

**BIOLOGICAL RESOURCES ASSESSMENT AND JURISDICTIONAL DELINEATION
FOR THE ARROWHEAD STORAGE FACILITY
LAKE ARROWHEAD, CALIFORNIA**

Prepared for:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408
909-890-1818

Prepared by:



Jennings Environmental, LLC
35414 Acacia Ave.
Yucaipa, CA 92399
909-534-4547

May 2021

Contents

SECTION 1.0 - INTRODUCTION..... 3

 1.1 PROJECT LOCATION..... 3

 1.2 PROJECT DESCRIPTION..... 3

2.0 – METHODOLOGY 3

 2.1 LITERATURE REVIEW 3

 2.2 SOILS..... 4

 2.3 BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY..... 4

 2.4 JURISDICTIONAL FEATURES 4

 2.4.1 VEGETATION 4

 2.4.2 WILDLIFE 4

SECTION 3.0 – RESULTS..... 5

 3.1 LITERATURE REVIEW RESULTS 5

 3.1.1 SOILS..... 5

 3.1.2 SPECIAL STATUS SPECIES BACKGROUND 5

 3.1.3 JURISDICTIONAL WATERS 9

 3.2 FIELD STUDY RESULTS 9

 3.2.1 HABITAT 9

 3.2.2 WILDLIFE 9

 3.2.3 SPECIAL STATUS SPECIES..... 9

 3.2.4 JURISDICTIONAL WATERS 11

Section 4.0 - CONCLUSIONS AND RECOMMENDATIONS 11

Section 5 – REFERENCES 13

Appendix A - Figures 15

Appendix B - Photos..... 19

Appendix C – Regulatory Framework 22

Appendix D – Tables..... 28

SECTION 1.0 - INTRODUCTION

Jennings Environmental, LLC (Jennings) was retained by Lilburn Corporation (Lilburn) to conduct a literature review and reconnaissance-level survey for the proposed Arrowhead Storage Facility (Project). The survey identified vegetation communities, the potential for the occurrence of special status species, or habitats that could support special status wildlife species, and recorded all plants and animals observed or detected within the Project boundary. This biological resources assessment is designed to address potential effects of the proposed project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW) or the California Native Plant Society (CNPS). Information contained in this document is in accordance with accepted scientific and technical standards that are consistent with the requirements of the United States Fish and Wildlife Service (USFWS) and (CDFW). Additionally, the site was surveyed for any drainage features that would meet the definition of the Waters of the US (WOUS), Waters of the State (WOS), or CDFW jurisdiction.

1.1 PROJECT LOCATION

The project is generally located in the northwestern portion of Section 21, Township 2 North, Range 3 West and is depicted on the *Harrison Mountain* U.S. Geological Survey's (USGS) 7.5-minute topographic map. More specifically the project is located within Assessor Parcel Numbers (APNs) 0335-022-07 and 0335-031-42, within the unincorporated area of Lake Arrowhead, San Bernardino County, California. The Project site is located just east of the intersection of Hwy 189 and North Bay Rd. The site is surrounded by developed residential parcels on the west, commercial parcels to the north and east, and open space to the south. (Figures 1 and 2 in Appendix A).

1.2 PROJECT DESCRIPTION

The proposed Project includes the development of approximately 1.43-acres with a self-storage facility. The storage building is proposed at 5,215.50 sq. ft. with nine (9) standard parking spaces and one (1) handicap accessible parking space. Additional improvements include a v-ditch along the back wall of the building and a crib wall along Hwy 189.

2.0 – METHODOLOGY

2.1 LITERATURE REVIEW

Prior to performing the field survey, existing documentation relevant to the Project site was reviewed. The most recent records of the California Natural Diversity Database (CNDDDB) managed by CDFW (CDFW 2021), the USFWS Critical Habitat Mapper (USFWS 2021) and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2021) were reviewed for the following quadrangles containing and surrounding the Project site: *Harrison Mountain* and *Lake Arrowhead*, USGS 7.5-minute quadrangles. The *Lake Arrowhead* quad was included in this search due the sites proximity to its boarder. These databases contain records of reported occurrences of federal- or state-listed endangered or threatened species, California Species of Concern (SSC), or otherwise special status species or habitats that may occur within or in the immediate vicinity of the Project site.

2.2 SOILS

Before conducting the surveys, soil maps for San Bernardino County were referenced online to determine the types of soil found within the Project site. Soils were determined in accordance with categories set forth by the United States Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2021).

2.3 BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

Jennings biologist, Gene Jennings, conducted the general reconnaissance survey within the Project site to identify the potential for the occurrence of special status species, vegetation communities, or habitats that could support special status wildlife species. The surveys were conducted on foot, throughout the Project site between 0800 and 0900 hours on April 16, 2021. Weather conditions during the survey included temperatures ranging from 60 to 65 degrees Fahrenheit, with no cloud cover, no precipitation, 0 to 2 mile per hour winds. Photographs of the Project site were taken to document existing conditions (Appendix B).

2.4 JURISDICTIONAL FEATURES

A general assessment of jurisdictional waters regulated by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW was conducted for the proposed Project area. Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into waters of the United States. The State of California (State) regulates the discharge of material into waters of the State pursuant to Section 401 of the Clean Water Act and the California Porter- Cologne Water Quality Control Act (California Water Code, Division 7, §13000 et seq.). Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. The assessment was conducted by a desktop survey through the USGS National Hydrography Dataset for hydrological connectivity. Additional discussion of the regulatory framework is provided in Appendix C.

2.4.1 VEGETATION

All plant species observed within the Project site were recorded. Vegetation communities within the Project site were identified and qualitatively described. Plant communities were determined in accordance with the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Plant nomenclature follows that of *The Jepson Manual, Second Edition* (Baldwin et al. 2012). A comprehensive list of the plant species observed during the survey is provided in Appendix D.

2.4.2 WILDLIFE

All wildlife and wildlife signs observed and detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (native vegetation, wildlife trails, etc.) or in habitats with the potential to support state- and/or federally listed or otherwise special status species. Notes were made on the general habitat types, species observed, and the conditions of the Project site. A comprehensive list of the wildlife species observed during the survey is provided in Appendix D.

SECTION 3.0 – RESULTS

3.1 LITERATURE REVIEW RESULTS

According to the CNDDDB, CNPSEI, and other relevant literature and databases, 60 sensitive species, 15 of which are listed as threatened or endangered, and 3 sensitive habitats have been documented in the *Harrison Mountain* and *Lake Arrowhead* quads. This list of sensitive species and habitats includes any State and/or federally listed threatened or endangered species, CDFW designated Species of Special Concern (SSC) and otherwise Special Animals. “Special Animals” is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of “species at risk” or “special status species.” The CDFW considers the taxa on this list to be those of greatest conservation need.

An analysis of the likelihood for the occurrence of all CNDDDB sensitive species documented in the *Harrison Mountain* and *Lake Arrowhead* quads is provided in Table 2, in Appendix D. This analysis takes into account species range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions. According to the databases, no sensitive habitat, including USFWS designated critical habitat, occurs within or adjacent to the project site.

3.1.1 SOILS

After review of USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2021), it was determined that the Project site is located within the San Bernardino County Southwestern Part, California area CA777. Based on the results of the database search, three (3) soils types were observed in the area (Figure 3):

Cedarpines-Stargazer-Urban land complex. 30 to 50 percent slopes (107). This soil is well drained with a very low to moderately low capacity to transmit water. This soil consists of colluvium and/or residuum weathered from granitoid, typically ranges in elevation from 4,350 to 6,980 feet amsl and is not considered prime farmland.

