

APPENDIX B-1

BIOLOGICAL CONSTRAINTS LETTER REPORT

June 20, 2011

Mr. Ramil Parial
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VIA EMAIL AND U.S. MAIL
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Subject: Biological Constraints Survey for the Big Tujunga Dam and Reservoir Post-Fire Sediment Removal Project in Los Angeles County, California

Dear Mr. Parial:

This Letter Report presents the findings of a biological constraints survey for the Big Tujunga Dam and Reservoir Post-Fire Sediment Removal Project in unincorporated Los Angeles County, California. The study area for this survey consists of the proposed sediment removal area within the reservoir, the haul route downstream of Big Tujunga Dam, and the proposed fill areas within the existing Maple Canyon Sediment Placement Site (SPS) with a 100-foot buffer around these areas (Exhibit 1). Project limits were provided by the Los Angeles County Department of Public Works (LACDPW). The purpose of the survey was to evaluate existing biological resources and determine the potential for the occurrence of special status plant and wildlife species or other sensitive biological resources.

PROJECT DESCRIPTION AND LOCATION

The proposed project involves the dewatering of the Big Tujunga Reservoir and the removal of sediment to the nearby Maple Canyon SPS. Sediment from the reservoir will be placed on top of 10 acres of previously filled area and 22 previously undisturbed acres within the SPS. A maximum of 4,400,000 cubic yards of sediment would be removed from the reservoir, with excavation to the original cut template at 2,142.5 feet above mean sea level (msl) to achieve its original design capacity.

The study area extends approximately two river miles upstream and one river mile downstream of Big Tujunga Dam in Big Tujunga Canyon and includes Maple Canyon SPS. The study area is located on the southern edge of the San Gabriel Mountains, within the Angeles National Forest, and is located on the U.S. Geological Survey (USGS) Condor Peak 7.5-minute topographic quadrangle (Exhibit 2). The topography steeply slopes down into the canyon; elevations range from approximately 2,150 to 3,400 feet above msl. Soils in the study area consist of Trigo, granitic substratum-Modjeska families association (5 to 60 percent slopes), Rock outcrop-Chilao family-Haploxerolls, warm association (15 to 120 percent slopes), Typic Xerorthents, warm (55 to 90 percent slopes), and Olete-Kilburn-Etsel families complex (50 to 80 percent slopes) (Exhibit 3). Surrounding land uses include open space.

The *County of Los Angeles General Plan* designates Significant Ecological Areas (SEAs) as ecologically important or fragile land and water areas valuable as plant and animal communities. The study area is not located within any SEAs.



METHODS

BonTerra Consulting Senior Biologist Sam Stewart and Biologist/Regulatory Technician Allison Rudalevige conducted a general plant and wildlife survey within Maple Canyon SPS and areas downstream of the dam on April 14, 2011. Senior Botanist Robert Allen and Consulting Biologist Dave Bramlet conducted a general plant and wildlife survey upstream of the dam on April 20, 2011. Areas upstream of the dam were assessed with binoculars due to access limitations. The California Native Plant Society's (CNPS') Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2011) and the California Department of Fish and Game's (CDFG's) California Natural Diversity Database (CNDDDB) (CDFG 2011) were reviewed prior to the survey to identify special status plants, wildlife, and habitats known to occur in the vicinity of the proposed project. Database searches included the USGS Sunland, Condor Peak, Chilao Flat, Burbank, Pasadena, and Mount Wilson 7.5-minute quadrangles.

All species observed were recorded in field notes. Plant species were identified in the field or collected for subsequent identification using keys in Hickman (1993) and Munz (1974). Taxonomy follows Hickman (1993) and current scientific data (e.g., scientific journals) for scientific and common names. Nomenclature for vegetation types generally follows that of *The Vegetation Classification and Mapping Program: List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CDFG 2003).

Active searches for reptiles and amphibians included lifting, overturning, and carefully replacing rocks and debris. Birds were identified by visual and auditory recognition. Surveys for mammals were conducted during the day and included searching for and identifying diagnostic signs including scat, footprints, scratch-outs, dust bowls, burrows, and trails. Taxonomy and nomenclature for wildlife generally follows Fisher and Case (1997) for amphibians and reptiles, American Ornithologists Union (1998) for birds, and Baker et al. (2003) for mammals.

SURVEY RESULTS

Vegetation Types

The following vegetation types and land covers were observed in the study area: chaparral (with chamise chaparral, scrub oak chaparral, and mixed chaparral subassociations), California annual grassland, willow riparian forest, coast live oak stands, open water, cliff, and developed. Many of these areas were burned in the 2009 Station Fire but are now recovering. Representative photographs of the study area are provided in Attachment A.

Chaparral

Chaparral vegetation is the most common vegetation type within the study area, occurring along most canyon slopes. This vegetation type is highly variable and has been delineated into various subassociations. The following subassociations were observed in the study area: (1) chamise chaparral; (2) scrub oak chaparral; and (3) mixed chaparral. Chamise chaparral occurs along most of the canyon slopes in the study area. This vegetation type has a relatively open canopy and is dominated by the large shrubs chamise (*Adenostoma fasciculatum*) and thick-leaf yerba santa (*Eriodictyon crassifolium*). Scrub oak chaparral occurs on the north-facing slopes in the Maple Canyon SPS. This vegetation type is dominated by scrub oak (*Quercus berberidifolia*) that was previously burned and is currently regrowing. The understory includes species such as California poppy (*Eschscholzia californica*), ripgut brome (*Bromus diandrus*), and foxtail chess (*Bromus madritensis* ssp. *rubens*). Mixed chaparral occurs on canyon slopes throughout the study area. These areas contain a mix of chaparral species and vegetative cover is sparser than in the chamise chaparral with more exposed rock and bare ground present. Most

of the slopes on which this vegetation type is found burned during the Station Fire and shrubs and trees are commonly sprouting from the base. This vegetation type is expected to be impacted during sediment placement activities within Maple Canyon.

