennials and a variety of tiny annuals. Bunchgrasses and some succulents may also occur. Several special status plants, including Threatened or Endangered species, are known to occur on pebble plain and are discussed in the *Special Status Plants* section.

Pebble plain on the Project site occurs as a distinct open patch within the surrounding open Jeffrey pine forest. Much of the pebble plain habitat on the Project site has been subjected to disturbance by unauthorized off-road vehicle use. The disturbance has reduced vegetation cover, disturbed the natural hydrologic pattern, and perhaps reduced habitat quality for special status plants. However, based on National Forest management efforts at other sites, vehicle disturbance apparently does not permanently alter habitat suitability of this vegetation type.

Montane Meadow

Small patches of meadow transitioning into upland grassland occur along the lakeshore south of State Route 38. The extent of the meadows could not be determined or mapped in 2002 due to dry conditions. Meadows in the Big Bear Valley may be perennially saturated (i.e., wet meadows) or may have seasonally saturated soils during wet years (i.e., vernal meadows). This vegetation type is generally dominated by sedges (*Carex* spp.), rushes (*Juncus* spp.), and grasses (*Poa* spp., *Elymus* spp.). Dry meadows and the margins of wet meadows may also support big sagebrush (*Artemisia tridentata*) and timberline sagebrush (*Artemisia rothrockii*).

Meadow habitat in the San Bernardino Mountains is not officially recognized as a special status vegetation type by the CDFG but it is known to support several locally endemic plants [e.g., bird's foot checkerbloom (*Sidalcea pedata*), San Bernardino bluegrass (*Poa atropurpurea*), and California dandelion (*Taraxacum californicum*)] and is therefore considered to be of local concern. Additionally, the San Bernardino National Forest recognizes montane meadow habitat as a rare ecological community of concern.

SPECIAL STATUS PLANTS

Eighty-one special status plant species are known to occur in the Project region, 50 of which occur or have the potential to occur on the Project site. A brief description of the special status plant species that were determined to have potential to occur on the Project site are outlined below and summarized in Table 5.8-2. As indicated in Table 5.8-2, four special status plant species have been observed on the Project site.

Coville's Dwarf Abronia (*Abronia nana* ssp. *covillei*). Coville's dwarf abronia is a CNPS List 4 species that typically blooms from May to August. This perennial herb occurs in carbonate, sandy soils in Joshua tree woodland, pinyon-juniper woodland, subalpine coniferous forest, and upper montane coniferous forest between 5,200 and 9,200 feet above msl. This species occurs in the Inyo, Mono, and San Bernardino counties. The Project site provides marginally suitable habitat for this species and the potential for occurrence is considered to be low.

Parish's Onion (*Allium parishii*). Parish's onion is a CNPS List 4 species that typically blooms from April to May. This perennial, bulbiferous herb occurs in rocky soils of Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland between 3,000 and 6,000 feet above msl. This species occurs in the Imperial, Riverside, and San Bernardino counties. The Project site provides suitable habitat for this species but is above the known elevation range for this species and the potential for occurrence is considered to be low.

Parish's Rock-Cress (*Arabis parishii*). Parish's rock cress is a CNPS List 1B species that typically blooms from April to May. This perennial herb occurs in rocky, quartzite and clay, or sometimes carbonate soils in pebble plains, pinyon-juniper woodlands, and upper montane coniferous forests from approximately 3,900 to 8,000 feet above msl. It is endemic to the San Bernardino Mountains. This species was observed

uncommonly in scattered patches throughout pebble plain and open Jeffrey pine forest on the Project site during botanical surveys conducted in 2002.

Rock Sandwort (*Arenaria lanuginosa* ssp. *saxosa*). Rock sandwort is a CNPS List 2 species that typically blooms from July to August. This perennial herb occurs in mesic, sandy soils of subalpine, coniferous forests, and upper montane coniferous forests from approximately 5,900 to 9,000 feet above msl. It is found only in the San Bernardino Mountains in the State of California but also occurs in Arizona, Baja California, and elsewhere. The Project site provides marginally suitable habitat for this species and the potential for occurrence is considered to be moderate.

Big Bear Valley Sandwort (*Arenaria ursina*). Big Bear Valley sandwort is a Federally-listed Threatened and CNPS List 1B species that typically blooms from May to August. This perennial herb occurs in mesic, rocky soils of pebble plain, and pinyon-juniper woodland from approximately 6,400 to 6,900 feet above msl. This species is endemic to the San Bernardino Mountains. The Project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Crested Milk-Vetch (*Astragalus bicristatus*). Crested milk-vetch is a CNPS List 4 species that typically blooms from May to August. This perennial herb occurs in sandy or rocky soils of lower and upper montane coniferous forests from approximately 5,500 to 8,200 feet above msl. This species is found in the San Bernardino, San Gabriel, and San Jacinto mountains. The Project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Big Bear Valley Milk-Vetch (*Astragalus lentiginosus* var. *sierrae*). Big Bear Valley milk-vetch is a CNPS List 1B species that typically blooms from April to August. This perennial herb occurs in gravelly or rocky soils of desert scrub, meadows and seeps, pinyon-juniper woodland, and upper montane coniferous forest from approximately 5,800 to 8,500 feet above msl. It is found in the San Bernardino, San Gabriel, San Jacinto, and Santa Rosa mountains. The Project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Big Bear Valley Woollypod (*Astragalus leucolobus*). Big Bear Valley woollypod is a CNPS List 1B species that typically blooms from May to July. This perennial herb occurs in rocky soils of lower montane coniferous forest, pebble plain, pinyon-juniper woodland, and upper montane coniferous forests from approximately 5,600 to 8,000 feet above msl. It is found in the San Bernardino, San Gabriel, San Jacinto, and Santa Rosa mountains. This species was observed throughout the Project site during botanical surveys conducted in 2002.

Palmer's Mariposa Lily (*Calochortus palmeri* var. *palmeri*). Palmer's mariposa lily is a CNPS List 1B species that typically blooms between May and July. This perennial, bulbiferous herb occurs in mesic chaparral, lower montane coniferous forest, meadows, and seeps from approximately 3,200 to 7,200 feet above msl. It is a California endemic found in the South Coast and Transverse ranges in Kern, Los Angeles, Riverside, Santa Barbara, San Bernardino, San Luis Obispo, and Ventura counties. This species was not observed during the 2002 botanical surveys.

However, it has a moderate potential to occur on the project site given the availability of marginally suitable habitat in mesic portions of Jeffrey pine forest.

Ash-Gray Indian Paintbrush (*Castilleja cinerea*). Ash-gray Indian paintbrush is a Federally-listed Threatened and CNPS List 1B species. It is a root parasite on other plants, often parasitizing the Federally-listed Threatened southern mountain buckwheat and Wright's matting buckwheat. It is a perennial herb, and typically blooms between May and August. It occurs in pebble plains, meadows, seeps, and open pinyon or Jeffrey pine forest from approximately 5,900 to 9,300 feet above msl and is endemic to the eastern San Bernardino Mountains (Big Bear Valley, Holcolmb Valley, Onyx Summit, Snow Valley, and Sugarloaf Ridge). This species was reported and mapped on the project site by Michael Brandman Associates (MBA) (MBA 2000) and the California Natural Diversity Data Base (CDFG 2001). Botanical surveys in 2002 identified populations of this species throughout approximately 11.8 acres of pebble plain and open Jeffrey pine forest in the western half of the project site where it appears to be parasitizing Wright's matting buckwheat (see Exhibit 3). Populations of this species were found to be more widespread than reported previously and would be expected to occur in higher concentrations within the mapped Wright's matting buckwheat areas during normal rainfall years.

San Bernardino Mountain Owl's Clover (*Castilleja applegateii* ssp. *martinii*). San Bernardino Mountain owl's clover is a CNPS List 1B species that typically blooms between June and August. This hemiparasitic, annual herb occurs in mesic chaparral, meadows and seeps, pebble plain, and upper montane coniferous forests from approximately 4,200 to 7,850 feet above msl. It is a California endemic found in Riverside and San Bernardino counties. This species was not observed during the 2002 botanical surveys. However, it has a high potential to occur on the project site given the availability of suitable habitat throughout the project site, especially within pebble plains and open Jeffrey pine forest where Wright's matting buckwheat occurs.

Male Fern (*Dryopteris filix-mas*). Male fern is a CNPS List 2 species that is typically fertile from July to September. This rhizomatous, perennial herb occurs in granitic, rocky soils of upper montane coniferous forests from approximately 7,800 to 10,200 feet above msl. This species is known from only two locations in the White Mountains and Holcomb Valley in Inyo and San Bernardino counties respectively. The project site provides suitable habitat; however, the project site is outside the known range of this local rarity and the potential for occurrence is considered to be low.

San Bernardino Mountains Dudleya (*Dudleya abramsii* ssp. *affinis*). The San Bernardino Mountains dudleya is a CNPS List 1B species that typically blooms from April to June. This perennial herb occurs in granitic, quartzite, or carbonate soils of pebble plain, pinyon-juniper woodland, and upper montane coniferous forest from approximately 5,800 to 8,500 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides marginally suitable habitat for this species and the potential for occurrence is considered to be moderate.

Leafy Buckwheat (*Eriogonum foliosum*). Leafy buckwheat is a CNPS List 1B species that typically blooms from July to October. This annual herb occurs in sandy soils of chaparral, lower montane coniferous forest, and pinyon-juniper woodland from

approximately 3,900 to 7,200 feet above msl. This species is found in scattered locations from Big Bear Valley south to Baja California. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Southern Mountain Buckwheat (*Eriogonum kennedyi* var. *austromontanum*). Southern mountain buckwheat is a Federally-listed Threatened and CNPS List 1B species that typically blooms between June and August. It is a mat-forming, woody perennial endemic to pebble plain habitats in Big Bear and Holcomb valleys in the San Bernardino Mountains from approximately 5,800 to 7,500 feet above msl. This species often serves as a host plant for the hemi-parasitic ash-gray Indian paintbrush and is also a food plant for the recently described, locally-endemic San Bernardino blue butterfly (*Euphilotes bernardino bernardino*). It is very similar to the more common Wright's matting buckwheat that is common on the project site. Southern mountain buckwheat was not seen during the 2002 botanical surveys and it has not been reported on the project site by other botanists (MBA 2000; CDFG 2001). However, it is considered to have a low potential to occur given that suitable habitat occurs within pebble plains on the project site.

Southern Sierra Woolly Sunflower (*Eriophyllum lanatum* var. *obovatum*). Southern Sierra woolly sunflower is a CNPS List 4 species that typically blooms from June to July. This perennial herb occurs in lower and upper montane coniferous forest from approximately 4,200 to 8,100 feet above msl. This species is found in the southern Sierra Nevada and western San Bernardino mountains. The project site provides suitable habitat for this species; however, the project site is on the margin of this species geographic range and the potential for occurrence is considered to be low.

Jepson's Bedstraw (*Galium jepsonii*). Jepson's bedstraw is a CNPS List 4 species that typically blooms from July to August. This rhizomatous, perennial herb occurs in granitic, rocky or gravelly soils in lower and upper montane coniferous forests from approximately 6,500 to 8,100 feet above msl. This species is found in the San Gabriel and San Bernardino mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Johnston's Bedstraw (*Galium johnstonii*). Johnston's bedstraw is a CNPS List 4 species that typically blooms from June to July. This perennial herb occurs in chaparral, lower montane coniferous forest, pinyon-juniper woodland, and riparian woodland from approximately 5,300 to 7,500 feet above msl. This species is found in the San Gabriel and San Bernardino mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

San Bernardino Mountains Gilia (*Gilia leptantha* ssp. *leptantha*). San Bernardino Mountains gilia is a List 1B species that typically blooms from June to August. This annual herb occurs in sandy or gravelly soils of lower montane coniferous forests from approximately 5,000 to 7,700 feet above msl. This species is endemic to the upper Santa Ana River watershed in the San Bernardino Mountains. The project site provides suitable habitat for this species; however, it has not been recorded in the Big Bear valley and the potential for occurrence is considered to be low.

