Success Lake
Water Control Manual Deviation
Final Environmental Assessment

May 2017

US Army Corps of Engineers
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DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
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Environmental Resources Branch

FINDING OF NO SIGNIFICANT IMPACT

Water Control Manual Deviation at Lake Success

I have reviewed and evaluated the information presented in this Environmental Assessment (EA) prepared for the Water Control Manual Deviation at Lake Success in Tulare County, as authorized by the Flood Control Act of 1944 (Public Law 78-534). If granted by the U.S. Army Corps of Engineers, this deviation would allow the Tule River Association to construct a barrier across the Success Lake spillway to increase the reservoir pool storage, which would prevent the downstream flooding of up to 25,000 acres of farmland in the Tulare Lakebed region. The proposed plan would provide an additional 10,000 acre-feet of flood control space at Success Dam for the current snowmelt season. This would be accomplished through the construction of a temporary six foot barricade of the spillway. The barricade would be constructed of sandbags and would allow water to be stored up to four feet above the spillway crest. Reservoir releases would be managed to allow for the reduction of damaging flows to the Tulare Lakebed. The deviation would last approximately 90 days beginning in May 2017.

The possible consequences of the work described in the EA have been studied with consideration to environmental, socioeconomic, cultural, and engineering feasibility. I have considered the views of other interested agencies, organizations, and individuals. The environmental effects have been coordinated with the U.S. Fish and Wildlife Service and the California State Historic Preservation Officer. Best management practices, avoidance protocols, and minimization measures would be used during the water control manual deviation to reduce effects related to sensitive biological resources, cultural resources, recreation, and traffic.

Based on my review of the EA and my knowledge of the project area, I have determined that the proposed water control manual deviation would have no significant, long-term effects on environmental or cultural resources. Based on these considerations, I am convinced that there is no need to prepare an environmental impact statement. Therefore, an EA and Finding of No Significant Impact provide adequate environmental documentation for the proposed action. This concludes the National Environmental Policy Act process for this project.

22 MAY 2017
Date

David G. Ray, P.E.
Colonel, U.S. Army
District Commander

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ACRONYMS

APE	area of potential effects
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
Corps	U.S. Army Corps of Engineers
CRF	California red-legged frog
CVRWQCB	Central Valley Regional Water Quality Control Board
DSAC	dam safety action classification
DSAP	Dam Safety Assurance Program
EA	environmental assessment
EIS	environmental impact statement
FESA	Federal Endangered Species Act
FONSI	finding of no significant impact
IPaC	Information for Planning and Consultation
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
SHPO	State Historic Preservation Officer
TRA	Tule River Water Association
U.S. Census	U.S. Census Bureau
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

1.1 Proposed Action

A series of atmospheric river storms with heavy precipitation impacted California in January and February 2017. As a result most flood control reservoirs are at or above top of conservation levels and many regions of the state have saturated ground. The Tule River Water Association (TRA) has requested a deviation from the Water Control Manual at Success Lake. If granted by the U.S. Army Corps of Engineers (Corps), this deviation would allow TRA to construct a sandbag wall across the Success Lake spillway to increase the spillway elevation from 652.5 feet to 658.5 feet. This would allow a maximum increase of 4 feet in the reservoir's gross pool to elevation 656.5 feet with 2 feet of freeboard. The purpose of this deviation is to prevent downstream flooding in the Tulare Lake Basin.

As of April 17, 2017, Success Lake was at 640.08 foot elevation with approximately 56,000 acre-feet of storage in the reservoir. This is at 68% capacity, which is 16% encroachment into the allotted flood control storage. Corps' water management currently estimates that Success Lake could reach the top of gross pool space (Elevation 652.5 feet) in early June, dependent on snow melt/inflow conditions and downstream water usage this spring.

1.2 Location of the Project

Success Dam and Reservoir is located along the Tule River approximately five miles east and upstream of the town of Porterville in Tulare County, approximately 60 miles north of Bakersfield, California. The Tule River drains about 390 square miles into Success Lake, flowing from the reservoir through Porterville, and continuing 25 miles through agricultural areas. Construction of the dam was completed in May 1961. Figure 1 displays the Success Lake area and some of the features of the reservoir and recreation area.

1.3 Background and Need for Action

Construction of Success Dam began in 1958 and was completed on May 15, 1961. The dam provides flood damage reduction benefits to the City of Porterville and to other communities downstream of the dam. In addition, the dam helps protect several hundred thousand acres of valuable farmland west of the dam including the Tulare Lakebed from damaging winter and spring floods

Serious flood problems occur along the Tule River generally as a result of inadequate channel capacities. Damages from the 1983 flood were estimated to be $11 million at 2014 price levels. From a 1999 Feasibility Study, Congress authorized the Tule River Project, which proposed to raise the Success Lake spillway 10 feet and widen the spillway to increase the gross pool elevation for flood control and irrigation water supply. Over the past 10 years, multiple studies were performed to analyze the safety risk of Success Dam in its current state (without the

Tule River Project). Initially these studies indicated that there was a significant seepage and seismic risk associated with Success Dam that required addressing through the Corps' Dam Safety Assurance Program (DSAP). As a result, the Tule River Project was deferred in order to complete the dam safety analysis and project prior to permanently increasing the reservoir capacity. However, recent studies show that seepage and seismic risks were far less severe than prior analyses indicated. In late 2015 the Corps downgraded Success Dam's dam safety action classification (DSAC) rating from II (urgent: unsafe or potentially unsafe) to III (high priority: conditionally unsafe) based on interim study results. As a result, the proposed dam safety project and spillway enlargement projects are both being reevaluated to determine the appropriate path forward at Success Lake.

During high water years, the TRA has periodically requested a water control manual deviation to better control releases during snow melt and avoid downstream flooding impacts. The deviation involves constructing a sandbag barrier in the spillway to increase capacity in the reservoir. The TRA has previously implemented the spillway barrier in 1967, 1969, 1982, and 1998. The April-July 2017 Department of Water Resources Water Supply Forecast, as of February 21, 2017, was 160,000 acre-feet and 254 percent of average. As a result, the TRA has requested to implement this deviation for up to 90 days beginning in June 2017 to avoid flooding the Tulare Lakebed farming operations.

1.4 Authority

The investigation which led to the recommendation to construct Success Dam was authorized June 22, 1936. Success Lake was authorized for construction by the Flood Control Act of 1944 (Public Law 78-534).

1.5 Purpose of the Environmental Assessment

This Environmental Assessment (EA) assesses the effects of the proposed water control manual deviation on the environment to determine whether an Environmental Impact Statement (EIS) should be prepared. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA), which requires full disclosure of the environmental effects, alternatives, potential mitigation, and environmental compliance procedures of the proposed action through an EA.

1.6 Decision Needed

The District Engineer, commander of the Sacramento District of the Corps, will decide whether or not the proposed water control manual deviation qualifies for a finding of no significant impact (FONSI) or whether an EIS must be prepared. The decision on whether to allow the TRA to proceed with the deviation will be made by Corps' South Pacific Division in San Francisco, California.

Figure 1. Success Lake Project Area and Site Features.

2.0 ALTERNATIVES

2.1 Alternatives Eliminated from Further Consideration

The TRA has not identified additional alternatives beyond the No Action and the Proposed Action.

2.2 No Action

The Corps would not grant the requested water control manual deviation. As a result, releases from Success Lake would increase, causing downstream flooding in Reclamation District 749 in the Tulare Lake basin. The impacts of this flooding are speculative, but are assumed to include impacts to up to 25,000 acres of agricultural land; vegetation and wildlife habitat, including special status species habitat; damage to roadways; pollutants and pesticides entering the Tule River watershed; and severe economic losses to the surrounding community.

2.3 Proposed Action

The proposed water control manual deviation would provide an additional 10,000 acre-feet of flood control space at Success Dam for the current snowmelt season. This would be accomplished through the construction of a temporary six foot barricade of the spillway. The barricade would be constructed of sandbags and would take approximately 3 to 5 days to construct. The spillway area would be accessed from the south using Avenue 146/Worth Drive. The materials to construct the sandbag wall would be hauled to the spillway site and would be staged on-site in the roadway while the wall is constructed.

The sandbag wall would allow water to be stored up to 4 feet above the spillway crest with 2 feet of freeboard. These elevations are consistent with the implementation of this measure in past high water years. As a result, the inundation area associated with this measure has been previously inundated, most recently in 1998.

Following implementation of the sandbag barrier, reservoir releases would be managed to allow for the reduction of damaging flows to the Tulare Lakebed area. The deviation would last approximately 90 days beginning in June 2017. The footprint of the increased reservoir storage space is shown on Figure 2 below. Figures 3 and 4 are zoomed in views of the Tule River Area and the South Fork Tule River Area.

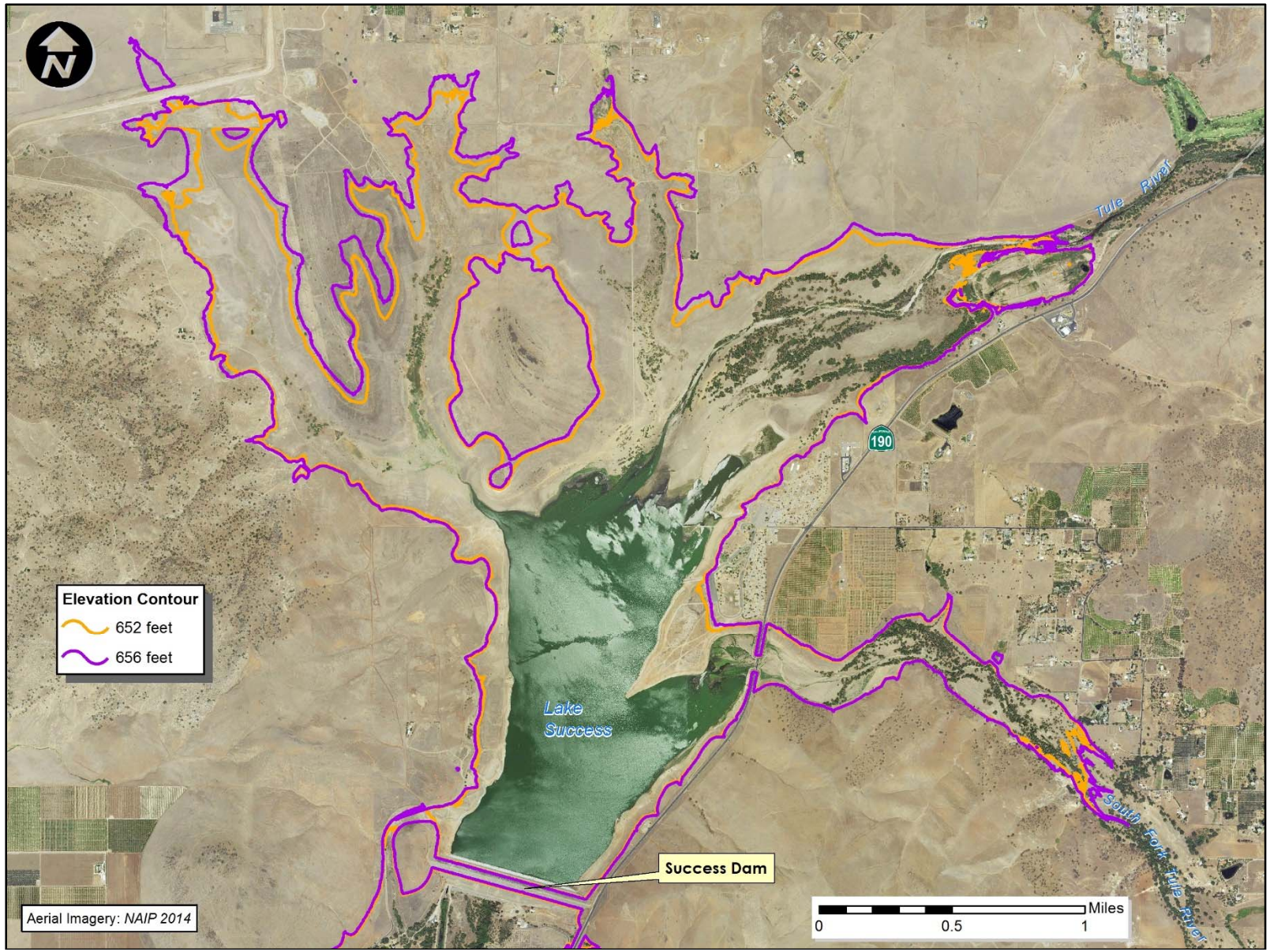

Figure 2. Success Lake Increased Pool Footprint Area.

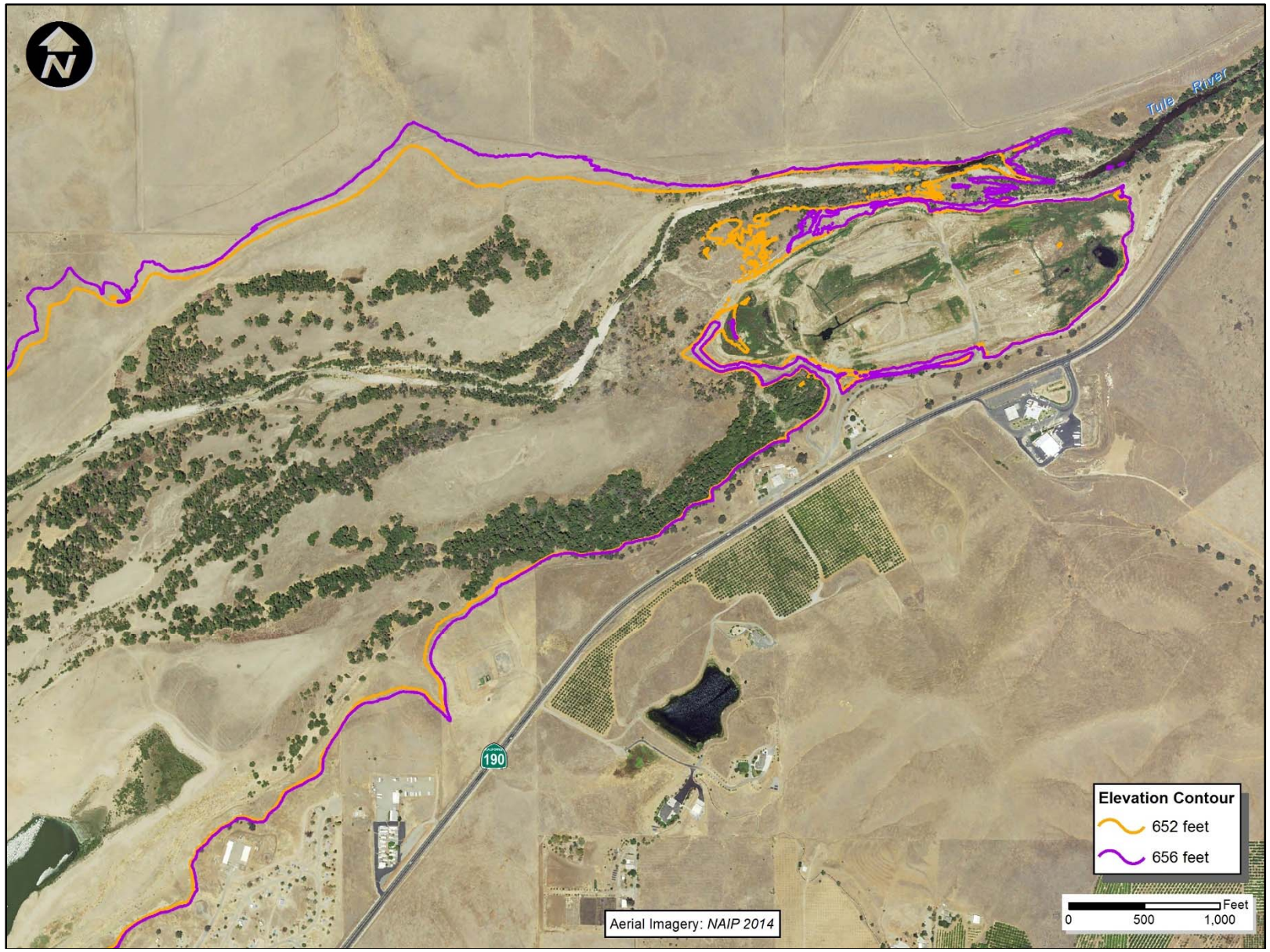

Figure 4. Tule River Area Footprint.

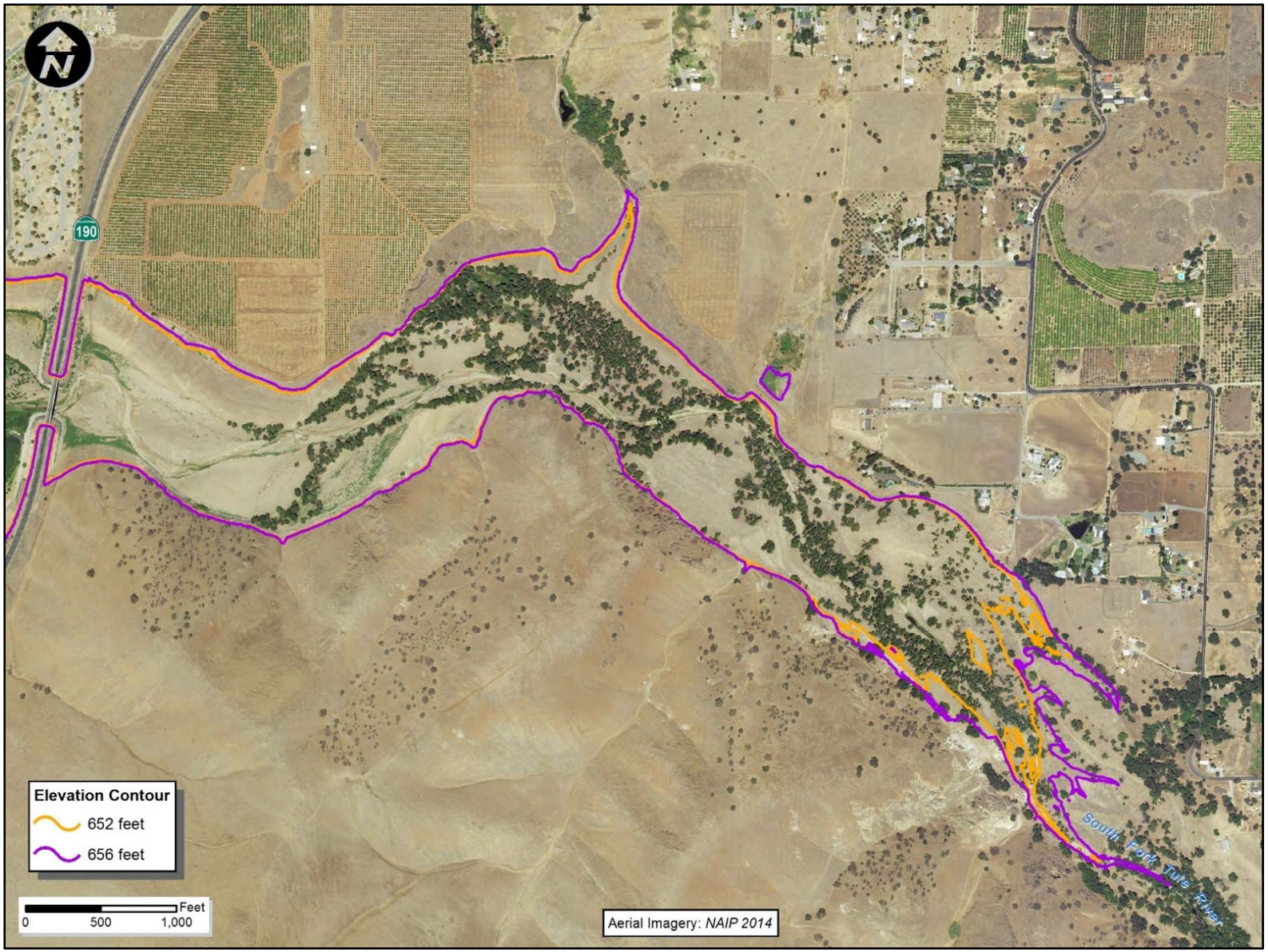

Figure 5. South Fork Tule River Area Footprint.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the environmental resources in the project area, as well as any effects of the alternatives on those resources. When necessary, mitigation measures are also proposed to avoid, reduce, minimize, or compensate for any significant effects.

3.1 Environmental Resources Not Considered in Detail

Initial evaluation of the effects of the project indicated that there would likely be little to no effect on several resources. These resources are discussed below to add to the overall understanding of the project area.

3.1.1 Air Quality and Climate Change

Tulare County is located within the San Joaquin Valley Air Basin, which includes Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties. The basin is bordered by mountains on the west, south, and east; to the north, the basin extends to the Sacramento Valley Air Basin. For purposes of regulating and monitoring air quality, Tulare County is under the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District.

The proposed water control manual deviation at Success Lake would result in minor emissions of criteria pollutants and greenhouse gases from hauling sandbags and other materials to the spillway for installation. Once the sandbag wall is installed, which would take approximately 3 to 5 days, there would be no further impacts to air quality from the increased pool level. The temporary emissions from installation of the sandbag wall would not violate any Federal air quality standards and would not hinder the attainment of air quality or climate change objectives in the San Joaquin Valley Air Basin.

3.1.2 Fisheries

Success Lake is known for year round bass fishing. Success Lake also has a steady population of crappie, catfish, bluegill, and trout. Success Lake is planted several times in the fall with catchable-sized trout. There are no anadromous or estuarine species in Success Lake or Tule River because the river does not have an ocean outlet. Success Lake supports a quality warm water fishery. Common species found in the reservoir include Florida, northern, and spotted strains of bass; channel catfish (*Ictalurus punctatus*); black crappie (*Pomoxis nigromaculatus*); white crappie (*Pomoxis annularis*); carp (*Cyprinis carpio*); green sunfish (*Lepomis cyanellus*); redear sunfish (*Lepomis microlophus*); bluegill (*Lepomis macrochirus*); and threadfin shad (*Dorosoma petenense*). Implementation of the water control manual deviation and the temporary increased pool size would not impact fisheries resources in the reservoir.

3.1.3 Land Use and Socioeconomics

Success Lake falls within the Foothill Growth Management Plan for Tulare County. This plan includes a comprehensive statement of the development policies and standards that prescribe land use and circulation patterns for the foothill region of Tulare County. The plan encompasses 675,641 acres of land bounded on the east by the Federally owned parks in the Sierra Nevada and some privately owned lands on the San Joaquin Valley floor. Nearly 85 percent of the land within this region is dedicated to agricultural uses. The lands that are developable are located mainly along transportation corridors where geographic and geological characteristics are conducive to development. In total, less than 1 percent of land within this region is vacant or unused.

The Porterville Community Plan (1990) is unlike other community plans because it applies to the area surrounding an incorporated city rather than an unincorporated community. The plan covers areas inside an urban development boundary, but outside the city limits. The plan defines an urban boundary that guides development around the city. The policies of the plan guide future growth by establishing guidelines to achieve and maintain a well-balanced land use pattern, ensuring compatibility among adjacent uses and satisfying the economic, social, and environmental requirements of the community.

Factors that could constrain continued development of the city of Porterville include air quality, competition for commercial and industrial development from other urban areas (mainly Visalia and Tulare), and local and regional efforts to preserve prime agricultural land and open space. The project is located on Federally owned land. The proposed action would have no effects on or changes to land use plans.

Porterville is the third largest city in Tulare County with a population of 54,165 (U.S. Census, 2010). Tulare County has a population of 60.1 percent white, 60.6 percent Hispanic or Latino, 1.6 percent African American, 1.6 percent American Indian and Alaska Native, 3.4 percent Asian, 0.1 percent Pacific Islander, and 4.2 percent two or more races, with 25.8 percent of the population below the poverty level (U.S. Census, 2010). In Porterville, the population is 58.8 percent white, 61.9 percent Hispanic or Latino, 1.2 percent African American, 1.9 percent American Indian and Alaska Native, 4.7 percent Asian, 0.1 percent Pacific Islander, and 4.7 percent two or more races, with 25.8 percent of the population below the poverty level (U.S. Census, 2010). The statewide average is 12.2 percent of the population below the poverty level (U.S. Census, 2010). No relocations would occur as a result of the water control manual deviation, and no populations would be displaced as a result of approving the temporary change in operation.

During years with heavy precipitation and an extremely large snowpack, floodwater volume to the Tulare Lakebed typically increases and results in flooding of additional land and thus loss of agriculture. Agricultural workers are predominantly made up of minority populations. If the proposed water control manual deviation is not approved, jobs lost as a result of reduced agricultural production could adversely affect minority or low income populations. However, with implementation of the deviation, there would be little to no adverse effects on minority or low income populations.

3.1.4 Noise

Success Lake is surrounded by a natural environment. The nearest sensitive receptors are in the city of Porterville approximately 5 miles away, and local wildlife and recreationists using the reservoir area. Construction of the sandbag wall would generate some noise in the immediate vicinity of the spillway during the 3 to 5 day construction period, however, this would be temporary noise and would not be of a volume that would exceed any local thresholds. Increasing the reservoir pool temporarily would not impact noise levels in the Success Lake area. As a result, the proposed water control manual deviation would have little to no effect on noise.

3.1.5 Topography, Geology, and Soils

Success Lake is located within the foothills of the southern Sierra Nevada. Northwest and southwest trending hills and broad valleys typify the area. The foothill belt is 5 to 12 miles wide and merges with increasing relief into the Sierra Nevada. The Tule River is the major stream in this area, with about 390 square miles of Tule River drainage above Success Lake. The valley area downstream of the dam is relatively flat due to alluvial deposits from the river.

