BUREAU OF RECLAMATION

Environmental Assessment

East Park Reservoir Drawdown and Dam Gate Repair and Replacement

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Mission Statements

The Department of the Interior (DOI) conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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1.0 INTRODUCTION

This Environmental Assessment (EA) examines the potential impacts to the human environment associated with the Bureau of Reclamation's (Reclamation) decision to approve the temporary drawdown of East Park Reservoir to facilitate inspections and repair of gates that allow water to safely pass through East Park Dam. The reservoir would be drawn down to approximately 279 acre-feet (AF) to expose all outflow gates for inspection and potential repair and/or replacement. The Orland Unit Water Users' Association would perform all identified repairs in conformance with the August 26, 1954, *Contract for the Care, Operation and maintenance of the Orland Project between USBR and OUWUA (Contract No. 14-06-200-3502).*

1.1 Background

Reclamation's East Park Dam (EPD) and East Park Reservoir (EPR) are located in Colusa County, CA, about 33 miles southwest of the town of Orland and 60 miles northwest of Sacramento (Figure 1). Completed in 1910, the dam and reservoir are part of the Orland Project, Reclamation's oldest water supply delivery project constructed entirely within the State of California. The Orland Project also includes Reclamation's Stony Gorge Reservoir (SGR), located approximately 13 miles downstream of EPD (Figure 2), and approximately 125 miles of canals and laterals.

The EPD is owned by Reclamation and has been managed by the Orland Unit Water Users' Association (OUWUA) since 1954. The County of Colusa (County) manages the reservoir and 1,600 acres of adjacent uplands as a park that is typically open to the public year-round under a November 2013 Management Agreement (MA) with Reclamation and the OUWUA. The 2.7 miles long reservoir has 10 miles of recreational shoreline and a surface acreage of approximately 1,820 acres at full storage capacity.

Located along the north side of EPR, the 139-feet high EPD impounds water from Little Stony, Squaw and Little Indian Creeks. The operations of EPR are not operated nor authorized for flood control purposes. The EPR is a storage component of the Orland Project that supplies water to approximately 20,000 acres of irrigable land. Stored water in Orland Project facilities may be exchanged with Central Valley Project Water stored in the US Army Corps of Engineers (USACE)-owned Black Butte Reservoir, to maximize water utilization in the watershed. Water released from EPR flows in Stony Creek for about 12.6 miles before entering SGR (Figure 2). All Orland Project water serves Orland Project lands. There is no delineation between water stored at EPK, SGR or the natural Stony Creek flows. Water in SG is also used by the Elk Creek Community Services District for municipal and industrial (M&I) use.

Repair needs on the aging EPD infrastructure have been minor over the greater than 100 years the dam has been operational. However, on March 30, 2020, the regulating gate failed when the gate stem detached due to metal fatigue. An inspection revealed that the gate has significantly corroded and must be replaced. As a temporary fix, the OUWUA propped the gate open to allow water

deliveries in the 2020 irrigation season and affixed a chain attachment to operate the gate in the 2021 irrigation season.

Drought conditions rendered EPR near its contractual minimum pool of 5,000 AF following completion of the 2021 irrigation season water deliveries on May 25, 2021.

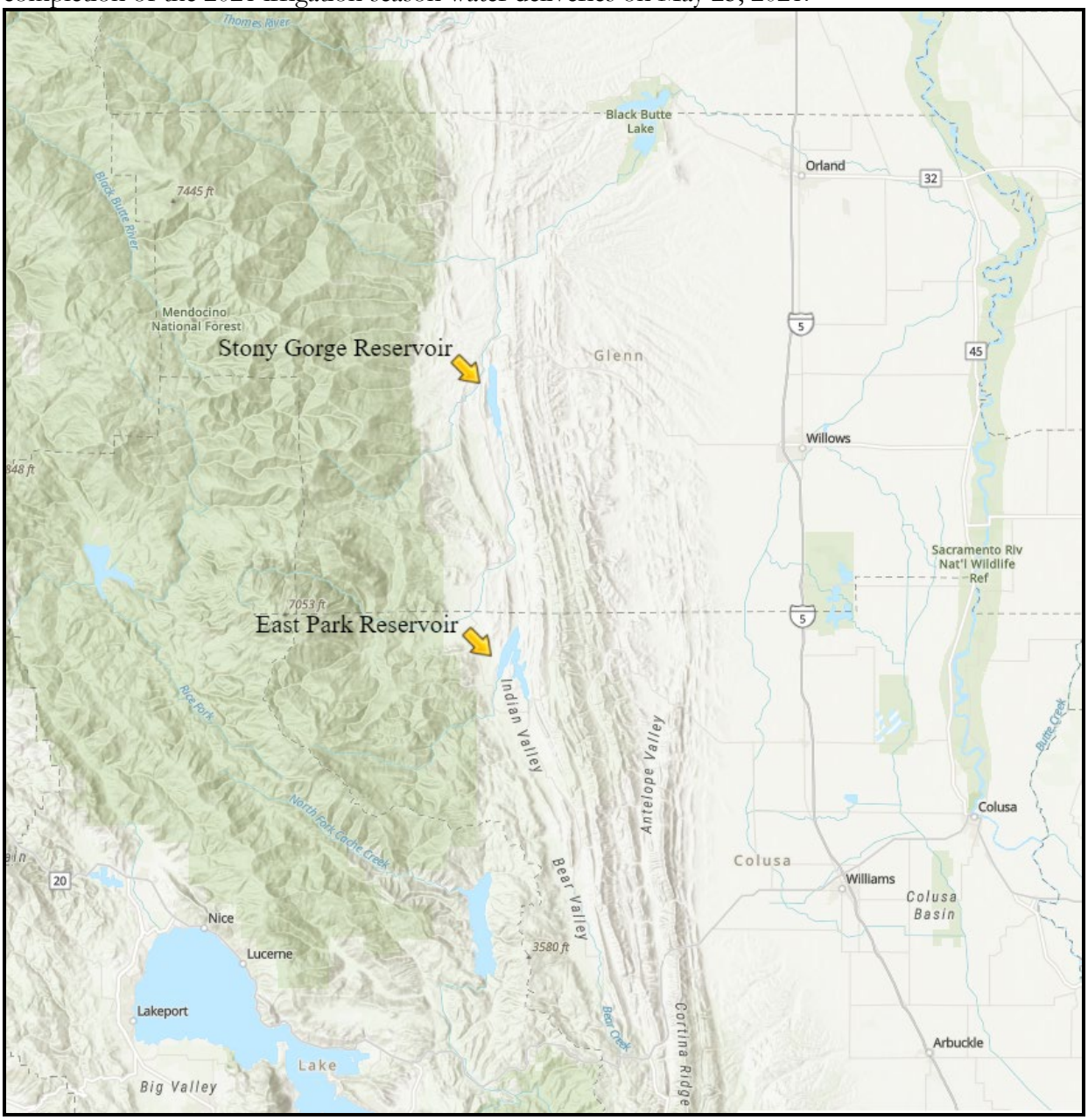

Figure 1. Vicinity Map

1.2 Need for the Proposed Action

In consideration of the already low storage volume in EPR and the need to access and repair the known non-functional gate, the OUWUA proposes to temporarily draw down the reservoir further