Shaggy-Haired Alumroot (*Heuchera hirsutissima*). Shaggy-haired alumroot is a CNPS List 1B species that typically blooms from May to July. This rhizomatous, perennial herb occurs in rocky soils of subalpine coniferous forest, and upper montane coniferous forest above approximately 7,200 feet above msl. This species is endemic to the San Jacinto and Santa Rosa mountains with one uncomfirmed record for the San Bernardino Mountains. The project site provides limited suitable habitat for this species and the potential for occurrence is considered to be low.

Parish's Alumroot (*Heuchera parishii*). Parish's alumroot is a CNPS List 1B species that typically blooms from June to July. It is a rhizomatous perennial herb that occurs in rocky soils of alpine boulder and rock fields, lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest above approximately 4,800 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides limited suitable habitat for this species and the potential for occurrence is considered to be low.

Silver-Haired Ivesia (*Ivesia argyrocoma*). Silver-haired ivesia is a CNPS List 1B species that typically blooms between June and August. This perennial herb occurs in alkaline meadows and seeps, pebble plains, and upper montane coniferous forest from approximately 4,900 to 8,800 feet above msl. It occurs in the San Bernardino Mountains and a disjunct population occurs in the mountains of Baja California. This species was reported on the project site by MBA (MBA 2000) and was observed throughout mapped pebble plain habitat on the project site during the 2002 botanical surveys.

Duran's Rush (*Juncus duranii*). Duran's rush is a CNPS List 4 species that typically blooms from July to August. It is a rhizomatous, perennial herb that occurs in mexic soils of lower montane coniferous forest, meadows and seeps, and upper montane coniferous forest from approximately 5,800 feet to 9,000 feet above msl. This species is found in the San Bernardino, San Gabriel, and San Jacinto mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Short-Sepaled Lewisia (*Lewisia brachycalyx*). Short-sepaled lewisia is a CNPS List 2 species that typically blooms from May to June. It is a perennial herb that occurs in mesic meadows and seeps, and lower montane coniferous forest from 4,500 to 7,500 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides limited suitable habitat for this species and the potential for occurrence is considered to be moderate.

Lemon Lily (*Lilium parryi*). Lemon lily is CNPS List 1B species that typically blooms from July to August. It is a bulbiferous, perennial herb that occurs in lower and upper montane coniferous forests, meadows and seeps, and riparian scrub above approximately 4,000 feet above msl. This species is found in the mountain ranges of southern California and southeastern Arizona. The project site provides marginally suitable habitat for this species and the potential for occurrence is considered to be low.

Baldwin Lake Linanthus (*Linanthus killipii*). The Baldwin Lake linanthus is a CNPS List 1B species that blooms from May to July. It is an annual herb that occurs in

alkaline meadows and seeps, pebble plain, pinyon-juniper woodland, and upper montane coniferous forest from approximately 5,500 to 7,800 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

San Bernardino Mountain Monkeyflower (*Mimulus exiguus*). The San Bernardino Mountain monkeyflower is a CNPS List 1B species that typically blooms from June to July. It is an annual herb that occurs in mesic, clay soils of meadows and seeps, pebble plain, and upper montane coniferous forest between approximately 5,800 and 7,500 feet above msl. This species is found in the San Bernardino Mountains and high mountains of Baja California. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Purple Monkeyflower (*Mimulus purpureus* var. *purpureus*). Purple monkeyflower is a CNPS List 2 species that typically blooms from May to July. It is an annual herb that occurs in meadows and seeps, pebble plain, and upper montane coniferous forest from approximately 6,100 to 7,500 feet above msl. This species is found in the San Bernardino Mountains and high mountains of Baja California. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Baja Navarretia (*Navarretia peninsularis*). Baja navarretia is a CNPS List 1B species that blooms from July to September. It is an annual herb that occurs in mesic, sandy soils in chaparral and lower montane coniferous forests between approximately 4,800 and 7,500 feet above msl. This species is found in the mountains of central and southern California and north Baja California. The project site provides limited suitable habitat for this species and the potential for occurrence is considered to be low.

Chickweed Oxytheca (*Oxytheca caryophylloides*). Chickweed oxytheca is a CNPS List 4 species that typically blooms from July to September. It is an annual herb that occurs in sandy soils of lower montane coniferous forest from approximately 3,900 to 8,500 feet above msl. This species is found in the southern Sierra Nevada, Transverse Ranges, and San Jacinto Mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Cienega Seca Oxytheca (*Oxytheca parishii* var. *cienegensis*). The cienega seca oxytheca is a CNPS List 1B species that typically blooms from June to September. It is an annual herb that occurs in sandy, granitic soils in upper montane coniferous forest from approximately 7,000 to 8,000 feet above msl. This species is found along Coon Creek and Cienega Seca Creek in San Bernardino County. The project site provides suitable habitat for this species; however, the project site is well outside the known geographic range for this species and the potential for occurrence is considered to be low.

Parish's Yampah (*Perideridia parishii* ssp. *parishii*). Parish's yampah is a CNPS List 2 species that typically blooms from June to August. It is a perennial herb that occurs in lower and upper montane coniferous forests, and meadows and seeps above approximately 6,500 feet above msl. This species is found in the San

Bernardino Mountains and in disjunct populations in Arizona and New Mexico. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Transverse Range Phacelia (*Phacelia exilis*). The Transverse Range phacelia is a CNPS List 4 species that typically blooms from May to August. It is an annual herb that occurs in sandy or gravelly soils in lower and upper montane coniferous forests, and meadows and seeps from approximately 3,500 to 8,500 feet above msl. This species is found in the southern Sierra Nevada and Transverse Ranges. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Mojave Phacelia (*Phacelia mohavensis*). The Mojave phacelia is a CNPS List 4 species that typically blooms from April to August. It is an annual herb that occurs in sandy or gravelly soils of cismontane woodland, lower montane coniferous forest, meadows and seeps, and pinyon-juniper woodland from approximately 4,500 to 8,100 feet above msl. This species is found in the San Gabriel and San Bernardino mountains. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Bear Valley Phlox (*Phlox dolichantha*). The Bear Valley phlox is a CNPS List 1B species that blooms from June to July. It is a perennial herb that occurs in pebble plain, and upper montane coniferous forest from approximately 6,500 to 8,800 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

San Bernardino Bluegrass (*Poa atropurpurea*). San Bernardino bluegrass is a Federally-listed Endangered and CNPS List 1B species that typically blooms from May to June. It is a rhizomatous, perennial herb that occurs in mesic meadows and seeps between approximately 4,800 and 7,200 feet above msl. This species is found in the San Bernardino and Laguna mountains (San Diego). The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Bear Valley Pyrrocoma (*Pyrrocoma uniflora* ssp. *gosssypina*). Bear Valley pyrrocoma is a CNPS List 1B species that typically blooms from July to August. It is a perennial herb that occurs in meadows and seeps, and pebble plain from approximately 5,200 to 7,600 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Parish's Rupertia (*Rupertia rigida*). Parish's rupertia is a CNPS List 4 species that typically blooms from June to July. It is a perennial herb that occurs in chaparral, cismontane woodland, and lower montane coniferous forest below approximately 8,100 feet above msl. This species is found in the San Bernardino Mountains, Peninsular Ranges, and Baja California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Bluish Spike-Moss (*Selaginella asprella*). Bluish spike-moss is a CNPS List 4 species that typically blooms in July. It is a rhizomatous, perennial herb that occurs in granitic, rocky soils of cismontane woodland, lower and upper montane coniferous forests, pinyon-juniper woodland, and subalpine coniferous forest between approximately 5,200 to 8,800 feet above msl. This species occurs throughout southern California mountain ranges and Baja California. The project site provides limited suitable habitat for this species and the potential for occurrence is considered to be low.

San Bernardino Butterweed (*Senecio bernardinus*). San Bernardino butterweed is a CNPS List 1B species that typically blooms from May to July. It is a perennial herb that occurs in meadows and seeps, pebble plain, and upper montane coniferous forest between approximately 5,800 to 7,500 feet above msl. This species is endemic to the San Bernardino Mountains and is known from fewer than twenty occurrences. The project site provides limited suitable habitat for this species and the potential for occurrence is considered to be low.

Parish's Checkerbloom (*Sidalcea hickmanii* ssp. *parishii*). Parish's checkerbloom is a Federal Candidate for listing as Threatened or Endangered, State Rare, and CNPS List 1B species that typically blooms from June to July. It is a perennial herb that occurs in chaparral, cismontane woodland, and lower montane coniferous forest between 3,200 and 8,200 feet above msl. This species is found mainly in the San Bernardino Mountains and in a few localities in the Santa Ynez Mountains. The project site provides limited suitable habitat for this species and potential for occurrence is considered to be low.

Bird's Foot Checkerbloom (*Sidalcea pedata*). Bird's foot checkerbloom is a Federally- and State-listed Endangered and CNPS 1B species that typically blooms from May to July. It is a perennial herb that occurs in meadows and seeps, and pebble plain between approximately 5,200 and 8,100 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides marginally suitable habitat for this species and the potential to occur is considered to be low to moderate.

Prairie Wedge Grass (*Sphenopholis obtusata*). Prairie wedge grass is a CNPS List 2 species that typically blooms from April to July. It is a perennial herb that occurs in mesic soils of cismontane woodland, meadows and seeps between approximately 1,000 and 6,550 feet above msl. This species is found in a few widely scattered locations in Amador, Fresno, Inyo, Mono, Riverside, and San Bernardino counties in California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Laguna Mountains Jewelflower (*Streptanthus bernardinus*). The Laguna Mountains jewelflower is a CNPS List 4 species that typically blooms from June to July. It is a perennial herb that occurs in chaparral, and lower montane coniferous forest between approximately 3,900 and 8,100 feet above msl. This species is found in the Transverse and Peninsular ranges and Baja California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Southern Jewelflower (*Streptanthus campestris*). The southern jewelflower is CNPS List 1B species that typically blooms from May to July. It is a perennial herb that occurs in rocky soils of chaparral, lower montane coniferous forest, and pinyon-juniper woodland from approximately 2,900 to 7,500 feet above msl. This species is known from fewer than twenty occurrences in Riverside, San Bernardino, and San Diego counties, and Baja California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Pine Green-Gentian (*Swertia neglecta*). Pine green-gentian is a CNPS List 4 species that typically blooms from May to July. It is a perennial herb that occurs in lower and upper montane coniferous forests, and pinyon-juniper woodlands from approximately 4,500 to 8,100 feet above msl. This species is found in the South Coastal and Transverse ranges within Los Angeles, San Bernardino, and Ventura counties. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

California Dandelion (*Taraxacum californicum*). The California dandelion is a Federally-listed Endangered and CNPS List 1B species that typically blooms from May to July. It is a perennial herb that occurs in mesic meadows and seeps from approximately 6,300 to 7,800 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides suitable habitat for this species and the potential to occur is considered to be low to moderate.

Slender-Petaled Thelypodium (*Thelypodium stenopetalum*). Slender-petaled thelypodium is a Federally- and State-listed Endangered and CNPS List 1B species that typically blooms from June to July. It is a perennial herb that occurs in mesic, alkaline meadows and seeps from approximately 6,200 to 7,200 feet above msl. This species is endemic to the San Bernardino Mountains with less than eight known populations in the Big Bear and Holcomb valleys. The project site contains marginally suitable habitat for this species and the potential to occur is considered to be low.