Cedarpines-Plaskett-Stargazer complex. 30 to 50 percent slope (112). This soil is well drained with a very low to moderately low capacity to transmit water. This soil consists of colluvium and/or residuum weathered from granitoid, typically ranges in elevation from 4,080 to 6,980 feet amsl and is not considered prime farmland.

Urban Land (135). This soil consists of alluvium derived from granite sources, typically ranges in elevation from 4,400 to 6,870 feet amsl and is not considered prime farmland.

3.1.2 SPECIAL STATUS SPECIES BACKGROUND

Southern rubber boa – Threatened (State)

The State-listed as threatened southern rubber boa (rubber boa) is a small, rather stout-bodied snake with smooth scales and a blunt head and tail (Stewart et al. 2005). Adults grow to about 49.5-55.9 cm in length. Adults are light brown or tan in dorsal color with an unmarked yellow venter; juveniles are pale without a distinct margin between dorsal and ventral coloration (Stewart et al. 2005). Rubber boas are

primarily fossorial and are rarely encountered on the surface, except on days and nights of high humidity and overcast sky. During warm months, it is active at night and on overcast days. It hibernates during winter, usually in crevices in rocky outcrops. Other potential hibernacula may be rotting stumps.

Typical habitat for this species is mixed conifer-oak forest or woodland dominated by two or more of the following species: Jeffrey pine (*Pinus jeffreyi*), yellow pine (*P. ponderosa*), sugar pine (*P. lambertiana*), incense cedar (*Calocedrus decurrens*), white fir (*Abies concolor*), and black oak (*Quercus kelloggii*) (Stewart et al., 2005). Rubber boas are usually found near streams or wet meadows or within or under surface objects with good moisture retaining properties such as rotting logs (CDFW 2014). Much of the literature suggests that the rubber boa prefers mixed conifer-oak forests and woodlands between 5,000 and 8,000 feet in elevation, especially in canyons and on cool, north facing slopes (CDFW 1987). However, the factors of overriding importance seem to be access to hibernation sites below the frost line and access to damp soil (Keasler 1982).

Rubber boa have been documented to the south and west of the Project site. Additional observations have been recorded in Little Bear Creek, which is located 0.03-miles northwest of the Project site. These occurrences likely represent movement corridors for this species. In addition to the Little Bear Creek occurrences, there are ten (10) rubber boa occurrences documented within approximately 5 miles of the subject parcel.

Bald eagle – Delisted (Federal)/ Endangered (State)

The bald eagle (BAEA) was a federally-listed species until 2007 when it was delisted because of the increase in population. However, it remains a State-listed endangered species and is covered under the Migratory Bird Treaty Act (MBTA). BAEA are distinguished by a white head and white tail feathers, are powerful, brown birds that may weigh 14 pounds and have a wingspan of 8 feet. Male eagles are smaller, weighing as much as 10 pounds and have a wingspan of 6 feet. Sometimes confused with Golden Eagles, BAEA are mostly dark brown until they are four to five years old and acquire their characteristic coloring. They live near rivers, lakes, and marshes where they can find fish, their staple food. BAEA will also feed on waterfowl, turtles, rabbits, snakes, and other small animals and carrion. BAEA require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts (CDFW 2016). In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering (CDFW 1999). They mate for life, choosing the tops of large trees to build nests, which they typically use and enlarge each year. In most of California, the breeding season lasts from about January through July or August (CDFW 2016). Nests may reach 10 feet across and weigh a half ton. They may also have one or more alternate nests within their breeding territory (CDFW 2016). The young eagles are flying within three months and are on their own about a month later.

According to the CNDDDB, the nearest occurrence for the BAEA is 0.83 miles northeast of the Project site. Some of the area surrounding the project site does provide habitat suitable to support BAEA.

California spotted owl – SSC

The California spotted owl (SPOW) is considered a SSC by the CDFW and is listed as a Sensitive Species by the U.S. Forest Service. The SPOW breeds and roosts in forests and woodlands with large old trees and snags, high basal areas of trees and snags, dense canopies ($\geq 70\%$ canopy closure), multiple canopy layers,

and downed woody debris (Verner et al. 1992a, as cited in Davis and Gould 2008). Large, old trees are the key component; they provide nest sites and cover from inclement weather and add structure to the forest canopy and woody debris to the forest floor. These characteristics typify old-growth or late-seral-stage habitats (Davis and Gould 2008). Because the SPOW selects stands that have higher structural diversity and significantly more large trees than those generally available, it is considered a habitat specialist (Moen and Gutiérrez 1997, as cited in Davis and Gould 2008). In southern California, SPOW principally occupy montane hardwood and montane hard-wood-conifer forests, especially those with canyon live oak (*Quercus chrysolepis*) and bigcone Douglas-fir (*Pseudotsuga macrocarpa*), at mid- to high elevations (Davis and Gould 2008).

SPOW prey on small mammals, particularly dusky-footed woodrats (*Neotoma fuscipes*) at lower elevations (oak woodlands and riparian forests) and throughout southern California (Verner et al. 1992a, as cited in Davis and Gould 2008). The SPOW breeding season occurs from early spring to late summer or fall. Breeding spotted owls begin pre-laying behaviors, such as preening and roosting together, in February or March and juvenile owl dispersal likely occurs in September and October (Meyer 2007). The SPOW does not build its own nest but depends on finding suitable, naturally occurring sites in tree cavities or on broken-topped trees or snags, on abandoned raptor or common raven (*Corvus corax*) nests, squirrel nests, dwarf mistletoe (*Arceuthobium* spp.) brooms, or debris accumulations in trees (Davis and Gould 2008). In the San Bernardino Mountains, platform nests predominate (59%) and were in trees with an average diameter at breast height (dbh) of 75 cm, whereas cavity nest trees and broken-top nest trees were significantly larger (mean dbh of 108.3 cm and 122.3 cm, respectively) (LaHaye et al. 1997, as cited in Davis and Gould 2008).

According to LaHaye and Gutierrez (2005), urbanization in the form of primary and vacation homes has degraded or consumed some forest in most mountain ranges. The results of spotted owl surveys conducted between 1987 and 1998 in the San Bernardino Mountains indicated that a large area of potentially-suitable spotted owl habitat, enough to support 10-15 pairs, existed between Running Springs and Crestline (LaHaye and others 1999, as cited in LaHaye and Gutierrez 2005). However, only four pairs have been found in this area, and owls were found only in undeveloped sites. Thus, residential development within montane forests may preclude spotted owl occupancy, even when closed-canopy forest remains on developed sites (LaHaye and Gutierrez 2005).

Per the CNDDDB Spotted Owl Observations Database (2021), the nearest documented SPOW activity center (roosting or nesting site) is approximately 0.68 miles southwest of the project site. Some of the area surrounding the project site does provide habitat suitable to support SPOW.