to expose the other gates for inspection and potential repair. Due to the age of the structure, the potential need to replace or repair up to three additional EPD gates is anticipated. Reclamation's approval is required prior to the OUWUA's drawdown of EPR to expose the submerged gates. Exposure of the lower-most gate requires the drawdown of EPR to 279 AF. The proposed reservoir drawdown will allow full gate inspection and the repair or replacement of gates, as determined appropriate, and restore the dam to its full operational capabilities.

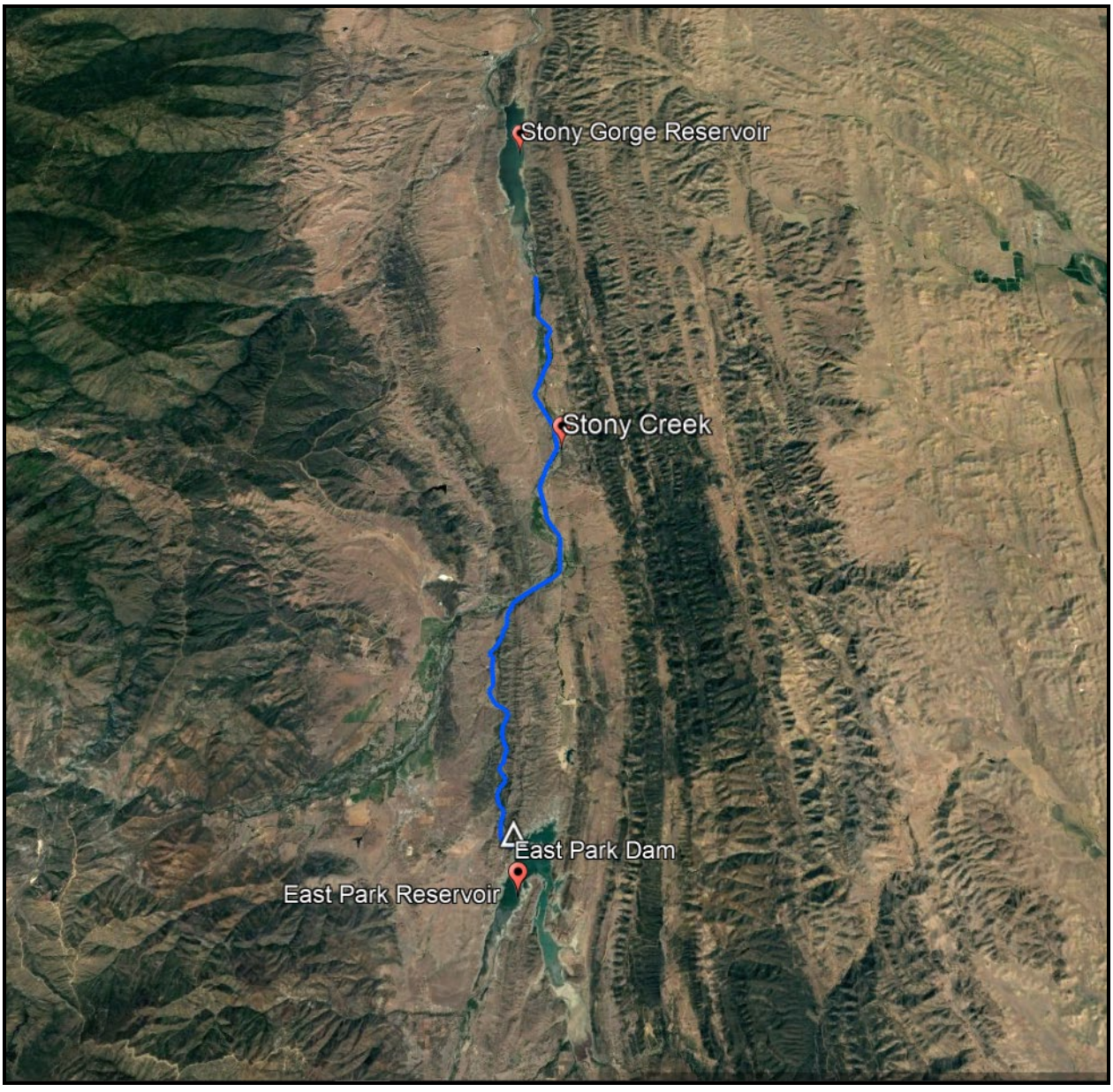

Figure 2. Action Area

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not approve the drawdown of EPR to 279 AF to facilitate the EPD gate inspections and repairs and/or replacements. The full extent of repair needs would remain unknown and the operational capacity of EPD would remain impaired.

2.2 Proposed Action

Under the Proposed Action, Reclamation will approve the OUWUA's request to temporarily drawdown EPR to 279 AF to facilitate full inspections of all outflow gates of EPD. For planning purposes, the drawdown of the reservoir is anticipated to commence on August 24 and last between 11 to 15 days based on an anticipated outflow of 200 cubic feet per second (cfs). The timing of release was scheduled to minimize the potential for drawdown-related effects to aquatic resources while allowing high certainty of adequate time to complete any necessary gate repairs or replacements before the first rainfall of the forthcoming wet season. After drawdown, inspection and repair of the downstream regulating gates is anticipated to take between 4 to 5 days. The time to repair and rehabilitate the upstream gates will depend on the amount of damage observed following drawdown. The schedule for drawdown and/or repair work may be extended based on unforeseeable conditions (e.g. reduced outflow rate due to debris or sediment blocking lower gates). Regardless, all work will be completed prior to onset of the wet season. Therefore, no change in forecasted effects as discussed in this EA is anticipated from a schedule extension, in the event one is necessary.

The park surrounding EPR will be closed to the public on August 23, prior to drawdown, and reopen at the discretion of Colusa County, who manages recreation for Reclamation, after exceeding a storage of 5,000 AF. Most likely, the park would remain closed to the end of October when it typically closes to recreation for the year.