Small-Flowered Bluecurls (*Trichostema micranthum*). Small-flowered bluecurls is a CNPS List 4 species that typically blooms from July to September. It is an annual herb that occurs mesic soils in lower montane coniferous forest, and meadows and seeps from 6,500 to 7,500 feet above msl. This species is found in the San Bernardino Mountains and Baja California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Grey-Leaved Violet (*Viola pinetorum* ssp. *grisea*). Grey-leaved violet is a CNPS List 1B species that typically blooms in April. It is a perennial herb that occurs in meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest from approximately 4,800 to 11,100 feet above msl. This species is known from ten occurrences in Fresno, Kern, San Bernardino, and Tulare counties. There is disagreement about the range of this species. The project site provides suitable habitat for this species; however, the project site is outside the known geographic range for this species and the potential to occur is considered to be low.

SPECIAL STATUS WILDLIFE

Fifty-three special status wildlife species are known to occur within the region, 39 of which have the potential to occur within the Project site. Focused surveys for the bald eagle, California spotted owl, southwestern willow flycatcher, and southern rubber boa were conducted in the winter, spring, summer and fall of 2002. A brief description of the special status wildlife species that were determined to have the potential to occur on the Project site is provided below and summarized in Table 5.8-3. As indicated in Table 5.8-3, one special status wildlife species (Southern sagebrush lizard) has been observed on the Project site.

Invertebrates

Andrew's Marble Butterfly (*Euchloe hyantis* ssp. *andrewsi*). Andrew's marble butterfly is a Federal Species of Concern. This species is found at elevations above 5,000 feet above msl near Lake Arrowhead and Big Bear Lake, and in other locations across the San Bernardino Mountains crest and north slopes. It is found primarily in pine and mixed conifer forests. The larval host plants for this subspecies are the Laguna Mountains jewelflower and *Arabis holboellii*. The Project site provides limited suitable habitat for this species; however, the Project site is above the known elevation range. The potential for this butterfly species to occur is considered to be low.

Amphibians

Yellow-Blotched Salamander (*Ensatina escholtziii croceater*). The yellow-blotched salamander is a Federal Species of Concern and State Species of Special Concern. This species is found at elevations up to 8,000 feet above msl among rotting logs and leaf litter in mixed stands of oaks and conifers. The Project site provides limited, marginally suitable habitat and the potential for it to occur is considered to be low.

Reptiles

Silvery Legless Lizard (*Anniella pulchra pulchra)*. The silvery legless lizard is a Federal Species of Concern and a State Species of Special Concern. The silvery legless lizard inhabits areas with moist sandy soil, including dry washes, woodlands, riparian, and scrub communities at elevations ranging from sea level to about 5,000 feet above msl. The Project site provides a limited amount of potentially suitable habitat for this species; however, the Project site is above the known elevation range for this species and its potential to occur is considered to be low.

Southern Rubber Boa (*Charina bottae umbbricata*). The southern rubber boa is a Federal Species of Concern and State-listed Threatened species found in the San Bernardino and San Jacinto mountains at elevations between 4,900 and 7,900 feet above msl. The majority of the localities for this species are in a 10-mile long strip of the San Bernardino Mountains between Twin Peaks in the west to Green Valley in the east. Known locations for this species occur on the north-facing slopes immediately south of Big Bear Lake. This species usually occurs in moist woodlands and coniferous forests with deep, well developed soils. It is a burrower and also commonly makes use of rock out crops for hibernation. Large downed logs and a

well-developed litter layer are considered important for cover and for maintaining soil moisture. Surveys for this species were conducted in the spring and summer of 2002. No southern rubber boas were encountered during surveys. Given the lack of historical records in the immediate vicinity of the Project site, and the negative results of two independent focused survey techniques, the southern rubber boa is not expected to occur on the Project site.

Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*). The coastal western whiptail is a Federal Species of Concern. It is a moderately large, slender lizard typically found in open scrub, chaparral, and woodland communities in semi-arid areas or where vegetation is sparse, from below sea level to 7,000 feet above msl. This species is restricted to the western coast of North America from Ventura County south through the northern two-thirds of the Baja California peninsula. The Project site provides suitable habitat for this species; however, it is at the maximum elevation for this species and its potential to occur is considered to be moderate.

San Bernardino Ringneck Snake *(Diadophis punctatus modestus*). The San Bernardino ringneck snake is a Federal Species of Concern and is considered locally rare in southwestern California. It inhabits scrub, chaparral, native grassland, and woodland communities. This species is difficult to detect due to its secretive behavior. It occurs in elevations from sea level to 7,000 feet above msl (Stebbins 1985). The Project site provides limited suitable habitat for this species and its potential to occur is considered to be low.

San Bernardino Mountain Kingsnake (*Lampropeltis zonata parvirubra*). The San Bernardino mountain kingsnake is a Federal Species of Concern that occurs in the San Jacinto, San Bernardino, and San Gabriel mountains. This species typically occurs in open stands of ponderosa pine, Jeffrey pine, Coulter pine, and/or black oak at elevations ranging from 4,500 to 6,500 feet above msl. This species occurs at higher elevations, but is less common. Partially shaded rock outcrops appear to be an important microhabitat element for refugia and basking sites. The Project site provides marginally suitable habitat for this species and its potential to occur is considered to be moderate.

Southern Sagebrush Lizard (*Sceloporus graciosus vandenbergianus*). The southern sagebrush lizard is a Federal Species of Concern that occurs in open coniferous forests and shrubland above 3,000 feet above msl. Its known range extends from Mount Pinos south to Baja California. This species inhabits mixed conifer forest, black oak woodlands, montane chaparral, and pinyon-juniper woodlands. This species was observed frequently on the Project site.

Birds

Cooper's Hawk (*Accipiter cooperii*). The Cooper's hawk is a State Species of Special Concern. Both resident and migratory populations exist in San Bernardino County. Wintering Cooper's hawks are often seen in wooded urban areas and native woodland communities. Preferred nesting habitats include riparian forests, mountain canyons, and oak woodlands. Cooper's hawks in the region prey on small birds and rodents that live in woodland and, occasionally, scrub and chaparral communities.

Breeding residents have been observed in the vicinity of Big Bear Lake. The Project site provides suitable foraging habitat, but a limited amount of nesting habitat for this raptor. Therefore, its overall potential to occur is considered to be high, although the potential for nesting is moderate.

Northern Goshawk (*Accipiter gentilis*). The northern goshawk is a Federal Species of Concern and State Species of Special Concern. Rare in southern California, goshawks have been observed during the breeding season only on Mount Abel, Mount Pinos, and in the San Bernardino and San Jacinto mountains. Breeding has not been documented in the San Bernardino Mountains, although goshawks have been observed near Big Bear Lake. Goshawks occur in a variety of coniferous forest communities, including ponderosa and Jeffrey pine, mixed conifer, white fire and lodgepole pine. Large snags and downed logs are believed to be important habitat elements because they increase the abundance of small- to medium sized birds and mammals composing this species prey base. Limited suitable foraging habitat is present on the Project site and the potential for this species is considered moderate for foraging, but no potential for nesting.

Sharp-shinned Hawk (*Accipiter striatus*). The sharp-shinned hawk is a State Species of Special Concern. This raptor is a fairly common winter visitor throughout southern California. It prefers woodland communities, but can also be found in virtually any habitat as it passes through the area during migration. The sharp-shinned hawk is a fairly common winter visitor in the Big Bear Lake vicinity, and its potential to occur for foraging is considered to be high. However, the Project site provides no nesting habitat for this raptor.

Golden Eagle (*Aquila chryysaetos*). The golden eagle is a State Species of Special Concern. This raptor is uncommon, but widely distributed throughout foothill, lower montane, and desert montane habitats in southern California. Golden eagles nest primarily on cliffs and hunt for rabbits and other small mammals in open habitats such as grasslands, oak savannas, and open shrublands. No nesting habitat is present on the Project site; however, the potential for foraging on the Project site is considered high.

Long-eared Owl (*Asio otus)*. The long-eared owl is a State Species of Special Concern. It breeds and roosts in riparian forests and woodlands or other dense forest habitats. This owl forages at night in open habitats including marshes, grasslands, and agricultural fields. It occurs throughout North America but is an increasingly rare breeder in southern California. The Project site provides moderate suitable foraging habitat and limited nesting habitat, for this species.

Ferruginous Hawk (*Buteo regalis*). The ferruginous hawk is a Federal Species of Concern and a State Species of Special Concern. Ferruginous hawks occur from mid-fall through early spring in coastal southern California. They forage over grasslands and the ecotone between scrub and grasslands. The Project site provides a limited amount of suitable foraging habitat, but no nesting habitat, for this species. Therefore, its potential to occur on the Project site is considered to be low for foraging, with no potential for nesting.

Northern Harrier (*Circus cyaneus*). The northern harrier is a State Species of Special Concern. It is a regular winter migrant that occasionally breeds along the coast of southern California. Foraging habitat consists of marsh, grassland, and scrub habitats. The Project site provides limited suitable foraging habitat, but no nesting habitat, for this raptor. Therefore, its potential to forage on the Project site is considered to be low.

Black Swift (*Cypseloides niger*). The black swift is a State Species of Special Concern. It is known to breed in the San Gabriel Mountains, Mill Creek Canyon in the San Bernardino Mountains, and the San Jacinto Mountains. This species occurs in mountain and foothill canyons where it nests in rocky cliffs behind waterfalls. No suitable nesting habitat is present on the Project site; however, this Project site could provide suitable foraging habitat and the potential for this species to forage on the Project site is considered moderate.

Yellow Warbler (*Dendroica petechia*). The western yellow-warbler is a California Species of Special Concern. This subspecies of yellow warbler that breeds in southern California is the western yellow warbler (*D.p. brewsteri*). This subspecies occurs in coastal areas from northwestern Washington south to western Baja California. In southern California, yellow warblers breed locally in riparian woodlands. The yellow warbler is an abundant migrant and would be expected to occur in spring and fall during migration. No suitable nesting habitat is present on the Project site; however, the potential for foraging migrants on the Project site is considered moderate.

White-Tailed Kite (*Elanus leucereus*). The white-tailed kite is a California Fully Protected species. This raptor typically nests in oaks, willows, and sycamores, and forages within adjacent grassland and scrub habitats. White-tailed kites show strong site fidelity to nest groves and trees. The most abundant prey species for this raptor includes the California vole, western harvest mouse, and house mouse. The project site provides limited suitable foraging and nesting habitat for this raptor. Therefore, its potential to occur on the Project site is considered to be low for nesting and foraging.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*). The southwestern willow flycatcher is a Federally- and State-listed Endangered species. This subspecies has declined drastically due to a loss of breeding habitat and nest parasitism by brown-headed cowbirds. This species occurs in riparian habitats along rivers, streams, or other wetlands where dense growths of willows (*Salix* sp.), baccharis (*Baccharis* sp.), arrowweed (*Pluchea* sp.), tamarisk (*Tamarix* sp.), or other plants are present, often with a scattered overstory of cottonwood (*Populus* sp.). The potential for this species to occur on the Project site as a foraging migrant is considered to be high, but its potential to nest on the Project site is considered low. Surveys for this species were conducted in the spring and summer of 2002. No breeding or individual southwestern willow flycatchers were detected during the surveys. Willows along the shoreline are patchy and lack the dense growth or willow thicket favored by this species as territorial or breeding habitat. Therefore, breeding southwestern willow flycatchers are not expected to occur on the Project site.