California Annual Grassland

California annual grassland occurs between the switchbacks of the access roads near the entrance to the dam facilities and the Maple Canyon SPS. This area has been previously used to deposit sediment from the reservoir. This vegetation type is dominated by a variety of non-native grasses including ripgut brome, foxtail chess, and wild oat (*Avena* sp.). Some scattered California poppy, Spanish broom (*Spartium junceum*), scrub oak, and pine (*Pinus* sp.) are also present. It is difficult to assess the extent to which this vegetation type burned during the Station Fire as annual grasses resprout very quickly after fire. This vegetation type is expected to be impacted during sediment placement activities within Maple Canyon.

Disturbed Freshwater Seep

Disturbed freshwater seep occurs downstream of Big Tujunga Reservoir on the slope north of the canyon bottom. While there is an underlying native component of species such as chamise, thick-leaf yerba santa, cryptantha (*Cryptantha* sp.), and deerweed (*Acmispon glaber* [*Lotus scoparius*]), the area contains a large proportion of non-native species such as Mediterranean schismus (*Schismus barbatus*), fescue (*Festuca* sp. [*Vulpia* sp.]), foxtail chess, ripgut brome, wild oat, red-stemmed filaree (*Erodium cicutarium*), and tree tobacco (*Nicotiana glauca*). The extent to which this vegetation type burned during the Station Fire was difficult to determine during the field survey. No impacts are expected to this vegetation type as it is outside of the proposed excavation limits.

Willow Riparian Forest

Willow riparian forest occurs at the canyon bottom downstream of the dam. This vegetation type is dominated by a mix of arroyo willow (*Salix lasiolepis*) and Goodding's black willow (*Salix gooddingii*) with an understory containing tree tobacco, ripgut brome, and chaparral nightshade (*Solanum xanti*). A few scattered white alder (*Alnus rhombifolia*) and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) are also present. This vegetation type burned during the Station Fire and willow trees are re-sprouting from the base. No impacts are expected to this vegetation type as it is outside of the proposed excavation limits.

Coast Live Oak Stands

A few stands of coast live oak individuals occur in the study area. The stand along the access road between the Maple Canyon SPS and the remainder of the study area has an understory of chamise, yerba santa, Our Lord's candle (*Yucca whipplei*), black sage (*Salvia mellifera*), deerweed, and chaparral nightshade. The stand along the access road downstream of the dam contains a sparse understory of non-native grasses with much bare ground. No significant fire damage to oak trees was noted during the field survey. Vegetation along the proposed haul route is not expected to be impacted. Therefore no impacts are expected to this vegetation type.

Open Water

Open water occurs upstream of Big Tujunga Dam within the reservoir. Water levels were high at the time of the survey and made much of the canyon upstream of the dam inaccessible. Open water downstream of the dam that was flowing through the willow riparian forest is not included

in this category because of the willow canopy and relatively limited extent of open water. The open water category is expected to disappear as the reservoir is dewatered prior to the initiation of project activities. The sediment below this category will be removed from the reservoir area to restore its original capacity.

Cliff

Cliff faces occur on the steep slopes throughout the study area. These areas are rocky and largely unvegetated. No impacts are expected to this vegetation type as it occurs outside of the proposed sediment excavation limits.

Ornamental

Ornamental plantings along the existing roads include common oleander (*Nerium oleander*), gum (*Eucalyptus* sp.), pine, and coast live oak. Vegetation along the proposed haul route is not expected to be impacted. Therefore no impacts are expected to this vegetation type.

Developed

Developed areas occur throughout the lower portion of the study area. This consists of the dam facilities, access roads, debris piles, concrete canyon walls, and riprap.

Additionally, tributaries at the upper end of the Maple Canyon SPS contain small areas of burned riparian herb, sycamore woodland, and willow riparian scrub; however, these areas are just beginning to resprout and therefore are not separated into individual vegetation types. These areas will be reassessed during the project's jurisdictional delineation to determine if they are under the jurisdiction of the resource agencies.

Special Status Vegetation Types

Willow riparian forest is the only vegetation type observed within the study area that would be considered special status by the resource agencies. Because this vegetation type is associated with a streambed feature, a permit from the CDFG would be required prior to disturbing or removing it. Impacts to this vegetation type may also be considered significant under the California Environmental Quality Act (CEQA), and mitigation may be required.

Additionally, while the coast live oak stands within the study area may not warrant mitigation as a vegetation type (due to their scattered distribution and overall limited acreage), removal of these trees may be subject to regulation by the U.S. Forest Service and/or the County of Los Angeles Oak Tree Ordinance.

No impacts to either of these vegetation types are anticipated as they are found outside of the project's disturbance limits.

Special Status Plant and Wildlife Species

Plants or wildlife may be considered to have "special status" due to declining populations, vulnerability to habitat change, or restricted distributions. Certain special status species have been listed as Threatened or Endangered under the California and/or Federal Endangered Species Acts.

Special Status Plants

Several special status plant species are known to occur or have historically occurred in the vicinity of the study area. Four of these species are federally and/or State-listed Threatened or Endangered species: Braunton's milk-vetch (*Astragalus brauntonii*), Nevin's barberry (*Berberis nevinii*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), and slender-horned spineflower (*Dodecahema leptoceras*). Mount Gleason paintbrush (*Castilleja gleasonii*) is a State-listed Rare species. Of these species, potentially suitable habitat exists only for Nevin's barberry within the study area. Any impacts to this species, if present, would be considered significant.