Water released from EPR during drawdown would flow to Stony Creek below and flow for about 12.6 miles before entering SGR where it would be stored for future water deliveries.

With regard to the known need to replace the regulating gate, OUWUA's work will entail removing the gate from the wall inside of the gate tower, upstream of the downstream opening. Once

lowered, the replacement frame will be bolted to the wall, and subsequently, the gate will be installed in the frame. Following, the gate stem will be affixed to the replacement gate. This may require modifying or replacing the lowermost section of the gate stem. Additional repair and rehabilitation to the upstream gates and associated parts displaying considerable wear may be replaced in the same fashion, abandoned in place, or painted with a protective coating. Gate sills on the lower opening of the upstream gates may also need grout and/or metal replacement. Repair work will be performed by an OUWUA contractor using hand tools. The work will be performed by a crew of two to three workers, likely over the course of two to three days per gate.

EPD access will occur on the existing roadway that leads to the base of the dam on the left side, adjacent to the outlet tunnel. Two to three light duty trucks will be used to haul workers and tools to the site. The staging area will be next to the base of the dam and has been used as a parking area for all prior work on the lower portion of the dam.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Project Setting

The area affected by this action is in a transition zone between the north end of the Sacramento Valley and the foothills of the Coastal Range due west, at an elevation of approximately 1,050 ft above mean sea level (AMSL). The area is lightly wooded with characteristics of mixed chaparral and oak woodland habitats. Dominant vegetation includes white-leafed manzanita, interior live oak and knobcone and gray pine. Topography and vegetation in the area have been modified by historic mining and wildfire.

3.2 Resources Eliminated from Detailed Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did not have the potential to cause adverse effects to the resources listed in Table 1.

Table 1. Resources Eliminated from Detailed Analysis

Resource	Reason Eliminated
Indian Sacred Sites	The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites. Therefore, there would be no impacts to Indian Sacred Sites from the Proposed Action.
Indian Trust Assets	The Proposed Action would not impact Indian Trust Assets (ITA) as there are none in the action area.

Resource	Reason Eliminated
	The nearest ITA is located approximately four miles west of the location of the Proposed Action. (See Appendix A).
Land Use	Total land area around EPR is about 2,500 acres, including about 25 miles of shoreline, 10 of which are accessible for public use. Land uses in the immediate vicinity of EPR include cattle grazing (approximately 1,900 acres) in the off-season as well as public recreation (approximately 1,600 acres) There is no change in land use associated with the Proposed Action or No Action Alternative other than those discussed in Recreation section of this EA and no effect to cattle grazing from either as the area was completely grazed as of April 2021.
Public Health and Safety	The exposure of hazards (debris, etc.) on parts of the EPR reservoir bed that are typically submerged that could occur under either the Proposed Action or No Action Alternative would be exacerbated by the Proposed Action. However, the park would be closed to visitors during the drawdown and work activities. Therefore, there would be no impacts to public health and safety from the Proposed Action or No Action Alternative.
Environmental Justice	Colusa County has a 12% poverty rate that is higher than the US average of 10.5%. A considerably higher percentage of people in Colusa County identify as Caucasian alone (91.1%) in comparison to the US average (76.3%; USCB, 2021). The percentage of people over age 65 in Colusa County is lower than the US average (14.9% v. 16.5%, respectively) and the number of people living with a disability (8.9%) in Colusa County is comparable to the US average (8.6%). The area of the Proposed Action is therefore an economically disadvantaged community but not a minority community in terms of ethnicity, those with disabilities, or the aging. Regardless, the Proposed Action does not involve activities that would cause dislocation, changes in employment, or increase flood, drought, or disease, nor would it disproportionately impact economically-disadvantaged or minority populations. Therefore, there would be no Environmental Justice-related effects from the Proposed Action.
Air Quality	The US EPA promulgated the General Conformity Rule (40 CFR 93 Subpart B) to ensure that Federal actions are consistent with a State Implementation Plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) for criteria air pollutants and achieving expeditious attainment of those standards. The general conformity regulations apply to a proposed Federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutants caused by the Proposed Action equal or exceed certain *de minimis* amounts, thus requiring the Federal agency to make a determination of general conformity. Colusa County is designated an attainment or unclassified zone for all 6 national criteria pollutants, as well as all state criteria pollutants, with the exception of PM10 (particulate matter under 10 microns). A qualitative comparison of the equipment list and construction schedule for the Proposed Action to other projects, for which emissions were modeled and determined not to exceed the de minimis amounts, determined that project emissions would not exceed the threshold for which a conformity analysis is required.
Climate Change	The equipment list (with vehicles/heavy equipment limited to light duty trucks) and construction schedule for the repairs that may be conducted as a result of the Proposed Action would not produce a volume of greenhouse gases that would be significant in terms of the potential to contribute to climate change.

3.3 Water Resources

3.3.1 Affected Environment

EPR was created in 1910 by the construction of EPD as part of the Orland Project, which supplies water to approximately 20,000 acres of irrigable land under the operational control of the OUWUA. At full pool, the total water surface area of EPR is 1,820 acres (Parsons Brinckerhoff, 2013), most of which is available for public recreation. Although EPR is used as a recreational resource, in addition to being used as irrigation water source for OUWUA district customers, it is not used as a drinking water source (TetraTech 2004); however, SGR does provide water to Elk Creek Community Services District.

EPR receives and stores Orland Project water from runoff derived mainly from Little Stony Creek, Squaw Creek, and Little Indian Creek, and water from Big Stony Creek that is diverted at the Rainbow Diversion through the Feeder Canal (R. Massa pers communication). Water acquired in

EPR can be released into Stony Creek where it travels for 12.6 miles before entering SGR. From SGR, the water can also be released into Stony Creek which then flows for 19 miles before entering Black Butte Reservoir. Water may be exchanged among East Park, Stony Gorge, and Black Butte Reservoirs to maximize the conservation and utilization of stored water.

The average annual runoff or inflow into EPR is 63,900 acre-feet (AF) and is driven more by rainfall than snowmelt (TetraTech 2004). EPR can fill to its maximum capacity of 52,000 AF in a wet season that immediately follows a year in which the contractual minimum pool of 5,000 AF has occurred as demonstrated in the record (Figure 3).