Merlin (*Falco columbaris*). The merlin is a State Species of Special Concern. In California, the merlin prefers vast open space areas such as estuaries, grasslands, and deserts where it hunts small flocking birds such as sandpipers, larks, sparrows, and pipits. The merlin is a very rare winter visitor to the Big Bear Lake area. The Project site provides suitable foraging habitat and perching locations, but no nesting habitat, for this raptor. Therefore, its potential to occur for foraging is considered to be low, and there is no potential for nesting.

Prairie Falcon (*Falco mexicanus*). The prairie falcon is a State Species of Special Concern. It is now a rare visitor to the coastal plain of southern California. Foraging habitat for this species consists of open habitats such as deserts, grasslands, rangelands, and marshes. For nesting, this large falcon uses ledges of cliff faces. The Project site provides suitable foraging habitat for this raptor, but no potentially suitable nesting habitat. Therefore, its potential to occur is considered to be low for foraging only.

American Peregrine Falcon (*Falco peregrinus*). The peregrine falcon is a State-listed Endangered species that, due to recent population gains, has been recently delisted as Endangered by the USFWS. No such delisting has been proposed by the State. Peregrine falcons prey almost exclusively on birds and use a variety of habitats, particularly wetlands and coastal areas, and nest on cliffs or building ledges. The Project site provides limited suitable foraging habitat for the peregrine falcon, but no potentially suitable nesting habitat. Therefore, its potential to occur on the Project site is considered to be low for foraging only.

Osprey (*Pandion haliaetus*). The osprey is a California Species of Special Concern. It is an uncommon winter visitor in southern California, but nesting has been documented at Lake Casitas near Ventura and Lake San Antonio in Monterey County (Garrett and Dunn 1981) and may occur elsewhere. The osprey would be expected to occur on the project site during spring migration or post-breeding wandering. The Project site provides roosting and foraging habitat for the osprey, but no potentially suitable nesting habitat. Therefore, its potential to occur on the Project site is considered to be low for foraging only.

Bald Eagle (*Haliaeetus leucocephalus*). The bald eagle is a State- and Federally-listed Endangered species. This raptor typically overwinters in small numbers in southern California near lakes and reservoirs where they feed on fish, coots, and waterfowl. The largest known wintering population in southern California is at Big Bear Lake in the San Bernardino Mountains, where twenty to thirty eagles typically congregate from November to March. This species is known to be present on the Project site in winter but is not expected to nest on the Project site. Surveys and records searches were conducted on the Project site in the winter of 2002 to determine bald eagle use of perch trees and favored roosting locations (refer to Appendix 15.6, *Biological Resources Information,* of the Draft EIR). The surveys found that the site is used extensively by bald eagles. Bald eagle perch and roost locations were recorded and individual trees were marked with numbered tags. Tree locations are shown on Exhibit 5.8-1. The records search confirmed extensive use of the Project site by bald eagles and found that the most commonly recorded use of a single tree was also on the Project site.

Hepatic Tanager (*Piranga flava*). The hepatic tanager is a State Species of Special Concern. In southern California, this species is known to breed only in the San Bernardino Mountains. Breeding habitat consists of mature pinyon pine woodland with a mixture of taller conifers such as white fir or Jeffrey pine. Johnson and Garrett suggest this species may also occur in pine and deciduous oak woodlands on warm, arid slopes. The Project site provides limited suitable foraging and nesting habitat for this species and potential for occurrence is considered to be low for foraging and nesting.

Purple Martin (*Progne subis*). The purple martin is a State Species of Special Concern that historically occurred throughout all of the major mountain ranges in southern California. Many historic localities are no longer occupied and there are no known active localities in the San Bernardino Mountains. This species is a secondary cavity nester of hardwood and conifer forests. The Project site provides suitable habitat for this species; however, given the lack of records in the vicinity, the potential for occurrence is considered to be low for foraging and nesting.

California Spotted Owl (*Strix occidentalis occidentalis*). The California spotted owl is a Federal Species of Concern and State Species of Special Concern. This species occurs in all of the major mountain ranges in southern California, although some ranges support very few pairs. It is found at elevations ranging from below 1,000 feet to 8,500 feet above msl in mature forests typically with a dense, multi-layered canopy. Its prey base consists of woodrats (i.e., *Neotoma* spp.) and other rodents. Surveys were conducted for this species on the Project site in the spring and summer of 2002 (refer to Appendix 15.6, *Biological Resources Information,* of the Draft EIR). Although one male spotted owl was detected approximately one mile to the northwest of the Project site, no nesting pairs or individuals were observed on the Project site. Therefore, no nesting pairs presently occur on the Project site; however, individuals have a high potential to forage on the Project site.

Gray Vireo (*Vireo vicinior*). The gray vireo is a State Species of Special Concern. This species is a summer resident in a few highly localized areas on the coastal mountain ranges in southern California. It occurs on dry, desert-facing slopes in the San Gabriel, San Bernardino, and San Jacinto mountains. This species prefers stands of dense, mature chaparral dominated by chamise or redshank or on brushy slopes in pinyon-juniper woodlands. The Project provides limited, marginal habitat for this species. The potential for occurrence is considered to be low for foraging but there is no potential for breeding on the Project site.

Mammals

Pallid Bat (*Antrozus pallidus*). The pallid bat is a California Species of Special Concern that most commonly occurs in mixed oak and grassland habitats. This large bat roosts in rock crevices and in cavities of trees, especially oaks. The Project site provides potentially suitable roosting and foraging habitat for this species and it has a low potential to occur.

Spotted Bat (*Euderma maculatum*). The spotted bat is a Federal Species of Concern and State Species of Special Concern. Little is known about its distribution. Spotted bats forage in a wide variety of habitats but roost strictly in cliffs. The Project

site would provide foraging habitat for this species and it has a moderate potential to occur for foraging; however, no suitable roosting habitat is present.

California Mastiff Bat (*Eumops perotis californicus*). The California mastiff bat, the largest bat in the United States, is a Federal Species of Concern and a California Species of Special Concern. This species is a very wide-ranging and high-flying insectivore that typically forages in open areas with high cliffs. It roosts in crevices in small colonies. The Project site would provide limited foraging habitat for this species and it has a low potential to occur for foraging; however, no suitable roosting habitat is present.

San Bernardino Mountain Flying Squirrel (*Glaucomys sabrinus californicus*). The San Bernardino Mountain flying squirrel is a Federal Species of Concern and State Species of Special Concern. It occurs in the San Bernardino Mountains between 5,200 and 8,500 feet above msl. This species prefers mid- to upper-elevation, dense, mature coniferous forest habitats, particularly those containing white fir. They use cavities in large trees, snags, and logs for cover. The Project site provides suitable foraging habitat for this species and the potential for occurrence is considered high; however, the potential for this species to breed on the Project site is considered to be low as this species prefers to breed in relatively dense coniferous forests in proximity to riparian areas.

Small-footed Myotis (*Myotis ciliolabrum*). The small-footed myotis is a Federal Species of Concern that occurs throughout much of the western United States, occupying a variety of habitats. This species feeds among trees or over brush, and roosts in cavities of cliffs, trees, or rocks and within caves or mine shafts. The Project site provide potentially suitable roosting and foraging habitat for this species and the potential for occurrence is considered to be low for roosting and high for foraging.

Long-eared Myotis (*Myotis evotis*). The long-eared myotis is a Federal Species of Concern that is restricted to high-elevation habitats. It is known to occur in Coon Creek in the San Bernardino National Forest. This species can occur in a variety of habitats, but are usually associated with coniferous forests where they roost under exfoliating tree bark. The Project site provides potentially suitable roosting and foraging habitat for this species and the potential for occurrence is considered to be high for foraging and roosting.

Occult Little Brown Bat (*Myotis lucifugus*). The occult little brown bat is a Federal Species of Concern and State Species of Special Concern that is restricted to high-elevation habitats. This species occurs in pine forests at elevations ranging from 6,000 to 9,000 feet above msl. It roosts in buildings, trees, and cliffs and feeds over water or open sites. The Project site provides suitable roosting and foraging habitat and the potential for this species to occur is considered to be high for foraging and roosting.

Fringed Myotis (*Myotis thysanodes*). The fringed myotis is a Federal Species of Concern that is restricted to high-elevation habitats. This species has been observed on Arrastre Creek on the San Bernardino National Forest. It occurs in a wide variety of habitats but is most commonly found in dry pine or mixed conifer

forests and pinyon-juniper woodlands where it will roost in caves, buildings, mine shafts, rock crevices in cliff faces, trees, and bridges. Hibernation has only been documented in buildings and mines. The Project site provides marginally suitable roosting and foraging habitat for this species and potential for occurrence is considered to be moderate for foraging and low for roosting.

Long-legged Myotis (*Myotis volans*). The long-legged myotis is a Federal Species of Concern that is restricted to high-elevation habitats. This species has been observed on Arrastre Creek on the San Bernardino National Forest. It is primarily a bat of coniferous forests but also occurs seasonally in riparian and desert habitats. It uses abandoned buildings, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts; caves and mine tunnels for hibernation. The Project site provides marginally suitable foraging and roosting habitat for this species and its potential to occur on the Project site is considered to be moderate for foraging and roosting.

Yuma Myotis (*Myotis yumanensis*). The Yuma myotis is a Federal Species of Concern and a relatively small bat that occurs statewide. This species is closely associated with water and wooded canyon bottoms throughout its range. Caves and old buildings are preferred roosting habitats, with roosts numbering up to 2,000 individuals. The Project site provides potentially suitable foraging habitat for this species and the potential for this species to forage on the Project site is considered to be moderate; however, this species is not expected to roost on the Project site.

Pacific Western Big-eared Bat (*Plecotus townsendii pallescens*). The Pacific western big-eared bat occurs throughout California and is a Federal Species of Concern and State Species of Special Concern. In the southern portion of the State, the subspecies, *P.T. pallescens*, occupies a variety of communities, including oak woodlands, arid deserts, grasslands, and high-elevation forests and meadows. Known roosting sites in California include mines, caves, and buildings. The Project site would provide foraging habitat for this species and it has a moderate potential to forage on the Project site; however, no suitable roosting habitat is present.

ON-GOING REGIONAL AND LOCAL HABITAT CONSERVATION PROGRAMS

Carbonate Plant Critical Habitat/San Bernardino Mountains Carbonate Habitat Management Strategy

On January 23, 2003, the USFWS designated critical habitat for five Federally-listed plants on 13,180 acres of land in the San Bernardino Mountains. The five plants are Cushenbury milk-vetch (*Astragalus albens*), Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*), San Bernardino Mountains bladderpod (*Lesqueralla kingii* ssp. *bernardina*), Cushenbery oxytheca (*Oxytheca parishii* var. *goodmaniana*), and Parish's daisy (*Erigeron parishii*). Critical habitat for these species covers 11,980 acres between the western edge of White Mountain and the eastern edge of Rattlesnake Canyon, 685 acres northeast of Big Bear Lake, and 515 acres of San Bernardino National Forest lands on Sugarlump Ridge south of Bear Valley. The project site is not located in any areas designated as critical habitat for these five carbonate plants. In addition, a Carbonate Habitat Management Strategy is currently being developed to address the long-term conservation of carbonate habitat in the

San Bernardino Mountains. The strategy identifies potential and occupied carbonate habitat and actions to conserve carbonate plants. Plant surveys on the project site have not identified any carbonate habitat on the project site that may be subject to conservation measures outlined in the Carbonate Habitat Management Strategy.