In addition to species formally listed by the resource agencies, multiple species reported in the vicinity of the study area are CNPS List 1B and 2 plant species that may be considered constraints on development according to Section 15380 of the California Environmental Quality Act (CEQA). Potentially suitable habitat exists within the study area for slender mariposa lily (*Calochortus clavatus* var. *gracilis*), Plummer's mariposa lily (*Calochortus plummerae*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), California saw-grass (*Cladium californicum*), mesa horkelia (*Horkelia cuneata* ssp. *puberula*), California satintail (*Imperata brevifolia*), Davidson's bush-mallow (*Malacothamnus davidsonii*), California muhly (*Muhlenbergia californica*), white rabbit-tobacco (*Pseudognaphalium leucocephalum*), Greata's aster (*Symphyotrichum greatae*), San Bernardino aster (*Symphyotrichum defoliatum*), and Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*). Impacts on these species would be considered potentially significant depending on the size of the population, if present, relative to populations in the region.

Several of the species listed above are also listed as sensitive species for the Angeles National Forest by the U.S. Forest Service. These include slender mariposa lily, Plummer's mariposa lily, Parry's spineflower, mesa horkelia, California satintail, San Bernardino aster, and Sonoran maiden fern. One species, fragrant pitcher plant (*Lepechinia fragrans*), is listed as a sensitive species by the U.S. Forest Service (USFS), but is not a CNPS List 1B or 2 species.

CNPS Lists 3 and 4 species are not considered project constraints, and typically impacts on these species are considered less than significant and do not require mitigation. A summary of special status plant species is provided in Table 1.

**TABLE 1
 SPECIAL STATUS PLANT SPECIES
 KNOWN TO OCCUR IN THE PROJECT REGION**

Species	Status ¹				Likelihood for Occurrence
	USFWS	CDFG	CNPS	USFS	
<i>Astragalus brauntonii</i> Braunton's milk-vetch	FE		List 1B	–	Not expected to occur; outside known range
<i>Berberis nevinii</i> Nevin's barberry	FE	CE	List 1B	–	May occur; potentially suitable habitat present
<i>Calochortus clavatus</i> var. <i>gracilis</i> slender mariposa lily	–	–	List 1B	FSS	May occur; potentially suitable habitat present
<i>Calochortus plummerae</i> Plummer's mariposa lily	–	–	List 1B	FSS	May occur; potentially suitable habitat present
<i>Castilleja gleasonii</i> Mount Gleason paintbrush	–	–	List 1B	–	May occur; potentially suitable habitat present
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Bernardino Valley spineflower	FC	CE	List 1B	–	Not expected to occur; outside known range

**TABLE 1 (Continued)
 SPECIAL STATUS PLANT SPECIES
 KNOWN TO OCCUR IN THE PROJECT REGION**

Species	Status ¹				Likelihood for Occurrence
	USFWS	CDFG	CNPS	USFS	
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	–	–	List 1B	FSS	May occur; potentially suitable habitat present
<i>Cladium californicum</i> California saw-grass	–	–	List 2	–	May occur; potentially suitable habitat present
<i>Dodecahema leptoceras</i> slender-horned spineflower	FE	CE	List 1B	–	Not expected to occur; no potentially suitable habitat present
<i>Horkelia cuneata</i> ssp. <i>puberula</i> mesa horkelia	–	–	List 1B	FSS	May occur; potentially suitable habitat present
<i>Imperata brevifolia</i> California satintail	–	–	List 2	FSS	May occur; potentially suitable habitat present
<i>Lepechinia fragrans</i> fragrant pitcher plant	–	–	–	FSS	May occur; potentially suitable habitat present
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	–	–	List 1B	–	May occur; potentially suitable habitat present
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	–	–	List 2	–	May occur; potentially suitable habitat present
<i>Symphotrichum greatae</i> Greata's aster	–	–	List 1B	–	May occur; potentially suitable habitat present
<i>Symphotrichum defoliatum</i> San Bernardino aster	–	–	List 1B	FSS	May occur; potentially suitable habitat present
<i>Thelypteris puberula</i> var. <i>sonorensis</i> Sonoran maiden fern	–	–	List 2	FSS	May occur; potentially suitable habitat present
Status Definitions ¹					
Federal (USFWS)		California Native Plant Society (CNPS)			
FE	Endangered	1A	Plants Presumed Extinct in California		
FT	Threatened	1B	Plants Rare, Threatened, or Endangered in California/Elsewhere		
FC	Candidate	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		
State (CDFG)					
CE	Endangered				
CT	Threatened				

Special Status Wildlife

Several special status wildlife species are known to occur in the vicinity of the study area (CDFG 2011). Three of these species are federally and/or State-listed Threatened or Endangered species with potentially suitable habitat occurring within the study area: Santa Ana sucker (*Catostomus santaanae*), arroyo toad (*Anaxyrus californicus*), and Sierra Madre yellow-legged frog (*Rana muscosa*). Any impacts on these species, if present, would be considered significant. A fourth species, the American peregrine falcon (*Falco peregrinus anatum*), was recently delisted by the U.S. Fish and Wildlife Service (USFWS) and the State, but it is still considered a State Fully Protected species. Impacts on the American peregrine falcon would only be considered significant if they consisted of impacts on nesting birds or loss of individual birds.