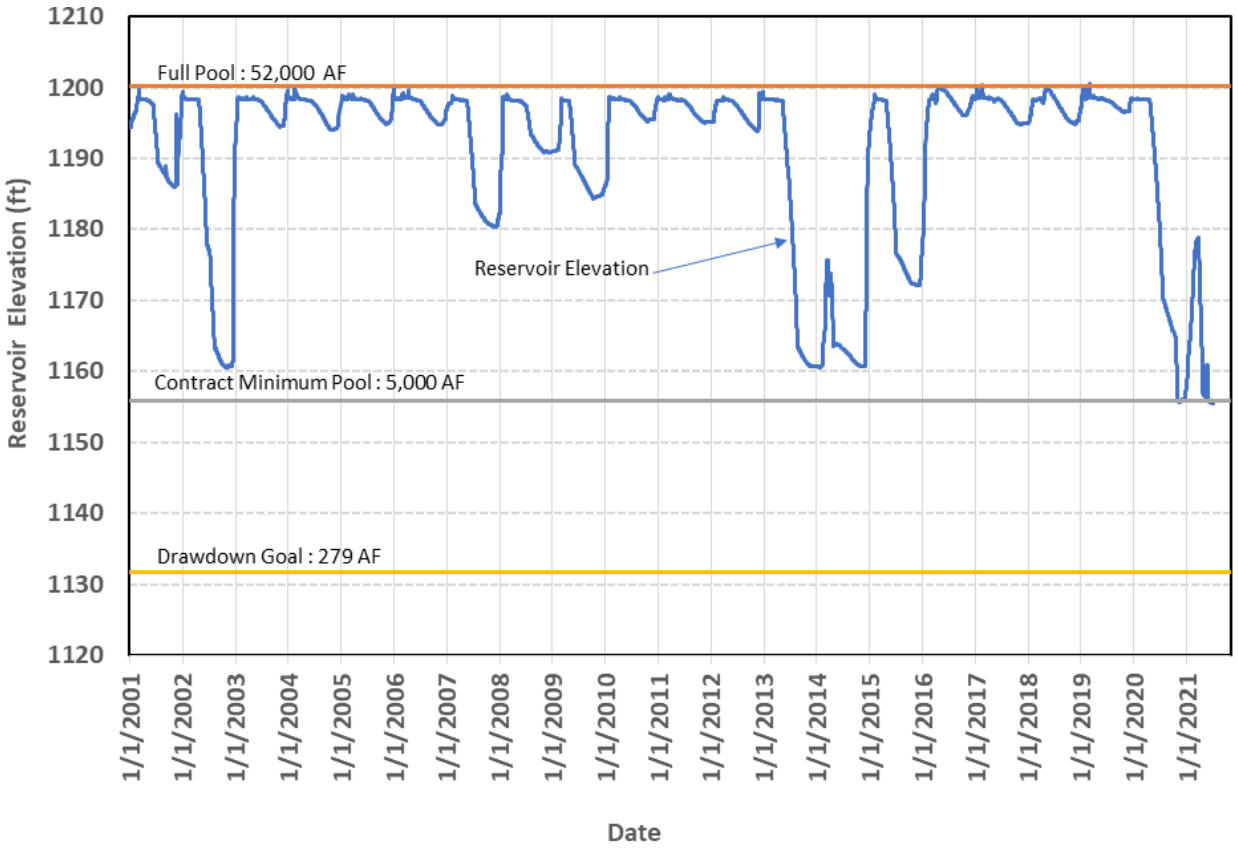

Figure 3. EPR Historic Elevation Data (2001-2021) Elevation Data from California Data Exchange Center (CDEC) Reservoir Reports for East Park Reservoir (CDEC identifier EPK)

The majority of water is diverted to EPR via Rainbow Diversion (on Big Stony Creek) and the Feeder Canal. Most of the sedimentation drops out in the upper portion of the canal. However, notable sedimentation is observed at the mouth of Little Stony Creek due to the broad and shallow flood plain and associated vegetation that traps sediments.

Several wildfires have occurred in the vicinity of EPR, most recently the 2020 Sites Fire. Surface water in both EPR and SGR can and has been used by firefighters to fill fire engine tanks and/helicopter buckets in suppression of local fires.

At the time of the initiation of Water Year 2021 irrigation deliveries on March 24, 2021, EPR held 20,822 AF. By April 27, 2021, and accounting for inflow to EPR, 17,070 AF had been released and

5,307 AF remained. From April 27 to May 25, the release from EPR to the creek below steadily diminished from 14 cfs to about 6 cfs (R. Massa pers comm). On May 26, OUWUA closed the EPD gates. However, gate leakage allowed for continued loss at the initial rate of approximately 3 cfs which has since diminished to 1 cfs.

Meter readings on May 27 and June 27, 2021 indicated a reservoir pool of 4,983 AF and 4,858 AF, respectively (CDEC) in EPR. The average monthly evaporative and infiltration loss to the reservoir pool of 225 AF for the months of May and June is anticipated to continue up to the start of the proposed drawdown on August 24, 2021, at which time the reservoir storage is forecasted to be approximately 4,600 AF.

3.3.2 Environmental Consequences

No Action

Under the No Action Alternative, the amount of water available in the EPR pool would continue to decrease in response to natural losses (i.e. evaporation, infiltration, seepage through the dam). It is anticipated that the reservoir would remain near about 4,600 AF during the summer and early fall. There would be no effect to irrigation deliveries from this reduction as 2021 Water Year deliveries are complete. However, the lower water levels and continued warm air temperatures of summer are anticipated to result in increased water temperatures and potentially reduced dissolved oxygen levels in reservoir waters and increased risk of algal blooms. Also, in conjunction with this pool elevation, the accessibility of water from established roadways would continue to be a challenge with limited access points for land-based equipment that may be used to fire wildland fires. The effect from the No Action Alternative, if any, on wildfire control would therefore depend on the size and location of the wildfire with respect to the nearest reservoir as well as the type of equipment available to firefighters, which cannot be forecasted.

The effects of the No Action Alternative related to water availability and quality are anticipated to be temporary and potentially offset in the wet season that follows, considering the average annual inflow rate of 63,900 AF. However, because no inspection or repairs occur under this alternative, minor but unnecessary losses to storage capacity due to the broken regulating gate will continue to occur and water conservation efficiencies gained from proper maintenance of the aged infrastructure will be lost.