County of San Bernardino General Plan

The County of San Bernardino General Plan contains goals and policies/actions designed to preserve biological resources that apply to development within the County's jurisdiction. The general plan contains a list of Rare, Endangered and Threatened species that occur in San Bernardino County, adverse effects on which result in a mandatory finding of significant effect pursuant to State CEQA Guidelines, Section 15065 if individuals are adversely affected by County land use map changes and discretionary land use approvals, thereby requiring the preparation of an Environmental Impact Report (EIR). Listed plant species identified within the General Plan with potential to occur on the Project site include Parish's checkerbloom and bird's foot checkerbloom. Listed wildlife species identified within the General Plan with potential to occur on the Project site include the southern rubber boa and bald eagle. This *Biological Resources Assessment*, contained in Appendix 15.6 of the Draft EIR, has been prepared as supporting documentation for the proposed Project EIR, which satisfies the requirements of the County of San Bernardino General Plan.

County of San Bernardino Biotic Resources Overlay District

The Project site lies within a County of San Bernardino Biotic Resources (BR) Overlay District. The purpose of the BR Overlay District is to "implement General Plan policies regarding the protection and conservation of beneficial rare and endangered plants and animal resources and their habitats which have been identified within unincorporated areas of the county" (Article 2, 85.030201). The County General Plan implements the intent of the BR Overlay District by requiring all proposed land uses with a minimum of 25 percent of the total proposed development area within the BR Overlay District to prepare a biological technical report identifying impacts to biological resources and mitigation measures designed to reduce or eliminate Project related impacts. The *Biological Resources Assessment* is intended to satisfy the requirements of the BR Overlay District.

Plant Protection and Management Ordinance – County of San Bernardino Development Code

The County of San Bernardino requires under Chapter 8, Division 9 of the County Development Code (Plant Protection and Management) that development on all private and public lands within the unincorporated areas of San Bernardino County is subject to specific requirements. Removal of any native plant from unincorporated areas of San Bernardino requires the approval of a removal permit. Additionally, the following sections of the ordinance would apply to native plants on the Project site:

89.0110(b) The provisions of this Division shall not authorize the removal of perch trees within identified American Bald eagle habitat.

89.0115(c) The reviewing authority may require certification from an appropriate tree expert or native plant expert that such tree removals are appropriate, supportive of a healthy environment and are in compliance with the provisions of this chapter.

89.0205 Any coniferous tree or portion thereof, including stumps, shall be treated in accordance with one of the methods specified in Sections 89.0205 and 89.0210 within fifteen (15) days after such a tree or portion of such a tree has been cut.

Migratory Bird Treaty Act (MBTA)

The MBTA established in 1918 the Federal prohibition, unless permitted by regulations, to pursue, hunt, take, capture, or kill any migratory bird species or any part, nest, or egg of any such migratory bird species covered by the act. Impacts to any bird (or its nest) listed by the MBTA are considered punishable by fines and/or imprisonment. Additionally, impacts to nesting MBTA-listed species are considered a significant impact by CEQA per guideline section.

IMPACTS

The determination of impacts in this analysis is based on a comparison of maps depicting Project grading limits and maps of on-site biological resources. All construction activities, including staging and equipment areas, are assumed to be contained within the limits of grading. Both direct and indirect impacts on biological resources have been evaluated. Direct impacts are those that involve the initial loss of habitats due to grading and construction. Indirect impacts are those that would be related to disturbance from construction activities (e.g., noise, dust) and use of the Project site.

Biological impacts associated with the proposed Project were evaluated with respect to the following special status biological issues:

- Federally- or State-listed Endangered or Threatened species of plant or wildlife;
- Non-listed species that meet the criteria in the definition of Rare, Threatened, or Endangered in the California Environmental Quality Act (CEQA) Guidelines;
- Streambeds, lakebeds, wetlands, and their associated vegetation;
- Habitats suitable to support a Federally- or State-listed Endangered or Threatened species of plant or wildlife;
- Species designated as California Species of Special Concern or Federal Species of Concern;
- Habitat, other than wetlands, considered special status by regulatory agencies (USFWS, CDFG) or resource conservation organizations; and

- Other species or issues of concern to regulatory agencies or conservation organizations.

The actual and potential occurrence of these resources within the Project site was correlated with the significance criteria noted below to determine whether the impacts of the proposed Project on these resources would be considered significant.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist Form which includes questions relating to biological resources. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a Project may create a significant environmental impact if one or more of the following occurs:

- If the Project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Game and Wildlife Service (refer to Impact Statement 5.8-1).

- If the Project has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Game and Wildlife Service (refer to Impact Statement 5.8-2).

- If the Project has a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (refer to impact Statement 5.8-3).

- If the Project interferes substantially with the movement of any native or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites (refer to Impact Statement 5.8-4).

- If the Project conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (refer to Impact Statement 5.8-5).

- If the Project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan (refer to Section 10.0, *Effects Found Not to be Significant*).

Section 15065(a), *Mandatory Findings of Significance*, of the CEQA Guidelines states that a Project may have a significant effect on the environment if "…the Project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or

animal community, reduce the number or restrict the range of an endangered, rare or threatened species…".

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would substantially diminish, or result in the loss of, an important biological resource or those that would obviously conflict with local, State or Federal resource conservation plans, goals, or regulations. Impacts are sometimes locally adverse but not significant because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

Section 15380 of CEQA indicates that a lead agency can consider a non-listed species to be Rare or Endangered for the purposes of CEQA if the species can be shown to meet the criteria in the definition of Rare or Endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special status species was considered according to the definitions for Rare and Endangered listed in Section 15380 of CEQA.

The actual and potential occurrence of these resources within the Project vicinity was correlated with the previously identified significance criteria to determine whether the impacts of the proposed Project on these resources would be significant.

Additionally, the proposed Project must be consistent with County adopted Standard Conditions of Approval (SCA). Thus, this section identifies the SCAs that would offset the biological impact of clearing existing vegetation types for individual lot development. The majority of the SCAs would be enforced by the County of San Bernardino during the entitlement process and are discussed to demonstrate Project consistency with local and regional policies and plans applicable to the proposed Project. SCAs applicable to the proposed Project include, but are not limited to the following:

SCA-1 Tree replanting will be required on a 2 to 1 basis as per San Bernardino County Plant Protection and Management Ordinance along road cuts and fills. Spacing between planted trees should be no closer than 20 feet. Low volume, fire resistant shrubs and ground cover are also recommended for planting on roadside slopes. A Professional Forester or ISA Certified Arborist with experience in the San Bernardino Mountains should review the landscaping plan before submittal to the County.

SCA-2 The landscape plan shall include tree protection guidelines which state that all construction activities should be limited to the late summer or early fall period. Heavy equipment shall be confined to skid trails, building sites, driveway pads, and parking areas. Heavy vehicle grading over 2 inches, operation, service, storage, placement of fill six inches or deeper, waste disposal, and construction of concrete or asphalt pads shall not take place within the dripline of remaining trees. Utility construction and foundation footings should

also remain outside the dripline (if not possible, consult a professional arborist regarding if roots should be cut, tree removed, or if other preventative measures are possible). All measures should be taken to prevent damage to roots and provide subsequent treatment if injury occurs.

SCA-3 Logs shall be removed from the site within 15 days to reduce the potential for bark beetle infestations. California Forest Practice Rules allow chipping, debarking, sealing with clear plastic for 4 to 6 months, or lopping of limbs from stems greater than 3 inches in diameter and scattering so that all material has maximum exposure to solar radiation. Spraying of individual pine trees with carbaryl insecticide prior to construction is considered advantageous.

Potential impacts are grouped below according to topic. The mitigation measures at the end of this section directly correspond with the numbered impact statements.

SPECIAL STATUS BIOLOGICAL RESOURCES

5.8-1 *Project implementation would affect species identified as special status. Implementation of recommended mitigation measures would reduce impacts to a less than significant level to biological species, with the exception of the Bald Eagle. Impacts to the Bald Eagle are concluded as significant and unavoidable.*

A total of 62.56 acres of native and non-native vegetation types, including developed areas, would be impacted by the proposed project. These areas are discussed below, summarized in Table 5.8-4, *Vegetation Types Impacted* and illustrated on Exhibit 5.8-3, *Biological Resources – Project Impacts*.

Table 5.8-4
Vegetation Types Impacted

Vegetation Type	Existing Acreage	Impacted Acreage
Jeffrey Pine Forest	54.91	54.91
Pebble Plain	0.69	0.69
Lake Shoreline	4.14	4.14
Developed	2.82	2.82
Total	**62.56**	**62.56**

Vegetation Types

Pebble Plains. A total of 0.69 acre of pebble plain habitat would be impacted by Project implementation. Approximately 379 acres of pebble plain are known to exist in the San Bernardino Mountains, 60 percent (227 acres) of which occurs on public

lands. Development of the Project site would remove 0.18 percent of the remaining acreage of pebble plain known to occur on both public and private lands. Although the proposed Project would impact a small area of pebble plain habitat relative to the amount of this vegetation type within the San Bernardino Mountains, mitigation measure 5.8-1a would ensure that impacts are reduced to less than significant levels.

Montane Meadows. Botanical surveys during 2002 were limited on the Project site and throughout southern California due to a very low rainfall year. Many plant species indicative of the montane meadow vegetation type are either annual (i.e., complete their life cycles in a single year and then die) or perennial herbs (i.e., die back to the ground level each year and persist as underground bulbs or rootcrowns). In poor rainfall years, annual and perennial herbs may not be visible, though they may exist on a site as an inactive seed, bulb, or rootcrown. Therefore, the extent of montane meadow on the Project site could not be determined during the 2002 botanical survey. However, implementation of mitigation measure 5.8-1a would reduce impacts to this vegetation type to a less than significant level.

Plants

Project implementation would result in impacts on four special status plant species known to occur on the Project site, including one Federally-listed Threatened and CNPS List 1B species, ash-gray Indian paintbrush; and three CNPS List 1B species, Parish's rock cress, Big Bear Valley woollypod, and silver-haired ivesia. Additionally, Project implementation may result in impacts to special status species potentially occurring on the Project site, including six Threatened or Endangered species and 20 CNPS Lists 1B and 2 species. Project implementation also has the potential to impact potentially suitable habitat for 15 CNPS List 4 species.

SPECIAL STATUS PLANT SPECIES KNOWN TO OCCUR ON THE PROJECT SITE

One Federally-listed Threatened and CNPS List 1B species, ash-gray Indian paintbrush; and three CNPS List 1B species, Parish's rock cress, Big Bear Valley woollypod, and silver-haired ivesia, were observed on the Project site during the 2002 botanical surveys. Populations of ash-gray Indian paintbrush and Parish's rock cress were found to be widespread throughout an approximately 11.8 acre area of open Jeffrey pine forest with an herbaceous layer of Wright's matting buckwheat in the western half of the Project site. The approximately 0.64 acre of pebble plain habitat was included in this area. Silver haired ivesia was found to be concentrated entirely within the mapped pebble plain habitat. Bear Valley woollypod was found in patches scattered throughout Jeffrey pine forest habitat on the Project site. It is expected that population sizes for these species on the Project site would be larger during a normal rainfall year (i.e., at least 40 percent of average annual precipitation).

Impacts on these species would be considered significant according to CEQA Guideline Section 15065. However, implementation of mitigation measure 5.8-1a would reduce impacts to a less than significant level.

SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING ON THE PROJECT SITE

Botanical surveys during 2002 were limited on the Project site and throughout southern California due to a very low rainfall year. Many plant species are either annual (i.e., complete their life cycles in a single year and then die) or perennial herbs (i.e., die back to the ground level each year and persist as underground bulbs or rootcrowns). In poor rainfall years, annual and perennial herbs may not be visible, though they may exist on a site as an inactive seed, bulb, or rootcrown. Most of the special status plants of the Big Bear area are perennial herbs, making a conclusive determination of "presence" or "absence" based on field surveys difficult during low rainfall years. However, previous reports of presence and determination of habitat quality can be used to estimate the probability that a special status plant species might occur on the Project site.