All rock within the area, with the exception of alluvium, is part of the "bedrock complex" of the Sierra Nevada. There are five different Quaternary surficial deposits mapped at the Success Dam site. These fan, alluvium, and terrace deposits are reported as consolidated to loose, and most have been determined liquefiable. The underlying bedrock is a complicated sequence of Mesozoic age metamorphic igneous, volcanic, and sedimentary rocks. The rock is differentially weathered. At the downstream toe of Success Dam, drill holes encountered decomposed to intensely weathered rock, which was determined to be nonliquifiable.

The bedrock is relatively impermeable in the weathered zones near the surface and in areas where the weathering is deep seated. The underlying less weathered rock is found to be permeable through fractures in the rock. Drill holes and relief wells at the downstream toe of Success Dam encountered artesian water.

Soils in the region are residual soils, which were formed by weathering of the bedrock complex and terrace deposits, and slopewash where movement of the residual soils by gravity has occurred. Alluvial materials at the dam site are recent alluvium, older alluvium, terrace deposits, and alluvial fan deposits. The proposed water control manual deviation and increased reservoir levels would have no effect on topography, geology, and soils.

3.1.6 Visual Resources

Success Lake is surrounded by a natural environment in the southern Sierra foothills. Currently, the conservation space elevation fluctuates seasonally, with a corresponding change in the viewshed at the reservoir. The proposed water control manual deviation and increased reservoir pool size would have a temporary effect on visual resources from the presence of the

sandbag wall and the increased reservoir level. However, this temporary effect would be minor and conditions would return to normal following the deviation.

3.2 Cultural Resources

3.2.1 Existing Conditions

Prior to the construction of the Success Lake Dam, the current project area of potential effects (APE) has been utilized historically for ranching. Travel corridors for State Route 190 and the Springville Branch of the Porterville Northeastern/Southern Pacific Railroads also traversed through what is now the body of the lake. A limited number of previous investigations have occurred in the vicinity surrounding the reservoir. Early cursory inventories recorded several of the milling station features and the magnesite mine listed in the section below. Aside from the inventory for the current project, the most recent inventory within the project APE was completed on the western portion of the lake in 2006. Following the inventory, several documented sites were geotechnically tested for subsurface potential. The testing yielded a low potential for buried cultural deposits for sites within the current project APE.

As an interim measure during high water years, the TRA has periodically requested a water control manual deviation to better control releases during snow melt and avoid downstream flooding impacts. The TRA has implemented a sandbag barrier in the spillway of Success Dam previously in 1967, 1969, 1982, and 1998.

Records and Literature Search. The entire project area discussed in this document was subject to a record search at the Southern San Joaquin Valley Information Center, and a Scared Land File Search was also completed through the Native American Heritage Commission. In addition, an archaeological survey of the APE was performed between March 16, 2017 and March 22, 2017 by Corps archaeologists. The purpose of the survey was to identify all previously recorded sites and document unknown sites within inundation zone of the project. Previously identified sites were evaluated for their eligibility for listing in the National Register of Historic Places (NRHP). NRHP recommendations were also completed for newly documented sites. As a result of the survey, it was determined that 11 sites exist in the project APE. These sites are expected to be inundated by the project undertaking when the reservoir level is raised.

3.2.2 Environmental Effects

Basis of Significance. Any adverse effects on cultural resources that are listed or eligible for listing in the NRHP (i.e., historic properties) are considered to be significant. Effects are considered to be adverse if they:

- Alter, directly or indirectly, any of the characteristics of a cultural resource that qualify that resource for the NRHP so that the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association is diminished.

No Action. Under the no action alternative, no deviation from the water control manual would be implemented. The reservoir levels would not temporarily increase, and there would be no effect on cultural resources existing in the project area because current conditions would remain unaltered. Conversely, the no action alternative would also allow for water releases from Success Lake to increase, potentially causing downstream flooding in the Tulare Lakebed. The impacts of this flooding are speculative, but are assumed to include impacts to up to 25,000 acres of land. The flooding could impact previously documented and unidentified historic properties.

Proposed Action. Effects to cultural resources would be from water inundation through the raising of the water level along the project APE, which is a narrow strip of Success Lake's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.5 feet above sea level. Only one of the 11 sites, historic magnesite mining site CA-TUL-970, is potentially eligible for listing in the National Register of Historic Places (NRHP). Possible water inundation is expected to have no potential impacts on any of the sites listed below. Therefore, pursuant to 36 CFR 800.4(d)(1), the Corps is currently seeking concurrence that the current project will have no adverse effects to historic properties:

- CA-TUL-970/H − Historic-era magnesite mine
- CA-TUL-972H − Historic-era house foundations, historic privies, dumps, trash scatters, and a Prehistoric lithic scatter
- CA-TUL-974 – Prehistoric-era bedrock milling site
- CA-TUL-2662/H – Historic-era privies, trash dumps, and scatters and a Prehistoric-era bedrock milling site
- CA-TUL-2663/H – Historic-era concrete structure pads
- CA-TUL-2667/H – Historic-era foundations, privies, dumps, and scatters
- P-54-005027 – Vincent 220kV Transmission Line
- LS-1 − Prehistoric-era bedrock milling site
- LS-3 – Historic-era Porterville Northeastern Railroad/Southern Pacific Railroad
- LS-4 – Historic-era State Route 190 and two road segments
- LS-5 – Historic-era Masonry fence

3.2.3 Mitigation

The monitoring program will serve as mitigation for all 11 sites documented in the inundation zone (APE). To monitor the potential effects of the undertaking on cultural resources within the APE, wooden datum stakes were placed near the features of each site. The location of each stake was recorded using a GPS unit. These were then used as reference points from which digital photographs were taken to document the conditions of each site during the survey and prior to inundation from the raised reservoir level. Provenience data and the direction of each photograph taken from datum stakes were recorded so that similar data can be recorded following the deviation project. The frequency of monitoring trips is still being defined through consultation with the SHPO and interested Native American Tribes. Once the frequency of monitoring trips is determined, photographic data collect will allow for comparison of before and after conditions and possible effects to inundated sites within the APE. The monitoring program was determined to be the most fruitful form of mitigation, considering that only the magnesite mine site (CA-TUL-970) is recommended as a significant resource. It is expected that the raised water level will only minimally inundate the mining site and the low energy action of the water is not believed to have the potential to impact the site. Through assessing inundation on all 11 of the project sites, the monitoring program will also serve as a baseline study for future project where similar impacts will occur.

3.3 Recreation

3.3.1 Existing Conditions

Water-based recreational opportunities to local residents and tourists are considered a significant part of the economy in the Porterville area. Water sports, camping, hunting, fishing, boating, and picnicking are main attractions of Success Lake. There are a number of other water use activities such as jet skiing, boating, and swimming. About 15 to 20 percent of the total recreational use is devoted to fishing. Because of the reservoir's outstanding warm water fishery, fishing is actively pursued each month of the year, with fishing tournaments almost every weekend.

Success Lake recreation facilities include day-use areas, camping facilities, and a commercial marina. Boating and fishing are allowed 24 hours, and the summer night bass fishing is excellent. There is one marina located on the reservoir. Boat rentals, boat slips, jet skis, bait, tackle, food, and fuel are available at Success Lake Marina located on the east side of the reservoir. Overnight houseboat rentals are also available from Success Lake Marina.

Other facilities include the park headquarters, Rocky Hill, Tule, and Vista Point recreation areas, and a wildlife area. The park headquarters is a day-use area that receives fewer than 2,000 visitors annually. Two parking lots provide space for 30 cars. An interpretive trail is onsite. Rocky Hill is a day-use area that is popular for picnicking and fishing. There are eight picnic sites and enough parking for 50 cars/trailers. One launch ramp (two lanes), a courtesy

dock, and a fish cleaning station are provided. Tule is available for both day-use and camping opportunities. Water, toilets, eight large arbors, multiple picnic sites, and two parking lots provide parking for 125 cars/trailers. Year-round camping is provided at 104 sites. Additionally, two launch ramp (four lanes), and two courtesy docks are provided. Vista Point is a day-use facility that is void of both water and toilet facilities. The facility has enough parking for 25 cars. The Wildlife Area is a day-use site with well water, toilet facilities, and enough parking for 50 car/trailers. The 1,400-acre wildlife area on the northwest side of the reservoir is open for public use with hunting allowed, shotguns only, during appropriate seasons. Parking around the reservoir is limited to 400 designated spaces; however, adequate parking is available on roadsides surrounding the reservoir.

Annual recreation use in and immediately around the reservoir reaches approximately 500,000 visits, with its peak use during the months of April through July. Recreational visitation numbers indicate that Success Lake has consistently had between 2.5 and 3 million visitor-hours each year. Based on an 8-hour recreation visitor-day, it is estimated that 350,000 recreation visitor-days are spent in and around Success Lake.

3.3.2 Environmental Effects

Basis of Significance. An alternative would be considered to have a significant effect on recreation if it would result in loss of recreational facilities, cause a substantial disruption in a recreational activity or opportunity, or substantially diminish the quality of the recreational experience.

No Action. Under the no action alternative, no deviation from the water control manual would be implemented. The reservoir levels would not temporarily increase, and recreation and access at Success Lake would be expected to remain as it is today. Not implementing the deviation could result in downstream flooding, which could affect the ability to do informal downstream recreation activities on the Tule River. However, since this downstream flooding would be in compliance with the water control manual, it would be considered to be part of standard reservoir operations and the associated impacts would not be subject to any mitigation. As a result, these impacts would be considered significant and unavoidable.

Proposed Action. Increasing the Success Lake pool elevation would not negatively impact the reservoir's water-based recreation activities. However, the sandbag wall would be installed across the spillway road (Avenue 146/Worth Drive) and therefore, the road would be closed for the duration of the up to 90 day deviation. This road closure would impact land-based vehicular access to the Rocky Hill Recreation Area. Rocky Hill Recreation Area represents approximately 15% of the total visitation to the lake.

During past implementation of the spillway barrier, visitors needing to launch boats would go to the Tule Recreation Area to launch. Recreationists would use the Rocky Hill Recreation Area by boating across the reservoir and setting up a day camp. Recreationists that access Rocky Hill by car would be relocated to the Tule and Vista Point recreation areas during 90-day deviation period. This increase in use at Tule and Vista Point are not expected to

diminish the quality of the recreation experience at those locations, nor would any substantial damage or wear to those facilities be expected as a result of this relocation of activities. While there are some picnic sites in the Rocky Hill Recreation Area, most of the developed picnic sites are in the Tule Recreation Area and would be enhanced with the higher lake level making them closer to the water.

No recreation facilities would be permanently lost as a result of the proposed water control manual deviation. The quality of the recreational experience would be slightly diminished by the proposed action due to the temporary loss of access to the parking facilities in the Rocky Hill Recreation Area. Even though the closure of the Rocky Hill Recreation Area may cause a short term disturbance to a limited number of recreationists, the additional storage of water will ensure a longer recreation season with more water in the lake for the 4th of July and Labor Day Holidays, providing enhanced recreational opportunities for the larger recreating public. As a result, the temporary effects to recreation would be considered less than significant.

3.3.3 Mitigation

Since the disruption in access to the Rocky Hill Recreation Area is temporary in nature, and other recreation areas around the reservoir will be accessible and available to recreationists to provide the same recreation opportunities, this effect is considered less than significant, and no mitigation is proposed.

3.4 Special Status Species

3.4.1 Existing Conditions

Certain special-status species and their habitats are protected by Federal, State, or local laws and agency regulations. The Endangered Species Act (FESA) of 1973 (16 U.S.C. § 1531 – 1599) provides legal protection for plant and animal species in danger of extinction (50 CFR Part 17). This act is administered by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Other special status species lack legal protection, but have been characterized as “sensitive” based on the policies adopted by local government and the expertise of agencies like the California Department of Fish and Wildlife (CDFW).

A list of Federally listed and candidate species, and species of concern that may be affected by the project in U.S. Geological Survey Quad Success Dam was obtained on 6 March 2017 via the USFWS Information for Planning and Consultation (IPaC) website (USFWS 2017). Additionally, a search of the California Natural Diversity Database (CNDDB) conducted on 20 March 2017 indicated that there were reported occurrences of Federal and State listed species near the project area. The following Federally listed species are potentially affected by project activities at Success Lake and were considered in the 2017 Success Dam Water Control Manual Deviation Biological Assessment (Appendix A):

- Southwestern Willow Flycatcher (*Empidonax traillii)* U.S. Endangered
- San Joaquin Kit Fox (*Vulpes macrotis mutica)* U.S. Endangered
- San Joaquin Adobe Sunburst (*Pseudobahia peirsonii)* U.S. Threatened
- California Red-legged frog (*Rana draytonii)* U.S. Threatened

The following special-status species were considered but not evaluated fully:

- California Condor (*Gymnogyps californianus)* U.S. Endangered
- Keck's Checkermallow (*Sidalcea keckii*) U.S. Threatened
- Striped Adobe Lily (*Fritillaria striata*) CA Threatened

The only species listed above with designated critical habitat in the Success Lake area is the California condor. However, there is no appropriate nesting habitat for the condor within the project area. As a result, the Corps has determined the proposed project will have no impacts on the condor. Keck's checkermallow and the striped adobe lily populations are near the reservoir, but outside of the inundation area, therefore the pool increase will not affect their survival. These special-status species will not be affected by the proposal and therefore are not further discussed.

Following completion of consultation on the proposed Success Lake deviation, the Corps informally coordinated with the USFWS on the Federally endangered Least Bell's Vireo (*Vireo bellii pusillus*) due to updated information indicating the potential presence of the vireo in the Success Lake area. As a result, this section has been revised to include discussion of the vireo.

Southwestern Willow Flycatcher. Southwestern willow flycatchers (*Empidonax traillii)* are neotropical migrants that breed in patches of riparian habitat throughout the American southwest. Their breeding habitat currently ranges from southern California, through southern Nevada, southern Utah, Arizona, New Mexico, southwestern Colorado, and historically included western Texas and extreme northwestern Mexico. They travel south to winter ranges in Mexico, Central America, and northern South America. While their current distribution is similar to their historic range, southwestern willow flycatcher population numbers have declined precipitously in response to the loss of suitable riparian habitat throughout the region.

The final critical habitat designation includes 1,227 floodplain miles in California, Arizona, Nevada, Utah, Colorado, and New Mexico encompassing a total area of approximately 208,973 acres within the 100-year floodplain or flood-prone areas. Success Lake is outside the designated critical habitat area. Where the Tule River flows into Success Lake there is about 160 acres of willow riparian woodland that is adequate southwestern willow flycatcher habitat. From a Google Earth review of the project area, the habitat appears to be mixed willow and blue oak woodland. Figure 5 displays the general nesting timeline for the Success Lake area.

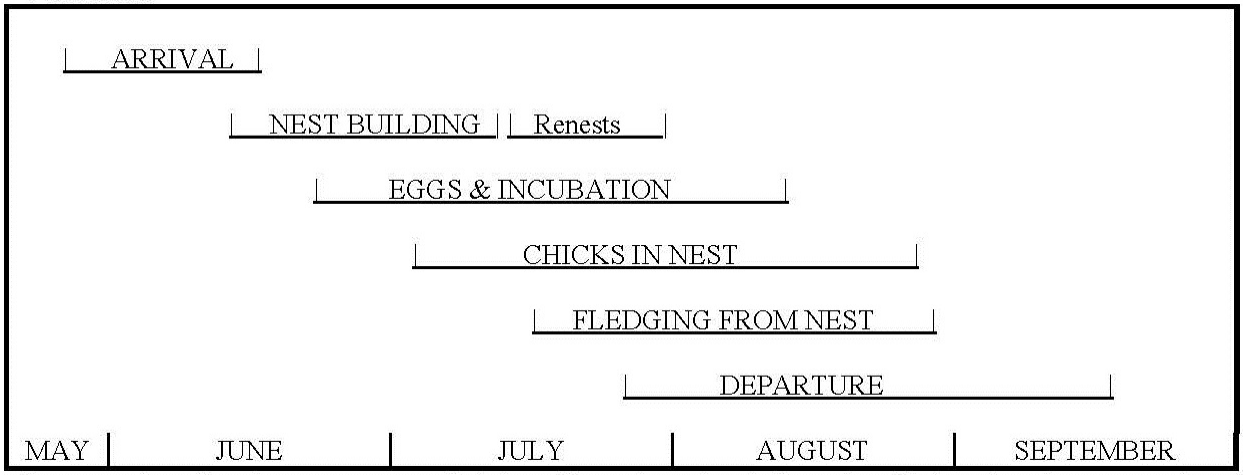

Figure 5. General Willow Flycatcher Breeding Chronology for Central and Northern California.

San Joaquin Kit Fox. Historically, the San Joaquin kit fox (*Vulpes macrotis mutica)* occurred in several San Joaquin Valley native plant communities. In the southernmost portion of the range, these communities included valley sink scrub, valley saltbush scrub, upper Sonoran subshrub scrub, and annual grassland. San Joaquin kit foxes also exhibit a capacity to utilize habitats that have been altered by man. Kit foxes can inhabit the margins and fallow lands near irrigated row crops, orchards, and vineyards, and may forage occasionally in these agricultural areas (USFWS 1998).

The kit fox typically inhabits open grasslands, which form large contiguous blocks within the eastern portions of its range. The listed canine also utilizes oak savanna and some types of agriculture (e.g. orchards and alfalfa). Orchards occur in large contiguous blocks in the northwest portions of the study area and at scattered locations in the southwest portions. Orchards sometimes support prey species if the grounds are not manicured; however, denning potential is typically low and kit foxes can be more susceptible to coyotes predation within the orchards (Bell 1994; Scott-Graham 1994). Although agricultural areas are not traditional kit fox habitat and are often highly fragmented, they can offer sufficient prey resources and denning potential to support small numbers of kit foxes. Low, suitable habitat is present, but the project area is at the edge of the species current known range. The kit fox has been documented in the nine surrounding quads but greater than 5 miles from the study area (CDFW 2017). USFWS has advised that the kit fox may potentially use the area for foraging or as a movement corridor.

San Joaquin Adobe Sunburst. The San Joaquin adobe sunburst (*Pseudobahia peirsonii*) is a member of the sunflower family (Asteraceae) and has woolly gray stems and foliage. Each plant produces a single head of yellow disk and ray flowers at the ends of the branches between March and May. San Joaquin adobe sunburst is restricted to heavy, adobe clay soils with slight slopes on valley floors and rolling hills in scattered location in northern Kern County, Tulare, and Fresno Counties. These soils may be favored by the San Joaquin adobe sunburst for their moisture holding capacity in the summer dry season. This plant is endemic to the eastern San Joaquin Valley. The population is limited to about 31 occurrences in valleys and flats and in the foothills of the Sierra Nevada (USFWS 1992). It occurs at elevations ranging from 500 to 2,500

feet above mean sea level primarily in annual grassland plant communities, but sometimes in annual grassland-blue oak woodland ecotone communities. San Joaquin adobe sunburst grows in grasslands dominated by non-native annual grasses, mustards, and filarees. The intrusive and aggressive nature of these herbaceous weeds appears to be detrimental to the quality of habitat for the San Joaquin adobe sunburst.

The extant population at Success Lake is considered in fair condition and a remnant population of a larger one that used to occupy an area that is now part of Success Lake. The Success Lake extant population of San Joaquin adobe sunburst has varied from 50 to over 300 individual plants in four different areas covering an estimated 10-acre area along the west side of Success Lake and Boat Island. In addition there is a small population on the south side of the inlet where the South Fork of the Tule River enters Success Lake (USFWS 1991; Corps 2009). The population on Boat Island would not be impacted by the proposed water control manual deviation and is not discussed further in this document.

California Red-legged Frog. The California red-legged frog (CRF) *(Rana draytonii)* is a relatively large aquatic frog ranging that can appear from above as brown, gray, olive, red or orange, often with a pattern of dark flecks or spots. The undersides of adult California red-legged frogs are white, usually with patches of bright red or orange on the abdomen and hind legs. CRF occur in different habitats depending on their life stage, the season, and weather conditions. Range-wide, and even within local populations, there is much variation in how frogs use their environment. All life history stages are most likely to be encountered in and around breeding sites, which are known to include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. Creeks and ponds where CRF are found most often have dense growths of woody riparian vegetation, especially willows (*Salix* spp.) (Hayes and Jennings 1988).

The California red-legged frog was probably extirpated from the floor of the Central Valley before 1960 (USFWS 1996). Because populations of frogs may be extirpated with some frequency, occurrence data may not adequately describe the status of the species in a region. In 2010 the USFWS designated 1,636,609 acres of final revised critical habitat in 27 California counties under the Endangered Species Act of 1973. Success Lake is not within the critical habitat designation; however, where the Tule River flows into Success Lake there is about 160 acres of willow riparian woodland that may be adequate CRF habitat.

Least Bell's Vireo. The least Bell's vireo is a riparian species that typically inhabits structurally diverse woodlands such as cottonwood bottomland forest, sycamore alluvial woodland, arroyo willow riparian forest, and mulefat scrub. Habitat requirements generally feature variable height structures including dense cover within 6 feet of the ground for nesting and a dense stratified canopy for foraging. This type of structure is most often associated with early successional riparian habitat, but the age of the vegetation is less important than the structure diversity. Least Bell's vireos are insectivorous and will often forage insects directly from vegetation (USFWS 1998).

Least Bell's vireo have been observed arriving in southern California in mid-March to early April, with nest building activities occurring a few days after pair formation. Nests are typically constructed in the fork of a tree or shrub within three feet of the ground. Egg laying begins shortly after nest completion, with incubation lasting approximately 14 days. An additional 10 to 12 days are required for fledging, though adults continue to care for the young at least two weeks after fledging. Re-nesting is common, though there have been few documented instances of re-nesting past July (USFWS 1998).

In the Success Lake area, there were reports of the vireo's presence in the Tule River riparian zone on the north east side of the reservoir in 2014. All documented nests were within the reservoir's gross pool zone (Corps 2014).

3.4.2 Environmental Effects

Basis of Significance. Adverse effects on special status species were considered significant if an alternative would result in any of the following:

- Direct or indirect reduction in the growth, survival, or reproductive success of species listed or proposed for listing as threatened or endangered under the ESA.
- Direct mortality, long-term habitat loss, survival, or reproductive success of Federally-listed threatened or endangered animal or plant species.
- Have an adverse effect on a species' designated critical habitat

No-Action Alternative. Under the no action alternative, there would be no effects on existing special status species or critical habitat at Success Lake. Reservoir levels would be subject to the current seasonal changes in gross pool. Downstream flooding could adversely affect special status species through habitat destruction or drowning. Since this downstream flooding would be in compliance with the water control manual, it would be considered to be part of standard reservoir operations and the associated impacts would not be subject to any mitigation. As a result, these impacts would be considered significant and unavoidable.

Proposed Action. The proposed planned water control manual deviation would provide an additional 10,000 acre-feet of flood control space at Success Lake for the current snowmelt season. This increase in flood control space would cause reservoir levels to rise which could result in the flooding of Federally listed special status species. The action could cause direct and indirect effects to the Southwestern willow flycatcher, San Joaquin kit fox, San Joaquin adobe sunburst, and the California red-legged frog. The deviation would last approximately 90 days beginning in May 2017.

Southwestern Willow Flycatcher. Effects to the southwestern willow flycatcher may occur if the proposed increase in gross pool floods willow flycatcher habitat and established nests. Success Lake is located north of the designated critical habitat, therefore there will be no destruction to willow flycatcher critical habitat. Where the Tule River enters the reservoir in the northeastern corner there is approximately 160 acres of Willow Riparian Woodland habitat. Most

of this riparian area would flood on an annual basis at maximum reservoir levels. With the proposed action, approximately 2.3 acres would be additionally flooded. Most flooded areas contain sparsely populated trees in oak woodland. The estimated impacted area of higher quality habitat, willow and oak overstory with herbaceous understory, would be approximately 1.5 acres. The proposed water control manual deviation could potentially result in direct effects to nesting southwestern willow flycatchers if the water levels increase after the start of nesting season. Potential impacts from habitat damage or disturbance could include nest abandonment, lifecycle disruption, or direct mortality. However, since the reservoir levels have remained high throughout the spring nesting season, it is unlikely that suitable nesting habitat was present for the flycatcher. As a result, the additional reservoir footprint associated with this deviation would have no effect on the Southwestern willow flycatcher.

San Joaquin Kit Fox. Effects to the San Joaquin kit fox may occur if the proposed increase in gross pool floods kit fox foraging habitat or existing dens. While there is no designated critical habitat for the kit fox, the surrounding area at Success Lake consists of open grasslands, oak savanna and agriculture; all are ideal habitat. Common den locations include washes, drainages and roadside berms. The proposed water control manual deviation could potentially result in direct effects to the San Joaquin kit fox. Potential impacts from habitat damage or disturbance could include den abandonment, lifecycle disruption, or direct mortality to pups. While San Joaquin kit foxes have been known to den in nearly all soil types, as long as they are loose-textured and friable, denning within several feet of the reservoir is unlikely due to the presence of wet soils and a high water table. As a result, it is unlikely that they would be affected by the proposed water control manual deviation. Effects to San Joaquin kit fox would be less than significant, with the implementation of proposed mitigation.