San Bernardino flying squirrel – SSC

The San Bernardino flying squirrel (flying squirrel) is considered a SSC by the CDFW and is listed as a Sensitive Species by the U.S. Forest Service. The flying squirrel is a nocturnally active, arboreal squirrel that is distinguished by the furred membranes extending from wrist to ankle that allow squirrels to glide through the air between trees at distances up to 91 meters (300 feet) (Wolf 2010). The San Bernardino flying squirrel is the most southerly distributed subspecies of northern flying squirrel (*Glaucomys sabrinus*) and is paler in color and smaller than most other northern flying squirrel subspecies. It inhabits high-elevation mixed conifer forests comprised of white fir, Jeffrey pine, and black oak between ~4,000 to

8,500 feet. It has specific habitat requirements that include associations with mature forests, large trees and snags, closed canopy, downed woody debris, and riparian areas, and it is sensitive to habitat fragmentation. It specializes in eating truffles (e.g. hypogeous mycorrhizal sporocarps) buried in the forest floor as well as arboreal lichens in winter when truffles are covered with snow and unavailable (Wolf 2010). This flying squirrel historically occurred as three isolated populations in the San Gabriel, San Bernardino, and San Jacinto mountain forests.

Flying squirrel populations are adversely affected by habitat fragmentation. Rosenberg and Raphael (1984) found that in northwestern California, the abundance of squirrels increased with stand size, they were generally absent in stands smaller than 20 hectares (ha), and approximately 75% of stands over 100 ha had flying squirrels. An additional problem with fragmented habitats is the constraints that open spaces pose to the movements of individuals and the colonization of unoccupied habitat patches. Mowrey and Zasada (1982) reported an average gliding distance of about 20 meters in *sabrinus*, with a maximum of 48 meters, and concluded that movements are unimpeded in areas with average openings of 20 meters and occasional openings of 30 to 40 meters (Bolster 1998).

The Flying Squirrels of Southern California is a project of the San Diego Natural History Museum (SDNHM), in collaboration with the U.S. Forest Service and the USFWS, to try to determine the distribution and habitat use of the flying squirrel in southern California. Per the SDNHM database, the nearest documented flying squirrel occurrence (2015) is approximately 0.18 miles northwest of the project site, within a residential neighborhood.

Additional Species

There were also 13 additional threatened or endangered species that are found within the *Harrison Mountain* and *Lake Arrowhead* Quads. However, the site is either outside the know range for the species or suitable habitat does not occur within the Project area. Therefore, no further discussion or recommendations are required for the following species:

- Nevin's barberry
- Southern mountain yellow-legged frog
- Southwestern willow flycatcher
- Santa ana sucker
- Arroyo toad
- San Bernardino kangaroo rat
- Mohave tui chub
- Least Bell's vireo
- Crotch bumble bee
- Mojave tarplant
- Western yellow-billed cuckoo
- Parish's daisy
- California red-legged frog

3.1.3 JURISDICTIONAL WATERS

Aerial imagery of the site was examined and compared with the surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The U.S. Fish and Wildlife Service National Wetland Inventory and Environmental Protection Agency (EPA) Water Program “My Waters” data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site. Similarly, the Soil maps from the U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2021) were reviewed to identify the soil series on-site and to check if they have been identified regionally as hydric soils. Upstream and downstream connectivity of waterways (if present) was reviewed in the field, on aerial imagery, and topographic maps to determine jurisdictional status. No obvious signs of jurisdictional features were observed during the literature review.

3.2 FIELD STUDY RESULTS

3.2.1 HABITAT

The habitat on-site consists of a mix of *Pinus ponderosa* Forest and Woodland Alliance (Ponderosa pine forest and woodland) and bare ground. The Ponderosa pine forest and woodland community on-site is dominated by Ponderosa pine (*Pinus ponderosa*) and mixed with Jeffery pine (*Pinus jeffreyi*), Coulter pine (*Pinus coulteri*), and western juniper (*Juniperus occidentalis*). Large portions of the site have been subject to human disturbances and are completely void of vegetation. The previous site uses include a lumber yard, Christmas tree farm, and plant nursery. A complete list of all plants observed is provided in Table 1 of Appendix D.

3.2.2 WILDLIFE

Several birds were seen or heard during the survey. Species observed or otherwise detected on or in the vicinity of the project site during the surveys included; Steller’s jay (*Cyanocitta stelleri*), acorn woodpecker (*Melanerpes formicivorus*), and common raven (*Corvus corax*). A complete list of all species observed is provided in Table 1 of Appendix D.

The project site is located within a relatively undeveloped area of Lake Arrowhead. Portions of the project site have been disturbed by humans. There is some habitat within the proposed project footprint, as well as the immediate surrounding area, that is marginally suitable for some sensitive species identified in the CNDDDB search (Table 2).

3.2.3 SPECIAL STATUS SPECIES

Southern rubber boa – Threatened (State)

Although this species has been observed within 5-miles of the project site, there is no suitable habitat within the Project boundary. The site is mostly disturbed with compact soils consisting of a mix of decomposed granite and road base, which are also exposed to direct sunlight most of the year and do not retain moisture. Additionally, the Project site does not contain any fallen debris for hibernacula and there are no south-facing slopes to provide any rock outcrops. The site is also separated from Little Bear Creek

by Hwy 189 to the north and residential and commercial development on the east. Therefore, this species is considered absent from the Project site and the proposed Project will not affect rubber boa.

Bald eagle – Delisted (Federal)/ Endangered (State)

The project is not within or adjacent to any suitable BAEA foraging or nesting habitat. The nearest suitable habitat for this species is the Lake Arrowhead shoreline, which is approximately 0.20-miles northeast of the project site. Additionally, the proposed Project does not require the removal of large old-growth vegetation. Therefore, the proposed project is will not affect BAEA and no further investigation relative to this species is warranted or required.

California spotted owl – SSC

The project site is within an already disturbed area and the immediate vicinity has been subject to ongoing human disturbances associated with the existing commercial and residential developments in the area for a long time. Therefore, it is unlikely that the project site and immediate surrounding area would be utilized by SPOW for nesting or roosting, even though the basic habitat requirements for this species are present within the southern edge of the project area. Furthermore, this species has not been documented within the project area. Although the U.S. Forest Service does not survey for SPOW on private property, the surrounding San Bernardino National Forest areas have been surveyed extensively by the Forest Service since the late 1980s. For the reasons discussed, the project area is most likely not occupied by SPOW, and the proposed project will not affect this species.

San Bernardino flying squirrel – SSC

The surrounding area does provide habitat suitable to support flying squirrel. The habitat surrounding the subject parcel consists of a mixed conifer forest with large trees and snags, downed woody debris, and riparian habitat. Furthermore, this species has been documented within approximately 0.2 miles of the project site, in similar mixed conifer forest habitat. The habitat within the surrounding vicinity is suitable to support flying squirrel and the proposed project could potentially result in impacts to this species. However, there is no suitable habitat within the Project site as it is almost entirely bare ground. Additionally, the Project does not propose to remove large old-growth vegetation. Therefore, the proposed Project will not have an effect on this species.

Designated Critical Habitat

The site is not located within or adjacent to any USFWS designated Critical Habitat. No further action is required.

Nesting Birds

The Project site and immediate surrounding area does contain habitat suitable for nesting birds. Nesting bird surveys should be conducted prior to any construction activities taking place during the nesting season to avoid potentially taking any birds or active nests. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season (generally March 15th to September 15th), and conducting a worker awareness training. However, if all work cannot be

conducted outside of the nesting season, a project-specific Nesting Bird Management Plan can be prepared to determine suitable buffers.

3.2.4 JURISDICTIONAL WATERS

Waters of the United States and Waters of the State

The USACE has the authority to permit the discharge of dredged or fill material in Waters of the U.S. under Section 404 CWA. While the Regional Water Quality Board has authority over the discharge of dredged or fill material in Waters of the State under Section 401 CWA as well as the Porter-Cologne Water Quality Control Act. The Project area was surveyed with 100 percent visual coverage and no drainage features were present on site. As such, the subject parcel does not contain any wetlands, waters of the U.S., or Waters of the State.