There is potential for several special status plants on the Project site that were not detectable this spring due to dry conditions. Special status plants potentially occurring on the Project site include the six listed Threatened or Endangered species (bird's foot checkerbloom, San Bernardino bluegrass, California dandelion, Big Bear Valley sandwort, southern mountain buckwheat, and slender-petalled thelypodium); one CNPS List 1B and State-listed Rare species and Candidate for Federal listing as Threatened or Endangered (Parish's checkerbloom); and 26 CNPS List 1B or 2 species as follows:

- rock sandwort
- Big Bear Valley milk vetch
- Palmer's mariposa lily
- San Bernardino Mountain owl's clover
- male fern
- San Bernardino Mountains dudleya
- leafy buckwheat
- San Bernardino Mountain gilia
- shaggy-haired alum root
- Parish's alumroot
- short-sepaled lewisia
- lemon lily
- Baldwin Lake linanthus
- San Bernardino Mountain monkeyflower
- purple monkeyflower
- Baja navarretia
- Parish's yampah
- Bear Valley phlox
- Bear Valley pyrrocoma
- San Bernardino butterweed
- prairie wedge grass
- southern jewelflower
- grey-leaved violet

Surveys during a normal rainfall year would be required to determine presence or absence and the extent of these species on the Project site. The loss of potential

habitat for these species would be considered significant according to CEQA Guideline Section 15065. However, implementation of mitigation measure 5.8-1a would reduce impacts to a less than significant level.

There is potential for fifteen CNPS List 4 species on the Project site. The plants in the CNPS List 4 category are of limited distribution or infrequent throughout a broad area in California, and their vulnerability or susceptibility to threat appears relatively low at this time. CNPS is actively monitoring populations of the List 4 species and they will be transferred to a more appropriate list if the degree of endangerment or rarity of these species should change. The CNPS List 4 species present on the Project site do not meet the definitions of Rare, Threatened, or Endangered according to CEQA Guideline Section 15065. However, they are addressed in the *Biological Resources Assessment*, refer to Appendix 15.6 of the Draft EIR, given the number of species potentially present on the Project site. No significant impacts to CNPS List 4 species are anticipated at present.

Wildlife

The proposed Project would result in the loss of potential habitat for several special status wildlife species potentially present on the Project site. For those species expected to occur, potential impacts were evaluated for the habitat that the species is expected to occupy.

Invertebrates. Project implementation may result in impacts on one special status invertebrate species, the Andrews' marble butterfly. Although not observed during general wildlife surveys, the Andrews' marble butterfly has potential to occur on the Project site. Potential habitat for this species is present among plants in the pebble plain habitat on the Project site. However, the Project site contains a minimal amount of habitat relative to the availability of habitat for this species throughout the San Bernardino Mountains. Thus, impacts are considered less than significant.

Amphibians. Project implementation may result in impacts on special status amphibian species. No Federally- or State-listed amphibian species have potential to occur on the Project site. One species that is a Federal Species of Concern and State Species of Special Concern, the yellow-blotched salamander, has potential to occur on the Project site. Potential habitat for this species occurs on the Project site in mesic areas with rotting logs and leaf litter. The loss of potential habitat for this species would be considered less than significant due to the limited amount of habitat loss relative to the availability of habitat for this species in the region.

Reptiles. Project implementation may result in impacts on special status reptile species. One Federal Species of Concern, the southern sagebrush lizard, has been observed on the Project site. Four additional species that are Federal Species of Concern and/or State Species of Special Concern have potential to occur on the Project site. These species are the silvery legless lizard, coastal western whiptail, San Bernardino ringneck snake, and San Bernardino Mountain kingsnake. The loss of potential habitat for these species would be considered less than significant due to the limited amount of habitat loss relative to the availability of habitat for these species in the region.

Intensive surveys for the State-listed Threatened southern rubber boa were conducted on the Project site in the spring and summer of 2002. Given the negative results of two independent focused survey techniques and the lack of historical records in the immediate vicinity of the Project site, the survey report concluded that this species is not expected to occur on the Project site. Therefore, no impacts to this species are anticipated.

Birds

Project implementation may result in impacts on special status bird species. Two Federally- and/or State-listed Endangered species have potential to occur on the Project site, the American peregrine falcon and bald eagle. One Fully Protected species, the white-tailed kite, has potential to occur on the Project site. In addition, 16 Federal Species of Concern and/or State Species of Special Concern have potential to occur on the Project site and are discussed below.

Bald Eagle. The bald eagle rarely nests in southern California. However, small wintering populations of bald eagle often occur in scattered montane locations in the region. Big Bear Lake supports the largest wintering population of bald eagle in southern California and may include as many as 30 individuals in peak years. The bald eagle was observed using several trees on the project site for perch and roost locations. A records search also demonstrated that some of the most utilized perch and roost trees on the north shore of the lake are located on the project site. Given the limited distribution of wintering populations of bald eagles in southern California, removal of these trees and/or construction of uses in proximity to trees such that there would be a loss of perching or roosting habitat value for wintering bald eagles would be considered a significant impact. Implementation of mitigation measures 5.8-1b and 5.8-1c would reduce impacts to this species. However, impacts would remain significant following implementation of the recommended mitigation measures.

Cooper's Hawk, Northern Goshawk, Sharp-shinned Hawk, Golden Eagle, Long-eared Owl, Ferruginous Hawk, Northern Harrier, White-tailed Kite, Merlin, American Peregrine Falcon, Osprey, Prairie Falcon, and California Spotted Owl. Project implementation would reduce the amount of foraging habitat for these species. This impact would contribute to the cumulative loss of foraging habitat for these raptor species. However, the loss of potential foraging habitat for these species would be considered adverse, but less than significant due to the limited amount of habitat loss relative to the availability of foraging habitat for these species in the San Bernardino Mountains and National Forest.

The Cooper's hawk, long-eared owl, white-tailed kite, and California spotted owl also have potential to nest on the project site. If an active raptor nest (common or special status species) were found on the project site, the loss of the nest would be considered a violation of the California Fish and Game Code Sections 3503, 3503.5, and 3513. The loss of any active raptor nest occurring on the project site would be considered significant. The potential impact on these species would be reduced to a less than significant level with the implementation of mitigation measure 5.8-1d.

Black Swift, Yellow Warbler, Hepatic Tanager, Purple Martin, and Gray Vireo. Project implementation would reduce the amount of foraging habitat for these species. In addition, the hepatic tanager and purple martin have potential to nest on the project site and implementation of the project may impact active nests. The loss of potential habitat for these species would be considered adverse, but less than significant due to the limited amount of habitat loss relative to the availability of habitat for these species in the San Bernardino Mountains and National Forest. However, impacts to individual nests would result in a violation of the MBTA and would be considered a significant impact. However, implementation of mitigation measure 5.8-1e would reduce impacts to a less than significant level.

Mammals

Project implementation may result in impacts on special status mammal species. No Federally- and/or State-listed species have potential to occur on the Project site. However, 11 Federal Species of Concern and/or State Species of Special Concern have potential to occur on the Project site and are discussed below.

Pallid Bat, Spotted Bat, California Mastiff Bat, Small-Footed Myotis, Long-Eared Myotis, Occult Little Brown Bat, Fringed Myotis, Long-Legged Myotis, Yuma Myotis, and Pacific Western Big-Eared Bat

The proposed Project provides suitable foraging habitat for these bat species. Project implementation would reduce the amount of foraging habitat for these species. The pallid bat, small-footed myotis, long-eared myotis, Occult little brown bat, fringed myotis, long-legged myotis, and Yuma myotis, also have potential to roost on the Project site. This impact would contribute to the cumulative loss of foraging and roosting habitat for these bat species. However, the loss of potential habitat for these species would be considered adverse, but less than significant, due to the limited amount of habitat loss relative to the availability of foraging and roosting habitat for these species in the San Bernardino Mountains and National Forest.

San Bernardino Mountain Flying Squirrel. The Project site provides suitable foraging and breeding habitat for this species. Project implementation would impact habitat for this species. However, the loss of potential habitat would be considered adverse, but less than significant, due to the limited amount of habitat loss relative to the availability of habitat for this species in the San Bernardino Mountains and National Forest.

SENSITIVE NATURAL COMMUNITIES/HABITATS

5.8-2 *The proposed Project would impact portions of the Project site that are habitat for referenced sensitive species. Implementation of recommended mitigation measures would reduce impacts to a less than significant level.*

DIRECT IMPACTS

Flora and Vegetation Type Impacts

A total of 61.87 acres of native and non-native vegetation types, including developed areas, would be impacted by the proposed Project. These areas are discussed below, summarized in Table 5.8-4 and illustrated on Exhibit 5.8-2.

Jeffrey Pine Forest

A total of 54.91 acres of Jeffrey pine forest, including 17.38 acres of open Jeffrey pine forest, would be impacted by Project implementation. Approximately 58,526 acres of Jeffrey pine forest occurs in the San Bernardino National Forest and 141,604 acres in the Cleveland, San Bernardino, Angeles and Los Padres National Forests collectively. Impacts on this vegetation type would be considered less than significant since this vegetation type is common throughout the San Bernardino Mountains and other mountain ranges in the region.

Lake Shoreline

A total of 4.14 acres of lake shoreline would be impacted by Project implementation. Man-made lakes are essentially distinct ecosystems, with an aquatic fauna and flora that bears little resemblance to what naturally occurs in the streams that formed them. Impacts on this vegetation type would be considered less than significant since Big Bear Lake is a man-made reservoir created by the construction of Bear Valley Dam. Montane meadow habitat may occur within the lake shoreline vegetation type. Impacts to montane meadow are discussed above under *Special Status Biological Resources Impacts*.

Pebble Plains

A total of 0.69 acre of pebble plain habitat would be impacted by Project implementation. Impacts to pebble plain habitat are discussed above under *Special Status Biological Resources Impacts*.

Developed

A total of 2.82 acres of disturbed vegetation in developed areas would be impacted by Project implementation. Impacts on this vegetation type would not be considered significant since this vegetation type is considered to have a low biological value.

WILDLIFE IMPACTS/INDIRECT IMPACTS

Wildlife Impacts

To assess impacts on wildlife, the total impact on a given vegetation type that provides habitat for wildlife was evaluated. Exhibit 5.8-3, *Biological Resources - Project Impacts*, illustrates the vegetation types (i.e., wildlife habitat) that would be impacted as a result of Project implementation. The following discussion of wildlife impacts focuses on the common species occurring on the Project site. Impacts on special status wildlife species are addressed above under *Special Status Biological Resources Impacts*.

Source: BonTerra Consulting, July 2003.

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General Habitat Loss, Wildlife Loss, Wildlife Movement, and Habitat Fragmentation. Construction of the proposed Project would result in the loss of approximately 60 acres of native habitats that provide nesting, foraging, roosting, and denning opportunities for a wide variety of wildlife species. Removing or altering habitats on the Project site would result in the loss of small mammals, reptiles, amphibians, and other animals of slow mobility that live in the proposed Project's direct impact area. More mobile wildlife species now using the Project site would be forced into remaining areas of open space, consequently increasing competition for available resources in those areas. This situation would result in the loss of individuals that cannot successfully compete. However, direct impacts on the Project site would be considered less than significant because they would not significantly reduce wildlife populations in the region.

Construction of the proposed Project would further fragment existing wildlife habitat on and adjacent to the Project site. Both common and special status amphibian, reptile, and small mammal species populations on and in the vicinity of the Project site would have reduced opportunities for genetic exchange. Birds and larger mammal species, which are capable of crossing larger areas of inhospitable habitat, would be affected to a lesser extent. Specifically, Project implementation would displace many individuals of a wide range of species that currently use the site into native and non-native habitats that would be retained in the: 1) open space within the Project site; and 2) remaining areas of open space in the vicinity of the Project site. In addition, appropriate habitat for some species may not be available on the Project site after construction. As a result, some species may be extirpated from the Project site.