In addition to species formally listed by the resource agencies, additional special status species may occur within the study area that may constrain project activities. Potentially suitable habitat for the following species exists within the survey area: silvery legless lizard (*Anniella pulchra pulchra*), pallid bat (*Antrozous pallidus*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), rosy boa (*Charina trivirgata*), black swift (*Cypseloides niger*), western pond turtle (*Emys marmorata*), western mastiff bat (*Eumops perotis californicus*), arroyo chub (*Gila orcuttii*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), western yellow bat (*Lasiurus xanthinus*), San Diego desert woodrat (*Neotoma lepida intermedia*), big free-tailed bat (*Nyctinomops macrotis*), southern grasshopper mouse (*Onychomys torridus ramona*), coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillii*), Santa Ana speckled dace (*Rhinichthys osculus* ssp. 3), coast range newt (*Taricha torosa torosa*), and two-striped garter snake (*Thamnophis hammondi*). Impacts to these species would be considered potentially significant depending on the size of the population, if present, relative to populations in the region. A summary of special status wildlife species known to occur in the project region is provided in Table 2.

**TABLE 2
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN PROJECT REGION**

Species	Status ¹			Likelihood for Occurrence
	USFWS	CDFG	USFS	
Fish				
<i>Catostomus santaanae</i> Santa Ana sucker	FT	CSC	FSS	May occur; potentially suitable habitat present
<i>Gila orcuttii</i> Arroyo chub	FSC	CSC	FSS	May occur; potentially suitable habitat present
<i>Rhinichthys osculus</i> ssp. 3 Santa Ana speckled dace	FSC	CSC	FSS	May occur; potentially suitable habitat present
Amphibians				
<i>Anaxyrus californicus</i> Arroyo southwestern toad	FE	CSC	–	May occur; potentially suitable habitat present
<i>Rana muscosa</i> Sierra Madre yellow-legged frog	FE	CSC	FSS	May occur; potentially suitable habitat present
<i>Taricha torosa torosa</i> Coast Range newt	–	CSC	–	May occur; potentially suitable habitat present
Reptiles				
<i>Anniella pulchra pulchra</i> Silvery legless lizard	–	CSC	FSS	May occur; potentially suitable habitat present
<i>Aspidoscelis tigris stejnegeri</i> Coastal whiptail	–	SA	–	Observed; suitable habitat present
<i>Charina trivirgata</i> Rosy boa	FSC	–	FSS	May occur; potentially suitable habitat present
<i>Emys marmorata</i> Western pond turtle	FSC	CSC	FSS	May occur; potentially suitable habitat present
<i>Phrynosoma blainvillii</i> Coast (San Diego) horned lizard	FSC	CSC	FSS	May occur; potentially suitable habitat present
<i>Thamnophis hammondi</i> Two-striped garter snake	FSC	CSC	FSS	Observed; suitable habitat present
Birds				
<i>Athene cunicularia</i> Burrowing owl	–	CSC	–	Not expected to occur, no suitable habitat present.
<i>Cypseloides niger</i> Black swift	–	CSC	–	May occur; potentially suitable habitat present

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES
KNOWN TO OCCUR IN PROJECT REGION

Species	Status ¹			Likelihood for Occurrence
	USFWS	CDFG	USFS	
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher	FE	SE	FSS	Not expected to occur; no suitable habitat currently within study area due to recent fire
<i>Falco peregrinus</i> Peregrine falcon	-	CFP SCD	FSS	May occur; potentially suitable habitat present
<i>Polioptila californica californica</i> Coastal California gnatcatcher	FT	CSC	FSS	Not expected to occur, no suitable habitat present.
<i>Vireo bellii pusillus</i> Least Bell's vireo	FE	SE	FSS	Not expected to occur, no suitable habitat present, study area above elevational range
Mammals				
<i>Antrozous pallidus</i> Pallid bat	-	CSC	FSS	May occur; potentially suitable foraging habitat present
<i>Eumops perotis californicus</i> Western mastiff bat	-	CSC	-	May occur; potentially suitable foraging and roosting habitat present
<i>Lasiomycteris noctivagans</i> Silver-haired bat	-	SA	-	May occur; potentially suitable foraging and roosting habitat present
<i>Lasiurus cinereus</i> Hoary bat	-	SA	-	May occur; potentially suitable foraging and roosting habitat present
<i>Lasiurus xanthinus</i> Western yellow bat	-	CSC	-	May occur; potentially suitable foraging and roosting habitat present
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	-	CSC	-	Not expected to occur, no suitable habitat present.
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	-	CSC	-	May occur; potentially suitable foraging habitat present
<i>Nyctinomops macrotis</i> Big free-tailed bat	-	CSC	-	May occur; potentially suitable foraging and roosting habitat present
<i>Onychomys torridus ramona</i> Southern grasshopper mouse	-	CSC	-	May occur; potentially suitable habitat present
<i>Taxidea taxus</i> American badger	-	CSC	-	Not expected to occur, no suitable habitat present.
Legend:				
FEDERAL STATUS:		STATE STATUS:		
FE	Federally Listed Endangered	SA	Special Animal	
FT	Federally Listed Threatened	SE	State listed as endangered	
FC	Federal Candidate	ST	State listed as threatened	
FSC	Federal Species of Concern	SR	State listed as rare	
		CSC	California Department of Fish and Game Species of Concern	
		CFP	California Fully Protected	
		SCD	California (State) Candidate for Delisting	
FOREST SERVICE STATUS:				
FSS	Forest Service Sensitive Species			
Note: Scientific and common names for wildlife species follow the most current list of Special Animals (July 2009) available from the California Department of Fish and Game (http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp).				

Other Considerations

Much of the study area contains “Waters of the U.S.” and “Waters of the State” that are under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the State Water Quality Control Board, and the CDFG. A delineation of jurisdictional resources is needed in order to obtain regulatory permits prior to performing any work within these areas.