Fish and Game Code Section 1602 - State Lake and/or Streambed

The CDFW asserts jurisdiction over any drainage feature that contains a definable bed and bank or associated riparian vegetation. The Project area was surveyed with 100 percent visual coverage and no definable bed or bank features exist on the project site. As such, the subject parcel does not contain any areas under CDFW jurisdiction.

Section 4.0 - CONCLUSIONS AND RECOMMENDATIONS

Based on the literature review and personal observations made in the immediate vicinity, no State and/or federally listed threatened or endangered species are documented/or expected to occur within the Project site. Additionally, no plant species with the California Rare Plant Rank (CRPR) of 1 or 2 were observed on-site or documented/expected to occur on-site. No other sensitive species were observed within the project area or buffer area.

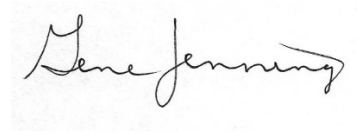
There are no streams, channels, washes, or swales that meet the definitions of Section 1600 of the State of California Fish and Game Code (FGC) under the jurisdiction of the CDFW, Section 401 (“Waters of the State”) of the Clean Water Act (CWA) under the jurisdiction of the Regional Water Quality Control Board (RWQCB), or “Waters of the United States” (WoUS) as defined by Section 404 of the CWA under the jurisdiction of the U.S. Army Corps of Engineers (Corps) within the subject parcel. Therefore, no permit from any regulatory agency will be required.

Additionally, since there is some habitat within the project site and adjacent area that is suitable for nesting birds in general, a preconstruction nesting bird survey is recommended before the commencement of any project-related work activities to avoid any potential project-related impacts to nesting birds.

I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this analysis to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.

Please do not hesitate to contact me at 909-534-4547 should you have any questions or require further information.

Sincerely,

A handwritten signature in black ink that reads "Gene Jennings". The signature is written in a cursive style with a long, sweeping tail on the final letter.

Gene Jennings
Principal/Regulatory Specialist

Appendices:

- Appendix A – Figures
- Appendix B – Site Photos
- Appendix C – Regulatory Framework
- Appendix D – Tables