The loss of habitat, loss of wildlife, wildlife displacement, and habitat fragmentation that would result from construction of the proposed Project would not be considered significant because these impacts would not substantially diminish habitat for wildlife in the region nor reduce any specific wildlife populations in the region to below self-sustaining numbers.

INDIRECT IMPACTS

Indirect impacts are those related to disturbance by construction (such as noise, dust, and urban pollutants) and long-term use of the Project site and its effect on the adjacent habitat areas. The indirect impact discussion below includes a general assessment of the potential indirect affects (noise, dust and urban pollutants, lighting, human activity, and non-native species introduction), of the construction and operation of the proposed Project. Particular focus is placed on the indirect effects on the natural open space area on the Project site collectively referred to as edge effects.

Edge effects occur where development, including roads, takes place adjacent to natural open space areas. Edge effects threaten the ecological integrity, recreational experience, aesthetic quality, public investment, and safety operations of preserved or undeveloped natural areas located adjacent to developed areas. When development is configured in a manner that creates a high ratio of development edge to natural open space, there is an increase in the potential impacts caused by human

use (indirect impacts). These indirect effects that address both the short-term construction and long-term use of the Project site are outlined below.

Noise Impacts

Noise levels on the Project site would increase over present levels during and upon completion of construction of the proposed Project. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities for a variety of wildlife species. Upon completion of construction, noise levels on the Project site would increase as a result of increased human activity associated with residential uses. Both short and long-term noise impacts could potentially disrupt the foraging and roosting potential of the site for the bald eagle. Any interruption of the foraging and/or roosting behavior of the bald eagle would be considered a significant impact.

Short-term construction noise impacts on the bald eagle could be avoided by prohibiting grading and construction activities when wintering populations are present (between November and March). However, given restrictions on construction resulting from mitigation for direct impacts (i.e., 5.8-1d and 5.8-1e) construction activities would be limited strictly to the month of October. Consequently, no feasible mitigation could be determined at this time. Therefore, both short- and long-term residential noise impacts on the bald eagle would be considered an unavoidable significant impact of the proposed project.

Increased Dust and Urban Pollutants

Grading activities would disturb soils and result in the accumulation of dust on the surface of the leaves of trees, shrubs, and herbs in the natural open space areas adjacent to the Project site. The respiratory function of the plants in these areas would be impaired when dust accumulation is excessive. These impacts are considered adverse, though less than significant.

Additional impacts on biological resources in the area may occur as a result of changes in water quality. Urban runoff from the proposed Project containing petroleum residues and the potential for improper disposal of petroleum and chemical products from construction equipment (temporary) or infrastructure areas (i.e., vehicles, improper disposal of chemicals) (permanent) could affect water quality on-site and off-site, including Big Bear Lake. This, in turn, could affect populations of aquatic species. Water quality could also be affected by runoff of nutrients from landscape features of the proposed Project. Mitigation would require that the applicant apply for coverage under the State Water Resources Control Board's General Permit for Storm Water Discharge Associated with Construction Activity and comply with all of the provisions of the permit, including the development of a Storm Water Pollution Prevention Plan (which includes provisions for the implementation of Best Management Practices and erosion control measures).

Night Lighting

Lighting of the residential units would inadvertently result in an indirect effect on the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk)

wildlife that are present along the boundaries of the natural areas of the project site. Of particular concern is the effect on small ground-dwelling animals that use the darkness to hide from predators, and on owls, which are specialized night foragers. In addition, the increase in night lighting could discourage nesting and roosting along the lake shore. Most notably, lighting associated with the proposed project could disrupt roosting behavior of the bald eagle on the project site. This increased lighting, in conjunction with the increased noise and habitat loss, would be considered potentially significant. Implementation of mitigation measures 5.8-2a and 5.8-2b would reduce this impact to a less than significant level.

Human Activity

The increase in human activity (i.e., noise, foot traffic) would increase the disturbance of natural open space adjacent to the project site. Human disturbance could disrupt normal foraging and breeding behavior of wildlife remaining in adjacent areas, diminishing the value of these open space habitat areas. Most notably, residential activity associated with the proposed project could disrupt foraging and roosting behavior of the bald eagle on the project site. Implementation of mitigation measures 5.8-2a, 5.8-2b and 5.8-2c would reduce impacts to less than significant levels.

Non-Native Species Introduction

The native habitat types within the natural open space areas adjacent to the project site would be subject to greater pressure from non-native plant species within the developed portions of the project site. Areas that have undergone disturbance generally contain a high number of non-native grasses and forbs that can successfully out-compete the native plants in the region. This will be especially true after initial project grading of the project site. Should non-native plants establish themselves in these areas prior to the establishment of native plant species or non-native/non-invasive plant species in the landscape areas, the non-natives may become invasive in the natural open space areas. Left uncontrolled, these “weeds” may begin encroaching into the adjacent natural areas. These impacts could become significant if uncontrolled. Implementation of mitigation measure 5.8-2d would reduce impacts to a less than significant level.

JURISDICTIONAL WATERS

5.8-3 *Development of the proposed Project has the potential to impact jurisdictional waters. Analysis has concluded that potentially significant impacts would be reduced to a less than significant level through implementation of the recommended mitigation measures.*

Any development proposal that involves impacting the drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits from the Corps, the RWQCB, and the CDFG before any development could commence on the Project site. Both permanent and temporary impacts are regulated and would trigger the need for permits. Processing of the RWQCB 401 and CDFG 1602 agreement can occur concurrently with the

Corps 404 permit process and can utilize the same information and analysis. The Corps will not issue its authorization until the RWQCB completes the Section 401 Water Quality Certification. Applications to both the RWQCB and the CDFG require submittal of a valid California Environmental Quality Act (CEQA) document along with the application.

Mitigation may be required by the regulatory agencies during the permit process. Compensatory mitigation for the loss of jurisdictional function and values is a fundamental component of the applicant regulatory programs. Mitigation can take several forms. It can consist of (1) avoidance or minimization of impacts, (2) compensation in the form or habitat creation, restoration and enhancement, or (3) compensation through participation in a mitigation bank. The first type of mitigation is preferred by the agencies. For any project that impacts jurisdictional areas, it is also preferred by the agencies that compensation through the creation of habitat be performed on-site and in-kind (i.e., riparian woodland for riparian woodland). Conceptual mitigation will be discussed during the Pre-Application Field Meeting with the regulatory agencies. However, the exact requirements of any special permit conditions and mitigation established for this project would be dictated by the regulatory agencies following the review of the formally submitted project applications.

WATERS OF THE U.S. (WETLAND) DETERMINATION

As previously noted, in order to be considered a wetland, an area must exhibit all three of the wetland parameters (i.e., vegetation, soil and hydrology) per the evaluation criteria in the Wetland Delineation Manual. Based on the results of the field investigations, it was determined that not all three parameters were present within the drainages (hydric soils nor riparian vegetation were present). As a result, no Corps wetlands were identified on the Project site and no impacts would occur in this regard.

WATERS OF THE U.S. (NON-WETLAND) DETERMINATION

Based on the results of the field observations and data collection, RBF identified 0.15-acre of Corps jurisdictional “waters of the U.S.” within the proposed Project site. The drainages are ephemeral; Big Bear Lake, although not included in the acreage calculation, is also considered jurisdictional by the Corps. Utilizing the most current development plans, it was determined that the proposed improvements would impact approximately 0.24-acre of Corps jurisdiction. Discharges include approximately 0.04-acres to ephemeral drainages and approximately 0.20-acres of impact as a result of fill material associated with the proposed marina.

CALIFORNIA DEPARTMENT OF FISH AND GAME (1602) JURISDICTION

Based on the results of the field observations and data collection, RBF identified 0.15-acre of CDFG jurisdictional streambed. Utilizing the most current development plans, it was determined that the proposed improvements would impact 4.38-acres of CDFG jurisdiction (includes streambed, shoreline, and lake impacts) (refer to Exhibit 5.8-2, *Jurisdictional Map)*.

OVERVIEW OF REGULATORY APPROVAL PROCESS

The following is a summary of the various permits, agreements, and certifications required prior to construction activities taking place within the jurisdictional areas.

Army Corps of Engineers

The Corps regulates discharges of dredged fill materials into "waters of the United States" under Section 404 of the Clean Water Act (CWA). Since improvements associated with the proposed Project would result in the discharge of material within the jurisdiction of the Corps, a 404 permit would be required.

California Department of Fish and Game

As noted above, areas within the Project site meet the CDFG's definition as streambed and lakebed. Since improvements associated with the proposed project would impact CDFG Jurisdiction, a 1602 Streambed Alteration Agreement (SAA) must be obtained prior to construction. A processing fee and CEQA compliance is necessary in order for the Agreement to be issued.

Regional Water Quality Control Board

The RWQCB requires that a CEQA compliance certification be obtained before starting the RWQCB process. Processing time should not exceed 60 days following submission of a complete application (determination of what constitutes a complete application is made by the RWQCB). Additionally, the RWQCB requires that water quality concerns related to urban storm water runoff be addressed. Any 401 Certification application submitted to the RWQCB should incorporate the use of Best Management Practices (BMPs) for the treatment of pollutants carried by storm water runoff in order to be considered a complete application. For the 404 permit to be approved, a 401 water certification would be required. A fee is required as part of the application submittal. Also refer to Section 5.11, *Hydrology and Drainage.*

Implementation of the recommended mitigation measure (Mitigation Measure 5.3-8a) regarding a 3:1 replacement-to-impact ratio for all unavoidable impacts to jurisdictional areas would an ensure that significant impacts to jurisdictional waters are reduced to a less than significant level. Compliance with the regulatory process (i.e., 404 permit, CDFG agreement, 401 certification) would ensure the enforcement and implementation of the recommended mitigation measure. It is also noted that additional mitigation requirements may be required through the permitting process depending on the quality of habitat impacted, project design and other factors.

WILDLIFE MOVEMENT

5.8-4 *Project implementation may interfere with the movement of a native resident or migratory wildlife species. Analysis has concluded that impacts are less than significant.*

The development of the project site would not impact wildlife corridors, by definition, but may affect local travel routes. Construction of the residential areas and

realignment of Highway 38 would result in reduced connectivity between Big Bear Lake as a water source to the contiguous open spaces on and to the north of the project site. Additionally, construction of the proposed project would result in increased traffic on the project site by residents that would further impede movement of terrestrial wildlife currently crossing the site and Highway 38. Although this impact is considered locally adverse, it is not considered significant because the impact does not substantially affect a regionally important wildlife movement corridor.

REGIONAL AND LOCAL POLICIES/PLANS

5.8-5 *Project implementation would not conflict with adopted regional and/or local policies/plans pertaining to biological resources. Analysis has concluded that impacts are less than significant.*

ON-GOING REGIONAL AND LOCAL HABITAT CONSERVATION PROGRAMS

San Bernardino Valley Multi-Species Habitat Conservation Plan (MSHCP)

The Project site is not encompassed by the draft MSHCP and is not subject to its policies and provisions. Therefore, no conflicts with the policies of the MSHCP are anticipated.

County of San Bernardino General Plan

The project site is located in unincorporated San Bernardino County and is subject to the provisions and policies of the County of San Bernardino General Plan. The General Plan contains a list of species considered Rare, Threatened, or Endangered by the County. Projects potentially impacting County-listed species must prepare an EIR to determine the significance of impacts on these species. Two plant species identified within the General Plan, Parish's checkerbloom and bird's foot checkerbloom, have the potential to occur on the project site. Presence or absence of these species could not be determined on the project site during the 2002 botanical surveys due to a low rainfall year. Therefore, impacts on these species were assessed according to the presence of suitable habitat. Implementation of mitigation measure 5.8-1a would determine specific population impacts and reduce impacts to these species to less than significant levels.