The Migratory Bird Treaty Act (MBTA) protects the nests of all native bird species, including common species such as mourning dove (*Zenaida macroura*), Anna’s hummingbird (*Calypte anna*), and house finch (*Carpodacus mexicanus*). Nesting birds have potential to occur in vegetation throughout the study area.

BIOLOGICAL CONSTRAINTS AND RECOMMENDATIONS

The following is a list of recommendations to ensure that the project is consistent with regulations protecting biological resources.

1. There is potential for several special status plant species to occur on the project site. Focused surveys to determine the presence/absence of special status plant species are recommended.
2. Potentially suitable habitat exists for three State and/or federally listed wildlife species: Santa Ana sucker, arroyo toad, and Sierra Madre yellow-legged frog. Focused surveys for these species are recommended to determine if they are present within the study area.
3. Potentially suitable habitat exists for several other special status species, including black swift, peregrine falcon, arroyo chub, Santa Ana speckled dace, silvery legless lizard, coastal whiptail, rosy boa, western pond turtle, coast (San Diego) horned lizard, two-striped garter snake, pallid bat, western mastiff bat, silver-haired bat, hoary bat, western yellow bat, big free-tailed bat, San Diego desert woodrat, and southern grasshopper mouse. The possible presence of these species is not a constraint to project activities, though avoidance/minimization measures may be required.
4. A delineation of jurisdictional resources is recommended to initiate the regulatory permitting process.
5. If oak trees will be removed or disturbed, a permit from the County of Los Angeles and/or USFS may be required.
6. Any vegetation removal activities should be planned outside of the nesting season for birds (generally March 15 through September 15) to ensure compliance with the MBTA. Nesting surveys would be needed prior to vegetation removal within the nesting season, and any active nests would require a buffer that may seriously constrain project activities.

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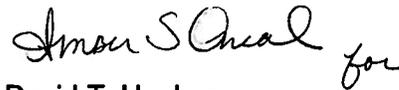
Please contact David Hughes at (626) 351-2000 with any questions related to this report.

Sincerely,

BONTERRA CONSULTING



Ann M. Johnston
Principal, Biological Services



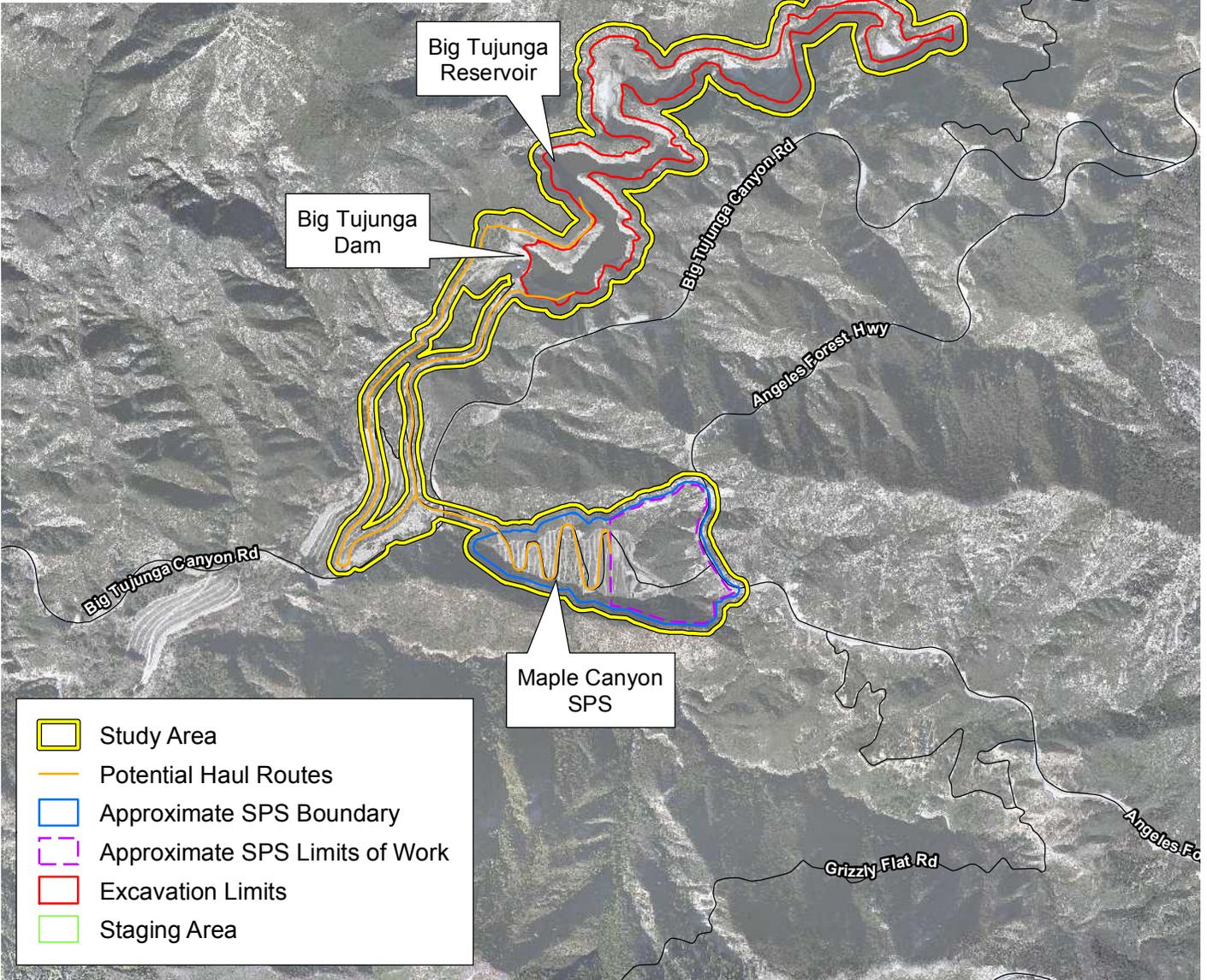
David T. Hughes
Project Manager

Attachment: A – Site Photographs
B – Plant and Wildlife Compendia

cc: Valerie de la Cruz, Water Resources Division
Crystal Franco P.E., Water Resources Division