Proposed Action

Overall, the type of effects from the Proposed Action are anticipated to be the same as the No Action Alternative, but the likelihood and intensity of their occurrence greater. As with the No Action Alternative, there would be no effect to irrigation deliveries from the drawdown associated with the Proposed Action as 2021 Water Year deliveries are complete. However, approximately 4,300 AF of additional inflow would be necessary for EPR to recover to full capacity in the wet season. In contrast, because the water released from EPR during drawdown that arrives at SGR would be retained there, the storage of SGR would be increased and the amount of inflow necessary to recover to full capacity in the wet season reduced by that amount. Although there would be no significant net loss of water storage system-wide from the Proposed Action, the exact amount of water that would arrive in SGR from the drawdown at EPR is dependent on factors that could

influence the water over its 12.6 miles of travel along Stony Creek, including the rates of infiltrative and evaporative losses in dry areas of the creek bed in particular.

Because water levels and surface water acreage would be lower in EPR in comparison to the No Action Alternative, resulting in potential increased temperature in the remaining pool the risk for algae blooms would be greater in comparison to the No Action Alternative. Whether the risk of algae blooms would be lesser or greater at SGR would be dependent on the quality of water released from EPR in comparison to the quality of receiving water in SGR; if suspended sediment and accompanying nutrient concentrations in water from EPR degrade the quality of SGR water to an appreciable extent, the algal bloom possibility would increase. Any increased risk would be localized and temporary as any turbidity/suspended solids and associated nutrient loads would be expected to settle to the bottom relatively quickly and, ultimately, some improvement in dissolved oxygen levels would be expected in SGR from the increased pool, resulting in a reduced algal bloom potential at SGR prior to wet season inflow.

The accessibility of water in EPR from established roadways would increase even further than in the No Action Alternative, further decreasing accessibility to water and increasing trip time for land-based fire-fighting equipment at EPR. However, because water release from EPR and captured at SGR would be retained, there would be no change in the amount of water available in the system or substantial change in trip time for fire-fighting aircraft. As with the No Action Alternative, the effect, if any, on wildfire control would depend on the size and location of the wildfire with respect to the nearest reservoir as well as the equipment available to firefighters, which cannot be forecasted.

As with the No Action Alternative, the effects of the Proposed Action to water availability, accessibility and quality are anticipated to be offset in the wet season that follows, considering the average inflow rate. Also, because necessary repairs to dam gates will be performed, operations at EPD would be restored and water conservation efficiencies will be gained from maintenance of the aged infrastructure.

3.4 Biological Resources

3.4.1 Affected Environment

East Park and Stoney Gorge Reservoirs are located in a transition zone between the Sacramento Valley and the foothills of the Coastal Range that is lightly wooded with characteristics of mixed chaparral and oak woodland habitats. The park at EPR contains approximately 200 acres of wetlands and 1,200 acres of upland wildlife areas.

Species found commonly in the action area include: channel catfish (*Ictalurus punctatus*), largemouth (*Micropterus salmoides salmoides*) and smallmouth bass (*M. dolomieu*), bluegill (*Lepomis macrochirus*), threadfin shad (*Dorosoma petenense*), carp (*Cyprinus carpio*), rainbow trout (*Oncorhynchus mykiss*), wild pigs (*Sus scrofa)*, coyotes (*Canis latrans*), blacktail deer (*Odocoileus hemionus*), tule elk (*Cervus elaphus nannodes*), ground squirrels (*Spermophilus beecheyi fisheri)*), black-tailed jackrabbits (*Lepus californicus bennettii*), fence lizards (*Sceloporus occidentalis*), waterfowl including Canada geese (*Branta canadensis*), a wide variety of ducks, bald eagles (*Haliaeetus leucocephalus*), egrets (*Ardea alba*), osprey (*Pandion haliaetus*), green and great blue herons (*Butorides striatus, Ardea herodias*), and the tri-colored blackbird (*Agelaius tricolor*), as

well as wildflowers including the adobe lily (*Fritillaria pluriflora*), and Colusa layia (*Layia septentrionalis*). Terrestrial habitat surrounding the reservoirs is a combination of oak woodland/grassland with invasive species such as yellow starthistle (*Centaurea solstitialis*) and medusahead (*Taeniatherum caput-medusae*) in low lying areas along the reservoirs, and chamise chapparal in the upland areas (Tetra Tech 2004).

Reclamation obtained an Official Species List of species protected under the Federal Endangered Species Act (ESA) Section 7 for the Proposed Action area from the US Fish and Wildlife Service's (Service, 2021) Information for Planning and Consultation (IPaC) website on July 1, 2021. Additional information on these ESA listed species' habitat and range was obtained elsewhere on the Service's Environmental Conservation Online System (ECOS) website, as well as in the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; CDFW 2021) and its Biographic Information and Observation System (BIOS) mapping and Spotted Owl Viewer complements. The information obtained from the Service and CDFW websites was supplemented with other information in Reclamation files to complete Table 2 below.

Species listed on the Official Species List that had CNDDB-reported occurrences within the Stonyford, Lodoga, Rail Canyon or Gilmore Peak USGS quadrangles that EPR is within or near, are limited to those of Keck's checkermallow. The nearest occurrences of Keck's checkermallow to EPR reported in the CNDDB were an occurrence along the west side of the reservoir reported in 2011 and an occurrence along the east side of the reservoir, reported in 2019. Both locations are accessible to the public. CNDDB records presume both occurrences are extant. Occurrences of Keck's checkermallow along the northeast corner of Stony Gorge Reservoir are also recorded in the CNDDB.

Table 2. Federally-listed Species

Common Name	Scientific Name	Status	Effects	Potential for Species Occurrence In Action Area and Habitat Requirements and Availability
Amphibians				
California red-legged frog	*Rana draytonii*	T, X	NE (No Effect)	**Absent.** Suitable habitat (riparian and upland dispersal habitats with breeding ponds or pools) to support this species is not present. The nearest occurrence of this species to the site of the Proposed Action recorded in CNDDB is 26 miles southwest of EPR, along the south shore of Clear Lake.
Reptiles				
Giant garter snake	*Thamnophis gigas*	T	NE	**Absent.** Suitable habitat (aquatic habitat consisting of slow-moving waters with adequate vegetation for foraging and cover adjacent to aquatic habitat with burrow holes for bruminating in the inactive season and during periods of inclimate heat) to support this species is not present on-site. The action area is located on the western limit of this species' current range with all but the east side of EPR and a small portion of Stony Creek the range. https://ecos.fws.gov/ecp/species/4482 The nearest occurrence of this species in the action areas recorded in CNDDB is 13 miles east of EPR.

