SOUTHERN CALIFORNIA EDISON
Lee Vining Hydroelectric Project
(FERC Project No. 1388)

GENERAL WILDLIFE RESOURCES SURVEY (TERR-2) FINAL TECHNICAL REPORT

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Southern California Edison
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LIST OF ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
CDFW	California Department
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
GPS	global positioning system
LADWP	Los Angeles Department of Water and Power
NOI	Notice of Intent
NPS	National Park Service

O&M	operation and maintenance
PAD	Pre-Application Document
Project	Lee Vining Hydroelectric Project (FERC Project No. 1388)
SCE	Southern California Edison
TWG	Technical Working Group
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife

1.0 INTRODUCTION

This Technical Report transmits findings of literature research and field studies specific to terrestrial wildlife in association with the *General Wildlife Resources Survey (TERR-2) Technical Study Plan* (Study Plan) in support of Southern California Edison (SCE) Company's Lee Vining Hydroelectric Project (Project) relicensing effort, Federal Energy Regulatory Commission (FERC) Project Number 1388. The Final Technical Study Plan was filed with FERC in April 2022 (SCE, 2022).

This Technical Report incorporates the data collected during 2023 field surveys and the findings from *General Wildlife Resources Survey (TERR-2) Technical Memorandum* (including 2022 field surveys) submitted in January 2023, with the exception that survey data and results associated with the Yosemite toad (*Anaxyrus canorus*) have been compiled into a separate technical report (Yosemite Toad Technical Report, which is included as Appendix A) and are subsequently not included in this report.

1.1. PROJECT DESCRIPTION AND LOCATION

The SCE Company is the licensee, owner, and operator of the Project. The Project is located on the eastern slope of the Sierra Nevada along the eastern boundary of Yosemite National Park, and approximately 9 miles upstream from Mono Lake and the town of Lee Vining in Mono County, California (Figure 1.1-1). The 11.25-megawatt Project is situated on Lee Vining Creek, largely within the Inyo National Forest managed by the U.S. Forest Service (USFS); the remaining Project lands are privately owned.

The Project consists of three dams and reservoirs, an auxiliary dam, a flowline consisting of a pipeline and penstock, and a powerhouse. These features and facilities all occur within a defined boundary, hereafter referred to as the FERC Project Boundary. SCE currently operates the Project under a 30-year license issued by FERC on February 4, 1997. The license will expire January 31, 2027. SCE is seeking a license renewal to continue operation and maintenance (O&M) of the Project.

Figure 1.1-1. Project Location.

1.2. PURPOSE AND NEED

The purpose of this study is to provide supplemental information on the occurrence and distribution of the common and special-status terrestrial wildlife species. The data in this study are needed by SCE, FERC, federal and state resource agencies, and interested Stakeholders to appropriately understand the existing conditions on-site and to determine the potential for Project O&M activities to affect local populations of special-status wildlife species, if present.

2.0 STUDY GOALS AND OBJECTIVES

The study objectives are:

- Build a compendium of common, U.S. Forest Service At-Risk Species and Species of Conservation Concern (USFS, 2019), and other special-status wildlife species occurring within the Project areas that may be affected by routine O&M activities.
- Identify rare, threatened, and endangered riparian birds in the area during general wildlife surveys.
- Assess willow flycatcher (*Empidonax traillii*) nesting habitat downstream of the FERC Project Boundary between Poole Powerhouse and the reservoir at the Los Angeles Department of Water and Power (LADWP) Diversion Dam, using vegetation classification as the primary tool as well as aerial photography review and ground-truthing.

2.1. EXISTING CONDITIONS

2.1.1. TOPOGRAPHY

The area surrounding the FERC Project Boundary is within the Cascade-Sierra Mountains physiographic province, sculpted by glaciers and characterized by rounded granite outcrops, U-shaped valleys, glacial lakes within glacial till deposits, and talus slopes (FERC, 1992). Within Mono Basin, elevations range from over 13,000 feet above mean sea level (amsl) along the Sierra Nevada peaks to approximately 6,400 feet amsl at the shoreline of Mono Lake (Millar and Woolfenden, 1999), with the basin floor generally below 7,000 feet (Vorster, 1985).