References

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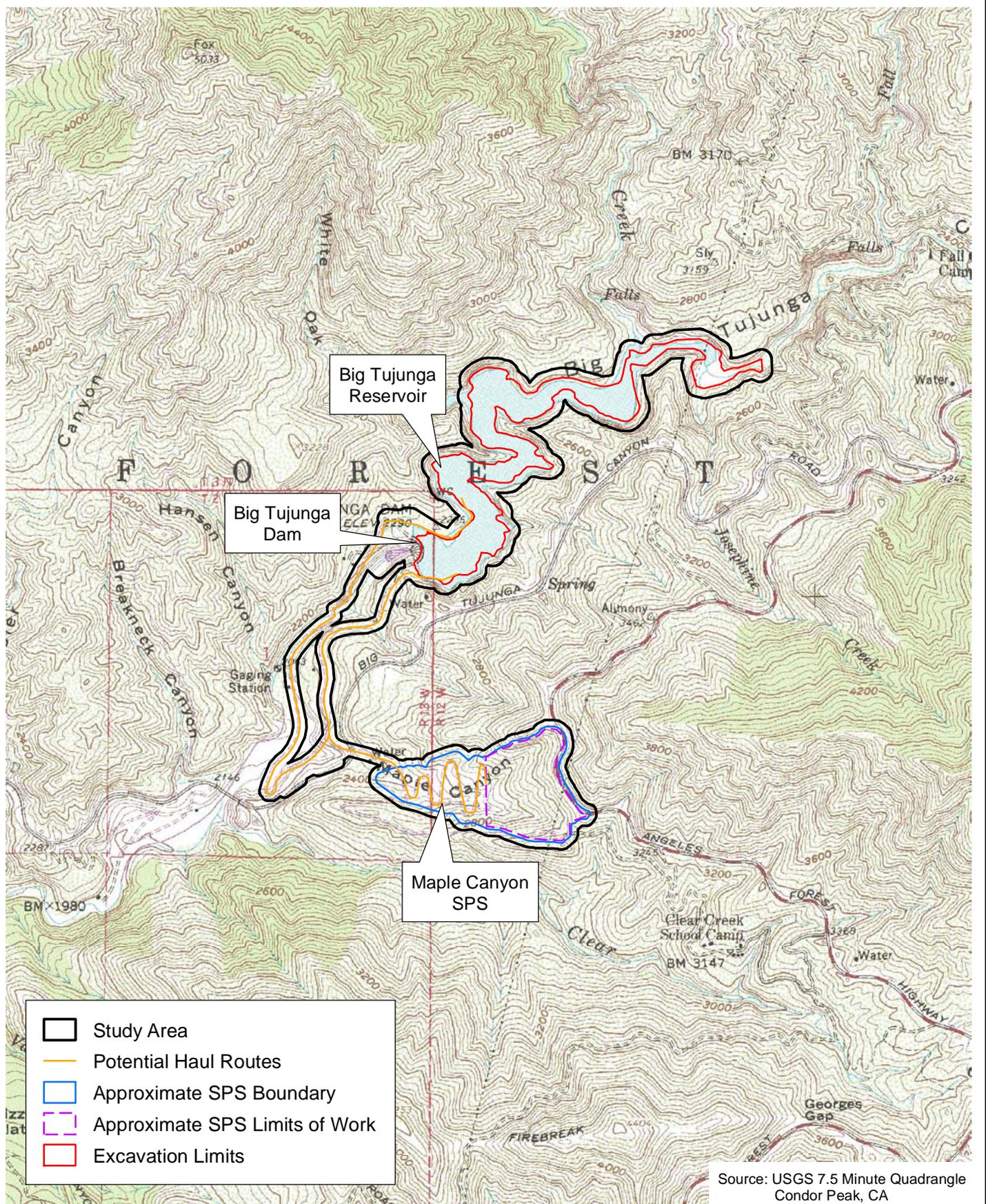
Project Location

Big Tujunga Dam and Reservoir Post-Fire Sediment Removal Project

Exhibit 1



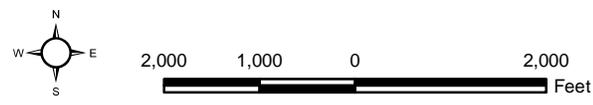
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U.S. Geological Survey 7.5-Minute Quadrangle
Big Tujunga Dam and Reservoir Post-Fire Sediment Removal Project