County of San Bernardino Biotic Resources Overlay District

The intent of the BR Overlay District is to require the preparation of a biological technical report for projects within the BR Overlay District identifying impacts to biological resources and mitigation measures designed to reduce or eliminate Project-related impacts. This biological technical report is intended to satisfy the requirements of the BR Overlay District.

Plant Protection and Management Ordinance – County of San Bernardino Development Code

Title 8, Division 9 of the San Bernardino County Development Code contains policies and requirements applicable to the project site including Section 89.0110(a), 89.0115(c), and 89.0205.

Section 89.0110(b) states that the provisions of this Division shall not authorize the removal of perch trees within identified American Bald eagle habitat. Implementation of mitigation measures 5.8-1a and 5.8-1b would ensure the project's compliance with this section.

Section 89.0115(c) requires that the County "may require certification from an appropriate tree expert or native plant expert that such tree removals are appropriate, supportive of a healthy environment and are in compliance with the provisions of this chapter". The Forester's Report and the Botanical Survey Letter Report are intended to satisfy the requirements of this section (refer to Appendix 15.6, *Biological Resources Information,* of the Draft EIR). The County shall make a determination based on the evidence presented herein and in the Forester's Report as to the significance of the proposed Project impacts to native plants and compliance with the provisions of Division 9 of the County Development Code.

The intent of Section 89.0205 is to treat coniferous tree species such that they don't present a risk of fire, and spread tree insect pests and infection. Compliance with this Section would be enforced by the County standard conditions and requirements during construction of the proposed Project. Implementation of standard condition of approval 3 (SCA-3) would reduce impacts to less than significant levels.

Migratory Bird Treaty Act (MBTA)

Implementation of the proposed project may impact the nests of species covered by the MBTA, including the Cooper's hawk, purple martin, and hepatic tanager. However, implementation of mitigation measures 5.8-1d and 5.8-1e would reduce impacts to these species to a less than significant level.

CUMULATIVE

5.8-6 *Cumulative development in the Project area may impact the area's biological resources. Analysis has concluded that project implementation incrementally adding to impacts on bald eagle habitat in the Big Bear Valley would result in a significant and unavoidable cumulative impact to the wintering bald eagle population on Big Bear Lake.*

The proposed project contains some of the most utilized bald eagle roosting and perching habitat in the Big Bear Valley. Construction of the proposed project would diminish the habitat value of the project site for the species. When viewed in conjunction with other past, present, and reasonably foreseeable developments planned for the Fawnskin/Big Bear Lake area, the loss of bald eagle perch and roosting trees on the project site would significantly impact bald eagle habitat on the north shore of Big Bear Lake. Thus, cumulative impacts to the bald eagle are considered significant. Mitigation measures reflective of recommendations developed by scientific studies in the Big Bear Valley, including Kimball Garrett's study on the effects of human activity on wintering bald eagles (1981), are provided as part of the proposed project. However, implementation of these mitigation measures would not reduce direct or cumulative impacts to bald eagle habitat to a level considered less than significant.

The loss of Jeffrey pine forest, pebble plain habitat and other native vegetation, as well as the loss of wildlife habitat could be considered a negative cumulative effect. However, with implementation of the recommended mitigation measures cumulative impacts to the Jeffrey pine trees would be mitigated to a less than significant level. Additionally, implementation of the recommended mitigation measures would reduce impacts to 0.69 acre of pebble plain habitat to a less than significant level.

Potential impacts would be site specific and an evaluation of potential impacts would be conducted on a project-by-project basis. This would be especially true of those developments located in areas that contain sensitive species and habitat. Each incremental development would be required to comply with all applicable County, State and Federal regulations concerning the preservation of biological resources. Concerning biological resources, a less than significant cumulative impact would occur with regard to all biological resources, except those to the wintering bald eagle populations on Big Bear Lake, which would be considered a significant and unavoidable cumulative impact.

MITIGATION MEASURES

Potential impacts to Biological Resources from Project implementation would be addressed through a two-category mitigation program consisting of Standard Conditions of Approval and mitigation measures. The Standard Conditions of Approval are addressed in the impact discussions above. The mitigation measures within each category are described below.

SPECIAL STATUS BIOLOGICAL RESOURCES

SPECIAL STATUS PLANTS AND VEGETION TYPES

5.8-1a Prior to vegetation clearing, grading, or other disturbance, the project site shall be surveyed during a year with precipitation at least 40 percent of average for the area to determine presence or absence of special status plant species and vegetation types. Surveys shall focus on special status vegetation types, and Threatened or Endangered, and CNPS List 1B and 2 species whose presence could not be determined during surveys due to lack of rainfall. The location and extent of special status species populations shall be mapped and the size of the populations accurately documented. Pebble plain habitat acreages will be recalculated following the survey using criteria established by the Habitat Management Guide for Pebble Plain Habitat on the National Forest System (2002).

The project applicant shall pay compensation for the loss of special status botanical resources identified on the project site during the survey by funding the purchase, establishment of a conservation easement, and management of off-site habitat within the conservation easement by an entity approved by the CDFG. Off-site habitat containing the same species as those identified within resources impacted by the proposed project shall be purchased at a ratio of 3:1 (i.e., three acres of habitat purchased for preservation for each acre impacted by development). Prior to the initiation of clearing or grading activities on the project site,

the conservation easement will be established, the management entity will be approved by the CDFG, and a non-wasting endowment will be established for the monitoring and management of the preservation site by the management entity in perpetuity.

If additional surveys during a year with precipitation at least 40 percent of average do not encounter additional special status plant resources, the project applicant is responsible for mitigating impacts to a minimum of 11.8-acres of pebble plain and open Jeffrey pine forest in the western half of the project site that is known to be occupied by the Federally-listed Threatened ash-gray Indian paintbrush. As such, the applicant would be required to fund the purchase and maintenance of 35.4-acres of offsite pebble plain and open Jeffrey pine forest habitat that contains special status plant species, including Ash-gray Indian paintbrush and others known to occur on the site."

SPECIAL STATUS WILDLIFE

5.8-1b Trees identified on Exhibits 3 and 4 of the Bald Eagle Survey Report (Appendix E) as eagle perch locations shall be preserved in place upon project completion and shall not be removed under any circumstance. Any development that may occur within the project site and in the individual lots must avoid impacts to these trees and their root structures. These restrictions on development of the individual tentative tracts must be clearly presented and explained to any potential prospective developers and/or homeowners prior to assumption of title and close of escrow. This measure shall be identified as a Note on the Composite Development Plan.

5.8-1c Prior to vegetation clearing, grading, or other disturbance, the project site shall be surveyed to identify all large trees (i.e., greater than 20-inches in diameter at 4.5 feet from the ground) within 600 feet from the high water line. Trees identified on the project site as having a diameter in excess of 20-inches at four feet from the ground within 600 feet of the shoreline shall be documented and tagged. Any development that may occur within the project site and in the individual lots must avoid impacts to tagged trees and their root structures. These restrictions on development of the individual tentative tracts must be clearly presented and explained to any potential prospective developers and/or homeowners prior to assumption of title and close of escrow. This measure shall be identified as a Note on the Composite Development Plan.

5.8-1d Seven days prior to the onset of construction activities, a qualified biologist shall survey within the limits of project disturbance for the presence of any active raptor nests. Any nest found during survey efforts shall be mapped on the construction plans. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the CDFG.

If nesting activity is present at any raptor nest site, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for raptors in the region of the project site normally occurs from February 1 to June 30. To protect any nest site, the following restrictions on construction are required between February 1 and June 30 (or until nests are no longer active as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 300 feet in any direction from any occupied nest and (2) access and surveying shall not be allowed within 200 feet of any occupied nest. Any encroachment into the 300/200 foot buffer area around the known nest shall only be allowed if it is determined by a qualified biologist that the proposed activity shall not disturb the nest occupants. Construction during the nesting season can occur only at the sites if a qualified biologist has determined that fledglings have left the nest.

5.8-1e Vegetation removal, clearing, and grading on the project site shall be performed outside of the breeding and nesting season (between March and September) to minimize the effects of these activities on breeding activities of migratory birds and other species.

5.8-1f The use of the boat dock for motorized boating shall be prohibited between the dates of December 1 and April 1. No motorized boats shall be allowed to launch or moor in the vicinity of the boat dock at any time during this period. This restriction shall be clearly displayed on signage at the entrance to the parking lot and on the boat dock visible from both land and water. This requirement shall also be published in the Homeowner's Association CC&Rs.

SENSITIVE NATURAL COMMUNITIES/HABITATS

WILDLIFE IMPACTS/INDIRECT IMPACTS

5.8-2a Street lamps on the project site shall not exceed 20 feet in height, shall be fully shielded to focus light onto the street surface and shall avoid any lighting spillover onto adjacent open space or properties. Furthermore, street lights shall utilize low color temperature lighting (e.g., red or orange).

5.8-2b Outdoor lighting for proposed homes on the individual tentative tracts shall not exceed 1,000 lumens. Furthermore, residential outdoor lighting shall not exceed 20 feet in height and must be shielded and focused downward to avoid lighting spillover onto adjacent open space or properties. These restrictions on outdoor lighting of the individual tentative tracts must be clearly presented and explained to any potential prospective developers and/or homeowners prior to assumption of title and close of escrow. This requirement shall also be published in the Homeowner's Association CC&Rs.

5.8-2c To limit the amount of human disturbance on adjacent natural open space areas, signs shall be posted along the northeastern and eastern perimeter of the project site where the property boundary abuts open space with the following statement: "Sensitive plant and wildlife habitat. Please use designated trails and keep pets on a leash at all times."

In addition, a requirement stating that residents shall keep out of adjacent open space areas to the north with the exception of designated trails will be published in the Homeowner Association CC&Rs and a map of designated hiking trails will be provided to all residents.

5.8-2d Prior to the issuance of individual building permits, landscaping designs shall be submitted to the County of San Bernardino for review and approval by a qualified biologist. The review shall determine that no invasive, exotic plant species are to be used in the proposed landscaping. The biologist should suggest appropriate substitutes.

5.8-2e Garages with automatic door openers shall be required. No exterior construction activities (including and not limited to grading, vegetation clearing, etc) shall be permitted between December 1 and April 1, when bald eagles are present.

Also refer to mitigation measures 5.8-1a to 5.8-1f.

JURISDICTIONAL WATERS

5.8-3 Per the direction of the California Department of Fish and Game, all unavoidable impacts to State and Federal jurisdictional lakes, streams, and associated habitat shall be compensated for with the creation and/or restoration of in-kind habitat on-site and off-site at a minimum 3:1 replacement-to-impact ratio. Additional requirements through the permitting process may be required depending on the quality of habitat impacted, project design and other factors.

WILDLIFE MOVEMENT

5.8-4 No mitigation measures are recommended.

REGIONAL AND LOCAL POLICIES/PLANS

5.8-5 No mitigation measures are recommended.

CUMULATIVE

5.8-6 No mitigation measures are recommended.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Significant and unavoidable impacts related to Biological Resources have been identified for impacts to Bald Eagle populations. If the County of San Bernardino

approves the project, the County shall be required to cite their findings in accordance with Section 15091 of CEQA and prepare a Statement of Overriding Considerations in accordance with section 15093 of CEQA.

No additional significant impacts related to Biological Resources have been identified following implementation of mitigation measures and/or compliance with applicable standards, requirements and/or policies by the County of San Bernardino.