Common Name	Scientific Name	Status	Effects	Potential for Species Occurrence In Action Area and Habitat Requirements and Availability
Birds				
Northern spotted owl (NSO)	*occidentalis caurina*	T, X	NE	**Absent.** Suitable habitat (unfragmented mixed conifer or fragmented Douglas fir forest) to support this species is not present in the action area. The nearest occurrences of this species to EPR recorded in the CNDDB's Spotted Owl Viewer are approximately 8 miles west of the reservoirs.
Fish				
Delta smelt	*Hypomesus transpacificus*	T, X	NE	**Absent.** The species profile in ECOS indicates the action area is outside the current range for this species although significant effects on the quality of upstream waters from an action could affect the species and habitat. https://ecos.fws.gov/ecp/species/321 Suitable habitat (riparian and estuarine) to support this species is not present in the action area. Habitat consists of open waters of bays, tidal rivers, channels, and sloughs, with salinity of about 2 parts per thousand, adequate freshwater flow to transport young to, and maintain, rearing habitat, and dense zooplankton. Post-breeding populations are concentrated in the lower Delta and upper Suisun Bay. Work activities would not have a bearing on temperature and other water quality parameters that would affect downstream habitat for Delta smelt. The nearest occurrence of this species to the action area recorded in the CNDDB is 80 miles south of EPR.
Invertebrates				
vernal pool fairy shrimp	*Branchinecta lynchi*	T, X	NE	**Absent.** Suitable habitat conditions (vernal pools and similar ephemeral wetlands, most commonly grassed or mud bottomed pools or basalt flow depression pools in unplowed grasslands; alkali pools, ephemeral drainages, stock ponds, roadside ditches, vernal swales, and rock outcrop pools) are not present in the action area. Vernal pools have not been identified adjacent to the reservoirs. The action area appears to be located within the Northwest Sacramento Valley vernal pool region but outside any core area, according to Figure III-10 of the Service's 2005 Vernal Pool Recovery Plan. The nearest occurrence of this species recorded in the CNDDB is 18 miles east of Stony Creek in Sacramento National Wildlife Refuge.
vernal pool tadpole shrimp	*Lepidurus packardi*	E, X	NE	**Absent.** Suitable habitat conditions (vernal pools and similar ephemeral wetlands, most commonly grassed or mud bottomed pools or basalt flow depression pools in unplowed grasslands; alkali pools, ephemeral drainages, stock ponds, roadside ditches, vernal swales, and rock outcrop pools) are not present not present in the action area Vernal pools have not been identified in the action area which appears to be located within the Northwest Sacramento Valley vernal pool region but outside any core area, according to Figure III-10 of the Service's 2005 Vernal Pool Recovery Plan. The nearest occurrence of this species recorded in the CNDDB is 17 miles east of Stony Creek in Sacramento National Wildlife Refuge.
Valley elderberry longhorn beetle	Desmocerus californicus dimorphus	T, E	NE	**Absent.** The species profile in ECOS indicates EPR is outside the current range for this species. https://ecos.fws.gov/ecp/species/7850 The nearest occurrence of this species to the action area recorded in the CNDDB is 25 miles east of EPR along the Sacramento River.

Common Name	Scientific Name	Status	Effects	Potential for Species Occurrence In Action Area and Habitat Requirements and Availability
Flowering Plants				
Keck's checkermallow	*Sidalcea keckii*	E, X	NE	**Present.** There are recorded occurrences of this species adjacent to the reservoirs. In addition to recorded occurrences in the CNDDB, area surveys performed by the California Native Plant Society have determined this species is present in the park adjacent to EPR. However, lands are not anticipated to be affected by the Proposed Action. Therefore this upland species would not be affected.
Key: (E) Endangered - Listed as being in danger of extinction (T) Threatened - Listed as likely to become endangered within the foreseeable future (X) Critical Habitat designated for this species				

3.4.2 Environmental Consequences

No Action

Although the Service has designated Critical Habitat for most species in Table 2, none of these Critical Habitats overlap or abut the action area. Therefore, there would be no effect to Critical Habitat from the No Action Alternative. Documented occurrences of ESA-listed species in Table 2 that have been recorded in the CNDDB or BIOS in the vicinity (five miles) of the action area are limited to Keck's checkermallow. There would be no effect to ESA-listed species or designated Critical Habitat from the Proposed Action due to limitations on the presence of these species and habitat in the action area. (See last column of Table 2.)

Under the No Action Alternative, potential effects to common species from continued drought conditions include effects to the fitness and survival of warm water fish due to a relatively slow (in comparison to the Proposed Action) but continued reduction in pool size and potential increase in water temperatures in the reservoir in late summer. These changes may increase predation on fish by reducing the availability of aquatic habitat and features, particularly any vegetative cover present along the shorelines. Should algal blooms occur in EPR or SGR that result in diminished dissolved oxygen concentrations, further adverse effects to the fisheries could include a localized fish die-off.

Anticipated long-term effects to fisheries from low reservoir levels related to drought conditions are based on limited anecdotal evidence/catch from a local bass fishing club that holds an annual tournament, as offered by the County as park manager; No structured, scientific fish surveys are conducted at EPR.

According to records held by the Colusa County Manager, Michael Azevedo, and OUWUA District Manager Rick Massa, EPR's storage dropped to approximately 7,200 AF in late December and November, respectively of drought years 2013 and 2014 and rose with inflow from the Feeder Canal to a modest maximum of approximately 18 TAF (March 2014) in between.

According to Mr. Massa, EPR was at its lowest 2015 storage of approximately 14,800 AF the last week of November 2015 but quickly recovered after inflow from the Feeder Canal commenced later that month following a brief rainy period. EPR had a storage of approximately 40 TAF by the end

of December 2014. The reservoir was near full again at around 50,000 AF in March 2015 when fishermen on the 20 boats participating in the tournament caught less than 12 bass collectively, according to Mr. Azevedo.

According to Mr. Azevedo, EPR recovered to capacity in spring 2016 and held relatively full at 45,000 AF or greater through 2019. Mr. Azevedo stated that approximately 20 boats participated in the March 2018 bass fishing tournament. Most fishermen participating in the tournament were successful at catching fish over the minimum 3 lb limit, but none caught exceptionally large bass. Mr. Azevedo estimates the age of the fish caught during the 2018 tournament at 2-3 years based on weight, indicating they were spawned in 2015-2016. It could be assumed from this anecdotal evidence that the warm water fisheries in EPR begin recovering from drought-induced low water levels immediately once reservoir levels begin to recover to greater than 25% of capacity, although the number of spawning fish captured in recovery years may be smaller than typical.