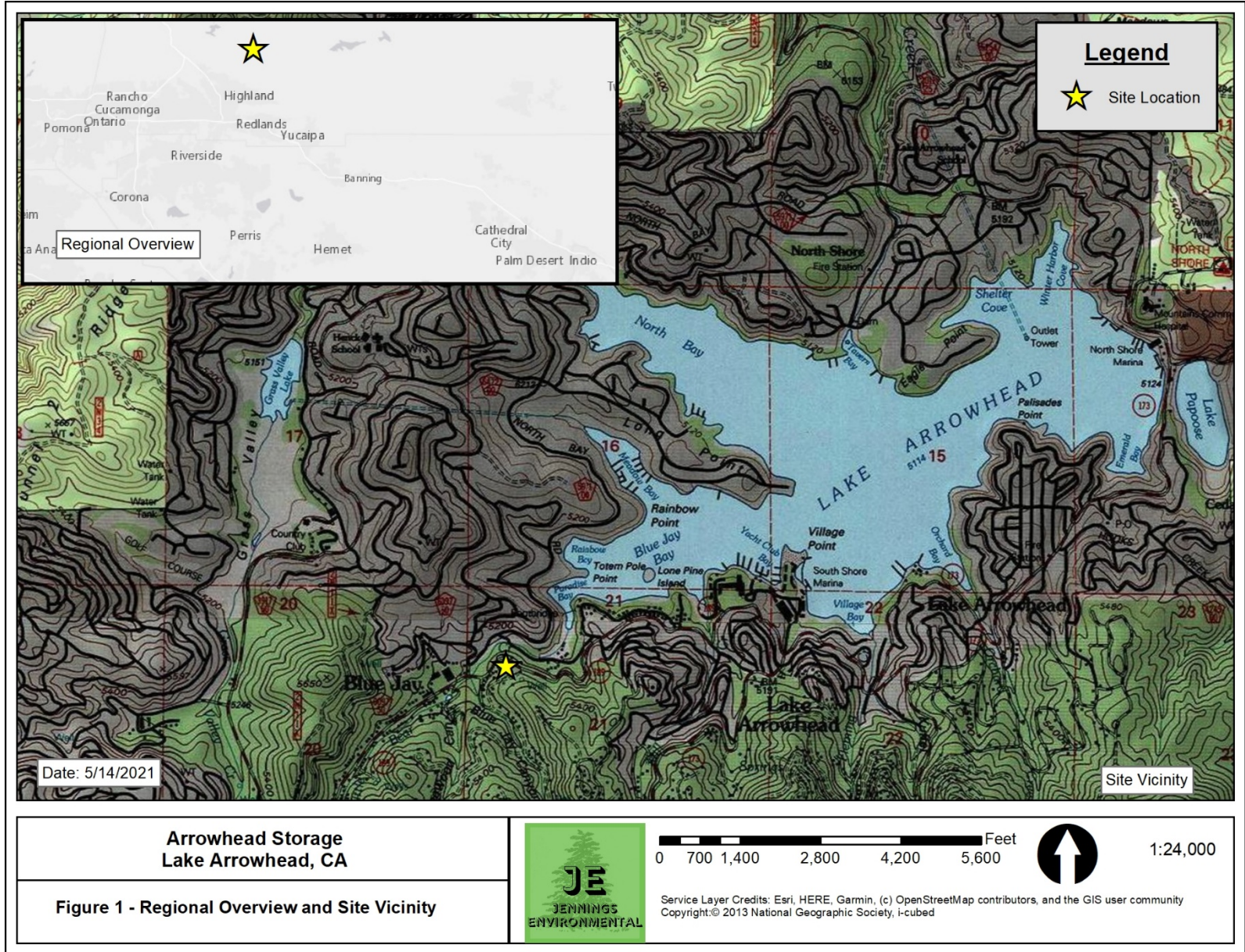
Section 5 – REFERENCES

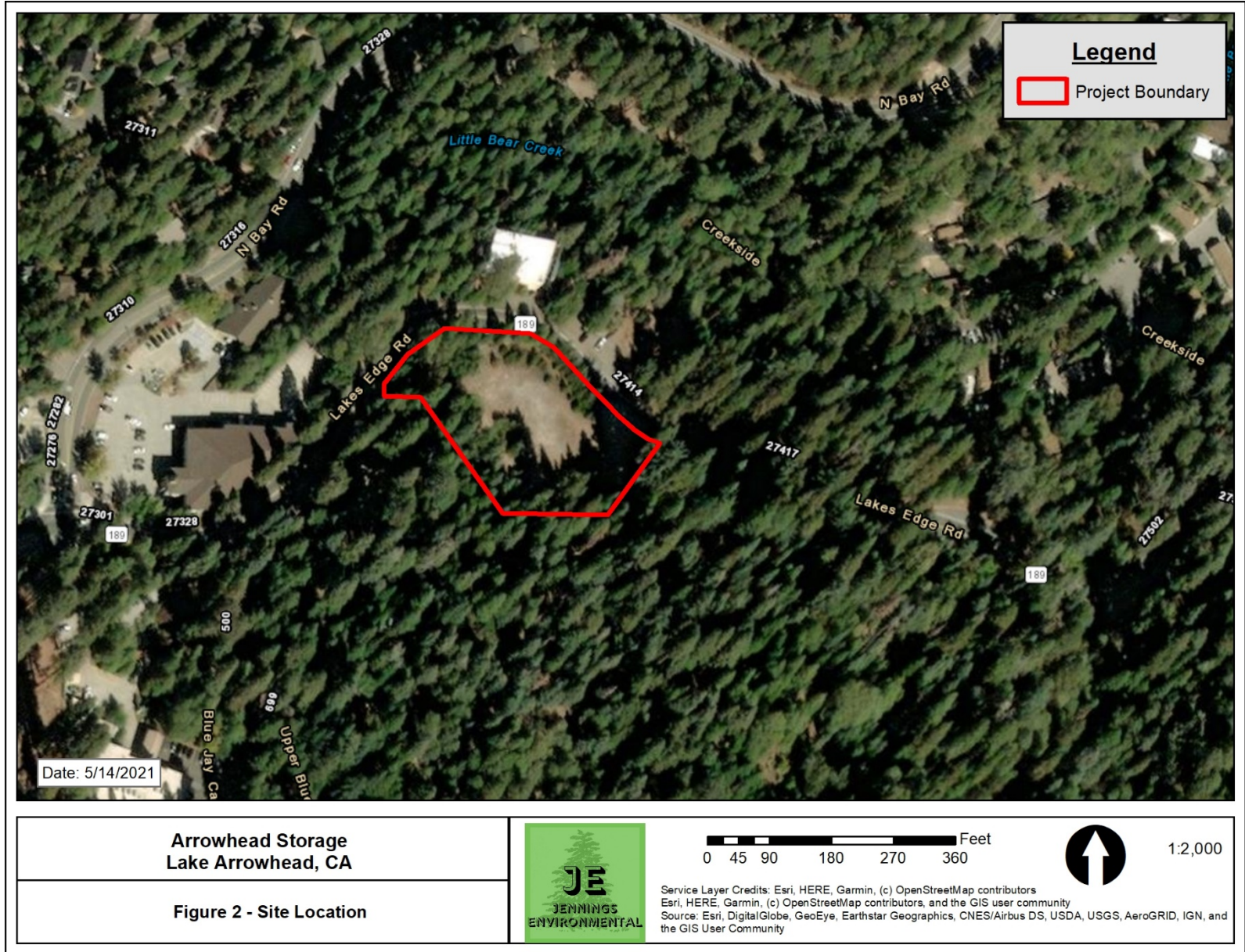
- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, and T.J. Rosatti, and D.H. Wilken (editors) 2012 *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley, CA.
- Barbour, M.G., J.H. Burk, W.D. Pitts, F.S. Gilliam, and M.W. Schwartz. 1999 *Terrestrial Plant Ecology, Third Edition*. Addison Wesley Longman, Inc. Menlo Park, CA.
- Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No. FG3146WM.
- Butler, R., C. Schiffer, and A. Mann, 1991. Final report - San Bernardino flying squirrel. Unpublished report, U.S.D.A. Forest Service, San Bernardino Ranger District. 1-29 pp.
- California Department of Fish and Wildlife (CDFW). 1987. Five Year Status Report: Southern Rubber Boa (*Charina bottae umbratica*). July 1, 1987.
- California Department of Fish and Wildlife (CDFW). Bald Eagles in California. Retrieved from: <https://www.wildlife.ca.gov/Conservation/Birds/Bald-Eagle>.
- California Department of Fish and Game (CDFW). California Interagency Wildlife Task Group. 1999. Life History Account for Bald Eagle. Sacramento, California.
- California Department of Fish and Wildlife (CDFW) 2020 California Natural Diversity Database (CNDDDB). RareFind Version 3.1.0. Database Query for the *Harrison Mountain and Lake Arrowhead*, California USGS 7.5-minute quadrangles. Wildlife and Habitat Data Analysis Branch. [Accessed May 2021]
- California Native Plant Society (CNPS) 2020 Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). Rare Plant Scientific Advisory Committee, California Native Plant Society, Sacramento, California. Website <http://www.rareplants.cnps.org> for the *Harrison Mountain and Lake Arrowhead*, California USGS 7.5 minute quadrangles; [Accessed May 2021].
- Davis, J., and Gould Jr., G. 2008. California Spotted Owl (*Strix occidentalis occidentalis*). In W.D. Shuford and T. Gardali (Eds.), *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1*. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- Hall, E.R. 1981. The Mammals of North America. John Wiley and Sons, New York. 2 Vol. 1181
- Keasler, Gary L. 1982. Eastern San Bernardino Mountain southern rubber boa survey. Report prepared for the U.S. Department of Agriculture, Forest Service, San Bernardino National Forest, San Bernardino, California; 22 p. and 2 maps.