San Joaquin Adobe Sunburst. Effects to the San Joaquin adobe sunburst may occur if the proposed action floods the historically known populations on the Porterville clay around Success Lake. There are two CNDDB reported populations in the Rocky Hill Recreation Area that border the proposed reservoir level. The Corps believes that an estimated 0.25 acres could be flooded of known populations of adobe sunburst at the Rocky Hill Recreation Area. Another CNDDB reported population exists along the bank of the South Fork of the Tule River approximately a mile upstream of the Highway 190 bridge crossing. The Corps estimates that flooding could affect approximately 0.1 acres of the adobe sunburst at this location. The proposed water control manual deviation could result in direct effects to the San Joaquin adobe sunburst. The adobe sunburst flowers from March to April so flooding in May would affect the plants reproductive success. If the adobe sunburst was not able to complete its life cycle, certainly these metapopulations would cease to exist and hence remove quality genetic material from the gene pool. As a result, there is a potentially significant effect to San Joaquin adobe sunburst; however, with the proposed mitigation described below, this effect would be reduced to less than significant.

California Red-legged Frog. Effects to the CRF may occur if the proposed action floods the Willow Riparian Woodland habitat. There is no critical habitat near the Success Lake and no reports of CRF in Tulare County. Historically CRF was found in the area but is believed to have been extirpated. CRF are mostly found in dense growths of woody riparian vegetation, especially willows which are present near the inflow from Tule River. The estimated impact to suitable

habitat would be approximately 2.3 acres. It is, however very unlikely that any California red-legged frogs live in Success Lake or that the area could be repopulated by neighboring metapopulations. As a result, there would be no effect to CRF from the proposed water control manual deviation.

Least Bell's Vireo. Effects to the vireo may occur if the proposed increase in gross pool floods riparian habitat and established nests. Success Lake is not located within designated critical habitat, therefore there will be no destruction to vireo critical habitat. Where the Tule River enters the reservoir in the northeastern corner there is approximately 160 acres of Willow Riparian Woodland habitat. Most of this riparian area would flood on an annual basis at maximum reservoir levels, and has been flooded throughout the spring of 2017. With the proposed action, approximately 2.3 acres would be additionally flooded. Most flooded areas contain sparsely populated trees in oak woodland. The estimated impacted area of higher quality habitat, willow and oak overstory with herbaceous understory, would be approximately 1.5 acres. The proposed water control manual deviation could potentially result in direct effects to nesting least bell's vireos if the water levels increase after the start of nesting season. Potential impacts from habitat damage or disturbance could include nest abandonment, lifecycle disruption, or direct mortality. However, since the reservoir levels have remained high throughout the spring nesting season, it is unlikely that suitable nesting habitat was present for the vireo. As a result, the additional reservoir footprint associated with this deviation would have no effect on the least Bell's vireo.

3.4.3 Mitigation

The following mitigation measures would be implemented to minimize effects on the special status species and the potential habitat disruption that may occur during the proposed water control manual deviation. With the implementation of these measures, effects to special status species would be less significant.

<u>Southwestern Willow Flycatcher and Least Bell's Vireo</u>

- An employee education program consisting of a brief presentation by persons knowledgeable in southwestern willow flycatcher biology and legislative protection will be conducted prior to increasing the reservoir pool.

San Joaquin Kit Fox

- An employee education program consisting of a brief presentation by persons knowledgeable in kit fox biology and legislative protection will be conducted prior to increasing the pool. The program should include the occurrence of kit fox in the area and an explanation of the species status and protection under the ESA.
- A representative shall be appointed who will be the contact for any employee/contractor who might find a dead, injured or entrapped kit fox. This representative shall contact the USFWS immediately.

San Joaquin Adobe Sunburst

- Prior to implementation of the sandbag barrier, survey known (CNDDB) San Joaquin adobe sunburst populations to confirm the elevation of the population. In locations where reservoir levels will reach known populations, flood preventative measures should be implemented, such as sandbags or other removable structural barriers to ensure that the adobe sunburst population is not flooded.
- An employee education program consisting of a brief presentation by persons knowledgeable in adobe sunburst biology and populations and legislative protection will be conducted prior to increasing the reservoir pool.
- Off-roading would be prohibited near known populations to prevent the destruction of populations near road sides.

3.5 Traffic

3.5.1 Existing Conditions

State Route 190 is a lightly traveled highway going from Porterville, along Success Lake, to Springville and Eagle Mountain Casino. The casino, whose entrance is about 10 miles north of Success Lake, is operated on the Tule Indian Reservation. Highway 190 is the primary access for the casino, especially on weekends. Springville, with a population of approximately 1,100, is residence to many commuters who travel State Route 190 to Porterville during the week. Avenue 146 also connects the city of Porterville to Success Dam at the southern end of the reservoir. The Success Lake Recreation Area is accessible from the town of Strathmore via Avenue 196 to Avenue 176.

3.5.2 Environmental Effects

Basis of Significance. An alternative would be considered to have a significant effect on traffic if it would result in a substantial increase in traffic volume, an increase in safety hazards on an area roadway, or cause substantial deterioration of the physical condition of the area roadways.

No Action. Under the no action alternative, no deviation from the water control manual would be implemented. The reservoir levels would not temporarily increase, and traffic and would be expected to remain as it is today. Downstream flooding in the Tulare Lakebed could cause a potentially significant impact to traffic through the flooding of roadways and the associated disruption to traffic conditions. However, since this downstream flooding would be in compliance with the water control manual, it would be considered to be part of standard reservoir operations and the associated impacts would not be subject to any mitigation. As a result, these impacts would be considered significant and unavoidable.

Proposed Action. There would be no impact to State Highway 190 from the increase in reservoir levels associated with the water control manual deviation. Traffic would not be substantially increased on any roadway. However, the sandbag wall would be installed across the spillway road (Avenue 146/Worth Drive) and therefore, the road would be closed for the duration of the up to 90 day deviation. This road closure would impact land-based vehicular access to the Rocky Hill Recreation Area and to one resident. There could be some deterioration to the spillway road upstream of the sandbag wall due to flooding. Additionally, cutting off access to the resident could be considered a significant effect. However, with the implementation of proposed mitigation, this impact would be reduced to less than significant.

3.5.3 Mitigation

The following mitigation measures would be implemented to minimize effects on traffic that may occur during the proposed water control manual deviation to less than significant.

- Provide a temporary detour to the resident impacted by the spillway road closure. The detour would be on existing roadways across private land and would connect the resident to county roadways. Preconstruction coordination has occurred with both the resident and the landowner providing the detour.
- Restore the spillway road to its preconstruction condition, as needed, following removal of the sandbag wall.

3.6 Vegetation and Wildlife

3.6.1 Existing Conditions

Habitat types found in Tulare County include alpine habitat, annual grassland, barren, chaparral, conifer forest, conifer woodland, desert scrub, hardwood forest, open water, mixed hardwood/conifer forest, riparian, urban, vineyard/cropland, and wetlands. The primary habitat types found around Success Lake are annual grassland, open water, and vineyard/cropland.

A total of three eco-region sections exist in Tulare County. These sections apportion the county in a north-south pattern. The majority of the western portion of the county comprises the Great Valley Section, the majority of the eastern portion of the county is in the Sierra Nevada Section, and a small section between these two sections comprises the Sierra Nevada Foothill Area. Success Lake lies primarily in the Great Valley Section.

The natural vegetation of the Great Valley Section is predominately characterized by the purple needlegrass series, valley oak series, vernal pools and wetland communities, and blue oak series. Fauna associated with this section include mule deer, black-tailed deer, coyotes, jackrabbits, kangaroo rats, kit fox, and muskrats. Birds include waterfowl, hawks, golden eagles, owls, white-tailed kites, herons, western meadowlark, and quail (USFS, 2005). In addition, burrowing owls were observed on the east side of the reservoir in March 2017.

The main dam area is characterized by a flat river valley, flanked on the right by a moderately steep hill abutment and on the left by a low wide terrace. The rolling hills around the reservoir are dotted with oaks, sycamores, cottonwoods, and willows. The upstream limit of Success Lake where it currently submerges the Tule River is a thriving willow and cottonwood habitat. Higher reservoir levels usually inhibits significant willow growth during normal wet years. As the reservoir level drops during the hot summer months and especially drought years, willows generally survive the harsh summer climates if they are located in saturated reservoir bottom areas. Success Lake has recently experienced several years of drought, and as a result there has been an increase in willow establishment at lower elevations in the reservoir. Willow removal is a part of ongoing operation and maintenance practices at the reservoir in order to ensure that vegetation growth during low water levels does not impact long-term gross pool space within the reservoir. Changes to current willow removal practices are not part of this proposed deviation.

3.6.2 Environmental Effects

Basis of Significance. An alternative would be considered to have a significant effect on vegetation and wildlife if it would permanently remove or disturb sensitive native communities, or significantly reduce the amount of native vegetation and wildlife habitat in the project area.

No Action. Under the no action alternative, no deviation from the water control manual would be implemented. The reservoir levels would not temporarily increase, and vegetation and wildlife conditions at Success Lake would be expected to remain as it is today. Downstream flooding in the Tulare Lakebed could cause a potentially significant impact to vegetation and wildlife through the flooding and potential destruction of habitat and the associated displacement of wildlife species along the Tule River. Since this downstream flooding would be in compliance with the water control manual, it would be considered to be part of standard reservoir operations and the associated impacts would not be subject to any mitigation. As a result, these impacts would be considered significant and unavoidable.

Proposed Action. Riparian vegetation, particularly near the Tule River portion of the reservoir, would be subject to extended durations of inundation during the proposed up to 90 day pool increase. In addition, approximately 2.3 acres of willow riparian woodland and oak woodland would be inundated along the Tule River in exceedance of the normal gross pool flooding. The remainder of the impacted area primarily consists of annual grassland areas. It is not anticipated that these habitats would be adversely affected by the temporary flooding, since the reservoir is expected to increase its elevation gradually. Additionally, the slow nature of the elevation increase would allow time for wildlife species, such as burrowing owls, using the riparian habitat areas or occupying burrows in the grasslands to relocate, unless nesting is occurring. Potential impacts from habitat damage or disturbance could include burrow abandonment, lifecycle disruption, or direct mortality to young. As a result, the effects to vegetation and wildlife from the temporary increase in reservoir levels could be significant. However, with the implementation of proposed mitigation, the impacts would be reduced to less than significant.

3.6.3 Mitigation

Impacts to vegetation are temporary in nature, and less than significant; therefore is no mitigation for vegetation is required. Avoidance and minimization measures may need to be implemented if any sensitive wildlife species, such as burrowing owl, are nesting within the project impact area. Surveys to determine presence of burrowing owls within the action area are ongoing. If presence is determined within the impact area, minimization measures would be developed in coordination with the appropriate resource agencies.

3.7 Water Quality

3.7.1 Existing Conditions

Tulare County is located within the jurisdiction of the Central Valley Regional Water Quality Control Board (CVRWQCB). Tulare County is included in the Water Quality Control Plan for the Tulare Lake Basin. This basin includes the drainage area of the San Joaquin Valley south of the San Joaquin River, and only drains north into the San Joaquin River in years of extreme rainfall. The basin comprises approximately 10.5 million acres, of which 3.25 million acres are in Federal ownership. The closed nature of the Tulare Lake Basin allows minimal subsurface outflow, which leads to an accumulation of salts due to importation and evaporative uses of water. As a result, the largest water quality problem in the basin is the accumulation of salts. Overdrafting groundwater for municipal, agricultural, and industrial uses compounds this problem.

The CVRWQCB attempts to maintain water quality through control of wastewater discharge. To regulate point sources of discharge, the agency administers the National Pollutant Discharge Elimination System permit program. Types of point sources in Tulare County include municipal wastewater, oil field wastewater, winery discharges, solid waste sites, and other industrial uses. Point source discharges must meet wastewater discharge requirements, or obtain a wastewater waiver. Non-point sources include drainage and percolation from agriculture, forestry, recreation, and stormwater runoff. Non-point sources are difficult to identify, but can be mitigated by State management practices.

3.7.2 Environmental Effects

Basis of Significance. An alternative would be considered to have a significant effect on water quality if it would violate water quality standards or waste discharge requirements, result in the loss of surface or groundwater sources, or interfere with existing beneficial uses or water rights.

No Action. Under the no action alternative, no deviation from the water control manual would be implemented. The reservoir levels would not temporarily increase, and water quality conditions at Lake Success would remain as it is today. Downstream flooding in the Tulare Lakebed could result in agricultural pesticides and other contaminants entering the watershed, resulting a potentially significant impact to water quality. However, since this downstream flooding would be in compliance with the water control manual, it would be considered to be part of standard reservoir operations and the associated impacts would not be subject to any mitigation. As a result, these impacts would be considered significant and unavoidable.

Proposed Action. Implementation of the proposed action would not result in significant effects to water quality. The construction footprint associated with installation of the sandbag wall is less than 1 acre, therefore there would be no associated National Pollutant Discharge

Elimination System permit or Stormwater Pollution Prevention Plan. There would be no reduction in water quality within the reservoir. Managing the flows to avoid downstream flooding would avoid downstream impacts from contaminants and pesticides entering the Tule River. Additionally, storing additional water in the reservoir for up to 90 days could allow for increased groundwater recharge in the area, which would benefit the city of Porterville, which runs primarily on well systems. As a result, impacts to water quality would be less than significant.

3.7.3 Mitigation

Since the impacts to water quality are less than significant, there is no mitigation proposed.

4.0 CUMULATIVE AND GROWTH-INDUCING EFFECTS

4.1 Growth-Inducing Effects

The proposed water control manual deviation would not induce growth in or near the project area. The deviation from the water control manual is a temporary action intended to respond to the significant snow pack in the Sierra Nevada mountain range, and would enable the TRA to better manage releases from the reservoir to avoid downstream flooding. Implementing the proposed action would not impact local development planning efforts. In addition, the proposed action would not require an increase in employment at the reservoir. The proposed action is temporary in nature and conditions would return to the existing condition following the up to 90-day change in operations.

4.2 Cumulative Effects

NEPA requires the consideration of cumulative effects of the proposed action combined with the effects of other projects. NEPA defines a cumulative effect as the effect on the environment which results from the incremental effect of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (CFR 40 Part 1508.7).

4.2.1 Local Projects

There are two projects currently proposed at Success Lake by the Corps. Neither of these project are currently scheduled for immediate construction, and are unlikely to contribute to cumulative impacts at Success Lake.

Tule River Project. The Tule River Project Feasibility Report and EIS/EIR was completed by the Corps in 1999. This project proposes a 10-foot raise of the Success Dam spillway. The project has been on hold while the Corps assesses the need for seismic remediation of Success Dam and has no estimated implementation date at this time.

Success Dam Seismic Remediation Project. The Success Dam Seismic Remediation Project is proposed under the Corps' Dam Safety Modification Program to address probable failure modes in Success Dam. The Seismic Remediation Project is currently on hold with no estimated implementation date.

4.2.2 Effects Analysis

Since the local projects discussed above would not be implemented during the temporary water control manual deviation, there would be no cumulative effects from the combination of these actions. However, implementation of the Tule River Project would result in a permanent increase in gross pool elevation that exceeds the proposed temporary increase from the water control manual deviation. Therefore, if implemented, the impacts to cultural resources, recreation, special status species, traffic, vegetation and wildlife, and water quality addressed in this EA would be permanent with potentially additional effects from additional flooded footprint. These effects were addressed in the 1999 EIS for the Tule River Project and would be further updated under any additional NEPA analysis associated with the future implementation of the Tule River Project. The footprint of the Success Dam Seismic Remediation Project would be primarily limited to the Dam itself, so there would be no overlap in impact area with the proposed water control manual deviation. As a result, there are no cumulative effects associated with the proposed water control manual deviation.

5.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Clean Air Act of 1972, as amended, 42 U.S.C. 7401, et seq. *Full Compliance*. The proposed action is not expected to violate any Federal air quality standards, exceed the U.S. EPA's general conformity *de minimis* threshold, or hinder the attainment of air quality objectives in the local air basin. The Corps has determined that the proposed project would have no significant effects on the future air quality of the area.

Clean Water Act of 1972, as amended, 33 U.S.C. 1251, et seq. *Full compliance.* The proposed action is not expected to adversely affect surface or ground water quality or deplete ground water supplies. No discharge of dredge or fill materials into navigable waters or adjacent wetlands would occur under the project. The proposed construction area is less than 1 acre, therefore the contractor would not be required to obtain a National Pollutant Discharge Elimination System permit or prepare a Stormwater Pollution Prevention Plan. The Corps has determined that the proposed project would have no significant effects on the future water quality of the area.

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531, et seq. *Full compliance.* On March 6, 2017, the Corps obtained a list from USFWS of Federally listed and proposed species likely to occur in the project area. After reviewing the species list and conducting a desktop survey of the potential action area, the Corps determined that four listed species have the potential to be affected by the proposed action: the San Joaquin kit fox, San Joaquin adobe sunburst, California red-legged frog, and Southwestern willow flycatcher. On April 5, 2017, the Corps initiated consultation with the USFWS and transmitted a Biological Assessment on the project. The Corps has determined that the proposed water control deviation may affect, but is not likely to adversely affect the kit fox, adobe sunburst, and willow flycatcher. The Corps has determined that there is no effect on the California red-legged frog. On April 20, 2017, the Corps received a letter from USFWS which concurred with the Corps' Biological Assessment. With the receipt of the concurrence letter from USFWS, the project is in full compliance with this Act. Following the April 20 concurrence letter, the Corps has informally coordinated with the USFWS on the Federally endangered least Bell's vireo. In an e-mail dated May 9, 2017, the USFWS concurred with the Corps' assessment that the increased water levels would have no effect on nesting vireos.

The Corps, as the action agency, has made the determination that there would be "no effect" on any listed species under the jurisdiction of NMFS. As a result, consultation is not required with NMFS under Section 7 of the Endangered Species Act.

Executive Order 11988, Floodplain Management. Executive Order 11988 was signed into law on May 24, 1977, requiring that Federal agencies provide leadership and take action to restore and preserve the natural and beneficial values served by floodplains. Before proposing, conducting, supporting, or allowing an action in the floodplain, each Federal agency must determine if planned activities would affect the floodplain and evaluate the potential effects of the intended action on the floodplain's functions.

Guidelines for compliance with Executive Order 11988 identify an eight-step process for agencies to use in determining how projects would have potential impacts to or within the floodplain. As described in this guidance, if a proposed action is located within the base floodplain (Step 1), where the "base floodplain" is the area which has a one percent or greater chance of flooding in any given year (also referred to as the "100-year Flood Zone," "Flood Hazard Area," or "0.1 Exceedance Area"), agencies should conduct early public review (Step 2), identify and evaluate practicable alternatives to locating in the base floodplain (Step 3), identify impacts of the proposed action (Step 4), develop measures to minimize the impacts and restore and preserve the floodplain as appropriate (Step 5), reevaluate alternatives (Step 6), and present the findings and a public explanation (Step 7), with the final step being to implement the action (Step 8) (FEMA, 2012).

Based on the above discussion, it has been determined that the proposed water control manual deviation would be in compliance with Executive Order 11988. The increased reservoir pool levels would have no adverse effects on floodplain function, and the proposed action is recommended as the most responsive option to planning objectives and requirements established by Executive Order 11988.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Full compliance*. This Executive Order states that Federal agencies are responsible for conducting their programs, policies, and activities that substantially affect human health of the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in, denying persons the benefits of, or subjecting persons to discrimination under such programs, policies, and activities because of their race, color, or national origin. During years with heavy precipitation and an extremely large snowpack, floodwater volume to the Tulare Lakebed typically increases and results in flooding of additional land and thus loss of agriculture. Agricultural workers are predominantly made up of minority populations. If the proposed water control manual deviation is not approved, jobs lost as a result of reduced agricultural production could affect minority or low income populations. However, with implementation of the deviation, there would be little to no effect on minority or low income populations.

Migratory Bird Treaty Act (15 U.S.C 701-18h). *Full compliance.* Construction would be timed to avoid physical destruction of active bird nests or young of birds that breed in the area from the increased inundation area. Because no removal of vegetation would be required for construction, no impacts to nesting migratory birds are anticipated. There could be potential impacts to burrowing owls, if they are nesting in the increased inundation area. The Corps is surveying for presence of burrows in the action area. If nesting burrowing owls are detected, the Corps would coordinate with the USFWS to develop appropriate avoidance and minimization measures. With the completion of these surveys and implementation of any required measures, the project is in full compliance with this Act.

National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321, et seq. *Full Compliance*. This EA is in compliance with this act. Comments received during the public review period were incorporated into the EA, as appropriate, and a comments and responses appendix was prepared. The final EA will be accompanied by a final FONSI.

National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470 et seq. *Full Compliance*. The project is in compliance with Section 106 of the National Historic Preservation Act (36 CFR 800). Following the project inventory, a report was completed and submitted to SHPO on April 10, 2017. Consultation was conducted with the State Historic Preservation Officer (SHPO). In addition, the report was submitted to the Kern River Indian Council, Santa Rosa Indian Community of the Santa Rosa Rancheria, Tubatulabals of Kern Valley, the Tule River Indian Tribe, and the Wuksache Indian Tribe/Eshom Valley Band for consultation.

A records, literature, and Sacred Lands File search of the APE was conducted by Corps archeological staff, and a survey of the APE identified four newly documented sites and seven previously recorded sites. Only one of the 11 sites, historic magnesite mining site CA-TUL-970 is potentially eligible for listing in the National Register of Historic Places (NRHP). Possible water inundation from the raising reservoir levels is expected to have minimal potential impacts on any of the sites. Therefore, pursuant to 36 CFR 800.4(d)(1), the Corps finds that the proposed project will have no adverse effect to historic properties. Mitigation in the form of effects monitoring through photographic documentation has been devised for the project. The photographic documentation of the project sites will also serve as a baseline study for future project with similar potential effects. The Corps received concurrence from the SHPO on May 10, 2017. Moreover, no comments have been received from any of the consulted tribes within the consultation period, therefore, the project is in full compliance with this Act.

6.0 COORDINATION AND REVIEW OF THE DRAFT ENVIRONMENTAL ASSESSMENT

The draft EA and FONSI was circulated for 7 days to agencies, organizations and individuals known to have a special interest in the project. Copies of the draft EA were posted on the Corps website and made available for viewing at local public libraries and the Corps Recreation Center at Success Lake. No additional hard copies were provided by mail upon request. This project has been coordinated with all the appropriate Federal, State, and local government agencies including the U.S. Fish and Wildlife Service and State Historic Preservation Office.

7.0 FINDINGS

This EA evaluated the environmental effects of the proposed Success Lake Water Control Manual Deviation. Potential adverse effects to the following resources were evaluated in detail: cultural resources, recreation, special status species, traffic, vegetation and wildlife, and water quality.

Results of the EA, field visits, and coordination with other agencies indicate that the proposed project would have no significant long-term effects on environmental resources. Short-term effects during construction would either be less than significant or mitigated to less than significance using avoidance and minimization measures.

Based on this evaluation, the proposed project meets the definition of a FONSI as described in 40 CFR 1508.13. A FONSI may be prepared when an action would not have a significant effect on the human environment and for which an environmental impact statement would not be prepared. Therefore, a draft FONSI has been prepared and accompanies the draft EA. The Corps, District Commander, following public review of the draft EA, has determined that a FONSI is appropriate. Therefore, a FONSI has been prepared and accompanies the final EA.

8.0 LIST OF PREPARERS

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APPENDIX A

USFWS CORRESPONDENCE
&
BIOLOGICAL ASSESSMENT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2017-I-1619-R001

JUN 0 1 2017

Mark T. Ziminske
Chief, Environmental Resources Branch
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Subject: Reinitiation of Informal Consultation for the Sandbag Barrier at Success Dam in Tulare County, California

Dear Mr. Ziminske:

This letter is in response to the U.S. Army Corps of Engineers (Corps) request for reinitiation of informal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Sandbag Barrier at Success Dam (proposed project) in Tulare County, California. Your request was received by the Service on May 30, 2017. At issue are the proposed project's effects on the federally-endangered least Bell's vireo (*Vireo bellii pusillus)* (vireo). Although critical habitat has been designated for the vireo, no designated critical habitat is not within the action area of the proposed project. Therefore, critical habitat will not be affected.

On April 20, 2017, the Service previously concurred with the Corp's determination that the proposed project may affect, but is not likely to adversely affect, the federally-endangered San Joaquin kit fox (*Vulpes macrotis mutica*), and southwestern willow flycatcher (*Empidonax traillii extimus*); as well as the federally-threatened San Joaquin adobe sunburst (*Pseudobahia peirsonii*) (Service File Number 2017-I-1619-1). Following the issuance of our concurrence letter, information revealed potential effects to the vireo that had not been previously analyzed by the Corps. The Corps has now re-analyzed potential effects of the proposed project and is currently seeking concurrence with their determination that the proposed project may affect, but is not likely to adversely affect, the vireo. Our response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.; Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal action on which we are consulting remains the temporary deviation of the operational gross pool elevation of Lake Success, as stated in the Corps' Water Control Manual. The proposed project will raise the lake elevation about 4 feet, through the placement of sandbags in the uncontrolled spillway adjacent to Success Dam. Our response is based on the following information: (1) a reinitiation request letter received May 31, 2017; (2) the Biological Assessment dated April, 2017; (3) phone conversations and email exchanges between the Service and the Corps; and (4) other information available to the Service.