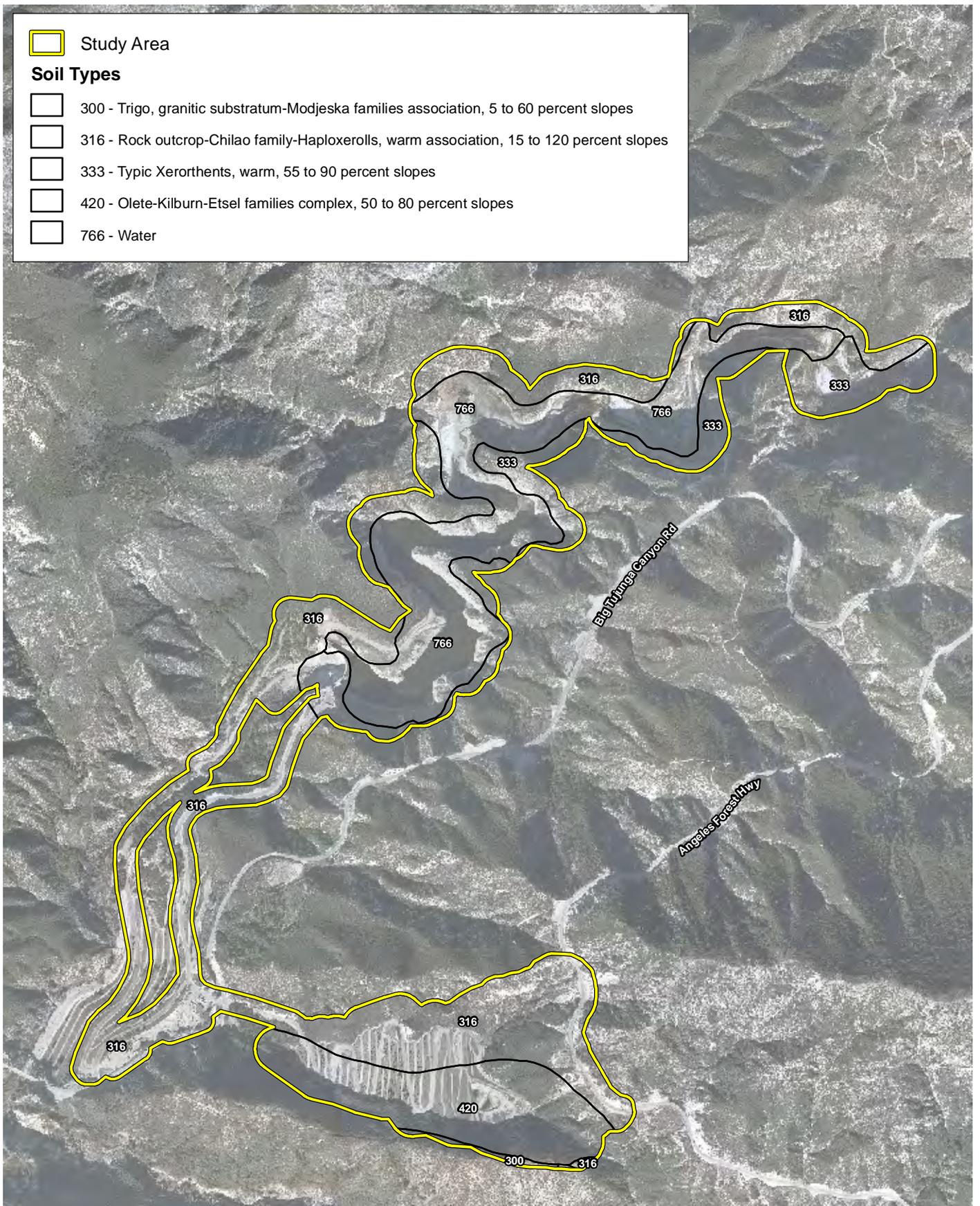
Exhibit 2



 Study Area

Soil Types

-  300 - Trigo, granitic substratum-Modjeska families association, 5 to 60 percent slopes
-  316 - Rock outcrop-Chilao family-Haploxerolls, warm association, 15 to 120 percent slopes
-  333 - Typic Xerorthents, warm, 55 to 90 percent slopes
-  420 - Olete-Kilburn-Etsel families complex, 50 to 80 percent slopes
-  766 - Water

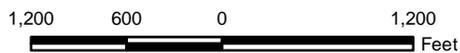


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Soil Types

Big Tujunga Dam and Reservoir Post-Fire Sediment Removal Project

Exhibit 3



ATTACHMENT A
SITE PHOTOGRAPHS



Chamise chaparral vegetation on the slopes near Big Tujunga Dam facing north. Note burn damage to tree at right from Station Fire.



Scrub oak chaparral on the slopes in the Maple Canyon Sediment Placement Site facing east. Note re-sprouting shrubs after Station Fire damage.

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Site Photographs

Attachment A-1

Big Tujunga Dam and Reservoir Post-Fire Sediment Removal Project

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California annual grassland in the Maple Canyon Sediment Placement Site facing north.



Willow riparian forest below Big Tujunga Dam facing north. Willow trees are re-sprouting after being burned by Station Fire.

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Site Photographs

Attachment A-2

Big Tujunga Dam and Reservoir Post-Fire Sediment Removal Project

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CONSULTING

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Pine trees along existing haul route. Note fire damage to trees at left.



Overview of Big Tujunga reservoir.

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Site Photographs

Attachment A-3

Big Tujunga Dam and Reservoir Post-Fire Sediment Removal Project

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ATTACHMENT B
PLANT AND WILDLIFE COMPENDIA

PLANT COMPENDIUM

"The following compendium is based on a reconnaissance-level survey and should be considered preliminary. Comprehensive plant and wildlife compendia will be provided with focused survey reports"