The three Project reservoirs include Saddlebag Lake, Tioga Lake, and Ellery Lake. Saddlebag Lake lies within a glacially carved U-shaped valley. Steep, 1,200-foot ridges bound the lake on the east and west sides, and talus slopes form most of the rock shoreline (FERC, 1992). Tioga Lake lies in a valley on glacial till with a scattering of rounded rock outcrops (FERC, 1992). Ellery Lake has a rocky shoreline with several areas of talus slopes entering the lake from the steep terrain along the southern margin.

Lee Vining Creek drains the eastern Sierra Nevada crest and Glacier Creek is a tributary that flows from Tioga Lake. Mount Dana (13,053 feet amsl), the highest peak in Mono Basin, and several other peaks above 12,000 feet amsl rim the watershed boundary

(Jones & Stokes Associates, 1993). Lee Vining Creek drops precipitously down the eastern Sierra escarpment from Ellery Lake at 9,500 feet amsl to Poole Powerhouse at 7,825 feet amsl (Jones & Stokes Associates, 1993).

2.1.2. Climate

Precipitation amounts vary greatly in the Mono Lake watershed. The California Department of Water Resources gage at Ellery Lake (maintained by SCE) measures a historical average annual precipitation of 24.5 inches (CDEC, 2021). Since 2010, the average annual precipitation has been 18.5 inches. There are arctic-like winters in the high mountains and dry warm summer conditions in Mono Basin (LADWP, 1987). Average air temperature at Ellery Lake is 36 degrees Fahrenheit (°F) and 34°F at Dana Meadows (CDEC, 2021).

The town of Lee Vining has an average annual high temperature of 61°F, an average annual low temperature of 35°F, and receives an average of 15.67 inches of precipitation annually (U.S. Climate Data, 2020).

2.1.3. Vegetation Types

Thirteen vegetation communities and other areas were identified in 2022 in the Botanical Resources Study Area associated with the Project: alpine grasses and forbs, barren, developed, lakeshore, lodgepole pine, mixed conifer–fir, non-vegetated, quaking aspen, wet meadow, whitebark pine–alpine grasses and forbs, whitebark pine–lodgepole pine, water, and willow (Psomas, 2024).

3.0 STUDY AREA

The Wildlife Study Area is shown on Figure 3-1. It is composed of the following SCE O&M areas, including a 200-foot buffer:

- Saddlebag Dam and associated infrastructure
- Tioga Dam and SCE access road to Tioga Dam
- Rhinedollar Dam
- Poole Powerhouse and associated facilities, including garages, storage buildings, and tail race

The Willow Flycatcher Study Area consists of the portion of Lee Vining Creek that is downstream of Poole Powerhouse to the reservoir at the LADWP Diversion Dam (Figure 3-1).