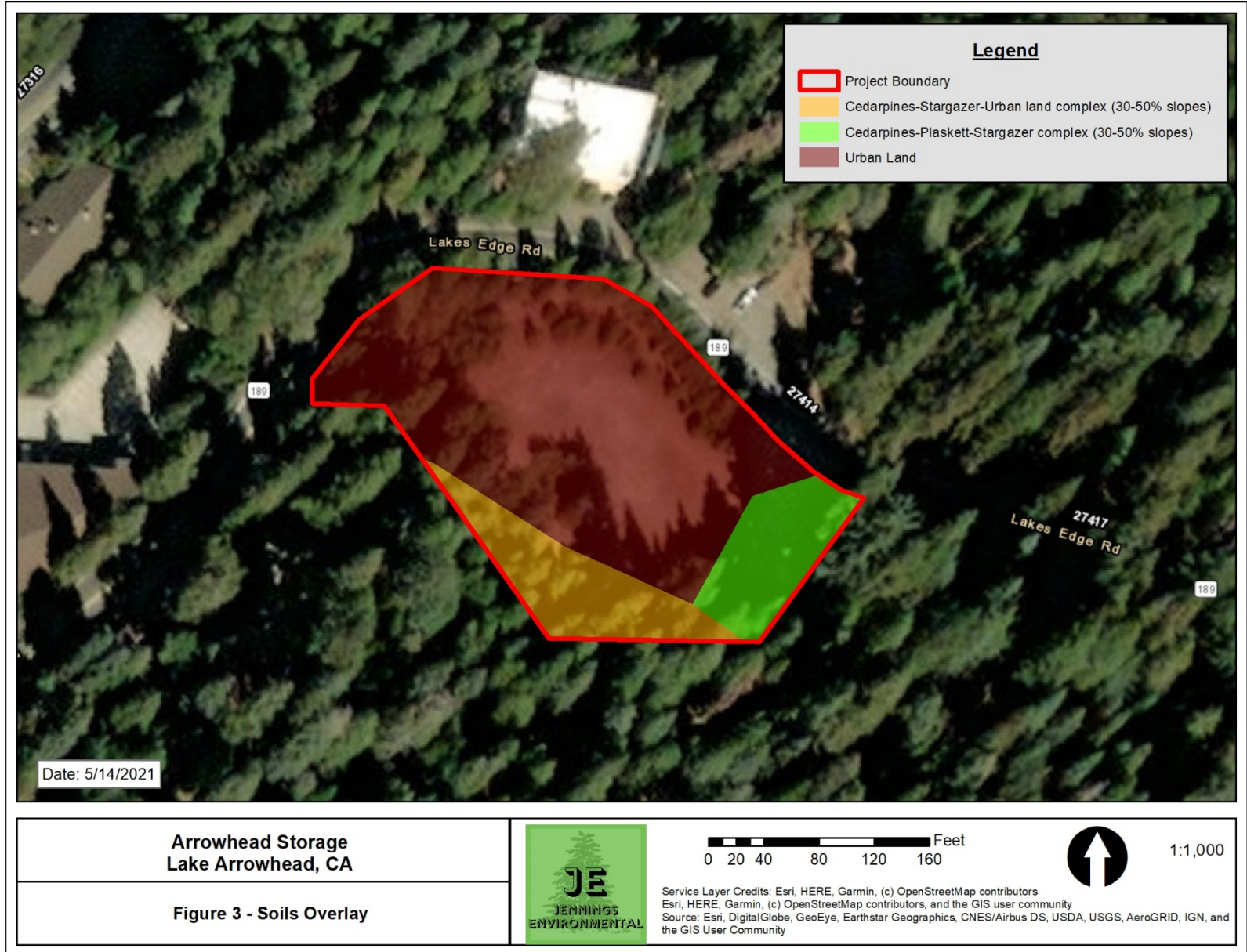
- LaHaye, William S. and Gutiérrez, R. J. 2005. The Spotted Owl in Southern California: Ecology and Special Concerns for Maintaining a Forest-Dwelling Species in a Human-Dominated Desert Landscape. In Barbara E. Kus and Jan L. Beyers (technical coordinators), *Planning for Biodiversity: Bringing Research and Management Together*. Gen. Tech. Rep. PSW-GTR-195. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 274 p.
- Rosenberg, K. V., and M. G. Raphael. 1984. Effects of forest fragmentation on vertebrates in douglas-fir forests. Pp. 263-272 In: *Wildlife 2000: Modeling habitat relationships of terrestrial vertebrates*, (J. Verner, M. L. Morrison, and C. J. Ralph, eds). Univ. Wisconsin Press, Madison, WI. 1-470 pp.
- San Diego Natural History Museum (SDNHM). 2017. Flying Squirrels of Southern California. Biodiversity Research Center of the Californias, SDNHM. Available at: <http://flyingsquirrels.sdnhm.org/>. (Accessed: March 21, 2017).
- Sawyer, J.O., Jr., T. Keeler-Wolf, J. Evens 2009 *A Manual of California Vegetation, Second Edition*. California Native Plant Society, Sacramento, CA.
- Stewart, Glenn R. 1988. The rubber boa (*Charina bottae*) in California, with particular reference to the southern subspecies, *C. b. umbratica*. In: De Lisle, H. F.; Brown, P. R.; Kaufman, B.; McGurty, B.M., editors. *Proceedings of the conference on California herpetology*. Southwestern Herpetologists Society, Special Publication (4); 131-138.
- Stewart, Glenn R., Jennings, Mark R., and Goodman Jr., Robert H. 2005. Sensitive Species of Snakes, Frogs, and Salamanders in Southern California Conifer Forest Areas: Status and Management. USDA Forest Service Gen. Tech. Rep. PSW-GTR-195. 2005.
- U.S. Fish and Wildlife Service (USFWS). National Wetlands Inventory. Website: <http://wetlands.fws.gov>. (Accessed: May 2021)
- U.S. Department of Agriculture (USDA) 2020 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions [Online Edition]. Website <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx> [Accessed May 2021].
- Walter, Hartmut, PhD. and Garrett, Kimbal L. 1981. The Effects of Human Activity on Wintering Bald Eagles in the Big Bear Valley, California. Unpublished report to U.S. Forest Service, 89 pp.
- Williams. D.F. 1986. Mammalian Species of Special Concern in California. State of California Department of Fish and Game. 1 *USACE Wetlands Research Program Technical Report Y-87-1 (on-line edition), Wetlands Delineation Manual, Environmental Laboratory, 1987 (Wetland Delineation Manual)*. 12 pp.
- Wolf, Shaye, PhD. 2010. Petition to List The San Bernardino Flying Squirrel (*Glaucomys sabrinus californicus*) As Threatened Or Endangered Under The United States Endangered Species Act. Center for Biological Diversity, Petitioner August 24, 2010.

Appendix A - Figures

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY







Appendix B - Photos



Photo 1 – Southeast portion of parcel, facing northwest. Showing disturbed soils with large trees on the boarder of the parcel.



Photo 2 – Northern portion of parcel, facing southeast. Showing disturbed soils with a commercial development in the background.



Photo 3 – Southern portion of parcel, facing north. Showing bare ground and the row of small cedar trees that line the north edge of the parcel.



Photo 4 – Western edge of parcel, facing south. Showing disturbed loose soils and no rock out crops on the north facing slopes.

Appendix C – Regulatory Framework

1.1 FEDERAL JURISDICTION

1.1.1 United States Army Corps of Engineers

Pursuant to Section 404 of the CWA, the United States Army Corps of Engineers (USACE) regulates the discharge of dredged and/or fill material into waters of the United States. The term “waters of the United States” is defined by 33 Code of Federal Regulations (CFR) Part 328 and currently includes: (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all other waters (e.g., lakes, rivers, intermittent streams) that could affect interstate or foreign commerce, (4) all impoundments of waters mentioned above, (5) all tributaries to waters mentioned above, (6) the territorial seas, and (7) all wetlands adjacent to waters mentioned above. Waters of the United States do not include (1) waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (CWA), and (2) prior converted cropland. Waters of the United States typically are separated into two types: (1) wetlands and (2) “other waters” (non-wetlands) of the United States.

Wetlands are defined by 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support ... a prevalence of vegetation typically adapted for life in saturated soil conditions.” In 1987, USACE published a manual (1987 Wetland Manual) to guide its field personnel in determining jurisdictional wetland boundaries. This manual was amended in 2008 to the USACE 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (2008 Arid West Supplement). Currently, the 1987 Wetland Manual and the 2008 Arid West Supplement provide the legally accepted methodology for identification and delineation of USACE-jurisdictional wetlands in southern California.

In the absence of wetlands, the limits of USACE jurisdiction in nontidal waters, including intermittent Relatively Permanent Water (RPW) streams, extend to the Ordinary High Water Mark (OHWM), which is defined by 33 CFR 328.3(e) as:

... that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

On January 9, 2001, the U.S. Supreme Court ruled (in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*) (SWANCC) that USACE jurisdiction does not extend to previously regulated isolated waters, including but not limited to isolated ponds, reservoirs, and wetlands. Examples of isolated waters that are affected by this ruling include vernal pools, stock ponds, lakes (without outlets), playa lakes, and desert washes that are not tributary to navigable or interstate waters or to other jurisdictional waters. A joint legal memorandum by EPA and USACE was signed on January 15, 2003.

In May 2007, USACE and EPA jointly published and authorized the use of the Jurisdictional Determination Form Instructional Guidebook (USACE 2007). The form and guidebook define how to determine if an area is USACE jurisdictional and if a significant nexus exists per the Rapanos decision. A nexus must have more than insubstantial and speculative effects on the downstream TNW to be considered a significant nexus. This guidebook is updated by the 2008 Arid West Supplement, the 2010 Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, and the 2011 Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region.

A joint guidance by EPA and USACE was issued on June 5, 2007, and revised on December 2, 2008, is consistent with the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208 [2006]) (*Rapanos*), which addresses the jurisdiction over waters of the United States under the CWA (33 U.S.C. §1251 et seq.). A draft guidance was circulated in April 2011 to supercede both the 2003 SWANCC guidance and 2008 *Rapanos* decision; however, this guidance is not finalized and lacks the force of law.