Species	
PTERIDOPHYTES - FERNS AND ALLIES	
GYMNOSPERMS	
PINACEAE - PINE FAMILY	
<i>Pinus</i> sp.	pine
ANGIOSPERMAE - FLOWERING PLANTS	
DICOTYLEDONES	
ANACARDIACEAE - SUMAC FAMILY	
<i>Malosma laurina</i>	laurel sumac
APOCYNACEAE - DOGBANE FAMILY	
<i>Nerium oleander</i> *	common oleander
BETULACEAE - BIRCH FAMILY	
<i>Alnus rhombifolia</i>	white alder
BORAGINACEAE - BORAGE FAMILY	
<i>Cryptantha</i> sp.	cryptantha
<i>Emmenanthe penduliflora</i>	whispering bells
<i>Eriodictyon crassifolium</i>	thick-leaf yerba santa
<i>Phacelia minor</i>	wild canterbury-bell
CUCURBITACEAE - GOURD FAMILY	
<i>Marah macrocarpus</i>	chilicothe
ERICACEAE - HEATH FAMILY	
<i>Arctostaphylos</i> sp.	manzanita
FABACEAE (LEGUMINOSAE) - LEGUME FAMILY	
<i>Acemispion glaber</i> [<i>Lotus scoparius</i>]	deerweed
<i>Spartium junceum</i> *	Spanish broom
FAGACEAE - OAK / BEECH FAMILY	
<i>Quercus agrifolia</i>	coast live oak
<i>Quercus berberidifolia</i>	scrub oak / California scrub oak
GERANIACEAE - GERANIUM FAMILY	
<i>Erodium cicutarium</i> *	red-stemmed filaree
LAMIACEAE (LABIATAE) - MINT FAMILY	
<i>Salvia mellifera</i>	black sage
MYRTACEAE - MYRTLE FAMILY	
<i>Eucalyptus</i> sp.*	gum
PAPAVERACEAE - POPPY FAMILY	
<i>Dendromecon rigida</i>	bush poppy
<i>Eschscholzia californica</i>	California poppy
POLYGONACEAE - BUCKWHEAT FAMILY	
<i>Eriogonum fasciculatum</i>	California buckwheat
ROSACEAE - ROSE FAMILY	
<i>Adenostoma fasciculatum</i>	chamise
<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birch-leaf mountain-mahogany

PLANT COMPENDIUM (Continued)

Species	
SALICACEAE - WILLOW FAMILY	
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	arroyo willow
SOLANACEAE - NIGHTSHADE FAMILY	
<i>Nicotiana glauca</i> *	tree tobacco
<i>Solanum xanti</i>	chaparral nightshade
MONOCOTYLEDONES - MONOCOTS	
AGAVACEAE - CENTURY PLANT FAMILY	
<i>Hesperoyucca whipplei</i> [<i>Yucca whipplei</i>]	Our Lord's candle
POACEAE [GRAMINEAE] - GRASS FAMILY	
<i>Avena</i> spp.*	wild oat
<i>Bromus diandrus</i> *	ripgut grass
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	foxtail chess
<i>Festuca</i> sp. [<i>Vulpia</i> sp.]*	fescue
<i>Piptatherum miliaceum</i> *	smilo grass / millett ricegrass
<i>Schismus barbatus</i> *	Mediterranean schismus
* non-native species	

WILDLIFE COMPENDIUM

“The following compendium is based on a reconnaissance-level survey and should be considered preliminary. Comprehensive plant and wildlife compendia will be provided with focused survey reports”

Species	
Birds	
ANATIDAE - WATERFOWL	
<i>Anas platyrhynchos</i>	mallard
FALCONIDAE - FALCONS	
<i>Falco sparverius</i>	American kestrel
APODIDAE - SWIFTS	
<i>Aeronautes saxatalis</i>	white-throated swift
TROCHILIDAE - HUMMINGBIRDS	
<i>Calypte costae</i>	Costa's hummingbird
TYRANNIDAE - TYRANT FLYCATCHERS	
<i>Empidonax difficilis</i>	Pacific-slope flycatcher
<i>Sayornis nigricans</i>	black phoebe
<i>Myiarchus cinerascens</i>	ash-throated flycatcher
VIREONIDAE - VIREOS	
<i>Vireo cassinii</i>	Cassin's vireo
CORVIDAE - CROWS & JAYS	
<i>Aphelocoma californica</i>	western scrub-jay
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	common raven
HIRUNDINIDAE - SWALLOWS	
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow
<i>Petrochelidon pyrrhonota</i>	cliff swallow
PARIDAE - TITMICE	
<i>Baeolophus inornatus</i>	oak titmouse
AEGITHALIDAE - BUSHTITS	
<i>Psaltriparus minimus</i>	bushtit
TROGLODYTIDAE - WRENS	
<i>Thryomanes bewickii</i>	Bewick's wren
PARULIDAE - WARBLERS	
<i>Oreothlypis [Vermivora] celata</i>	orange-crowned warbler
<i>Dendroica petechia</i>	yellow warbler
<i>Dendroica coronata</i>	yellow-rumped warbler
<i>Dendroica nigrescens</i>	black-throated gray warbler
<i>Wilsonia pusilla</i>	Wilson's warbler
EMBERIZIDAE - SPARROWS & JUNCOS	
<i>Pipilo maculatus</i>	spotted towhee
<i>Melospiza [Pipilo] crissalis</i>	California towhee
<i>Melospiza melodia</i>	song sparrow
<i>Junco hyemalis</i>	dark-eyed junco

WILDLIFE COMPENDIUM (Continued)

Species	
CARDINALIDAE - CARDINALS & ALLIES	
<i>Pheucticus melanocephalus</i>	black-headed grosbeak
<i>Passerina amoena</i>	lazuli bunting
ICTERIDAE - BLACKBIRDS	
<i>Molothrus ater</i>	brown-headed cowbird
<i>Icterus bullockii</i>	Bullock's oriole
FRINGILLIDAE - FINCHES	
<i>Carpodacus mexicanus</i>	house finch
<i>Spinus [Carduelis] psaltria</i>	lesser goldfinch
Mammals	
CANIDAE - WOLVES & FOXES	
<i>Urocyon cinereoargenteus</i>	gray fox
MUSTELIDAE - WEASELS, SKUNKS & OTTERS	
<i>Mephitis mephitis</i>	striped skunk
CERVIDAE - DEER	
<i>Odocoileus hemionus</i>	mule deer