Proposed Action

There would be no effect to ESA-listed species or habitat, including Critical Habitat, from the Proposed Action for the reasons stated in the last column of Table 2. Effects to common terrestrial species may include temporary displacement. Common fish species would experience reduced habitat and crowding in comparison to conditions under the No Action Alternative. Over-crowded conditions would likely result in a temporarily increased predation of fish species until the reservoir storage increases with fall and winter precipitation. Although EPR fisheries are expected to ultimately recover, recovery could take several years absent formal restocking efforts. In contrast, SGR has similar fish species that would likely experience less crowding and greater habitat availability with the increased storage afforded from the release from EPR.

As discussed in Section 3.3.2, the potential for algal blooms in EPR is anticipated to be relatively greater than the No Action Alternative in the remaining summer months because of the increased possibility of warming in the stagnant and reduced volume of water left. The relative risk of algal blooms in SGR would be dependent on water quality conditions in both reservoirs. However, any increased risk of an algal blooms in SGR associated with the Proposed Action would be localized and temporary. Should an algae bloom occur, the result could be a localized fish die-off event that further affects fish population recovery from drought conditions and the subsequent drawdown.

Because potentially affected fish species are not ESA-listed, mitigation for effects that cannot be avoided or minimized is not directly and specifically required by law. However, Reclamation will assist the County as manager of the park to pursue opportunities that promote and expedite recovery of the warm-water fisheries at EPR. These opportunities will include, but are not limited to, pursuit of third-party grants to support fisheries re-stocking as well as habitat enhancement projects including structures and planting of vegetation at select locations.

Although the effects of the Proposed Action are exacerbated by current drought conditions, the work is a necessity to continued operation of the dam. Further, it is these same drought conditions and resultant low reservoir levels that present a unique opportunity to conduct the inspection and repair work required without the unnecessary loss of tens of thousands of AF of water that could occur if the reservoir drawdown necessary to expose the submerged dam infrastructure occurred in a year of high storage. Because there would be no net loss of water to the system, recovery of the

reservoir level could occur over a single wet season, and warm-water fisheries would begin to recover the same year reservoir levels recover and/or be expedited by re-stocking, the effects of the Proposed Action on biological resources are considered less than significant.

3.5 Recreation

3.5.1 Affected Environment

Because there will be no park closure at SGR associated with the Proposed Action or No Action Alternative, potential effects on public recreation are limited to those at EPR.

Public recreation on the approximately 1,600 acres that surround EPR include camping and day uses such as: hiking; boating, wading, swimming; fishing; bird watching; hang gliding, and disc golf. The park has 193 campsites, concentrated on the east side of the reservoir, many with picnic tables, fire rings, and nearby restrooms. On-water recreation is the primary draw to the park for the general public and the trail system is limited to mostly dirt roads along the perimeter of the reservoir.

Since Colusa County entered a management agreement with Reclamation in 2013, patronage at EPR has steadily increased. In the last 5 years, there has been over a 3-fold increase in number of people visiting the park (M. Azevedo pers. Comm.).

3.5.2 Environmental Consequences

No Action

Under No Action, no seasonal park closure would occur. However, continued drought conditions may render the reservoir less enticing for visitation than in a typical year. Users that would need to travel long distances to reach the park are anticipated to be deterred by the lower reservoir level and limited access to the water. Activities that can occur with any access to the shoreline, such as fishing or deploying a kayak or other non-motorized, low-draft vessel, would likely continue but at a much-reduced level because of the increased distance from, and therefore effort to get to, the water from maintained access points. Also, as discussed in Section 3.4.2, fisheries losses that occurred in prior years when EPR's storage was low would be expected to occur again that could influence visitation by the public in the present and future years.

Proposed Action

Under the Proposed Action, the park would not be open to the public during inspection and repair work and related drawdown activities. In doing so, the park would be closed from August 23 to the end of October, a time when EPR closes for recreation (M. Azevedo Pers. Comm.). This would result in about 9 weeks of time that could have otherwise experienced some level of recreation and thus some patronage for County of Colusa. However, because the majority of park visitation occurs in the spring and summer months, and considering current drought-related effects on the reservoir, the effect on recreation is anticipated to be minor.

While there could be some long-term effects of the Proposed Action on recreational fishing, the effects are anticipated to be minor. The fish populations are anticipated to rebound when the reservoir fills and as other activities as identified in Section 3.4 are implemented.

3.6 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. Title 54 U.S.C. 300101 et seq., formerly and commonly known as the National Historic Preservation Act (NHPA) is the primary legislation for Federal historic preservation. Section 106 of the NHPA (54 U.S.C. 306108) requires Federal agencies to take into consideration the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation an opportunity to comment.

Historic properties are those cultural resources that are listed on or eligible for inclusion in the National Register of Historic Places (National Register). The implementing regulations at 36 CFR § 800 for Section 106 describe the process that the Federal agency takes to identify historic properties within the area of potential effects and to assess the effects that the proposed undertaking will have on those historic properties, through consultations with the State Historic Preservation Officer (SHPO), Indian Tribes, and other identified consulting and interested parties.

3.6.1 Affected Environment

The area of potential effects (APE) encapsulates all proposed components of the undertaking and is located in Section 3, T. 17 N., R. 6 W., Mount Diablo Base and Meridian, as depicted on the Gilmore Peak, 7.5' U.S. Geological Survey topographic quadrangle map. The APE will consist of a small area in the tower and around the immediate exterior of the four subject gates (an area of approximately 100 square feet). Access to the APE will be by existing vehicular roads and there are no staging areas anticipated for this proposed action.

In an effort to identify historic properties, Reclamation reviewed in-house archival documentation, conducted a site investigation, and prepared a report of the finding of effect. Through this effort we identified two potential historic properties, the East Park Dam and the Orland Project, of which the dam is a component. For the purposes of this undertaking only, Reclamation is treating the Orland Project as individually eligible for listing in the National Register of Historic Places (National Register) under Criterion A for its association with the early Federal Reclamation Service efforts to establish farming communities in the western United States, and the development of agriculture in the Sacramento Valley. The East Park Dam, constructed between 1908 and 1910, was the first project completed under the Orland Project. It is outside the scope and scale of this project to fully evaluate East Park Dam; however, also for the purposes of this undertaking only Reclamation is treating East Park Dam as eligible for listing in the National Register under Criterion A for its association with the Orland Project and under Criterion C for its unique spillway design of nine vertical semi-circular arches and associated guide walls.