USACE will continue to assert jurisdiction over Traditionally Navigable Waters (TNWs), wetlands adjacent to TNW, non-navigable tributaries of TNW that are Relatively Permanent Waters (RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months), and wetlands that directly abut such tributaries.

USACE generally will not assert jurisdiction over swales or erosional features (e.g., gullies or small washes characterized by low volume, infrequent, or short duration flow) or nontidal drainage ditches (including roadside ditches) that are (1) excavated wholly in and draining only uplands and (2) that do not carry a relatively permanent flow of water. USACE defines a drainage ditch as:

A linear excavation or depression constructed for the purpose of conveying surface runoff or groundwater from one area to another. An "upland drainage ditch" is a drainage ditch constructed entirely in uplands (i.e., not in waters of the United States) and is not a water of the United States, unless it becomes tidal or otherwise extends the ordinary high water line of existing waters of the United States.

Furthermore, USACE generally does not consider "[a]rtificially irrigated areas which would revert to upland if the irrigation ceased" to be subject to their jurisdiction. Such irrigation ditches are linear excavations constructed for the purpose of conveying agricultural water from the adjacent fields. Therefore, such agricultural ditches are not considered to be subject to USACE jurisdiction.

USACE will use fact-specific analysis to determine whether waters have a significant nexus with (1) TNW for nonnavigable tributaries that are not relatively permanent (non-RPW); (2) wetlands adjacent to nonnavigable tributaries that are not relatively permanent; and (3) wetlands adjacent to, but that do not directly abut, a relatively permanent nonnavigable tributary. According to USACE, "a significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to

determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters,” including consideration of hydrologic and ecologic factors. A primary component of this determination lies in establishing the connectivity or lack of connectivity of the subject drainages to a TNW.

1.2 STATE JURISDICTION

The State of California (State) regulates discharge of material into waters of the State pursuant to Section 401 of the CWA as well as the California Porter-Cologne Water Quality Control Act (Porter-Cologne; California Water Code, Division 7, §13000 et seq.). Waters of the State are defined by Porter-Cologne as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code Section 13050(e)). Waters of the State broadly includes all waters within the State’s boundaries (public or private), including waters in both natural and artificial channels.

1.2.1 Regional Water Quality Control Board

Under Porter-Cologne, the State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Boards (RWQCB) regulate the discharge of waste into waters of the State. Discharges of waste include “fill, any material resulting from human activity, or any other ‘discharge’ that may directly or indirectly impact ‘waters of the state.’” Porter-Cologne reserves the right for the State to regulate activities that could affect the quantity and/or quality of surface and/or groundwaters, including isolated wetlands, within the State. Wetlands were defined as waters of the State if they demonstrated both wetland hydrology and hydric soils. Waters of the State determined to be jurisdictional for these purposes require, if impacted, waste discharge requirements (WDRs).

When an activity results in fill or discharge directly below the OHWM of jurisdictional waters of the United States (federal jurisdiction), including wetlands, a CWA Section 401 Water Quality Certification is required. If a proposed project is not subject to CWA Section 401 certification but involves activities that may result in a discharge to waters of the State, the project may still be regulated under Porter-Cologne and may be subject to waste discharge requirements. In cases where waters apply to both CWA and Porter-Cologne, RWQCB may consolidate permitting requirements to one permit.

1.2.2 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other

aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation” (California Code of Regulations, Title 14, Section 1.72). The jurisdiction of CDFW may include areas in or near intermittent streams, ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams that are indicated on USGS maps, watercourses that may contain subsurface flows, or within the flood plain of a water body. CDFW’s definition of “lake” includes “natural lakes or man-made reservoirs.” CDFW limits of jurisdiction typically include the maximum extents of the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

In a CDFW guidance of stream processes and forms in dryland watersheds (Vyverberg 2010), streams are identified as having one or more channels that may all be active or receive water only during some high flow event. Subordinate features, such as low flow channels, active channels, banks associated with secondary channels, floodplains, and stream-associated vegetation, may occur within the bounds of a single, larger channel. The water course is defined by the topography or elevations of land that confine a stream to a definite course when its waters rise to their highest level. A watercourse is defined as a stream with boundaries defined by the maximal extent or expression on the landscape even though flow may otherwise be intermittent or ephemeral.

Artificial waterways such as ditches (including roadside ditches), canals, aqueducts, irrigation ditches, and other artificially created water conveyance systems also may be under the jurisdiction of CDFW. CDFW may claim jurisdiction over these features based on the presence of habitat characteristics suitable to support aquatic life, riparian vegetation, and/or stream-dependent terrestrial wildlife. As with natural waterways, the limit of CDFW jurisdiction of artificial waterways includes the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

CDFW does not have jurisdiction over wetlands but has jurisdiction to protect against a net loss of wetlands. CDFW supports the wetland criteria recognized by USFWS; one or more indicators of wetland conditions must exist for wetlands conditions to be considered present. The following is the USFWS accepted definition of a wetland:

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the lands supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin et al. 1979).

In A Clarification of the U.S. Fish and Wildlife Service’s Wetland Definition (Tiner 1989), the USFWS definition was further clarified “that in order for any area to be classified as wetland by the Service, the area must be periodically saturated or covered by shallow water, whether wetland vegetation and/or hydric soils are present or not; this hydrologic requirement is

addressed in the first sentence of the definition.” When considering whether an action would result in a net loss of wetlands, CDFW will extend jurisdiction to USFWS-defined wetland conditions where such conditions exist within the riparian vegetation that is associated with a stream or lake and does not depend on whether those features meet the three-parameter USACE methodology of wetland determination. If impacts to wetlands under the jurisdiction of CDFW are unavoidable, a mitigation plan will be implemented in coordination with CDFW to support the CDFW policy of “no net loss” of wetland habitat.

Appendix D – Tables

Table 1. Species Observed On-Site

Common Name	Scientific Name
<u>Plants</u>	
Incense cedar	<i>Calocedrus decurrens</i>
Ponderosa pine	<i>Pinus ponderosa</i>
Jeffery pine	<i>Pinus jeffreyi</i>
Black oak	<i>Quercus kelloggii</i>
<u>Birds</u>	
Steller's jay	<i>Cyanocitta stelleri</i>
Acorn woodpecker	<i>Melanerpes formicivorus</i>
Common raven	<i>Corvus corax</i>

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Table 2 – CNDDDB Potential to Occur