As mentioned in the Biological Assessment, to decrease downstream flood risk the Tule River Water Association has requested a deviation from the Corps' standard operational gross pool of Success

Lake. To fulfill the request, the Corps has proposed the project to increase flood storage in Lake Success by about 10,000 acre-feet for about 90 days, beginning no later than June 5, 2017. The pool elevation will rise from about 652.5 feet to about 656 feet. In the Tule River delta riparian zone on the northeastern corner of the reservoir there are about 160 acres of riparian vegetation cover that may serve as vireo breeding habitat. The proposed project will flood an estimated additional 2.3 acres. However, most flooded areas contain sparsely populated trees in oak woodland. The estimated area of suitable breeding habitat for the vireo that will be affected by the proposed project will be about 1.5 acres.

The increase in Success Lake flood control space will be accomplished through the placement of sandbags in the spillway, up to a height of about 6 feet. Standard delivery trucks will travel from the Porterville area, east along Avenue 146 to the spillway access gate. The materials will be delivered directly onto the spillway for onsite assembly. Sandbags will be placed and fitted by hand lengthwise across the 200-foot spillway and stacked in a prism shape, similar to permanent levees. At the conclusion of the 90-day deviation period, the sandbags will be removed from the spillway by hand. Haul trucks will use the same access as used when constructing the sandbag barrier. The sandbags will be carried to property owned by the Lower Tule Irrigation District for re-use as needed.

Least Bell's Vireo

The least Bell's vireo migrates from areas along the Pacific Coast of Central America to arrive in mid-March through early April at breeding grounds in southern California (Service 1998). Structurally diverse riparian vegetation along watercourses, with ample early successional cover, serves as suitable breeding habitat for the vireo (Service 1998). The majority of nests are placed in willows (*Salix* spp.) or mulefat (*Baccharis glutinosa*). Generally, changes in surface water flow patterns throughout the California Central Valley have contributed to the alteration of riparian structure by creating more "old-growth" conditions (dense canopy and open understory) that are unfavorable to breeding vireos (RHJV 2004). Loss of habitat, parasitism from the brown-headed cowbird (*Molothrus ater*), and predation have been identified as major factors contributing to breeding failure (Service 1998).

Recent evidence suggests that the Tule River delta area of Lake Success serves as suitable breeding habitat for the vireo. Two breeding territories were documented in the area in 2014, both within the currently established gross pool of Success Lake (SSRS 2014). An abandoned nest also was located in the area in 2014. Vireos have been detected in the Tule River delta in 2005, 2010, and 2013 as well (SSRS 2014).

It is not likely that the proposed placement of sandbags in the spillway near Success Dam will affect vireos. Although vireos have been documented in the Tule River delta during the breeding season, higher than normal water levels in 2017 have kept most of the suitable vireo breeding habitat of the Tule River inundated with the Success Lake gross pool. In fact, the previous recent records of vireos in the Tule River delta are in areas that are currently covered with surface water. Territories established this year would likely be influenced by standing water. The presence of water below low vegetation may negatively affect habitat suitability, yet the presence of surface water may deter some predators from an immediate nesting area.

Also, vireos have been known to attempt as many as five nests during a breeding season (Service 1998). It is likely that if, for whatever reason, a breeding pair finds a nest site unsuitable, they may make nesting efforts in another area of the breeding territory. It is impossible to quantify the effects

of such efforts on breeding success. It is not likely that any temporary changes in water regimes will result in a measurable effect on vireos.

Conclusion

After reviewing all of the available information and appropriate avoidance measures, the Service concurs with your determination that the proposed project may affect, but is not likely to adversely affect the least Bell's vireo. The proposed project reached the "may affect" level for the vireo due to the fact that vireos have been known to occur in riparian areas along Success Lake. However, the Service believes any potential adverse effects resulting from the temporary actions of the proposed project will be discountable for the purposes of this consultation.

This concludes the Service's review of the proposed Sandbag Barrier at Success Dam project. No further coordination with the Service under the Act is necessary at this time. Please note, however, this letter does not authorize take of listed species. As provided in 50 CFR §402.14, initiation of formal consultation is required where there is discretionary Federal involvement or control over the action (or is authorized by law) and if: 1) new information reveals the effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this review; 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this review; or 3) a new species is listed or critical habitat designated that may be affected by the action.

If you have any questions regarding the proposed Sandbag Barrier at Success Dam, please contact Harry Kahler (harry_kahler@fws.gov) Fish and Wildlife Biologist, at (916) 414-6577, or myself at (916) 414-6563.

Sincerely,

Doug Weinrich

Doug Weinrich
Assistant Field Supervisor

cc:
Anne Baker, U.S. Army Corps of Engineers, Sacramento, California

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

Ms. Jennifer M. Norris
Field Supervisor
U.S. Fish and Wildlife Service
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846

Dear Ms. Norris:

We are writing to transmit results of biological surveys associated with the Success Lake Water Control Manual Deviation (File number OSESMF00-2017-1-1619-1), and to request informal consultation on the Federally-endangered least Bell's vireo (*Vireo bellii pusillus)*. The Tule River Association (TRA) has requested to construct a sandbag barrier in the uncontrolled spillway at Success Dam on May 1, 2017 in order to increase the reservoir's storage capacity by 10,000 acre-feet for up to 90 days during the snow melt, beginning approximately June 1, 2017. The sandbag barrier would be approximately six feet tall, and would increase the pool elevation within the reservoir by an additional four feet with two feet of freeboard. The Success Dam and Reservoir was authorized by the Flood Control Act of 1944 (Public Law 78-534).

On April 5, 2017, the U.S. Army Corps of Engineers (Corps) initiated consultation with the U.S. Fish and Wildlife Service (USFWS) and transmitted a Biological Assessment on the project. The Corps has determined that the proposed water control deviation may affect, but is not likely to adversely affect, the kit fox, adobe sunburst, and willow flycatcher. The Corps has determined that there is no effect on the California red-legged frog. On April 20, 2017, the Corps received a letter from USFWS which concurred with the Corps' Biological Assessment. During the public review period for the Success Lake Water Control Manual Deviation Environmental Assessment, the Corps received public comments indicating concerns over potential effects to the vireo and also the burrowing owl (*Athene cunicularia*), which is protected under the Migratory Bird Treaty Act. This coordination is intended to address those concerns.

The least Bell's vireo is a riparian species that typically inhabits structurally diverse woodlands such as cottonwood bottomland forest, sycamore alluvial woodland, arroyo willow riparian forest, and mulefat scrub. Habitat requirements generally feature variable height structures, including dense cover within 6 feet of the ground for nesting and a dense stratified canopy for foraging. This type of structure is most often associated with early successional riparian habitat, but the age of the vegetation is less important than the structure diversity. Least Bell's vireos are insectivorous and will often forage insects directly from vegetation (USFWS 1998).

Least Bell's vireo have been observed arriving in southern California in mid-March to early April, with nest building activities occurring a few days after pair formation. Nests are typically constructed in the fork of a tree or shrub within three feet of the ground. Egg laying begins shortly after nest completion, with incubation lasting approximately 14 days. An additional 10 to 12 days are required for fledging, though adults continue to care for the young at least two weeks after fledging. Re-nesting is common, though there have been few documented instances of re-nesting past July (USFWS 1998).

While the vireo has the potential to occur in the action area, it has no critical habitat in the action area. In the Success Lake area, there were reports of the vireo's presence in the Tule River riparian zone on the north east side of the reservoir in 2014. All documented nests were within the reservoir's gross pool zone (Corps 2014).

Effects to the vireo may occur if the proposed increase in gross pool floods the riparian habitat and established nests. In the Tule River riparian zone on the northeastern corner of the reservoir there is approximately 160 acres of Willow Riparian Woodland habitat. Most of this riparian area would flood on an annual basis at maximum reservoir levels, and has been flooded throughout the spring of 2017. With the proposed action, an additional 2.3 acres would be flooded. Most flooded areas contain sparsely populated trees in oak woodland. The estimated impacted area of higher quality habitat, willow and oak overstory with herbaceous understory, would be approximately 1.5 acres. The proposed water control manual deviation could potentially result in direct effects to nesting least Bell's vireos if the water levels increase after the start of nesting season. Potential impacts from habitat damage or disturbance could include nest abandonment, lifecycle disruption, or direct mortality. However, since the reservoir levels have remained high throughout the spring nesting season, it is unlikely that suitable nesting habitat has been present for the vireo. As a result, the additional reservoir footprint associated with this deviation is not likely to adversely affect the least Bell's vireo.

After informal consultation with USFWS, the Corps committed to conducting burrowing owl surveys to determine the presence and potential impacts to the owl. Though burrowing owls have been observed in the Success Lake area as recently as March 2017, formal surveys focused on the action area were conducted from May 16 through May 18, 2017 and resulted in no evidence of burrowing owl nesting. The details of the surveys conducted are found in the attached memo (Enclosure).

In addition, the attached memo includes a summary of the Corps' surveys to confirm the presence of the Federally-threatened San Joaquin adobe sunburst. The Corps conducted surveys on May 2, 2017 of previously documented populations of adobe sunburst and found no evidence supporting their presence. As a result, the Corps is not proposing to implement any avoidance measures during the proposed water control manual deviation.

Based on the information provided in this letter and the attached memo, the Corps requests concurrence with our determination that the proposed Success Lake water control manual deviation may affect, but is not likely to adversely affect, the least Bell's vireo. The completed surveys determined that there were no confirmed burrowing owl or San Joaquin adobe sunburst presence in the action area.

A copy of this letter and its enclosure will be sent to Mr. Harry Kahler, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-1846.

If you need any additional information or have questions regarding this action, please contact Ms. Anne Baker, Senior Environmental Manager, at (916) 557-7277 or by e-mail: Anne.E.Baker@usace.army.mil. Thank you for your attention to this matter.

Sincerely,

for Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

CESPK-PD-RA

MEMORANDUM FOR RECORD **23 May 2017**

Subject: Success Lake Water Control Manual Deviation Biological Surveys

Introduction

The Success Lake Water Control Manual Deviation was requested by the Tule River Water Association (TRA) to the U.S. Army Corps of Engineers (Corps) to prevent downstream flooding in the Tulare Lake Basin. If granted by the Corps, the TRA would construct a sandbag wall across the Success Lake Spillway. The deviation would increase the elevation of Success Lake from 652.5 feet to 656.5 feet, a maximum increase of four feet in the reservoir's gross pool. The investigation which led to the recommendation to construct Success Dam was authorized June 22, 1936. Success Lake construction was authorized by the Flood Control Act of 1944 (Public Law 78-534).

On April 5, 2017, the Corps initiated consultation with the U.S. Fish and Wildlife Service (USFWS) and transmitted a Biological Assessment on the project. The Corps determined that the proposed water control deviation may affect, but is not likely to adversely affect, the San Joaquin kit fox (*Vulpes macrotis mutica*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), and Southwestern willow flycatcher (*Empidonax traillii extimus*). The Corps determined that there is no effect on the California red-legged frog (*Rana draytonii*). On April 20, 2017, the Corps received a letter from USFWS which concurred with the Corps' Biological Assessment. In this coordination, the Corps committed to conducting a survey of documented populations of San Joaquin adobe sunburst to confirm the not likely to adversely affect determination and, if needed, implement avoidance measures to prevent any effects to the adobe sunburst. This memo presents the results of the adobe sunburst surveys.

On April 26, 2017, the Corps released the Draft Environmental Assessment and Finding of No Significant Impact (EA/FONSI) for public review. During the public review period, the Corps received public comments indicating concern that the project would have a significant impact on the Federally-endangered least Bell's vireo (*Vireo bellii pusillus*) and the Western burrowing owl (*Athene cunicularia hypugaea*), which is covered under the Migratory Bird Treaty Act. Informal coordination occurred with USFWS following receipt of these comments, and the Corps committed to conducting burrowing owl surveys to determine presence and potential impacts to the owl. This memo presents the results of the burrowing owl surveys.

Results of the San Joaquin Adobe Sunburst Survey

The Corps Environmental team visited Success Lake on May 2 2017. Surveys for the San Joaquin adobe sunburst were conducted in accordance with USFWS and the California Native Plant Society survey protocols for the species. Previously surveyed and known populations of the San Joaquin adobe sunburst were surveyed. The California Natural Diversity Database (CNDDB) occurrence #46 and #19 were the only populations surveyed that may overlap the potential action area. Occurrence #21 is within the potential action area but was entirely inaccessible. Occurrence #10 was surveyed for the practice of identification in other historically less densely populated occurrences, but is outside of the proposed action area.

Corps park rangers from Success Lake assisted in navigating to the known populations. Rangers conducted surveys from the last few years in CNDDB occurrence #19 and found zero plants. Less than 10 plants were found in occurrence #10 the prior spring. Occurrence #10 is a well-known site for historically regular and abundant blooms each spring.

Walking transects spaced at three meters were conducted along the elevational change from gross pool elevation 652.5 feet and upslope to 656.5 feet within the potential action area. Equipment and human error with walking transects were corrected by allowing a wider berth past 656.5 feet. There were no flowering adobe sunburst plants observed. There were no sightings of plants that had gone to fruit. Great lengths were taken to find either the drying achene or the twice dissected leaves that indicate the plants' presence.

Results of the Burrowing Owl Survey

A Corps biologist with experience in the identification of burrowing owl presence visited Success Lake from May 16 to 18, 2017. Surveys for Western burrowing owls were conducted according to the 2012 California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation.

Corps archaeologists completing cultural surveys around Success Lake in March 2017 reported to have seen a burrowing owl. No exact coordinates of a burrow sighting were recorded; however, the archaeologists were able to direct Corps biologists to the general area where the sighting was observed. There are no reported CNDDB or CDFW Rarefind burrowing owl populations or single bird sightings within the Success Lake quad. Burrowing owls are neither Federally-listed nor State-listed; however, they are a species of special concern under CDFW and protected by the Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703 – 712).

Corps archaeologists spotted the burrowing owl in the grassland due west of Boat Island in an upland area. Due to the concern of the continuing presence of this burrowing owl, breeding season surveys were conducted. The areas surrounding the sighting were thoroughly surveyed for any burrows large enough to support burrowing owls. Transects were walked along the proposed action area from 652.5 feet elevation to 656.5 feet.

Transects varied in width from 5 to 10 meters apart depending upon the vegetation height. Surveys from civil sunrise to 10:00 AM were conducted on three consecutive days. Wood stakes were placed near the burrows along the height of the tallest vegetation so that burrowing owls could be more easily detected. Shorter wood stakes were placed at the burrow entrance. Each potential burrow was watched for at least one thirty minute survey during the day from the furthest possible viewing point using binoculars and a spotting scope. After the morning viewing of known potential burrows, walking transects were conducted to ensure all burrows were captured. Weather conditions varied substantially, so the survey on the second day was lengthened until the warmest part of the day.

There is substantial evidence that burrowing owls have nested on the upland portion of Success Lake due west of Boat Island. Large multi-burrow nest sites were discovered with large sandy aprons. At least two dozen potential burrows were found; most were upland of 656.5 elevation and few were well below gross pool. Several surrounding uplands areas were burrowing owl nest hotspots with multi-burrow nest sites (Plate 1). Only three burrows were observed within the proposed action area and were surveyed daily for the presence of burrowing owls. Burrow #1 was well established with a sandy apron, indicating further excavation by a burrowing owl. Burrows # 2 and #3 appeared newly established, entirely consisting of soil from shallow depths (Plate 1). Burrow #3 did have a dry pellet at the entrance of the burrow which was observed on Day 1. A fourth burrow within the potential action area was surveyed on Days 1 and 2; however, by the morning of Day 3, the burrow had been destroyed by an animal, likely a coyote of which surveyors saw several.

Besides the pellet at Burrow #3, no further burrowing owl activity signs were observed. No birds were seen flushing any burrows. No birds were seen foraging. Throughout the surveys, recorded audio of burrowing owls was played and no calls were reciprocated.

Analysis of the San Joaquin Adobe Sunburst Survey

Due to California's multi-year long drought, local rangers hypothesized that there would be few, perhaps zero, adobe sunburst plants around the lake. In 2010, no plants were observed following heavy site disturbance. In 2015, Occurrence #19 was thoroughly surveyed by the Corps' Southern Area Ranger and no plants were observed. The Corps' environmental team did not observe any San Joaquin adobe sunbursts in the proposed action area in the 2017 survey.

The lakeside portion of the population within the Rocky Ridge recreation area is heavily trafficked and overgrown by invasive tall grasses that outcompete the San Joaquin adobe sunburst. The upland portion of the populations are well fenced and grazed by cattle. Consequently, the grasses are shorter; however, trampling may reduce the viability and success of the plant. Both potential habitat types were surveyed.

The Corps does not propose to implement a sandbag barrier around Occurrence #19 due to the negative results of the survey.

Analysis of the Burrowing Owl Survey

Despite the presence of three burrows within the elevation range of the proposed action, none appeared to be actively supporting a burrowing owl. There were no sightings or calls heard by the Corps' biologist or park rangers supporting the survey. The only sign included a single pellet at Burrow #3. It is possible that the owl evaded detection by flushing the burrow and only returning in the evening after the surveyors left the site.

The northern area of the lake consists of grasslands consisting of large swathes of invasive grasses and thistles. Due to the substantial amount of rainfall this past rainy season, the grasses were much taller than previous years. Burrowing owls scout for bare ground and pre-dug burrows for nesting habitat, as well as short grass to forage in. The area surrounding the lake is not ideal foraging habitat; however, the existing well-established burrows may be supporting a pair of owls above the proposed action area. There is also an absence of available natural perches, lowering the surveyor's visibility of burrowing owls. Three foot stakes were placed near burrows but none were seen utilizing the perches. It is unlikely that burrowing owls are using the burrows in the proposed action area to raise their young. At this time of year, a male burrowing owl would be foraging and bringing back small rodents and insects to his mate and owlets. The female would leave the burrow less often as she would either be incubating the eggs or caring for recently hatched young. If a pair were active, the three day consecutive survey would have captured their presence.

At this time, the Corps proposes to continue with the sandbag implementation as the results of the survey demonstrate the lack of recent burrowing owl activity in the proposed action area.

Recommendations

This analysis concludes that the proposed Success Lake Water Control Manual Deviation would have no significant effects on the San Joaquin adobe sunburst or the Western burrowing owl. At this time, the Corps proposes to include the burrowing owl to the environmental awareness training to be conducted prior to the implementation of the sandbag barrier. There have been no changes to the deviation schedule or design since completion of the May 2017 EA/FONSI.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
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Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2017-I-1619-1

APR 20 2017

Mark T. Ziminske
Chief, Environmental Resources Branch
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Subject: Sandbag Barrier at Success Dam in Tulare County, California

Dear Mr. Ziminske:

This letter is in response to the U.S. Army Corps of Engineers (Corps) request for initiation of informal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Sandbag Barrier at Success Dam (proposed project) in Tulare County, California. Your request was received by the Service on April 6, 2017. At issue are the proposed project's effects on the federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (kit fox), and southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher); as well as the federally threatened San Joaquin adobe sunburst (*Pseudobahia peirsonii*) (sunburst). Critical habitat has not been designated for either the kit fox or the sunburst, and designated critical habitat for the flycatcher is not within the action area of the proposed project. Therefore, critical habitat will not be affected. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal action on which we are consulting is the temporary deviation of the operational gross pool elevation of Lake Success, as stated in the Corps' Water Control Manual. The proposed project will raise the lake elevation about 4 feet, through the placement of sandbags in the uncontrolled spillway adjacent to Success Dam. Our response is based on the following information: (1) an undated consultation request letter received April 6, 2017; (2) a Biological Assessment dated April, 2017; (3) phone conversations and email exchanges between the Service and the Corps; and (4) other information available to the Service.

On April 1, 2017, water from spring snowpack levels in the southern Sierra region was estimated to be about 157% of average annual April 1 levels (CDEC 2017). Over the upcoming spring months, melting snow is expected to increase incoming water levels in Lake Success, as well as along the Tule River downstream. As a result of increased snowpack, the potential for spring flooding in the Tule River watershed inherently increases as well. To decrease downstream flood risk, the Tule River Water Association has requested a deviation from the Corps' standard operational gross pool. To fulfill the request, the Corps has proposed the project to increase flood storage in Lake Success by about 10,000 acre-feet for about 90 days, beginning on June 1, 2017. The pool elevation will rise from about 652.5 feet to about 656 feet. Releases from the lake would then be managed to reduce the risk of flood damage in protected areas downstream.

The increase in Success Lake flood control space will be accomplished through the placement of sandbags in the spillway, up to a height of about 6 feet. Standard delivery trucks will travel from the

Porterville area, east along Avenue 146 to the spillway access gate. The existing gate is currently used to allow access across the spillway to the dam service road; additional travel from the proposed project is not expected to result in any measurable effects to the ground surface. The materials will be delivered directly onto the spillway for onsite assembly. Sandbags will be placed and fitted by hand lengthwise across the 200-foot spillway and stacked in a prism shape, similar to permanent levees.

At the conclusion of the 90-day deviation period, the sandbags will be removed from the spillway by hand. Haul trucks will use the same access as used when constructing the sandbag barrier. The sandbags will be carried to property owned by the Lower Tule Irrigation District for re-use as needed.

In addition, the Corps has proposed the following conservation measures as part of the proposed project to reduce any potential effects to listed species:

- Prior to implementation of the sandbag barrier, known sunburst populations will be surveyed to confirm the elevation of each population. In locations where lake levels may reach known populations, sandbags or other removable structural barriers will be implemented to prevent inundation of these populations. The Service will be notified of any such action taken prior to the construction of the sandbag barrier
- The sandbag barrier will be constructed prior to May 15 to avoid impacts to nesting southwestern willow flycatchers.
- No off-road travel will be allowed, except to deliver material through the access gate at Avenue 146 directly to and from the construction site in the spillway.
- A qualified biologist will conduct environmental awareness training for all construction personnel, covering the status of the kit fox, flycatcher, and sunburst; the importance of avoiding effects to these species; and the penalties for not complying with established requirements. New construction personnel who are added to the project after the training is first conducted also will be required to receive the training.
- If a dead, injured, or entrapped kit fox is found, work will be halted until the Service has been notified and has provided further guidance.

San Joaquin Kit Fox

Generally, female kit foxes will excavate or begin to occupy available natal dens in September and October, and pups are born from February through late March (Spiegel and Tom 1996; Service 1998). Pups may occur above ground 3-4 weeks after birth, and are weaned from dens after 6-8 weeks. Most young kit foxes disperse less than 5 miles from their natal dens, yet greater dispersal distances have been known to occur. The nearest known occurrence of kit foxes is about 6 miles to the west in agricultural lands of the valley floor (CNDDB 2017). In addition, kit foxes are known to use multiple dens throughout their range.

Although there is potential for kit fox presence in the action area, it's not likely that kit foxes will be affected by the proposed project. The sandbag barrier will be placed in an area frequently used by humans, and on relatively hard soils devoid of existing potential den sites. During the proposed operational period for the temporary sandbag barrier, kit fox pups will be fully weaned and readily able to disperse from any changes in water levels resulting from the proposed project.

Southwestern Willow Flycatcher

The southwestern willow flycatcher migrates from areas in Central and South America to arrive in May at breeding grounds which include southern California (68 FR 10485). Dense riparian vegetation near water or saturated soils is typically well-suited for flycatcher breeding habitat. Although areas around the spillway do not contain woody riparian vegetation suitable for breeding flycatchers, some areas to the north and east around Success Lake may serve as breeding habitat. The breeding season typically lasts 3-4 months. Males do exhibit site fidelity, and will return to breeding territories in successive years regardless of standing water conditions at or near territories.

It is not likely that the proposed placement of sandbags in the spillway near Success Dam will affect flycatchers. The area contains only herbaceous vegetation and not the dense woody riparian vegetation suitable for breeding. Suitable breeding vegetation cover that does exist along Success Lake will be temporarily affected by increased water levels during the breeding season for flycatchers. However, flycatchers are known to exhibit breeding site fidelity regardless of water conditions, and may attempt re-nesting in the event of a failure. It is not likely that any temporary changes in water regimes will result in a measurable effect on flycatchers.

San Joaquin Adobe Sunburst

The San Joaquin Adobe Sunburst has been known to occur on hillsides directly west of the Success Lake (CNDDB 2017). CNDDB (2017) occurrence #19 includes three populations located about 0.9 mile north of the spillway (Enclosure Figure 1). In 1986 about 225 plants were observed, decreasing to about 30 plants in 2006. Following heavy site disturbance, no plants were observed in 2010.

Occurrence #19 could be affected by increased lake levels due to the proposed project (Enclosure Figure 2). However, much of the area where sunburst could occur that will be temporarily inundated by the proposed project is currently used as shoreline access. Therefore, it is subject to frequent vehicle traffic and not likely to support viable sunburst plants. In addition, the site will be surveyed for occurrences prior to other proposed project actions, and the Service will be notified if any sunburst are found. Sandbags will also be used in the area around occurrence #19 to limit the amount of inundation resulting from the proposed project.

Conclusion

After reviewing all of the available information and appropriate avoidance measures, the Service concurs with your determination that the proposed project may affect, but is not likely to adversely affect the San Joaquin kit fox, the southwestern willow flycatcher, or the San Joaquin adobe sunburst. The proposed project reached the "may affect" level for the kit fox and flycatcher due to the fact that the action area is within the dispersal distance known for kit foxes and southwestern willow flycatchers. However, the Service believes any potential adverse effects resulting from the temporary actions of the proposed project will be discountable.

The proposed project reached the "may affect" level for the San Joaquin adobe sunburst due to the proximity of known past occurrences of sunburst and the expected increase in the elevation of Success Lake pool elevation. Due to recent substantial modifications to the area of sunburst occurrence that may be affected by the proposed project (e.g., lake access, human traffic), proposed pre-construction surveys and notification if sunburst plants are found, as well as the potential use of additional sandbags near the known plant occurrence to minimize the inundation area, the Service believes any potential adverse effects to the sunburst from the proposed project are unlikely to occur and are therefore discountable.