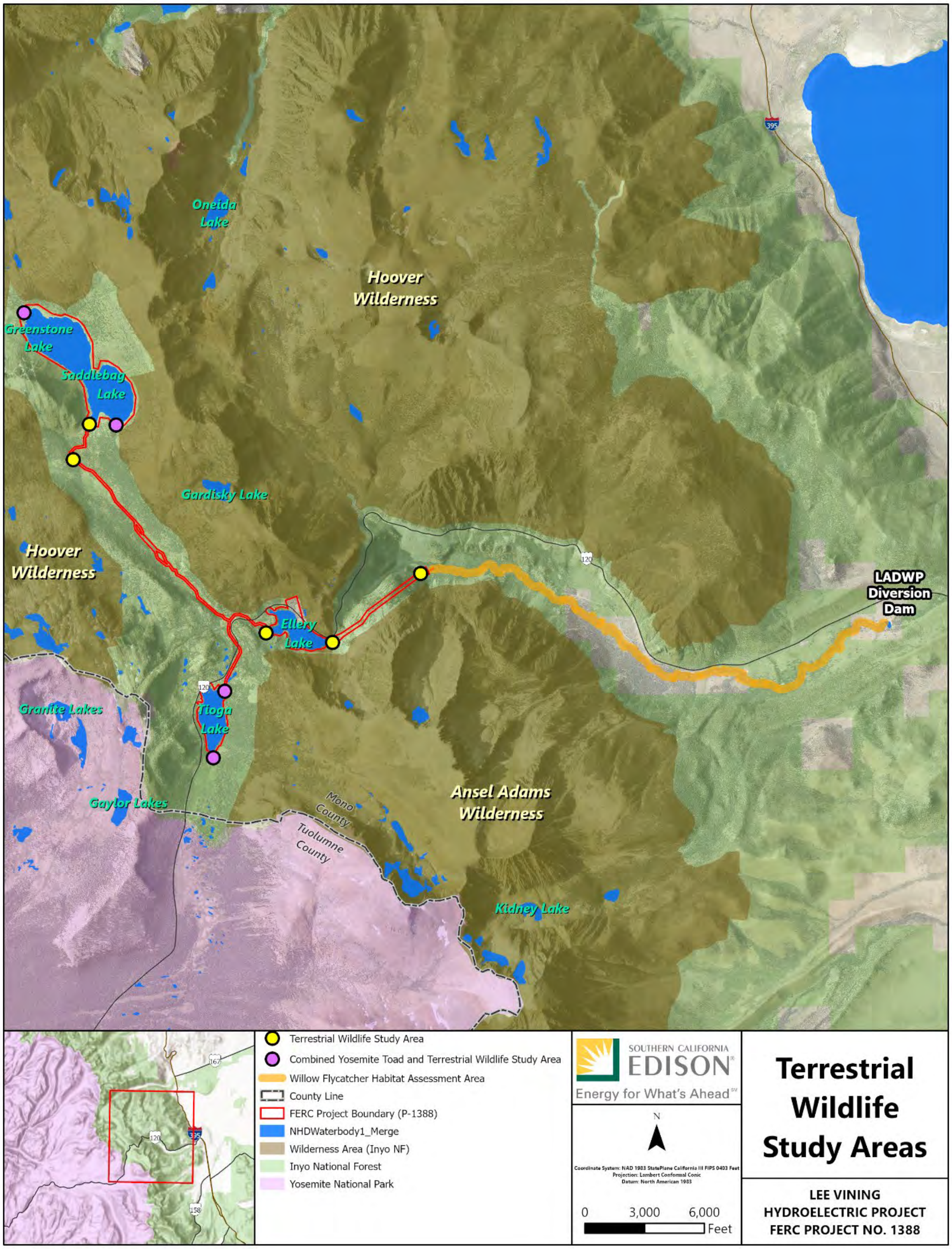


Figure 3-1. Terrestrial Wildlife Study Areas.

4.0 METHODS

The Study Plan details the proposed study area, methods, and schedule to meet the study objectives identified for terrestrial wildlife. As a result of the observations made during the initial field work, the field data collected was modified and expanded; the revised methods implemented are described below.

4.1. STUDY PLAN MODIFICATIONS

The Study Plan identified 1 year of surveys; however, surveys were performed across 3 years: 2021 (1 survey day), 2022 (11 survey days), and 2023 (20 survey days). The additional surveys were primarily scheduled to document any potential, previously unknown breeding locations for the Yosemite toad. The 2022 field season had lower than average snowfall.[1] This lack of normal snowfall caused potential breeding ponds to dry out early in the season. The 2023 field season was performed to observe breeding in those ponds and other identified potential breeding areas because 2023 was an above-average precipitation year. Although the Study Plan was modified to provide more intensive study of the life history of the Yosemite toad, the additional years of field surveys allowed for more comprehensive observations of other wildlife species within and around the FERC Project Boundary.