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
southern California rufous-crowned sparrow	None, None	G5T3, S3, CDFW-WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Mt. Pinos onion	None, None	G4T2, S2, 1B.3	Great Basin scrub, pinyon and juniper woodland, meadows and seeps (edges). 1385-1800 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
arroyo toad	Endangered, None	G2G3, S2S3, CDFW-SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Southern California legless lizard	None, None	G3, S3, CDFW-SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
California glossy snake	None, None	G5T2, S2, CDFW-SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
coastal whiptail	None, None	G5T5, S3, CDFW-SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Nevin's barberry	Endangered, Endangered	G1, S1, 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, N-facing slopes or in low grade sandy washes. 90-1590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Crotch bumble bee	None, Candidate Endangered	G3G4, S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Morrison bumble bee	None, None	G4G5, S1S2	From the Sierra-Cascade ranges eastward across the intermountain west. Food plant genera include Cirsium, Cleome, Helianthus, Lupinus, Chrysothamnus, and Melilotus.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Palmer's mariposa-lily	None, None	G3T2, S2, 1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernal moist places in yellow-pine forest, chaparral. 195-2530 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Plummer's mariposa-lily	None, None	G4, S4, 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
white pygmy-poppy	None, None	G3G4, S3S4, 4.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Gravelly, sandy, granitic places. 600-1460 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
San Bernardino Mountains owl's-clover	None, None	G2?, S2?, 1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest, chaparral, riparian woodland. Mesic to drying soils in open areas of stream and meadow margins or in vernal wet areas. 1140-2320 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Santa Ana sucker	Threatened, None	G1, S1	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
smooth tarplant	None, None	G3G4T2, S2, 1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
southern rubber boa	None, Threatened	G2G3, S2S3	Known from the San Bernardino and San Jacinto mtns; found in a variety of montane forest habitats. Snakes resembling <i>C. umbratica</i> reported from Mt. Pinos and Tehachapi mtns group with <i>C. bottae</i> based on mtDNA. Further research needed. Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Parry's spineflower	None, None	G3T2, S2, 1B.1	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
white-bracted spineflower	None, None	G4T3, S3, 1B.2	Mojavean desert scrub, pinyon and juniper woodland, coastal scrub (alluvial fans). Sandy or gravelly places. 365-1830 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
western yellow-billed cuckoo	Threatened, Endangered	G5T2T3, S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Mojave tarplant	None, Endangered	G2, S2, 1B.3	Riparian scrub, coastal scrub, chaparral. Low sand bars in river bed; mostly in riparian areas or in ephemeral grassy areas. 640-1645 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
San Bernardino kangaroo rat	Endangered, Candidate Endangered	G5T1, S1, CDFW-SSC	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
San Bernardino Mountains dudleya	None, None	G4T2, S2, 1B.2	Pebble (pavement) plain, upper montane coniferous forest, pinyon and juniper woodland. Outcrops, granite or quartzite, rarely limestone. 1200-2425 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
southwestern willow flycatcher	Endangered, Endangered	G5T2, S1	Riparian woodlands in Southern California.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Booth's evening-primrose	None, None	G5T4, S3, 2B.3	Joshua tree woodland, pinyon and juniper woodland. 285-2290 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
Parish's daisy	Threatened, None	G2, S2, 1B.1	Mojavean desert scrub, pinyon and juniper woodland. Often on carbonate; limestone mountain slopes; often associated with drainages. Sometimes on grainite. 1050-2245 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Andrew's marble butterfly	None, None	G3G4T1, S1	Inhabits yellow pine forest near Lake Arrowhead and Big Bear Lake, San Bernardino Mtns, San Bernardino Co, 5000-6000 ft. Hostplants are Streptanthus bernardinus & Arabis holboellii var pinetorum; larval foodplant is Descurainia richardsonii.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
western mastiff bat	None, None	G4G5T4, S3S4, CDFW-SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
San Bernardino flying squirrel	None, None	G5T1T2, S1S2, CDFW-SSC	Known from black oak or white fir dominated woodlands between 5200 - 8500 ft in the San Bernardino and San Jacinto ranges. May be extirpated from San Jacinto range. Needs cavities in trees/snags for nests and cover. Needs nearby water.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
bald eagle	Delisted, Endangered	G5, S3, CDFW-FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Parish's alumroot	None, None	G3, S3, 1B.3	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest, alpine boulder & rock field. Rocky places. Sometimes on carbonate. 1340-3505 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
California satintail	None, None	G4, S3, 2B.1	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. 3-1495 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
silver-haired ivesia	None, None	G2T2, S2, 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. In pebble plains and meadows with other rare plants. 1490-2960 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
western yellow bat	None, None	G4G5, S3, CDFW-SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
lemon lily	None, None	G3, S3, 1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows & seeps. 625-2930 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Parish's bush-mallow	None, None	GXQ, SX, 1A	Chaparral, coastal sage scrub. In a wash. 305-455 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Hall's monardella	None, None	G5T3, S3, 1B.3	Broadleafed upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland. Dry slopes and ridges in openings. 700-1800 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
lodgepole chipmunk	None, None	G4T3T4, S2S3	Summits of isolated Piute, San Bernardino, & San Jacinto mountains. Usually found in open-canopy forests. Habitat is usually lodgepole pine forests in the San Bernardino Mts & chinquapin slopes in the San Jacinto Mts.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
pocketed free-tailed bat	None, None	G5, S3, CDFW-SSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
short-joint beavertail	None, None	G5T3, S3, 1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Sandy soil or coarse, granitic loam. 425-2015 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Beaver Dam breadroot	None, None	G3, S2, 1B.2	Joshua tree woodland, Mojavean desert scrub. Sandy soils; washes and roadcuts. 605-1485 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Parish's yampah	None, None	G4T3T4, S2, 2B.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Damp meadows or along streambeds-prefers an open pine canopy. 1470-2530 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
white-eared pocket mouse	None, None	G2TH, SH, CDFW-SSC	Ponderosa and Jeffrey pine habitats; also in mixed chaparral and sagebrush habitats in the San Bernardino Mountains. Burrows are constructed in loose soil.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
coast horned lizard	None, None	G3G4, S3S4, CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
California red-legged frog	Threatened, None	G2G3, S2S3, CDFW-SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
southern mountain yellow-legged frog	Endangered, Endangered	G1, S1, CDFW-WL	Federal listing refers to populations in the San Gabriel, San Jacinto and San Bernardino mountains (southern DPS). Northern DPS was determined to warrant listing as endangered, Apr 2014, effective Jun 30, 2014. Always encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Santa Ana speckled dace	None, None	G5T1, S1, CDFW-SSC	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Riversidian Alluvial Fan Sage Scrub	None, None	G1, S1.1	Coastal scrub	This habitat does not occur on-site.
Bear Valley checkerbloom	None, None	G5T2, S2, 1B.2	Meadows and seeps, riparian woodland, lower montane coniferous forest, upper montane coniferous forest. Known from wet areas within forested habitats. Affected by hydrological changes. 1575-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
salt spring checkerbloom	None, None	G4, S2, 2B.2	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. 3-2380 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
Mohave tui chub	Endangered, Endangered	G4T1, S1, CDFW-FP	Endemic to the Mojave River basin, adapted to alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Needs vegetation for spawning.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Southern Mixed Riparian Forest	None, None	G2, S2.1	Riparian forest	This habitat does not occur on-site.
Southern Sycamore Alder Riparian Woodland	None, None	G4, S4	Riparian woodland	This habitat does not occur on-site.
western spadefoot	None, None	G2G3, S3, CDFW-SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Laguna Mountains jewelflower	None, None	G3G4, S3S4, 4.3	Chaparral, lower montane coniferous forest. Clay or decomposed granite soils; sometimes in disturbed areas such as streamsides or roadcuts. 1440-2500 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
southern jewelflower	None, None	G3, S3, 1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Open, rocky areas. 605-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
San Bernardino aster	None, None	G2, S2, 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernal mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.

BIOLOGICAL RESOURCES ASSESSMENT FOR THE ARROWHEAD STORAGE FACILITY

Common Name	Federal/State Status	Other Status	Habitat	Occurrence Potential
American badger	None, None	G5, S3, CDFW-SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
two-striped gartersnake	None, None	G4, S3S4, CDFW-SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
Sonoran maiden fern	None, None	G5T3, S2, 2B.2	Meadows and seeps. Along streams, seepage areas. 60-930 m.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.
least Bell's vireo	Endangered, Endangered	G5T2, S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Suitable habitat for this species does not occur on site. As such, this species is considered absent from the Project site.