This concludes the Service's review of the proposed Sandbag Barrier at Success Dam project. No further coordination with the Service under the Act is necessary at this time. Please note, however, this letter does not authorize take of listed species. As provided in 50 CFR §402.14, initiation of

formal consultation is required where there is discretionary Federal involvement or control over the action (or is authorized by law) and if: 1) new information reveals the effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this review; 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this review; or 3) a new species is listed or critical habitat designated that may be affected by the action.

If you have any questions regarding the proposed Sandbag Barrier at Success Dam, please contact Harry Kahler (harry_kahler@fws.gov) Fish and Wildlife Biologist, at (916) 414-6577, or myself at (916) 414-6563.

Sincerely,

Doug Weinrich

Doug Weinrich
Assistant Field Supervisor

Enclosure:

cc:
Anne Baker, U.S. Army Corps of Engineers, Sacramento, California

Reference

[CDEC] California Data Exchange Center. 2017. Snow water equivalent inches. California Department of Water Resources. Accessed online, April 5, 2017, at: http://cdec.water.ca.gov/cdecapp/snowapp/sweq.action

[CNDDB] California Natural Diversity Database. 2017. Rarefind 5 internet application, California Department of Fish and Wildlife, Biogeographic Data Branch, Sacramento, California. Accessed online April 18, 2017, at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data

[Service] U.S. Fish and Wildlife Service. 1998. Recovery plan for upland species of the San Joaquin Valley, California. Portland, Oregon, 319 pages.

Spiegel, L.K., and L. Tom. 1996. Reproduction of San Joaquin kit fox undeveloped and oil developed habitats of Kern County, California. Pages 53-69 *in* L.K. Speigel (ed.). Studies of the San Joaquin kit fox in undeveloped and oil-developed areas. California Energy Commission, Sacramento, California. 131 pages.

Figure 1. San Joaquin adobe sunburst occurrences by Success Lake, Tulare County, California.

Figure 2. San Joaquin adobe sunburst occurrence #19 by Success Lake, Tulare County, California.

Success Dam

Water Control Manual Deviation

Biological Assessment

April 2017

U.S. Army Corps of Engineers
Sacramento District

LIST OF FIGURES

APPENDIX

1.0 INTRODUCTION

A series of atmospheric river storms with heavy precipitation impacted California in January and February 2017. As a result most flood control reservoirs are at or above top of conservation levels and many regions of the state have saturated ground. The Tule River Water Association (TRA) has requested a deviation from the Water Control Manual at Success Lake. If granted by the U.S. Army Corps of Engineers (Corps), this deviation would allow TRA to construct a sandbag wall across the Success Lake spillway to increase the elevation to 658.5 feet. This would allow a maximum increase of four feet in the reservoir's gross pool with two feet of freeboard. The purpose of this deviation is to prevent downstream flooding in the Tulare Lake Basin.

This biological assessment (BA) describes the current proposed action, evaluates potential effects of the proposed action on the listed species with the potential to occur in the project area and their habitat, and identifies implementation measures to avoid and minimize these potential effects. The project area is shown in Figure 1. This BA was prepared in accordance with the requirements of Section 7 and USACE's Engineering Regulation 1105-2-100 (USACE 2000a). An official USFWS species list was generated on March 6, 2017. See Appendix A for the species list.

1.1 Threatened, Endangered, Proposed Threatened or Proposed Endangered Species

The most recent biological opinion for the Proposed Lake Success Seismic Remediation Project (19 April 2007) provided reasonable and prudent measures and an incidental take statement for potential effects to the endangered San Joaquin kit fox, valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and the threatened San Joaquin adobe sunburst (*Pseudobahia peirsonii*). Since that time, the valley elderberry longhorn beetle has been delisted in Tulare and Kern counties. The species that are considered in this BA are listed below:

- Southwestern willow flycatcher (*Empidonax traillii extimus*) **Endangered**
- San Joaquin kit fox (*Vulpes macrotis mutica*) **Endangered**
- San Joaquin adobe sunburst (*Pseudobahia peirsonii*) **Threatened**
- California red-legged frog (*Rana draytonii*) **Threatened**

Figure 1. Lake Success Project Area and Site Features.

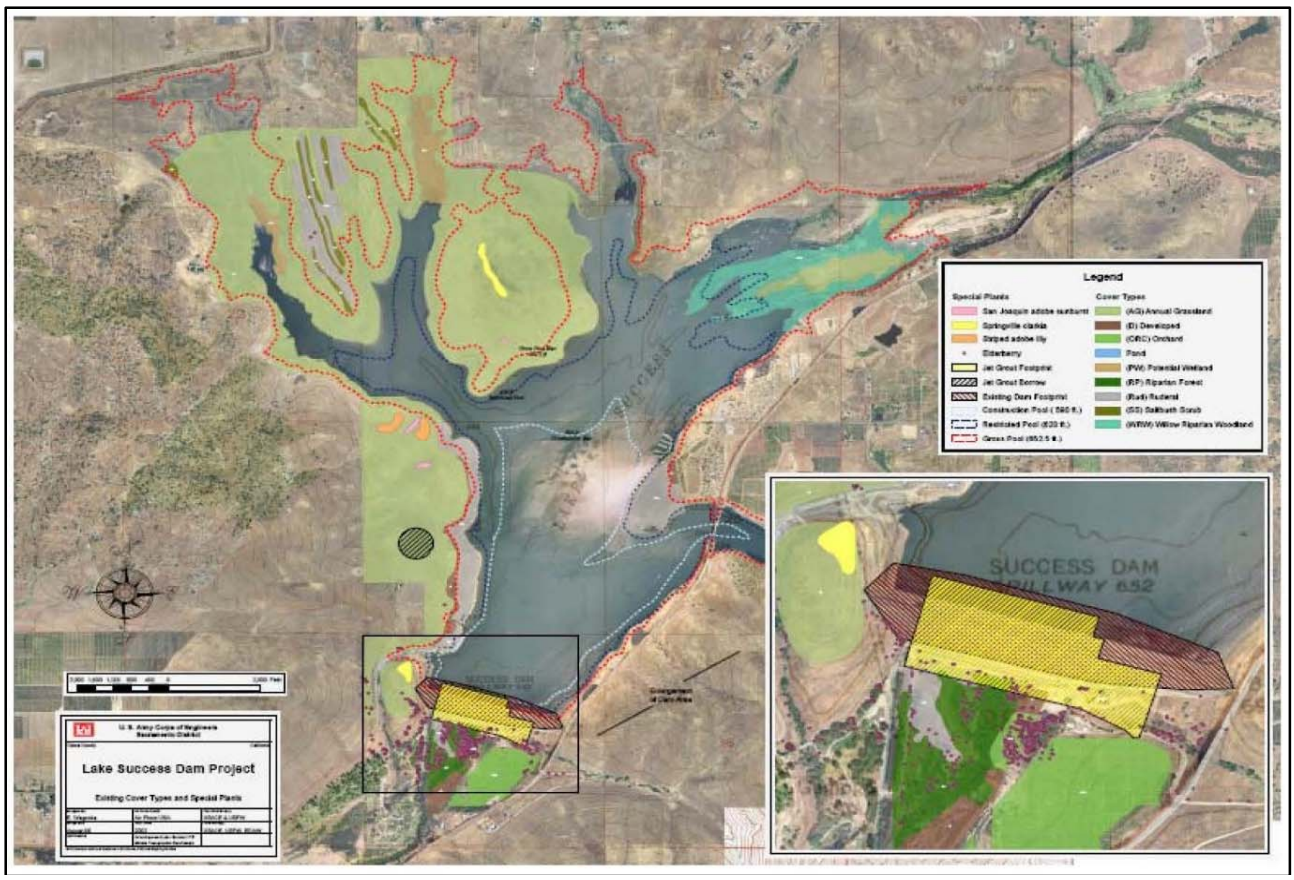

Figure 2. Potentially Affected Vegetative Communities and Special Status Species.

1.2. Critical Habitat

The action addressed within this biological assessment does not fall within designated critical habitat for any of the above listed species.

1.3 Project Background and Authority

1.3.1 Project Background

Construction of Success Dam began in 1958 and was completed on May 15, 1961. The dam provides flood damage reduction benefits to the City of Porterville and to other communities downstream of the dam. In addition, the dam helps protect several hundred thousand acres of valuable farmland west of the dam including the Tulare Lakebed from damaging winter and spring floods.

Serious flood problems occur along the Tule River generally as a result of inadequate channel capacities. Damages from the 1983 flood were estimated to be $11 million at 2014 price levels. From a 1999 Feasibility Study, Congress authorized a Reservoir Enlargement Project to increase the gross pool elevation of Success Lake for flood control and irrigation water supply by

raising the spillway 10 feet and widening the spillway from the existing 200 feet to 365 feet. Previous studies concluded that a Maximum Credible Earthquake would cause extensive loss of strength, slope instability and deformation over a section of the embankment. Over the past 10 years, multiple studies were performed to analyze the safety risk of Success Dam in its current state (without the Reservoir Enlargement Project). These studies showed that seepage and seismic risks were far less severe than prior analyses indicated, and that the only remaining actionable failure mode was overtopping of the main dam and Frasier Dike. Site-specific snowpack and precipitation analyses completed in November 2015 showed that overtopping/overwash remained actionable failure modes that require mitigation. The Corps is currently assessing dam safety alternatives to address these failure modes.

As an interim measure during high water years, the TRA has periodically requested a water control manual deviation to better control releases during snow melt and avoid downstream flooding impacts. The TRA has implemented a sandbag barrier in the spillway of Success Dam previously in 1969, 1982, and 1998. The April-July 2017 Department of Water Resources Water Supply Forecast, as of February 21, 2017, was 160,000 acre-feet and 254 percent of average. As a result, the TRA has requested to implement a consistent measure in 2017 to avoid flooding the Tulare Lakebed farming operations.

1.3.2 Authority

The investigation which led to the recommendation to construct Success Lake was authorized June 22, 1936. Success Reservoir was authorized for construction by the Flood Control Act of 1944 (Public Law 78-534).

2.0 DESCRIPTION OF THE PROPOSED ACTION (PROJECT DESCRIPTION)

The sections below describe the proposed water control manual deviation and the change in reservoir footprint.

2.1 Proposed Action

The proposed planned water control manual deviation would provide an additional 10,000 acre-feet of flood control space at Success Dam for the current snowmelt season. This would be accomplished through the construction of a temporary six foot barricade of the spillway. The barricade would be constructed of sandbags and would allow water to be stored up to four feet above the spillway crest. Reservoir releases would be managed to allow for the reduction of damaging flows to the Tulare Lakebed area. The deviation would last approximately 90 days beginning in May 2017. The footprint of the increased reservoir storage space is shown on Figure 3 below. Closer maps of the Tule River and South Fork Tule River areas of the increased pool are shown on Figures 4 and 5 below.

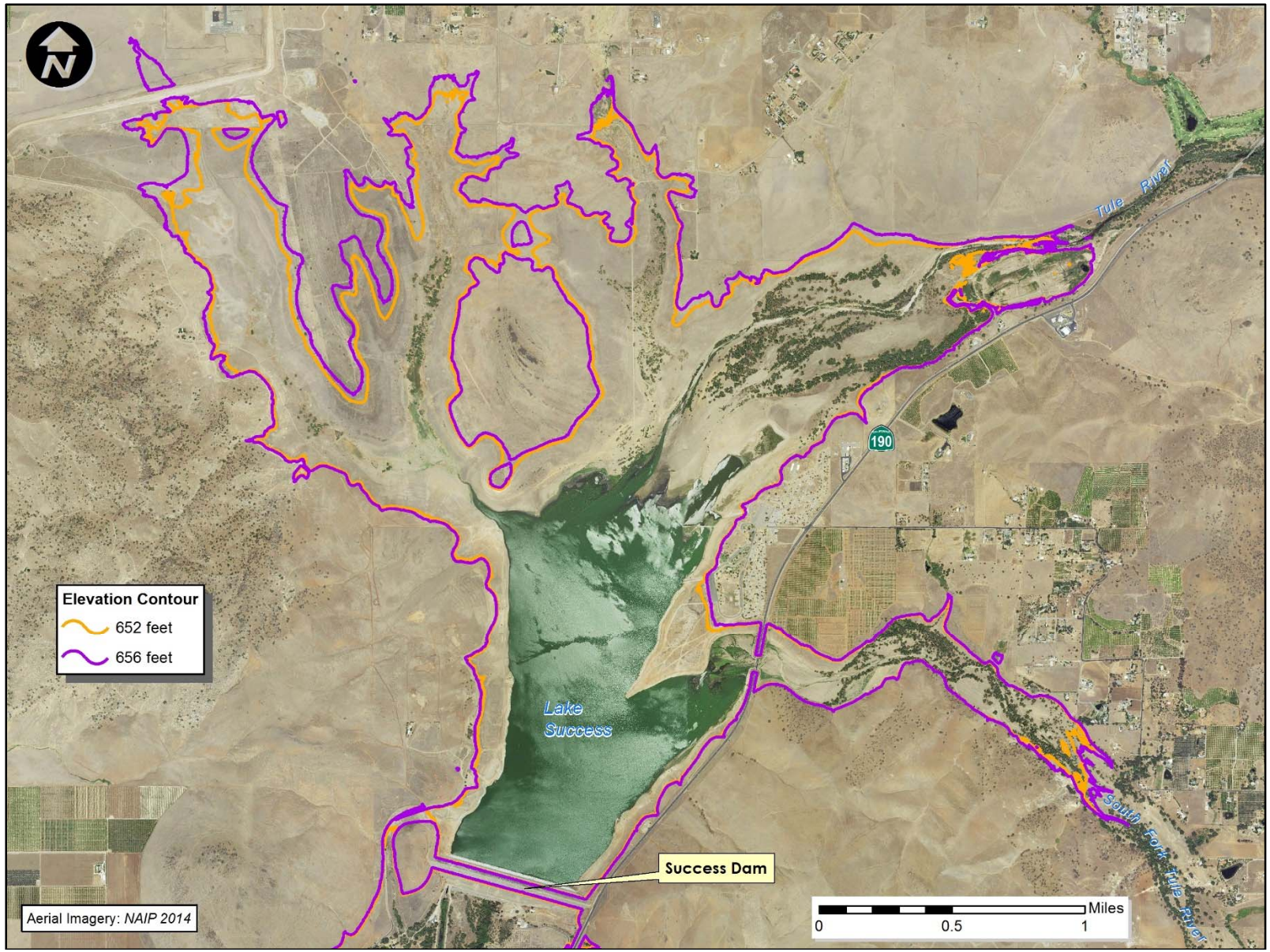

Figure 3. Lake Success Increased Pool Footprint – Action Area.

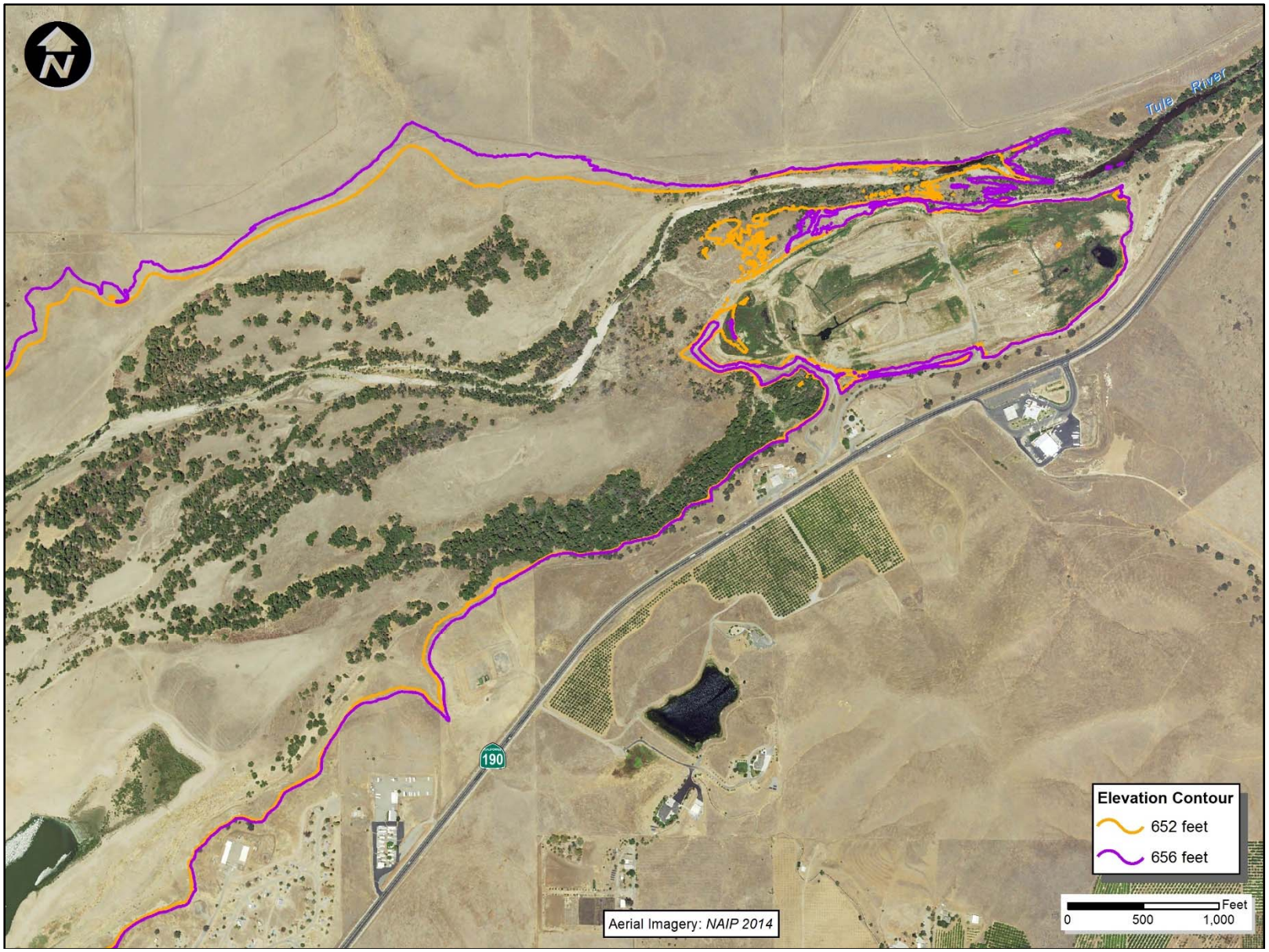

Figure 4. Tule River Area Footprint.

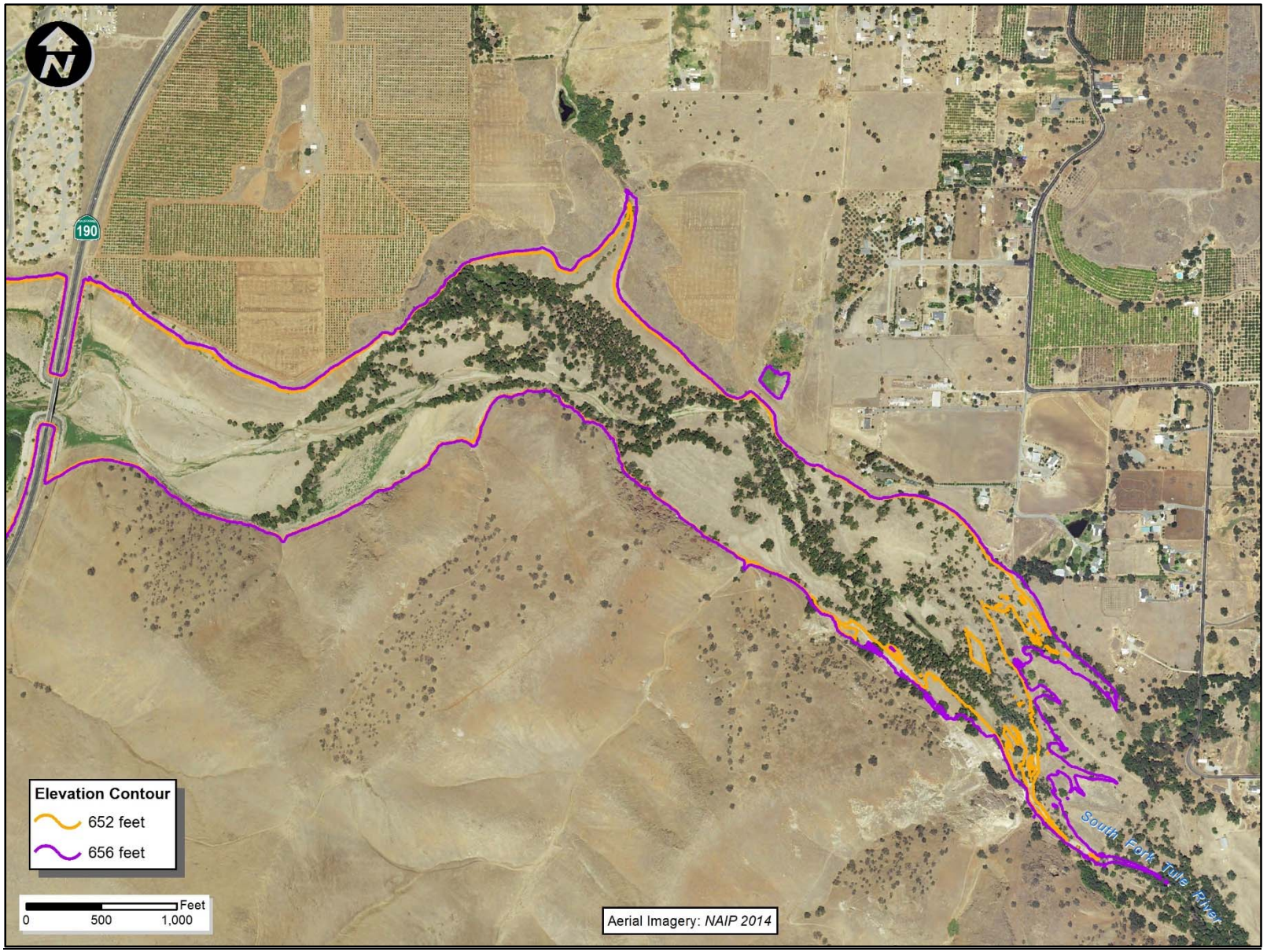

Figure 5. South Fork Tule River Area Footprint.

2.2 Avoidance and Minimization Measures

2.2.1 Southwestern Willow Flycatcher

The following measures will be implemented to minimize effects on southwestern willow flycatcher and their potential nesting habitat that occurs during project activities.

- Implement sandbag wall prior to May 15 to avoid impacts to nesting southwestern willow flycatchers.
- An employee education program consisting of a brief presentation by persons knowledgeable in southwestern willow flycatcher biology and legislative protection should be conducted prior to implementing the flood preventative measures.
- Following the 90 day deviation, survey riparian habitat areas within the increased pool footprint to confirm whether impacts to the flycatcher occurred. If any impacts are confirmed during survey, coordinate with USFWS to determine appropriate post-action compensation.

2.2.2 San Joaquin Kit Fox

The following measures will be implemented to minimize effects on San Joaquin kit fox habitat that occurs during project activity.

- An employee education program consisting of a brief presentation by persons knowledgeable in kit fox biology and legislative protection should be conducted prior to increasing the pool. The program should include the occurrence of kit fox in the area and an explanation of the species status and protection under the ESA.
- A representative shall be appointed who will be the contact for any employee/contractor who might find a dead, injured or entrapped kit fox. This representative shall contact the USFWS immediately.
- Following the 90 day deviation, survey riparian habitat areas within the increased pool footprint to confirm whether impacts to the kit fox occurred. If any impacts are confirmed during survey, coordinate with USFWS to determine appropriate post-action compensation.

2.2.3 San Joaquin Adobe Sunburst

The following measures will be implemented to minimize effects on San Joaquin adobe sunburst and their potential habitat that occurs during project activities.

- Prior to implementation of the sandbag barrier, survey known California Natural Diversity Database (CNDDB) San Joaquin adobe sunburst populations to confirm the elevation of the population. In locations where lake levels will reach known populations, flood preventative measures should be implemented, such as sandbags or other removable structural barriers to ensure that the adobe sunburst population is not flooded.
- An employee education program consisting of a brief presentation by persons knowledgeable in adobe sunburst biology and populations and legislative protection should be conducted prior to implementing the flood preventative measures.
- Off-roading would be prohibited near known populations to prevent the destruction of populations near road sides.

3.0 ENVIRONMENTAL BASELINE

For species that are described and covered in this consultation, habitat preferences and distributions are based on published data, agency documents, and review of the CNDDB (CDFW 2017).

3.1 Action Area

The Action Area for the proposed action is defined as the terrestrial footprint surrounding Success Lake at a 4 foot elevation above gross pool level that will flood as a result of the installation of a 6 foot sandbag wall at the spillway. The Action Area is shown on Figure 3.

3.2 Species Accounts and Status in the Action Area

3.2.1 Southwestern Willow Flycatcher

Status. The southwestern willow flycatcher (*Empidonax traillii extimus*) was listed as a Federally endangered species on 27 February 1995 (68 FR 10485). Additionally this subspecies are designated as Sensitive species in California by the U.S. Forest Service (USFS) Region 5, and by the U.S. Fish and Wildlife Service (USFWS) Region 1. The final critical habitat designation includes 1,227 floodplain miles in California, Arizona, Nevada, Utah, Colorado, and New Mexico encompassing a total area of approximately 208,973 acres within the 100-year floodplain or flood-prone areas. Success Lake is outside the designated critical habitat area.