In addition, Pursuant to the regulations at 36 CFR § 800.3(f) (2), Reclamation identified the Colusa Indian Community Council, the Cortina Band of Indians, the Enterprise Rancheria of Maidu Indians, the Grindstone Rancheria of Wintun-Wailaki, the Mechoopda Indian Tribe of Chico

Rancheria, the Paskenta Band of Nomlaki Indians, and the Yocha Dehe Wintun Nation as Indian tribes who might attach religious and cultural significance to historic properties in the APE. Reclamation sent letters to the tribes inviting their participation in the Section 106 process pursuant to 36 CFR § 800.4(a) (4). Through this effort no concerns were raised.

3.6.2 Environmental Consequences

No Action

Under No Action, there would be no effect to cultural resources. There would be no federal undertaking and existing conditions would prevail.

Proposed Action

Pursuant to 36 CFR§ 800.5(a)(1), Reclamation applied the criteria of adverse effect for this undertaking at East Park Dam and determined that gate repair and the possible replacement of the three guard gates and replacement of the regulating gate will not result in adverse effects to historic properties. Maintenance and repair activities of gates will not significantly change or diminish the integrity of the appearance, design, or function of East Park Dam or the overall Orland Project. Reclamation considers East Park Dam as a contributing component of the Orland Project and it will still function as part of the agricultural expansion theme under which the Orland Project is eligible. The proposed project will not affect the integrity of East Park Dam or its ability to convey significance for listing in the National Register under Criterion A as a contributor to the Orland Project or under Criterion C as individually eligible, nor will it directly or indirectly alter any of the characteristics that make the Orland Project eligible for inclusion on the National Register or diminish the integrity of that historic property or its ability to convey significance under Criterion A.

4.0 CONSULTATION AND COORDINATION

4.1 Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the ESA requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation determined that there would be no effect to species federally-listed as Endangered or Threatened from the Proposed Action; therefore, the US Fish and Wildlife Service was not consulted.

4.2 National Historic Preservation Act (NHPA) (54 USC § 306108)

Pursuant to 36 CFR § 800, Reclamation initiated consultation with the California State Preservation Office (SHPO) by letter dated July 21, 2021 requesting concurrence with a finding of no adverse effect. Pursuant to the regulations at 36 CFR §800.5(c), SHPO has 30 days from receipt to review an agency finding. The SHPO has yet to respond to Reclamation's finding of effect, however, the 30 requisite days has not been reached. As such the project would not be authorized until Section 106 consultation is complete.

4.3 Other Coordination

Reclamation coordinated with OUWUA District Manager Rick Massa and Colusa County Manager Michael Azevedo to develop the scenarios for the Proposed Action and No Action Alternative and to obtain information on fisheries in the reservoirs and detailed historic reservoir storage data.

5.0 REFERENCES

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CalEPA. (2021). *Area Designations Maps / State and National*. Retrieved July 20, 2021, from CA Air Resources Board: https://www.arb.ca.gov/desig/adm/adm.htm

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APPENDIX A. Indian Trust Asset Determination

ITA Review - EPR Drawdown - East Park Dam Inspection and Gate Repairs and/or Replacement(s)

Simon, Megan K <msimon@usbr.gov>
Thu 7/1/2021 4:36 PM
To: Zedonis, Paul A <pzedonis@usbr.gov>

1 attachments (1 MB)
ITA Capture.PNG;

I have examined the referenced proposal and have determined that the facilities are located greater than 3.5 miles from the closest Indian Trust Asset.

I have determined that there is no likelihood that this action will adversely impact Indian Trust Assets.

Megan Simon
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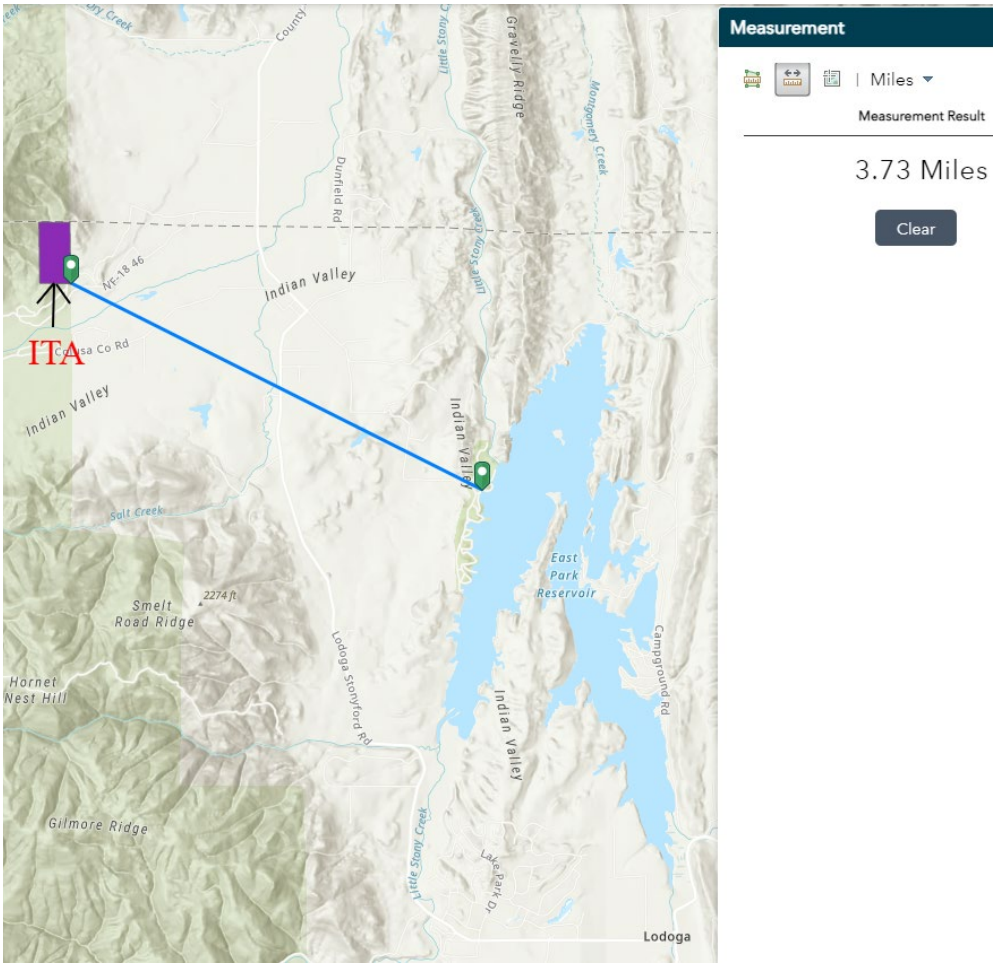

APPENDIX B. Cultural Resources Review

(To be included in Final EA)