Distribution. Southwestern willow flycatchers are neotropical migrants that breed in patches of riparian habitat throughout the American southwest. This southernmost subspecies of willow flycatcher is found south of the Owens Valley, the South Fork Kern River, and the Santa Ynez River. Their breeding habitat currently ranges from southern California, through southern Nevada, southern Utah, Arizona, New Mexico, southwestern Colorado, and historically included western Texas and extreme northwestern Mexico. They travel south to winter ranges in Mexico, Central America, and northern South America. Within the range of southwestern willow flycatchers northbound migrants traveling to central and northern California and points north pass through areas where resident southwestern willow flycatchers are already breeding in Late May and early June. This creates confusion during southwestern willow flycatcher surveys because migrating birds often sing at their stopover locations (Sogge et al. 1997a). While their current distribution is similar to their historic range, southwestern willow flycatcher population numbers have declined precipitously in response to the loss of suitable riparian habitat throughout the region.

The greatest historical factor in the decline of the willow flycatcher is the extensive loss, fragmentation, and modification of riparian breeding habitat. Large-scale losses of wetlands have occurred, particularly those associated with riverine systems in both valley and montane settings (Johnson and Haight 1984, Unsicker et al. 1984, Johnson et al. 1987). Changes in the hydrology

and riparian plant community have reduced, degraded and eliminated nesting habitat for the willow flycatcher, contributing to its decline in distribution and numbers (Serena 1982, Taylor & Littlefield 1986, Unitt 1987, Schlorff 1990). Habitat losses and changes have occurred (and continue to occur) because of urban, recreational, and agricultural development, water diversion and impoundment, channelization, livestock grazing, and replacement of native habitats by introduced plant species (Klebenow & Oakleaf 1984, Katibah 1984, Dull 1999). Hydrological changes, natural or man-made, can greatly reduce the quality and extent of willow flycatcher habitat (Sogge et al. 1997b).

Brood parasitism by the brown-headed cowbird is another potentially significant threat to willow flycatchers in California, especially in lowland parts of their range (Friedman 1963, Whitfield & Enos 1996). The cowbird lays its eggs in host nests, and the host raises the cowbird young, often to the detriment or death of the host's young. At 11 low elevation sites in California, Nevada, Arizona, and New Mexico, the mean annual percent of southwestern willow flycatcher nests parasitized by brown-headed cowbirds ranged from 0-66% prior to the onset of cowbird trapping efforts. Additionally in these same areas 75% of willow flycatcher nests failed completely when parasitized, and only 11% of willow flycatcher eggs survived to fledging in parasitized nests (Whitfield & Sogge 1999).

Where the Tule River flows into Lake Success there is about 160 acres of willow riparian woodland (WRW) that is adequate southwestern willow flycatcher habitat. From Google Earth images the habitat appears to be mixed willow and blue oak woodland.

Life History and Habitat Requirements. The southwestern willow flycatcher is a small passerine less than 15 cm long from the tip of its bill to the tip of its tail. It has a brownish-olive to gray-green upper body, a whitish throat contrasting with a pale olive breast, a pale yellow belly, and two light wing bars. Males and females do not differ in plumage, but juveniles differ from adults by having buffy wing bars. Southwestern willow flycatchers require moist microclimatic and vegetative conditions, and breed only in dense riparian vegetation near surface water or saturated soil. While wet conditions are uniformly required, the structure and species of vegetation in which they nest vary by region and availability. The birds frequently build nests in nonnative tamarisk (*Tamarix* spp.), as well as in native willow (*Salix* spp.), typically in vegetation stands of 4–7 m in height. Nesting habitat patches can range widely in size, from as small as 0.6 ha to as much as 200 ha, although the majority of patches tend towards the smaller end of the range.

In the Lake Success area the following habitats are available for the southwestern willow flycatcher:

- Monotypic willow meadow – small stream. 1-20 acre meadows with nearly monotypic stands of willow occurring linearly along the stream channel. Willow is generally 2-4 meters in height and there are a few scattered trees within the riparian zone. Sagebrush communities often border these meadow/riparian areas. Soils may be saturated from overbank flows, snowmelt, or localized springs/seeps early in the season but tend to dry out by late summer.

- Monotypic willow marsh – lake margin. 10-200+ acre meadows with nearly monotypic stands of willow scattered in patches near margin of open water. Willow is generally 2-5 meters in height and tree overstory is absent. Seasonally inundated areas dominated by stands of sedges or rushes, but sites may also contain vast drier areas dominated by grasses and forbs, and lacking a shrub component. Suitable sites are generally restricted to natural lakes or reservoirs that do not undergo drastic changes in water levels during the summer months. In areas used by willow flycatchers (including the nest shrub), the ground may be completely covered by up to a meter of water during the first half of the breeding season.

- Mixed Shrub Riparian – varying stream size. Riparian zones with openings 10-40 meters in width and/or meadows less than 5 acres. Riparian shrub vegetation highly varied: willow, alder, aspen, wild rose, ninebark, elderberry, hawthorn, etc. Shrubs are generally 2-6 meters in height and distributed in dense linear strips along the stream. The herbaceous layer is highly variable depending on soil moisture, substrate and hydrology. Stream flow generally has moderate gradients, little standing water, and with a minimal meander pattern.

Regardless of the plant/hydrologic combination, riparian/meadow sites used by breeding willow flycatchers vary in size and shape, and may contain relatively dense, linear, stands of shrubs, or irregularly-shaped mosaics of dense vegetation with open areas in between. Willow flycatcher territories generally contain open water, boggy seeps, or saturated soil. Although these territories all tend to have some surface water early in the season, the amount that persists through the summer can vary widely from year to year depending on: the snowpack (onsite and/or upstream), the hydrology, and the ability of the soils at the site to hold water (Ratliff 1985, Weixelman et al. 1999). At some southwestern willow flycatcher sites, vegetation may be immersed in standing water during a wet year, but be hundreds of meters from surface water in dry years, this is particularly true of reservoir sites. At other breeding sites where the river channel has been recently modified or the river channel has changed naturally, there may be a total absence of water or visibly saturated soil for several years. However, it is not known how long such sites will continue to support riparian vegetation and/or remain occupied by breeding willow flycatchers (Sogge et al. 1997b).

Southwestern willow flycatchers spend only 3–4 months of the year paired with a mate for the breeding season. They defend a small (typically <1 ha) breeding territory during this time, which is often clumped with nearby territories of other flycatchers in a semi-colonial fashion. They can occur singly or near other flycatchers during migration and on the wintering grounds. Males often exhibit site fidelity by returning to the general area of the previous year's breeding grounds. Because of the dynamic nature of riparian habitat, however, (a single flood can destroy an entire patch), flycatchers are known to move among sites in their breeding grounds, either within the same year or from year to year.

Southwestern willow flycatchers usually pair with a single mate during the breeding season, although polygyny (multiple female mates) has been documented at low rates. Males arrive on breeding grounds in late April to early May to establish territories, approximately 1–2 weeks before the females arrive. After pairing, the female builds an open cup nest from leaves,

grass, fibers, feathers and animal hair, approximately 9.5 cm high and 8.5 cm wide (outside dimensions), exclusive of any dangling material at the bottom (Sanders & Flett 1989, Bombay 1999). Nests are typically placed in the fork of a branch with the nest cup supported by several small-diameter vertical stems. Nests are placed at an average of 4.6 m in height, but they can range from 1–12 m. Nest height also varies considerably and may be correlated with height of nest plant, overall canopy height, and/or the height of the vegetation strata that contains small twigs and live growth (Sogge et al. 1997b). In late May to early June, the female lays 3–4 buffy eggs with brown markings in a circle at the blunt end of the egg. She incubates them for 12–15 days, and then both the female and male tend the young during the 12–15 day nestling stage. After fledging, young stay close to the nest for a few days, and do not leave the natal area for at least 14–15 days. During this time, both adults respond to the loudly begging fledglings by bringing them food. Some pairs will attempt to raise a second brood later in the season, particularly if their first nesting attempt fails. Nests with eggs have been observed as late as 30 August, with nestlings into mid-September.

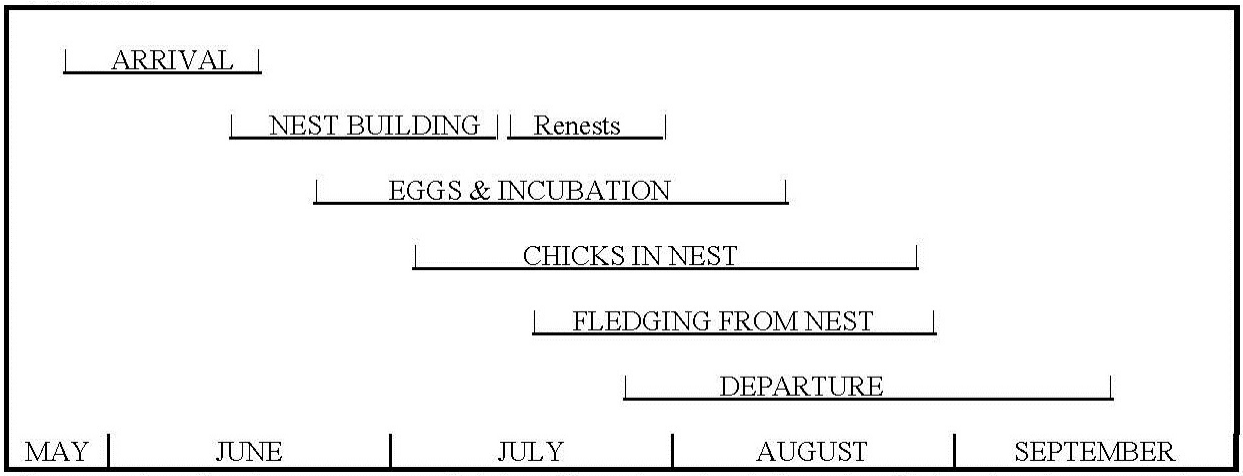

Figure 6. Generalized Willow Flycatcher Breeding Chronology for Central and Northern California.

Second clutches after a successful first nest are occasionally reported for the southwestern willow flycatcher. Willow flycatchers often attempt a second and even third nest after nest failures (Bombay 1999, Morrison et al. 1999). Replacement nests are built in the same territory, either in the same nest plant or at a distance of 30 m or more from the previous nest. Frequently, willow flycatchers will disassemble failed nests in order to build new nests (McCabe 1991). On a few occasions re-nesting flycatchers have been known to reuse the same nest in a single year (Yard & Brown 1999). In California, replacement nest building and egg laying can occur (uncommonly) as late as early August (Stafford & Valentine 1985, Sanders & Flett 1989) (Figure 6). Clutch size (and therefore potential productivity) usually decreases with each nest attempt (Whitfield and Strong 1995). Breeding populations may also reappear at unoccupied sites following 1-5 yr. absences (Sogge et al.1997a). Therefore, one cannot assume that a habitat is unsuitable or unoccupied in the long-term based on flycatcher absence during only a single year, especially if there is evidence of recent occupancy.

3.3.2 San Joaquin Kit Fox

Status. The San Joaquin kit fox (*Vulpes macrotis mutica*) was listed as an endangered species on 11 March 1967 and was listed by the State of California as a threatened species on 27 June 1971. Critical habitat has not been designated for this species.

Distribution. Historically, the San Joaquin kit fox occurred in several San Joaquin Valley native plant communities. In the southernmost portion of the range, these communities included Valley Sink Scrub, Valley Saltbush Scrub, Upper Sonoran Subshrub Scrub, and Annual Grassland. San Joaquin kit foxes also exhibit a capacity to utilize habitats that have been altered by man. Kit foxes can inhabit the margins and fallow lands near irrigated row crops, orchards, and vineyards, and may forage occasionally in these agricultural areas (USFWS 1998).

The kit fox is often associated with open grasslands, which form large contiguous blocks within the eastern portions of the range of the animal. The listed canine also utilizes oak savanna and some types of agriculture (e.g. orchards and alfalfa), although the long-term suitability of these habitats is unknown (Jensen 1972; Service 1998). Orchards occur in large contiguous blocks in the northwest portions of the study area and at scattered locations in the southwest portions. Orchards sometimes support prey species if the grounds are not manicured; however, denning potential is typically low and kit foxes can be more susceptible to coyotes predation within the orchards. Kit foxes often den adjacent to, and forage within, agricultural areas (Bell 1994; Scott-Graham 1994). Although agricultural areas are not traditional kit fox habitat and are often highly fragmented, they can offer sufficient prey resources and denning potential to support small numbers of kit foxes.

Low, suitable habitat is present, but the project area is at the edge of the species current known range. The kit fox has been documented in the nine surrounding quads but greater than 5 miles from the study area. USFWS has advised that the kit fox may potentially use the area for foraging or as a movement corridor.

Life History and Habitat Requirements. In September and October, adult females begin to excavate and enlarge natal dens (Morrell 1972), and adult males join the females in October or November. Typically, pups are born between February and late March following a gestation period of 49 to 55 days (Egoscue 1962, Spiegel and Tom 1996; Service 1998). Mean litter sizes are between 2 and 4 pups. Reproductive rates, the proportion of females bearing young, of adult San Joaquin kit foxes vary annually with environmental conditions, particularly food availability. Although most young kit foxes disperse less than 5 miles (Scrivner et al. 1987a), dispersal distances of up to 76.3 miles have been documented for the San Joaquin kit fox (Service 1998). Dispersal can be through disturbed habitats, including agricultural fields, and across highways and aqueducts. Some kit foxes delay dispersal and may inherit their natal home range.

Kit foxes are reputed to be poor diggers, and their dens are usually located in areas with loose-textured, friable soils (O'Farrell 1984). However, the depth and complexity of their dens suggest-that they possess good digging abilities, and kit fox dens have been observed on a variety of soil types (Service 1998). Some studies have suggested that where hardpan layers predominate, kit foxes create their dens by enlarging the burrows of California ground squirrels

(Spermophilus beecheyi) or badgers *(Taxidea* taxus) (Jensen 1972; Morrell 1972). In parts of their range, particularly in the foothills, kit foxes often use ground squirrel burrows for dens (Orloff *et al.* 1986). Kit fox dens are commonly located on flat terrain or on the lower slopes of hills. Common locations for dens include washes, drainages, and roadside berms. Kit foxes also commonly den in human-made structures such as culverts and pipes (Spiegel *et al.* 1996).

Natal and pupping dens may include from two to 18 entrances and are usually larger than dens that are not used for reproduction (O'Farrell *et af.* 1980; O'Farrell and McCue 1981). Natal dens may be reused in subsequent years (Egoscue 1962). It has been speculated that natal dens are located in the same location as ancestral breeding sites. Active natal dens are generally 1.2 to 2 miles from the dens of other mated kit fox pairs. Natal and pupping dens usually can be identified by the presence of scat, prey remains, matted vegetation, and mounds of excavated soil outside the dens (O'Farrell 1984). However, some active dens in areas outside the valley floor often do not show evidence of use (Orloff *el al.* 1986).

A kit fox can use more than 100 dens throughout its home range, although on average, an animal will use approximately 12 dens a year for shelter and escape cover (Cypher *et al.* 2001). Possible reasons for changing dens include infestation by ectoparasites, local depletion of prey, or predator avoidance. In the southern San Joaquin Valley, kit foxes were found to use up to 39 dens within a denning range of 320 to 482 acres (Morrell 1972). Dens are used by kit foxes for temperature regulation, shelter from adverse environmental conditions, and escape from predators. Kit foxes excavate their own dens, use those constructed by other animals, and use human-made structures (culverts, abandoned pipelines, and banks in sumps or roadbeds). Kit foxes often change dens and may use many dens throughout the year; however, evidence that a den is being used by kit foxes may be absent.

The diet of the San Joaquin kit fox varies geographically, seasonally, and annually, based on temporal and spatial variation in abundance of potential prey. Known prey species of the kit fox include white footed mice *(Peromyscus* spp.), insects, California ground squirrels, kangaroo rats *(Dipodomys* spp.), San Joaquin antelope squirrels, black-tailed hares *(Lepus calijornicus),* and chukar *(Alectoris chukar)* (Jensen 1972, Archon 1992). Kit foxes also prey on desert cottontails *(Sylvi/agus audubonii),* ground-nesting birds, and pocket mice *(Perognathus* spp.). Resource competition between coyotes and foxes may be quite high especially when prey resources are scarce. Competition is common in semi-arid, central California, especially during drought years and results in kit fox mortalities.

San Joaquin kit foxes are primarily nocturnal, although individuals are occasionally observed resting or playing (mostly pups) near their dens during the day. Kit foxes occupy home ranges that vary in size from 1.7 to 4.5 square miles (White and Ralls 1993). Average distances traveled each night range from 5.8 to 9.1 miles and are greatest during the breeding season (Cypher 2000).

Less than 20 percent of the habitat within the historical range of the kit fox remained when the subspecies was listed as federally-endangered in 1967, and there has been a substantial net loss of habitat since that time. The primary factor contributing to this restricted distribution was the conversion of native habitat to irrigated cropland, industrial uses, and urbanization

(Laughrin 1970, Jensen 1972; Morrell 1972). Approximately 1.97 million acres of habitat, or about 66,000 acres per year, were converted in the San Joaquin region between 1950 and 1980 (California Department of Forestry and Fire Protection 1988). The counties specifically noted as having the highest wildland conversion rates included Kern, Tulare, Kings and Fresno, all of which are occupied by kit foxes. Extensive habitat destruction and fragmentation have contributed to smaller, more-isolated populations of kit foxes. Small populations have a higher probability of extinction than larger populations because their low abundance renders them susceptible to stochastic (Le., random) events such as high variability in age and sex ratios, and catastrophes such as floods, droughts, or disease epidemics (Lande 1988, Saccheri *et al.* 1998). Owing to the probabilistic nature of extinction, many small and isolated populations will go extinct when faced with these stochastic risks.

3.3.3 San Joaquin Adobe Sunburst

Status. The San Joaquin adobe sunburst (*Pseudobahia peirsonii*) was Federally-listed as threatened on 6 February 1997 (62 FR 5542). The San Joaquin adobe sunburst is State-listed as endangered. No formal designation for critical habitat has been designated for this species.

Distribution. San Joaquin adobe sunburst is restricted to heavy, adobe clay soils with slight slopes on valley floors and rolling hills in scattered location in northern Kern County, Tulare, and Fresno Counties. This plant is endemic to the eastern San Joaquin Valley. The population is limited to about 31 occurrences in valleys and flats and in the foothills of the Sierra Nevada. Extant populations are concentrated in three areas: the Round Mountain-Wahtoke area in Fresno County, the Porterville-Visalia region in Tulare County, and the Pine Mountain-Woody region in Kern County (Service 1992). San Joaquin adobe sunburst is usually found on Porterville clay soil series, but can be found less frequently on Academy Centerville, Cibo and Mt. olive clay soil series. Growing in areas where the average annual rainfall is less than 10 inches, these soils may be favored by the San Joaquin adobe sunburst for their ability to hold moisture longer into the summer dry season than other soils. It occurs at elevations ranging from 500 to 2,500 feet above mean sea level primarily in annual grassland plant communities, but sometimes in annual grassland-blue oak woodland ecotone communities. San Joaquin adobe sunburst grows in grasslands dominated by non-native annual grasses, mustards, and filarees. The intrusive and aggressive nature of these herbaceous weeds appears to be detrimental to the quality of habitat for the San Joaquin adobe sunburst. Common associates within the study area include wild oat (*Avena fatua*), red brome (*Bromus madritensis* ssp. *rubens*), common fiddleneck (*Amsinckia menziesii* var. *intermedia*), soft chess (*Bromus hordeaceus*), redstem filaree (*Erodium cicutarium*), and charlock (*Sinapis arvensis*).

Of the 43 historically known occurrences of San Joaquin adobe sunburst, 12 have been or are now presumed to be extirpated, all in Tulare County. Of those 12, three occurrences have been or are presumed to have been extirpated since 1999. Approximately 80 percent of the remaining plants of this species are contained in 4 populations and 18 of the 31 extant occurrences contain less than 250 plants in a given year (CDFG 2001). Populations continue to be threatened by agricultural activities, urbanization, water projects, transmission line and road

maintenance, soil erosion, livestock grazing, and competition with non-native weeds (CDFG 1992; Service 1992).

The extant population at Lake Success is considered in fair condition and a remnant population of a larger one that used to occupy an area that is now part of Lake Success. The Lake Success extant population of San Joaquin adobe sunburst has varied from 50 to over 300 individual plants covering an estimated 3-acre area along the west side of Lake Success (Service 1991). A survey conducted at Lake Success Recreation Area in the spring of 2006 by EDAW reported an undocumented occurrence of San Joaquin Adobe Sunburst on the southwest side of Boat Island which included 45 individuals. This same survey documented approximately 250 individuals on the west side of Lake Success.

Two San Joaquin adobe sunburst occurrence polygons were mapped within the study area near the spillway and at Rocky Hill Recreation Area in 2002 (see Figure 1 Site Features). The population near the spillway was first reported in 1985 and Rocky Hill was reported in 1938. Three occurrences of San Joaquin adobe sunburst were mapped by EDAW botanists during surveys conducted in 2006. One occurrence corresponding to CNDDB Occurrence Number 10 was mapped near the spillway northwest of Success Dam west of Worth Road and one occurrence corresponding to CNDDB Occurrence Number 19 was mapped in the Rocky Hill area on the west shore of Lake Success west of the dirt part of Worth Road. The third occurrence was mapped on the southwest end of Boat Island in Area 6 and had not been previously documented. However, there were reportedly large historical concentrations of this species in Success Valley prior to filling Lake Success with water. The three occurrences contained 120, 30, and 45 individuals respectively; but it is important to note that this species, as with most annuals, is cyclical and population sizes fluctuate greatly from year to year due to environmental variation.

The footprint of the water level caused by increasing the gross pool of Success Lake would reach CNDDB reported populations of the San Joaquin adobe sunburst. Locations affected include the Rocky Hill Recreation Area and near the inflow of Tule River, approximately 1 miles upstream of the bridge.

Life History and Habitat Requirements. This annual herb species is a member of the sunflower family (*Asteraceae*) and has woolly gray stems and foliage. The erect stems are typically from 4 to 18 inches tall. The alternate leaves are divided twice into smaller lobes (*bipinnatifid*), are triangular in outline, and 1 to 3 inches long. San Joaquin adobe sunburst (also called *Tulare pseudobahia*) is distinguished from other species of *Pseudobahia* by characteristics of the phyllaries and leaves. Each plant produces a single head of yellow disk and ray flowers at the ends of the branches between March and May.

The San Joaquin adobe sunburst requires sufficient rainfall; therefore, during drought years population sizes decrease substantially. Additionally, the timing of grazing can have impacts of the success of the species.

3.3.4 California Red-legged Frog

Status. The California Red-legged frog (*Rana draytonii*) was Federally-listed as threatened on 21 September 1993 (48 FR 43098). Formal designation for critical habitat was finalized in 2001.

Distribution. Historically, the California red-legged frog was known from 46 counties but the taxon is now extirpated from 24 of these (USFWS 1996a). The California red-legged frog is now known only from isolated localities in the Sierra Nevada, northern Coast, and northern Transverse Ranges. It is believed to be nearly extirpated from the southern Transverse and Peninsular ranges. This species is still common in the San Francisco Bay area (including Marin County) and along the central coast (Figure 6) (CNDDB 2001, Jennings *in litt.* 1998a). A watershed is considered occupied when the presence of the species is confirmed. Watersheds are used because California red-legged frogs can be found in a range of habitats within a watershed (e.g., stock ponds, creeks) and because they may be known from a single location or numerous locations within a watershed. Thus, an occupied watershed refers to an assumed network of habitat areas, populations, and site-specific localities. Occupied drainages or watersheds include all of the bodies of water that support frogs (i.e., streams, creeks, tributaries, associated natural and artificial ponds, and adjacent drainages), and habitats through which frogs can move (i.e., riparian vegetation, uplands).

Because populations of frogs may be extirpated with some frequency, occurrence data may not adequately describe the status of the species in a region. This limitation may be the result of a lack of long term and complete survey data and fluctuations in population numbers. The numbers at a site or series of sites can vary widely from year to year. When conditions are favorable, California red-legged frogs can experience extremely high rates of reproduction and produce large numbers of dispersing young and a concomitant increase in number of occupied sites. Conversely, frogs may temporarily disappear from a normally occupied area. At sites where frogs seem absent, long-term monitoring is necessary to determine if these sites are recolonized or “rescued” by dispersers from nearby subpopulations. Therefore, the information on distribution and status should be understood within the context of the larger metapopulation scale (Scott and Rathbun *in litt.* 1998). In this plan, metapopulations are considered collections of populations that are linked by migrants (i.e., dispersers), allowing for recolonization of unoccupied habitat patches after local extinction events.

The California red-legged frog was probably extirpated from the floor of the Central Valley before 1960 (USFWS 1996a). Elimination of the frog from the floor of the valley was particularly significant in that it isolated Sierra-Nevada foothill populations that may have depended on immigrants from the valley floor (Jennings *et al. in litt.* 1992). However, California red-legged frogs may never have been widespread on the valley floor as specimen-based records are scarce north of the Kern River drainage. California red-legged frogs historically occupied portions of the western slope of the Sierra Nevada from Shasta County south to Tulare County, but these populations have been fragmented and nearly eliminated. In 1960, isolated populations were known from at least 30 Sierra Nevada foothill drainages bordering the Central Valley. Records show that the lower elevations of some National Forests and Yosemite National Park were once occupied by California red-legged frogs (M. Jennings *et al. in litt.* 1992). In the

southernmost Sierra foothills, frogs were historically located within Kern County, particularly in streams and irrigation ditches near Bakersfield (CNDDB 2001, Jennings *in litt.* 1998a). Currently, only a few drainages in the foothills of the Sierra Nevada are known to support California red-legged frogs, compared to over 60 known historic localities and 18 historic sites where specimens were collected (Jennings and Hayes 1992, Barry 1999).

Life History and Habitat Requirements. The California red-legged frog is a relatively large aquatic frog ranging from 4 to 13 centimeters from the tip of the snout to the vent. From above, the California red-legged frog can appear brown, gray, olive, red or orange, often with a pattern of dark flecks or spots. The skin usually does not look rough or warty. The back of the California red-legged frog is bordered on either side by an often prominent dorsolateral fold of skin running from the eye to the hip. The hind legs are well-developed with large webbed feet. A cream, white, or orange stripe usually extends along the upper lip from beneath the eye to the rear of the jaw. The undersides of adult California red-legged frogs are white, usually with patches of bright red or orange on the abdomen and hind legs. The groin area can show a bold black mottling with a white or yellow background.

California red-legged frogs occur in different habitats depending on their life stage, the season, and weather conditions. Range wide, and even within local populations, there is much variation in how frogs use their environment; in some cases, they may complete their entire life cycle in a particular habitat (i.e., a pond is suitable for all life stages), and in other cases, they may seek multiple habitat types (USFWS 2001). All life history stages are most likely to be encountered in and around breeding sites, which are known to include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. California red-legged frog eggs are usually found in ponds or in backwater pools in creeks attached to emergent vegetation such as Typha and Scirpus. However, they have been found in areas completely denuded of vegetation. Creeks and ponds where California red-legged frogs are found most often have dense growths of woody riparian vegetation, especially willows (Salix spp.) (Hayes and Jennings 1988). The absence of Typha, Scirpus, and Salix at an aquatic site does not rule out the possibility that the site provides habitat for California red-legged frogs, for example stock ponds often are lacking emergent vegetation yet they provide suitable breeding habitat. California red-legged frog larvae remain in these habitats until metamorphosis in the summer months (Storer 1925; Wright and Wright 1949). Young California red-legged frogs can occur in slow moving, shallow riffle zones in creeks or along the margins of ponds.

California red-legged frogs often disperse from their breeding habitat to forage and seek summer habitat if water is not available. In the summer, California red-legged frogs are often found close to a pond or a deep pool in a creek where emergent vegetation, undercut banks, or semi-submerged root balls afford shelter from predators. California red-legged frogs may also take shelter in small mammal burrows and other refugia on the banks up to 100 meters from the water any time of the year and can be encountered in smaller, even ephemeral bodies of water in a variety of upland settings (Jennings and Hayes 1994; USFWS 2002). California red-legged frogs are frequently encountered in open grasslands occupying seeps and springs. Such bodies may not be suitable for breeding but may function as foraging habitat or refugia for dispersing

frogs. During periods of wet weather, starting with the first rains of fall, some individuals make overland excursions through upland habitats (USFWS 2002).

California red-legged frogs breed from November through April. Males appear at breeding sites from 2 to 4 weeks before females (Storer 1925). At these sites, males frequently call in small groups of two to seven individuals, although in some instances they may call individually (Jennings *et al. in litt.* 1992). Females are attracted to the calling males. A pair in amplexus (breeding position) moves to an oviposition site (the location where eggs are laid) and the eggs are fertilized while being attached to a brace. Braces include emergent vegetation such as bulrushes (*Scirpus* spp.) and cattails (*Typha* spp.) or roots and twigs; the egg masses float on the surface of the water (Hayes and Miyamoto 1984). Each mass contains about 2,000 to 5,000 dark reddish brown eggs that are each about 2.0 to 2.8 millimeter in diameter. Eggs hatch in 6 to 14 days depending on water temperatures (Jennings 1988b). Egg predation is infrequent and most mortality probably occurs during the tadpole stage (Licht 1974), although eggs are susceptible to being washed away by high stream flows. Schmeider and Nauman (1994) report that California red-legged frog eggs have a defense against predation which is possibly related to the physical nature of the egg mass jelly, although Rathbun (1998) has documented newt predation on eggs and suggested that this predation may be an important factor in the population dynamics of the California red-legged frog. Typically, most adult frogs lay their eggs in March. Eggs require approximately 20-22 days to develop into tadpoles, and tadpoles require 11 to 20 weeks to develop into terrestrial frogs. (Bobzien et. al. 2000, Storer 1925, Wright and Wright 1949). Several researchers, however, have observed overwintering tadpoles (i.e., tadpoles that did not metamorphose within their first breeding season) in recent surveys. Sexual maturity can be attained at 2 years of age by males and 3 years of age by females (Jennings and Hayes 1984); adults may live 8 to 10 years (Jennings *et al. in litt*. 1992), although the average life span is probably much lower. Schmeider and Nauman (1994) reported that California red-legged frog larvae are highly vulnerable to fish predation, especially immediately after hatching, when the non-feeding larvae are relatively immobile.

Hayes and Tennant (1985) found juvenile frogs to be active diurnally and nocturnally, whereas adult frogs were largely nocturnal. The season of activity for the California red-legged frog seems to vary with the local climate (Storer 1925); individuals from coastal populations, which rarely experience low temperature extremes because of the moderating maritime effect, are rarely inactive. Individuals from inland sites, where temperatures are lower, may become inactive for long intervals (Jennings *et al. in litt.* 1992) and no information is available on the activity levels of California red-legged frogs at higher elevations.

The diet of California red-legged frogs is highly variable. The foraging ecology of larvae has not been studied, but they are thought to be algal grazers (Jennings *et al. in litt.* 1992). Hayes and Tennant (1985) found invertebrates to be the most common food items of adult frogs. Vertebrates, such as Pacific tree frogs (*Hyla regilla*) and California mice (*Peromyscus californicus*), represented over half of the prey mass eaten by larger frogs, although invertebrates were the most numerous food items. Feeding typically occurs along the shoreline and on the surface of the water; juveniles appear to forage during both daytime and nighttime, whereas subadults and adults appear to feed at night (Hayes and Tennant 1985). Radio-tracking studies suggest that frogs also forage several meters into dense riparian areas (USFWS 1996a).

4.0 EFFECTS OF THE PROPOSED ACTION

4.1 Southwestern Willow Flycatcher

Effects to the southwestern willow flycatcher may occur if the proposed increase in gross pool floods willow flycatcher habitat and established nests. Lake Success is located north of the designated critical habitat, therefore there will be no destruction to willow flycatcher critical habitat. The nearest critical habitat is Lake Isabella in Kern County which is at least 40 miles south. Where the Tule River enters the lake in the northeastern corner there is approximately 160 acres of Willow Riparian Woodland (WRW) habitat. Most of this riparian area would flood on an annual basis at maximum reservoir levels. With the proposed action only 2.366 acres would be additionally flooded. Most flooded areas contain sparsely populated trees in oak woodland; this would not be expected to be good quality habitat for the willow flycatcher. Densely populated vegetation with willow and oak overstory with herbaceous understory would provide adequate habitat for willow flycatcher nesting. The estimated impacted area with this denser habitat type would be 1.585 acres. Potential impacts from habitat damage or disturbance could include nest abandonment, lifecycle disruption, or direct mortality.

The gross pool increase is scheduled for May which aligns with the southwestern willow flycatcher's arrival into the northern part of its habitat niche. Migration back to nesting grounds from May to June equates to nest building typically beginning in mid-June (Figure 6). It has not been documented, but it may be true that birds in Southern California nest earlier than the timeframes shown for Central and Northern California because of their earlier arrival time due to migration distances being shorter in length. It is possible that the flooding could reach pre-existing nests from prior years that are very low to the ground. However, the willow flycatcher's life history and ecology explains that it is not unusual for breeding grounds to be completely flooded in early nesting stage. Additionally flycatchers frequently rebuild nests after failure without great compromise to their reproductive success. It is unlikely that the minimal flooding early in the season would disturb any newly built nests and highly unlikely to affect eggs being incubated. As a result, the Corps has determined that with the temporary flooding occurring in May, the proposed water control manual deviation may affect but is not likely to adversely affect the southwestern willow flycatcher.

4.2 San Joaquin Kit Fox

The San Joaquin kit fox prefers habitat consisting of gently sloped open grassland and oak savanna which represent the vegetative communities around Lake Success. However there has been no critical habitat designated for the species so the gross pool increase will not be degrading known critical habitat. The nearest reported location for the kit fox was approximately 6 miles west of Lake Success in the agricultural areas surrounding the town of Porterville. Young kit foxes often do not disperse more than 5 miles; however, dispersal distances of up to 76.3 miles have been documented. Therefore it is likely that San Joaquin kit fox at the very least travels through the area, but may even forage and den nearby.

Increasing the gross pool of the lake in May could have impacts on existing dens. In September and October adult females begin to excavate natal dens and pups are born between February and late March. Pups appear above ground at 3-4 weeks and are weaned at age 6-8 weeks. Flooding beginning in May coincides with the timeframe of kit fox pups beginning to wean from their dens. While San Joaquin kit foxes have been known to den in nearly all soil types, as long as they are loose-textured and friable, denning within several feet of the lake is unlikely due to the presence of wet soils and a high water table. Common den locations include washes, drainages and roadside berms. There are agricultural fields and sandy soils south of the lake where the South Fork of the river enters the lake. It is possible that the last few years of drought made lower elevations drier and more appealing for den excavations. However kit foxes are highly mobile and can use more than 100 dens throughout its home range. In the southern San Joaquin Valley, kit foxes were found to use up to 39 dens.

It is possible that the proposed action could flood active and occupied San Joaquin kit fox dens. Dens with young pups may present little to no signs of activity. It is likely that an adult mother kit fox would be capable of moving her pups to the safety of another drier den due to the slowly rising flood waters. As a result, the Corps has determined that the proposed water control manual deviation may affect, but is not likely to adversely affect the San Joaquin kit fox.

4.3 San Joaquin Adobe Sunburst

Effects to the San Joaquin adobe sunburst may occur if the proposed action floods the known populations. The adobe sunburst has evolved to grow in soils with high adobe clay content due to its high moisture holding ability in dry Southern California summers. The adobe sunburst typically grows in Porterville clay which a common soil type around the lake. Additional soil types include Centerville and Cibo which are present as well. There are two CNDDB reported populations in the Rocky Hill Recreation Area that border the proposed lake level. Based on a desktop assessment, the Corps believes that an estimated 0.250 acres would be flooded of known populations of adobe sunburst at the Rocky Hill Recreation Area. Another CNDDB reported population exists along the bank of the South Fork of the Tule River approximately a mile upstream of the bridge crossing. The Corps estimates that flooding could affect 0.098 acres of the adobe sunburst at this location. The locations of these three populations of adobe sunburst are shown on Figure 7 below.

The adobe sunburst flowers from March to April so flooding in May would affect the plants reproductive success. If the adobe sunburst was not able to complete its life cycle, certainly these metapopulations would cease to exist and hence remove quality genetic material from the gene pool.

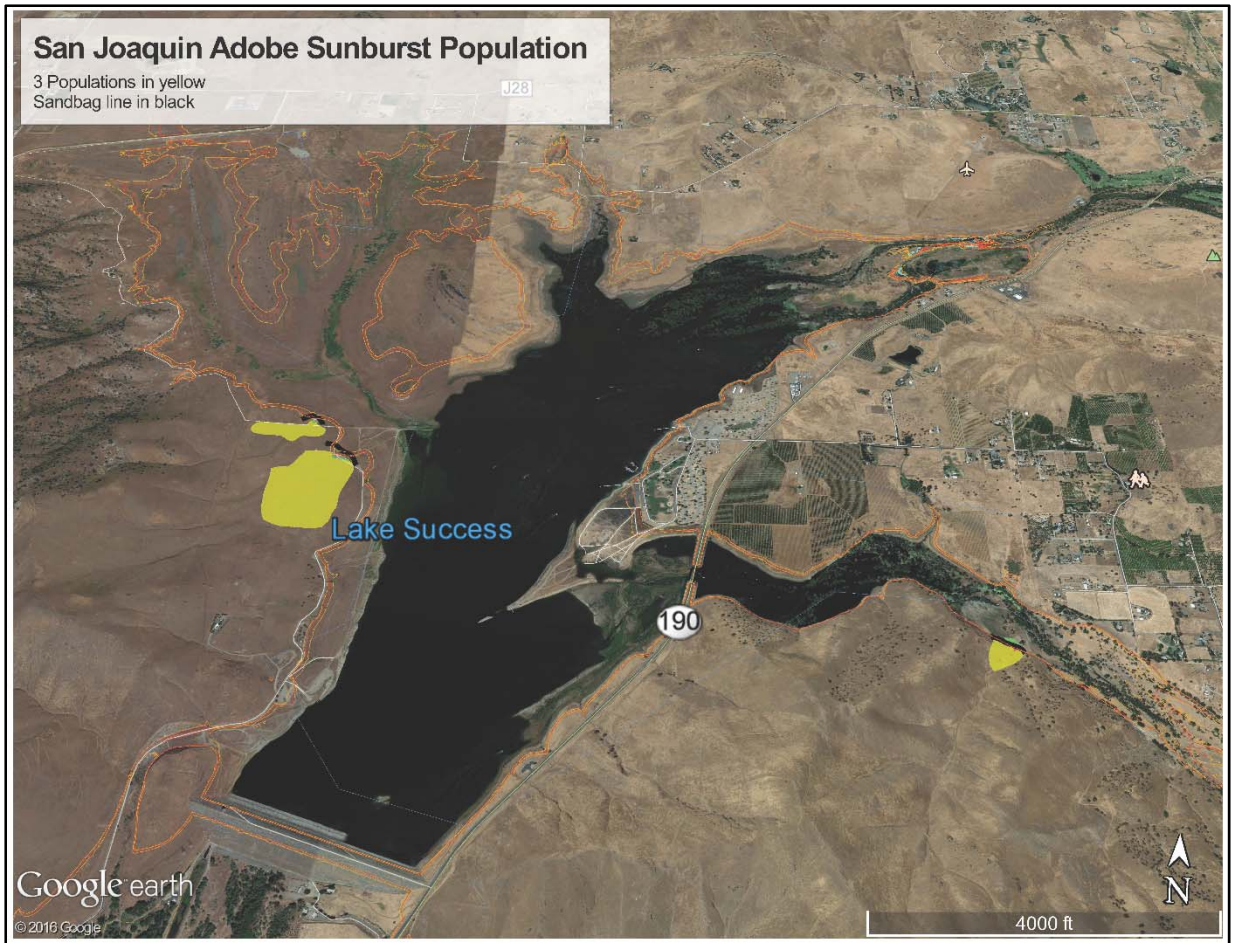

Figure 7. Locations of Known San Joaquin Adobe Sunburst Populations in the Action Area.

The Corps proposes to survey the known populations of adobe sunburst prior to implementing the water control manual deviation to confirm the location of these known populations, which may have shifted during the drought. If surveys confirm that the population would flood under the water control manual deviation conditions, then sandbags or other removable flood control barriers would be installed around known populations of the San Joaquin adobe sunburst. When high water levels ceded the structural flood prevention measures would be removed. USACE has determined that with the implementation of barriers around the known populations of adobe sunburst, the proposed water control manual deviation is not likely to adversely affect the San Joaquin adobe sunburst.

4.4 California Red-legged Frog

The California red-legged frog could be impacted by the proposed action if the Willow Riparian Woodland (WRW) habitat were flooded. There is no critical habitat near the Lake Success and no reports of CRF in Tulare County. Historically California red-legged frog was found in the area but is believed to have been extirpated since. However suitable habitat does

exist including backwater portions of streams upriver from the lake where California red-legged frog F eggs are found attached to emergent vegetation. California red-legged frog are mostly found in dense growths of woody riparian vegetation, especially willows which are present near the inflow from Tule River. The estimated impact area is 2.366 acres. California red-legged frogs breed from November through April. Eggs are typically laid in March requiring 20-22 days to develop into tadpoles. From the tadpole stage they require 11-20 weeks to develop into terrestrial frogs.

The reproductive and developmental timeline of the California red-legged frog coincides with the proposed flooding. Therefore if the gross pool increased in May, higher flows may disturb and reduce survival of tadpoles. This event could substantially reduce the viability of a local population. It is, however very unlikely that any California red-legged frog live in Lake Success or that the area could be repopulated by neighboring metapopulations. The nearest known population is located over 75 miles away in San Luis Obispo County. USACE has determined that the proposed water control manual deviation is not likely to adversely affect the California red-legged frog.

5.0 CUMULATIVE EFFECTS

The ESA requires USFWS to evaluate the cumulative effects of the proposed actions on listed species and designated critical habitat, and to consider cumulative effects in formulating Biological Opinions (USFWS and NMFS 2002a). The ESA defines cumulative effects as "those effects of future State or private actions, not involving Federal activities that are reasonably certain to occur within the action area" of the proposed action subject to consultation (USFWS and NMFS 2002b). Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Federal ESA. Federal actions, including hatcheries, fisheries, and land management activities are, therefore, not included. For the purposes of this BA, the area of cumulative effects analysis is defined as the Tule River watershed.

The proposed action is a one-time increase in the gross pool of Lake Success in response to the high volume of water the watershed has accumulated this year in terms of snowpack. This flooding event would occur relatively slowly allowing mobile species like the Southwestern willow flycatcher, San Joaquin kit fox and the California red-legged frog to evacuate to higher elevation. Immobile species like the San Joaquin adobe sunburst would endure the full impacts of the flood without the implementation of the proposed avoidance measures. After the flooding the water would eventually return to a normal gross pool later in the summer. The proposed action does not impact any species long term, with the implementation of the proposed avoidance measures. Additionally, all project actions and impacts will occur on Federal land with no State actions occurring in the Action Area. As a result, cumulative effects of the proposed action are not likely to adversely affect the Southwestern willow flycatcher, San Joaquin adobe sunburst, San Joaquin kit fox, and California red-legged frog.

6.0 CONCLUSION AND EFFECTS DETERMINATION FOR LISTED SPECIES AND CRITICAL HABITAT

6.1 Southwestern Willow Flycatcher

In consideration of the above information, the project actions may result in short-term flood related temporary habitat losses and potential disturbance to the southwestern willow flycatcher. However, these temporary effects could be minimized by implementation of the avoidance and minimization measures. Due to the timing of the arrival of the southwestern willow flycatcher and the scheduled temporary flooding, the proposed action may affect, but is not likely to adversely affect this species.

6.2 San Joaquin Kit Fox

In consideration of the above information, the project actions may result in short-term flooding related habitat losses to the San Joaquin kit fox. The temporary effects could be minimized by implementation of the avoidance and minimization measures. Due to the timing of the increased reservoir levels coinciding with the weaning of the kit fox pups, it is expected that the kit fox will be able to relocate themselves to a den that is outside of the increased pool zone. As a result, the proposed action may affect, but is not likely to adversely affect the San Joaquin kit fox.

6.3 San Joaquin Adobe Sunburst

In consideration of the above information, the project actions may result in short-term flooding related grassland habitat losses to the San Joaquin adobe sunburst. The temporary effects are likely to be minimized by the implementation of a structural barrier to prevent flooding. Due to the implementation of the avoidance measures, the proposed action is not likely to adversely affect the San Joaquin Adobe Sunburst.

6.4 California Red-legged Frog

In consideration of the above information, the project actions may result in short-term flooding to riparian habitat, however, the frog is not likely to be present within the Action Area. Due to the historic extirpation of the species from the Sierra Nevadas, the proposed action is not likely to adversely affect the California Red-legged frog.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: March 31, 2017
Consultation Code: 08ESMF00-2017-SLI-1590
Event Code: 08ESMF00-2017-E-03988
Project Name: Success Lake Water Control Manual Deviation

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2017-SLI-1590

Event Code: 08ESMF00-2017-E-03988

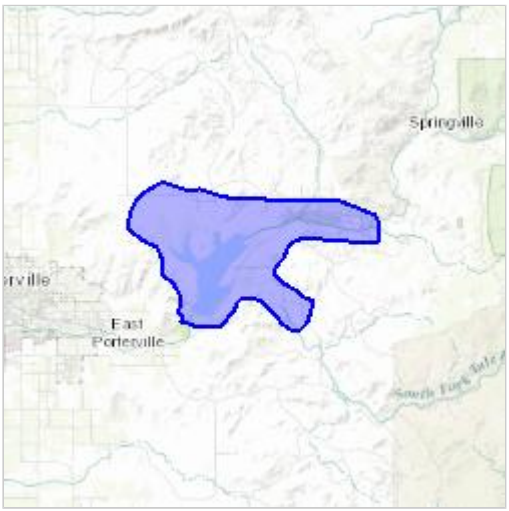
Project Name: Success Lake Water Control Manual Deviation

Project Type: LAND - FLOODING

Project Description: Install a sandbag wall in the uncontrolled spillway to allow for 10,000 acre-feet of additional storage in Success Reservoir for up to 90 days.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.084407413796N118.90728175683338W



Counties: Tulare, CA

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
San Joaquin Kit Fox *(Vulpes macrotis mutica)*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/2873

Birds

NAME	STATUS
California Condor *(Gymnogyps californianus)*	Endangered

Population: U.S.A. only, except where listed as an experimental population
There is a **final** critical habitat designated for this species. Your location overlaps the designated critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/8193

Southwestern Willow Flycatcher *(Empidonax traillii extimus)*	Endangered

There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/6749

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *(Gambelia silus)*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/625

Amphibians

NAME	STATUS
California Red-legged Frog *(Rana draytonii)*	Threatened

There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2891

Fishes

NAME	STATUS
Delta Smelt *(Hypomesus transpacificus)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Flowering Plants

NAME	STATUS
Keck's Checker-mallow *(Sidalcea keckii)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5704	Endangered
San Joaquin Adobe Sunburst *(Pseudobahia peirsonii)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2931	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area.

NAME	STATUS
California Condor *(Gymnogyps californianus)*	Final designated

APPENDIX B

CULTURAL RESOURCE COORDINATION

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

May 10, 2017 In reply refer to: COE_2017_0410_002

Mark T. Ziminsky
Chief, Environmental Resources Branch
Army Corps of Engineers, Sacramento District
1325 J Street
Sacramento, CA 95814-2922

RE: Section 106 consultation for the Lake Success Deviation Project, Tulare County

Dear Mr. Ziminsky,

The Office of Historic Preservation (OHP) is in receipt of your letter initiating consultation on the above referenced project to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulation at 36 CFR Part 800. The Army Corps of Engineers (COE) is seeking my comments on their finding of effect for the Project at the Lake Success Dam and Reservoir area. Specifically, the Watermaster of the Tule River Association (TRA), citing concerns for downstream erosion due to heavy flows resulting from snowmelt, has requested permission for temporary construction of sand-bag barriers in the dam spillway to last approximately 90 days.

The COE has defined the Area of Potential Effects (APE) as the narrow strip of Lake Success's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.6 feet above sea level, including all construction, access, and staging areas for the activities. I have no comments on the COE's APE for this undertaking.

Along with your letter, you submitted the following documents to support the COE's finding of effect:

- *Cultural Resources Inventory for the Lake Success 2017 Deviation, Tulare County, California* (Patrick O'Day and Jack Pfertsh, COE, April 2017)
- *Archaeological Survey and Testing for the Proposed Seismic Remediation Project at Lake Success, Tulare County, California* (Seetha Reddy, SRI, September 2008)
- Supplemental archaeological site record forms
- Supplemental information emailed May 9, 2017

The COE's efforts to identify historic properties that may be affected by the undertaking resulted in the following determinations of eligibility:

Site No.	Site Type	NRHP Eligibility Determination
CA-TUL-972	Milling station	Not eligible
CA-TUL-974	Milling station	Not eligible
CA-TUL-2662H	Multi-component-historic artifact scatter and milling station	Not eligible
CA-TUL-2665	Milling station e	Not eligible
LS-1	Milling station	Not eligible

CA-TUL-970	Magnesite mine	Eligible under Criterion A and C
CA-TUL-2663H	Farm/ranch complex	Not eligible
CA-TUL-2667H	Farm/Ranch complex	Not eligible*
LS-3	Porterville Northeastern Railroad/Southern Pacific Railroad	Not eligible
LS-4	State Route 190	Not eligible
LS-5	Masonry fence	Not eligible

COE's identification efforts also identified the Vincent Transmission Line, recorded as P-54-002027, crossing the project's APE. The transmission line crosses the area that will be inundated due to the raised water level, however COE has determined there will be no effects to this transmission line and no further management is necessary under Section 106.

The COE's tribal consultation included mailing packages to the Tule River Tribe, the Kern Valley Indian Council, Santa Rosa Indian Community of the Santa Rosa Rancheria, and the Tubatulabals of Kern Valley. In a May 9 email Jack Pfertsh of your staff indicated COE has not heard back from any of these tribes.

The COE has concluded that conducting this undertaking would have no adverse effect on historic properties. To ensure effects are less than adverse, COE will monitor cultural resources within the APE. Should monitoring determine that site CA-TUL-970 was effected by water inundation, the COE will consult with OHP under 36 CFR 800.13(b) regarding the unanticipated effects.

The COE has requested my review and comment on their finding of effect for the proposed undertaking. After reviewing the submitted materials, I have the following comments:

- Pursuant to 36 CFR 800.4(c)(2), I concur in the COE's eligibility determinations listed in the above table.

- Pursuant to 36 CFR 800.5(b), I concur that a finding of *no adverse effect* is appropriate given the nature of the undertaking and the monitoring the COE will perform.

Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the COE may have additional future responsibilities for this undertaking under 36 CFR Part 800. If you require further information, please contact Anmarie Medin of my staff at (916) 445-7023 or Anmarie.Medin@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

APR 1 0 2017

Dear Ms. Polanco:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

The Watermaster of the Tule River Association (TRA) has requested a deviation from the Water Control Manual which governs normal operation of Success Dam. Recent storms that hit California in January and February 2017, have filled flood control reservoirs to at or above conservation levels, saturated the ground in many regions of the state, and built up an unusually heavy snowpack in the Sierra. The snowmelt is anticipated to result in heavy flows out of Success Dam that would be potentially damaging to property downstream of the dam. In order to reduce this risk, the TRA has asked that the Corps to allow the temporary construction of sand-bag barriers in the spillway that would allow for the lake to hold an extra four feet of water above the existing spillway sill. The deviation would last approximately 90 days beginning in May 2017.

Lake Success Dam and Reservoir is located along the Tule River approximately five miles east and upstream of the town of Porterville in Tulare County, approximately 60 miles north of Bakersfield, CA. The APE is defined as the narrow strip of Lake Success's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.5 feet about sea level. To ensure total coverage, Corps archaeologists inventoried up to 658.5 feet above sea level. This covers 259 acres of land. The APE encompasses all construction, access, and staging areas for the activities listed above (Enclosure 1).

A Sacred Land File request and contact list has been requested from the Native American Heritage Commission and a records and literature search was conducted by the Corps at the Southern San Joaquin Valley Records Center in March of 2017. A total of 52 previously recorded resources were located within the study area and 12 were reportedly located within the APE. Corps archaeologists Jack Pfertsh M.A, RPA and Patrick O'Day, Ph.D., RPA conducted an archaeological pedestrian survey of the project area between March 16, 2017, and March 22, 2017. The survey consisted of two transects spaced 15 meters apart around the shoreline of the lake following topographic contours between 658.5 and 652.5 foot elevations in an effort to locate all cultural resources within the APE. Please see the enclosed *Cultural Resource Inventory for the Lake Success 2017 Deviation Project* for detailed survey information and results (Enclosure 2).

To assess any potential effect of water inundation, the Corps is proposing to monitor cultural resources found within the project APE. The monitoring entails the placement of wooden monitoring stakes placed near the features of each site. The location of each stake was recorded using a GPS. These were then used as reference points from which digital photographs were taken to document the conditions of each site during the survey and prior to inundation from the raised lake level. Provenience data and the direction of each photograph taken from datum stakes were recorded so that similar data can be recorded following the deviation project. This will facilitate monitoring the potential effects of the temporary inundation period upon resources within the APE.

At this time, we request your concurrence on our delineation of the APE and finding of *No Adverse Effects to Historic Properties* (36 CFR 800.5 [d] [1]), conditioned on the implementation of this monitoring program.

Consultation packages have been sent to the Native American tribes interested in the project location, with a request for comments on the proposed activities and finding of effect. Comments and questions may be sent to Attn: Mr. Jack Pfertsh, U.S. Army Corps of Engineers, Sacramento District, CESPK-PD-RC, at the above address. Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

for

Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Kerri Vera
Director, Department of Environmental Protection
Tule River Tribe
P.O. Box 589
Porterville, CA 93257

APR 10 2017

Dear Ms. Vera:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

The Watermaster of the Tule River Association (TRA) has requested a deviation from the Water Control Manual which governs normal operation of Success Dam. Recent storms that hit California in January and February 2017, have filled flood control reservoirs to at or above conservation levels, saturated the ground in many regions of the state, and built up an unusually heavy snowpack in the Sierra. The snowmelt is anticipated to result in heavy flows out of Success Dam that would be potentially damaging to property downstream of the dam. In order to reduce this risk, the TRA has asked that the Corps to allow the temporary construction of sand-bag barriers in the spillway that would allow for the lake to hold an extra four feet of water above the existing spillway sill. The deviation would last approximately 90 days beginning in May 2017.

Lake Success Dam and Reservoir is located along the Tule River approximately five miles east and upstream of the town of Porterville in Tulare County, approximately 60 miles north of Bakersfield, CA. The APE is defined as the narrow strip of Lake Success's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.5 feet about sea level. To ensure total coverage, Corps archaeologists inventoried up to 658.5 feet above sea level. This covers 259 acres of land. The APE encompasses all construction, access, and staging areas for the activities listed above (Enclosure 1).

A Sacred Land File request and contact list has been requested from the Native American Heritage Commission and a records and literature search was conducted by the Corps at the Southern San Joaquin Valley Records Center in March of 2017. A total of 52 previously recorded resources were located within the study area and 12 were reportedly located within the APE. Corps archaeologists Jack Pfertsh M.A, RPA and Patrick O'Day, Ph.D., RPA conducted an archaeological pedestrian survey of the project area between March 16, 2017, and March 22, 2017. The survey consisted of two transects spaced 15 meters apart around the shoreline of the lake following topographic contours between 658.5 and 652.5 foot elevations in an effort to locate all cultural resources within the APE. Please see the enclosed *Cultural Resource Inventory for the Lake Success 2017 Deviation Project* for detailed survey information and results (Enclosure 2).

To assess any potential effect of water inundation, the Corps is proposing to monitor cultural resources found within the project APE. The monitoring entails the placement of wooden monitoring stakes placed near the features of each site. The location of each stake was recorded using a GPS. These were then used as reference points from which digital photographs were taken to document the conditions of each site during the survey and prior to inundation from the raised lake level. Provenience data and the direction of each photograph taken from datum stakes were recorded so that similar data can be recorded following the deviation project. This will facilitate monitoring the potential effects of the temporary inundation period upon resources within the APE.

At this time, we request your comments on our delineation of the APE and finding of *No Adverse Effects to Historic Properties* (36 CFR 800.5 [d] [1]), conditioned on the implementation of this monitoring program. Please notify us of any archaeological sites, traditional cultural properties, or areas of traditional cultural value or concern in or near the APE as we would like to work with you to identify any concerns you have about the project. We also respectfully request that you share any comments or information with us within 30 days so that we may make every effort to avoid impacts to them.

Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Jack Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

for/ Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Robert Robinson
Chairperson
Kern Valley Indian Council
P.O. Box 401
Weldon, CA 93283

APR 17 2017

Dear Mr. Robinson:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

The Watermaster of the Tule River Association (TRA) has requested a deviation from the Water Control Manual which governs normal operation of Success Dam. Recent storms that hit California in January and February 2017, have filled flood control reservoirs to at or above conservation levels, saturated the ground in many regions of the state, and built up an unusually heavy snowpack in the Sierra. The snowmelt is anticipated to result in heavy flows out of Success Dam that would be potentially damaging to property downstream of the dam. In order to reduce this risk, the TRA has asked that the Corps to allow the temporary construction of sand-bag barriers in the spillway that would allow for the lake to hold an extra four feet of water above the existing spillway sill. The deviation would last approximately 90 days beginning in May 2017.

Lake Success Dam and Reservoir is located along the Tule River approximately five miles east and upstream of the town of Porterville in Tulare County, approximately 60 miles north of Bakersfield, CA. The APE is defined as the narrow strip of Lake Success's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.5 feet about sea level. To ensure total coverage, Corps archaeologists inventoried up to 658.5 feet above sea level. This covers 259 acres of land. The APE encompasses all construction, access, and staging areas for the activities listed above (Enclosure 1).

A Sacred Land File request and contact list has been requested from the Native American Heritage Commission and a records and literature search was conducted by the Corps at the Southern San Joaquin Valley Records Center in March of 2017. A total of 52 previously recorded resources were located within the study area and 12 were reportedly located within the APE. Corps archaeologists Jack Pfertsh M.A, RPA and Patrick O'Day, Ph.D., RPA conducted an archaeological pedestrian survey of the project area between March 16, 2017, and March 22, 2017. The survey consisted of two transects spaced 15 meters apart around the shoreline of the lake following topographic contours between 658.5 and 652.5 foot elevations in an effort to locate all cultural resources within the APE. Please see the enclosed *Cultural Resource Inventory for the Lake Success 2017 Deviation Project* for detailed survey information and results (Enclosure 2).

To assess any potential effect of water inundation, the Corps is proposing to monitor cultural resources found within the project APE. The monitoring entails the placement of wooden monitoring stakes placed near the features of each site. The location of each stake was recorded using a GPS. These were then used as reference points from which digital photographs were taken to document the conditions of each site during the survey and prior to inundation from the raised lake level. Provenience data and the direction of each photograph taken from datum stakes were recorded so that similar data can be recorded following the deviation project. This will facilitate monitoring the potential effects of the temporary inundation period upon resources within the APE.

At this time, we request your comments on our delineation of the APE and finding of *No Adverse Effects to Historic Properties* (36 CFR 800.5 [d] [1]), conditioned on the implementation of this monitoring program. Please notify us of any archaeological sites, traditional cultural properties, or areas of traditional cultural value or concern in or near the APE as we would like to work with you to identify any concerns you have about the project. We also respectfully request that you share any comments or information with us within 30 days so that we may make every effort to avoid impacts to them.

Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Jack Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Julie Turner
Secretary
Kern Valley Indian Council
P.O. Box 1010
Lake Isabella, CA 93240

APR 17 2017

Dear Ms. Turner:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

The Watermaster of the Tule River Association (TRA) has requested a deviation from the Water Control Manual which governs normal operation of Success Dam. Recent storms that hit California in January and February 2017, have filled flood control reservoirs to at or above conservation levels, saturated the ground in many regions of the state, and built up an unusually heavy snowpack in the Sierra. The snowmelt is anticipated to result in heavy flows out of Success Dam that would be potentially damaging to property downstream of the dam. In order to reduce this risk, the TRA has asked that the Corps to allow the temporary construction of sand-bag barriers in the spillway that would allow for the lake to hold an extra four feet of water above the existing spillway sill. The deviation would last approximately 90 days beginning in May 2017.

Lake Success Dam and Reservoir is located along the Tule River approximately five miles east and upstream of the town of Porterville in Tulare County, approximately 60 miles north of Bakersfield, CA. The APE is defined as the narrow strip of Lake Success's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.5 feet about sea level. To ensure total coverage, Corps archaeologists inventoried up to 658.5 feet above sea level. This covers 259 acres of land. The APE encompasses all construction, access, and staging areas for the activities listed above (Enclosure 1).

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Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Jack Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

APR 17 2017

Ruben Barrios Sr.
Chairperson
Santa Rosa Indian Community of the Santa Rosa Rancheria
P.O. Box 8
Lemoore, CA 93245

Dear Mr. Barrios:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

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Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Jack Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Robert L. Gomez, Jr.
Chairperson
Tubatulabals of Kern Valley
P.O. Box 226
Lake Isabella, CA 93240

APR 17 2017

Dear Mr. Gomez:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

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Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Jack Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Neil Peyron
Chairperson
Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93258

APR 17 2017

Dear Mr. Peyron:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

The Watermaster of the Tule River Association (TRA) has requested a deviation from the Water Control Manual which governs normal operation of Success Dam. Recent storms that hit California in January and February 2017, have filled flood control reservoirs to at or above conservation levels, saturated the ground in many regions of the state, and built up an unusually heavy snowpack in the Sierra. The snowmelt is anticipated to result in heavy flows out of Success Dam that would be potentially damaging to property downstream of the dam. In order to reduce this risk, the TRA has asked that the Corps to allow the temporary construction of sand-bag barriers in the spillway that would allow for the lake to hold an extra four feet of water above the existing spillway sill. The deviation would last approximately 90 days beginning in May 2017.

Lake Success Dam and Reservoir is located along the Tule River approximately five miles east and upstream of the town of Porterville in Tulare County, approximately 60 miles north of Bakersfield, CA. The APE is defined as the narrow strip of Lake Success's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.5 feet about sea level. To ensure total coverage, Corps archaeologists inventoried up to 658.5 feet above sea level. This covers 259 acres of land. The APE encompasses all construction, access, and staging areas for the activities listed above (Enclosure 1).

A Sacred Land File request and contact list has been requested from the Native American Heritage Commission and a records and literature search was conducted by the Corps at the Southern San Joaquin Valley Records Center in March of 2017. A total of 52 previously recorded resources were located within the study area and 12 were reportedly located within the APE. Corps archaeologists Jack Pfertsh M.A, RPA and Patrick O'Day, Ph.D., RPA conducted an archaeological pedestrian survey of the project area between March 16, 2017, and March 22, 2017. The survey consisted of two transects spaced 15 meters apart around the shoreline of the lake following topographic contours between 658.5 and 652.5 foot elevations in an effort to locate all cultural resources within the APE. Please see the enclosed *Cultural Resource Inventory for the Lake Success 2017 Deviation Project* for detailed survey information and results (Enclosure 2).

To assess any potential effect of water inundation, the Corps is proposing to monitor cultural resources found within the project APE. The monitoring entails the placement of wooden monitoring stakes placed near the features of each site. The location of each stake was recorded using a GPS. These were then used as reference points from which digital photographs were taken to document the conditions of each site during the survey and prior to inundation from the raised lake level. Provenience data and the direction of each photograph taken from datum stakes were recorded so that similar data can be recorded following the deviation project. This will facilitate monitoring the potential effects of the temporary inundation period upon resources within the APE.

At this time, we request your comments on our delineation of the APE and finding of *No Adverse Effects to Historic Properties* (36 CFR 800.5 [d] [1]), conditioned on the implementation of this monitoring program. Please notify us of any archaeological sites, traditional cultural properties, or areas of traditional cultural value or concern in or near the APE as we would like to work with you to identify any concerns you have about the project. We also respectfully request that you share any comments or information with us within 30 days so that we may make every effort to avoid impacts to them.

Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Jack Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Kenneth Woodrow
Chairperson
Wuksache Indian Tribe/Eshom Valley Band
1179 Rock Haven Ct.
Salinas, CA 93906

APR 17 2017

Dear Mr. Woodrow:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

The Watermaster of the Tule River Association (TRA) has requested a deviation from the Water Control Manual which governs normal operation of Success Dam. Recent storms that hit California in January and February 2017, have filled flood control reservoirs to at or above conservation levels, saturated the ground in many regions of the state, and built up an unusually heavy snowpack in the Sierra. The snowmelt is anticipated to result in heavy flows out of Success Dam that would be potentially damaging to property downstream of the dam. In order to reduce this risk, the TRA has asked that the Corps to allow the temporary construction of sand-bag barriers in the spillway that would allow for the lake to hold an extra four feet of water above the existing spillway sill. The deviation would last approximately 90 days beginning in May 2017.

Lake Success Dam and Reservoir is located along the Tule River approximately five miles east and upstream of the town of Porterville in Tulare County, approximately 60 miles north of Bakersfield, CA. The APE is defined as the narrow strip of Lake Success's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.5 feet about sea level. To ensure total coverage, Corps archaeologists inventoried up to 658.5 feet above sea level. This covers 259 acres of land. The APE encompasses all construction, access, and staging areas for the activities listed above (Enclosure 1).

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Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Jack Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

APR 1 0 2017

Dear Ms. Polanco:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

The Watermaster of the Tule River Association (TRA) has requested a deviation from the Water Control Manual which governs normal operation of Success Dam. Recent storms that hit California in January and February 2017, have filled flood control reservoirs to at or above conservation levels, saturated the ground in many regions of the state, and built up an unusually heavy snowpack in the Sierra. The snowmelt is anticipated to result in heavy flows out of Success Dam that would be potentially damaging to property downstream of the dam. In order to reduce this risk, the TRA has asked that the Corps to allow the temporary construction of sand-bag barriers in the spillway that would allow for the lake to hold an extra four feet of water above the existing spillway sill. The deviation would last approximately 90 days beginning in May 2017.

Lake Success Dam and Reservoir is located along the Tule River approximately five miles east and upstream of the town of Porterville in Tulare County, approximately 60 miles north of Bakersfield, CA. The APE is defined as the narrow strip of Lake Success's shoreline between the reservoir's gross pool level of 652.5 feet and the proposed increased level of 656.5 feet about sea level. To ensure total coverage, Corps archaeologists inventoried up to 658.5 feet above sea level. This covers 259 acres of land. The APE encompasses all construction, access, and staging areas for the activities listed above (Enclosure 1).

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At this time, we request your concurrence on our delineation of the APE and finding of *No Adverse Effects to Historic Properties* (36 CFR 800.5 [d] [1]), conditioned on the implementation of this monitoring program.

Consultation packages have been sent to the Native American tribes interested in the project location, with a request for comments on the proposed activities and finding of effect. Comments and questions may be sent to Attn: Mr. Jack Pfertsh, U.S. Army Corps of Engineers, Sacramento District, CESPK-PD-RC, at the above address. Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

for

Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Environmental Resources Branch

Kerri Vera
Director, Department of Environmental Protection
Tule River Tribe
P.O. Box 589
Porterville, CA 93257

APR 10 2017

Dear Ms. Vera:

The U.S. Army Corps of Engineers, Sacramento District (Corps) is writing you to initiate consultation on the Area of Potential Effects (APE) (36 CFR 800.4 [a][1]), inventory results (36 CFR 800.4 [b]and[c]), and finding of effect for the Lake Success Deviation Project (Project). The Corps is authorized to undertake the Project at the Lake Success Dam and Reservoir under the Flood Control Act of 1944, Public Law (P.L.) 78-534. The Corps is the lead Federal agency for the Project (U.S. Army Corps of Engineers 2014). As lead agency in a Federal undertaking, the Corps has the responsibility of complying with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

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Please refer to Lake Success Deviation Project in any correspondence concerning this project. Mr. Jack Pfertsh can also be reached at (916) 557-7025 or email at Jack.E.Pfertsh@usace.army.mil.

Sincerely,

for/ Mark T. Ziminske
Chief, Environmental Resources Branch

Enclosures

APPENDIX C

RESPONSE TO PUBLIC COMMENTS

Responses to Public Comments
Success Lake Water Control Manual Deviation
Draft Environmental Assessment
Tulare County, California

A. E-mail from Jim Lopez, dated May 7, 2017 (see attached).

Corps Response: The Corps has been in close coordination with the USFWS since the initiation of the Success Deviation Request effort. The Corps coordinated with the USFWS regarding the burrowing owl and least Bell's vireo and has updated the Environmental Assessment to reflect the results of that coordination. A formal response from the USFWS is pending and will be included in the final EA.

B. E-mail from Barry Caplan, dated May 7, 2017 (see attached).

Corps Response: The Corps response to Mr. Caplan's letter is focused on three primary issues raised therein: (1) Coordination between the Corps and Mr. Caplan during the public review period and associated policies and regulations regarding communication; (2) Project schedule and its impacts on upstream and downstream resources; and (3) the Dam Safety project and associated safety and risks.

Coordination Summary

The Corps appreciates Mr. Caplan's efforts to capture the coordination that occurred between him and Corps personnel prior to his comments being submitted; however, there are a number of inconsistencies in his summary of these events that the Corps would like to address in order to maintain an accurate public record:

- *The public review period for the draft EA was for 7 days, from May 1, 2017 to May 7, 2017, not 6 days. The draft EA was available on the Corps website (http://www.spk.usace.army.mil/) beginning April 26, 2017 and the press release notifying the media of its availability was issued on April 28, 2017. The Corps acknowledges that this timeline was expedited compared to a standard public review period due to the short timeframe of this overall effort. The Tule River Association (TRA) requested this deviation in late February, which did not provide sufficient time for standard EA timeframes, hence the expedited nature of the overall effort.*
- *Unfortunately, the Corps has no control over the U.S. Postal Service. The documents were mailed to the libraries and the Corps office at Success Lake on Thursday April 27, 2017. It was reasonable to assume that they would arrive in Saturday's mail, but instead they arrived on Tuesday.*
- *The Corps' conference call with Mr. Caplan on Friday May 5, 2017 did not include Mr. Brown. The third party on our end was Mr. Tom Borrowman.*

- *The draft EA identified that the deviation would be implemented in June 2017, not by May 15. More information regarding this issue will be discussed below in the "Project Schedule and Impacts" section.*
- *Mr. Caplan refers to questions regarding the comment review and contracting process. These questions were never asked to the Corps and should not be included in this record of the coordination that did occur. In response to the question though, the Corps is reviewing all public comments received and will not reach a decision on whether or not to grant the deviation request until after we have addressed the public comments. The Corps is not the implementing agency for this effort – the Federal nexus for NEPA and environmental compliance is the Corps decision on whether or not to grant the deviation request to the TRA. The TRA will be the implementing agency. As a result, the Corps will not be issuing any contracts for this effort.*
- *Mr. Caplan questions the decision to allow the pool to reach capacity this summer. It should be noted that the Corps lifted the pool restriction in 2015, not this season.*
- *Mr. Caplan indicates that the Corps would not provide the Homeland Security regulations to him, and that is also an inaccurate portrayal of events. On the conference call, the Corps indicated that they didn't have the reference to these regulations off the top of their heads, and that we would look into it and get back to him.*
- *Although Mr. Caplan is not on the list of media representatives who routinely receive news releases, there are a number of different manners in which Mr. Caplan can receive information regarding Corps activities: (a) through the Sacramento District website; (b) by signing up for the Sacramento District news release (RSS) feed on the website; (c) by following the Sacramento District on Facebook; or, (d) by requesting to be added to the project mailing list. It should be noted that the project mailing list is how the local libraries receive their project information.*

<u>Project Schedule and Impacts</u>

Mr. Caplan's interpretation of the schedule was derived from Appendix A, the Biological Assessment, which was the first document prepared for this effort. Implementing the project by May 15 was an initial proposal by the Corps to the USFWS to attempt to reduce impacts to nesting birds. The May 10 date that Mr. Caplan references is never identified within the project documents.

As the project progressed, it became increasingly clear to the Corps that if TRA's deviation request is approved, implementation of the action by May 15 was infeasible and implementation in June was more realistic. In addition, the snow melt forecast had progressed to the point where the Corps did not estimate the lake reaching gross pool until mid-June, let alone filling into the additional storage space proposed. As a result, there would be no associated downstream impact from this schedule change, as there would be no change in operations due to the schedule change.

The Corps coordinated the change in schedule with the USFWS, prior to the completion of the Endangered Species Act consultation. The USFWS concurred with the schedule change informally via e-mail, and indicated that they had no concerns with this change, nor did they anticipate additional impacts to listed species from this change. The draft EA was updated accordingly to reflect this change, and contained no reference to the May 15 date, other than within the older USFWS coordination documents. Unfortunately, the USFWS concurrence letter was not revised to reflect this change, even though the coordination occurred prior to their approval of the concurrence letter. The Corps is currently completing additional informal consultation with the USFWS and will include the results of this coordination in the final EA.

Mr. Caplan also expressed concern over the lack of identification of impacts to the State Route 190 bridge. No impacts were identified because there would be no impact to State Route 190 or its bridge over the South Fork of the Tule River from this action. The EA will be revised to include a statement indicating no effect to State Route 190.

With regard to Mr. Caplan's concerns over the flooding or lack thereof to the city of Corcoran, the Corps is unaware of the origin of these concerns. The Draft EA identified the need of the project as to avoid downstream flooding from seasonal snowmelt to 25,000 acres of agricultural lands in the Tulare Lakebed, and the associated economic impacts of that flooding, and that remains the purpose and need of the proposal by the TRA that is being considered for approval by the Corps. The action assessed in the Draft and Final EA, implementation of the sandbag wall and the additional water within the dam, would not result in any downstream effects within Porterville or East Porterville. Releases from Success Lake would continue to occur to support the Tule River and irrigation needs and would not be significantly altered from the current condition. Due to the additional reservoir storage, there would be water available throughout the summer to support recreation, the Tule River ecosystem, and irrigation users. The effects Mr. Caplan identified in his comments are associated with the presence of the dam and any dam safety concerns, which are addressed in the section below.

<u>Dam Safety/Seismic Concerns</u>

The Corps understands and appreciates Mr. Caplan's concerns and questions regarding the Success Lake Dam Safety studies. In the conference call referred to in Mr. Caplan's comments, the Corps explained to Mr. Caplan the status of the Dam Safety studies. The dam safety risk assessment for Success Lake is ongoing. Based on interim results in 2014, the Corps lowered the Dam Safety Action Classification (an internal risk metric to the Corps), and communicated the reduction in classification to the local stakeholders. Also due to these interim results, the Corps felt that it was reasonable to remove the interim risk reduction measure that required the reduced pool level. Once the dam safety risk assessment is finalized, updated information about the dam safety status will be communicated to the stakeholders and the public.

Regarding Mr. Caplan's request for dam safety documentation, the Corps will refer Mr. Caplan's request to the Sacramento District's Freedom of Information Act (FOIA) Officer for response.

With regard to inundation maps and emergency response plans, the Corps recommends that Mr. Caplan contact Tulare County for more information, as this type of coordination is a local responsibility.

C. E-mail from Southern California Edison, dated May 8, 2017 (see attached).

Corps Response: The Corps appreciates Southern California Edison's (SCE's) concerns regarding operation of their transmission lines during the proposed deviation. The Corps does not anticipate the need for any relocation or replacement of SCE transmission lines or any alteration to SCE's easements or rights-of-way on Corps property as a result of this action. Any concerns over SCE access to their transmission lines can be alleviated through coordination directly with the Success Lake operations team at the Lake office (29330 State Highway 190, Porterville, CA 93257).