Separately, the timing of the trail camera deployment was also modified from what was described in the Study Plan. The trail cameras were proposed to be deployed through the entire calendar year; however, deployments were subsequently limited to months where the cameras would not be buried in snow (i.e., the cameras were removed for the winter months).

4.2. GENERAL WILDLIFE PEDESTRIAN SURVEYS

Multiple terrestrial survey visits were performed by biologists; Table 4.2-1 shows the survey dates and associated biologists performing the survey. For consistency in data collection, surveys were conducted by the same four qualified biologists: Steve Norton, Jason Berkley, Jonathan Aguayo, and Sarah Berryman. To further standardize data collection, field surveys were scheduled so the biologists were rotated and paired with the previous week's surveyor.

Table 4.2-1. Survey Dates and Surveying Biologist

Survey Year	Survey Date	Surveying Biologists
2021	September 28	Steve Norton, Brad Blood
2022	June 1–2	Steve Norton, Jonathan Aguayo
	June 15–16	Steve Norton, Jason Berkley

[1] The average snow depth in Tioga Pass during the April measurements (between 1939 and 2023) is 68 inches. The same measurement in April of 2022 was 13.5 inches (50 percent of average) and in April of 2023 was 64.5 inches (211 percent of average) (NRCS, 2023).

Survey Year	Survey Date	Surveying Biologists
	July 26–27	Steve Norton, Jonathan Aguayo
	August 9–11	Jason Berkley
	August 23–24	Steve Norton, Jason Berkley
2023	July 6–7	Steve Norton, Sarah Berryman
	July 13–14	Steve Norton, Sarah Berryman
	July 21–22	Jason Berkley, Sarah Berryman
	July 27–28	Jason Berkley
	August 1–2	Jason Berkley, Jonathan Aguayo
	August 9–11	Steve Norton, Sarah Berryman
	August 23	Steve Norton
	September 20–21	Jason Berkley
	October 10–11	Steve Norton
	October 31–November 1	Jason Berkley

Although each survey visit was performed with the purpose of documenting specific target wildlife species (such as visual encounter surveys for Yosemite toad), all non-target wildlife species (or evidence of the species) observed during each survey visit were recorded in field notes or onto electronic tablet devices. Regardless of the survey purpose, each survey visit included pedestrian surveys which included the following:

- Identifying wildlife species visually (viewing characteristic markings, behaviors, or diagnostic sign [such as scat, footprints, burrows, etc.]) with and without binoculars and aurally (listening to diagnostic vocalizations);
- Lifting, overturning, and carefully replacing objects such as rocks, boards, and debris; and
- Documenting any active or abandoned raptor nests using a global positioning system (GPS)-enabled device.

Prior to the survey visits, a review of previously observed wildlife occurrences and aerial photographs of the study area was conducted to focus survey efforts. Care was taken to not trample sensitive habitat, such as wet meadow areas potentially supporting Yosemite toad subadults and adults.

4.3. Trail Camera Surveys

Trail cameras were installed at three locations within the study area (Appendix B). Locations were generally sited to capture resident wildlife species, specifically in natural clearings of naturally vegetated areas. The first camera location was approximately 300 feet east of Tioga Lake at the top of a wet meadow near the northeastern shore. The second camera location was along the western side of the Lee Vining Creek floodplain approximately 8,000 feet downstream of Saddlebag Lake. The third camera location was within the meadow area connecting Greenstone Lake and Saddlebag Lake. Cameras were deployed at the first and second locations between June 16 and August 24, 2022. A camera was deployed again at the first location between July 7 and September 21, 2023. Finally, a camera was deployed at the third location between July 28 and September 21, 2023. Memory card status and battery life was checked and maintained during each field visit. Representative photographs collected by the trail cameras are included in Appendix B.

4.4. Bat Occupancy Surveys

All the structures within the study area were inspected for sign of bat roosting on September 28, 2021, and again on August 9, 2023. Signs of roosting include audible social calls; observation of individuals roosting; and presence of guano, urine staining, or insect prey remains. Additionally, two ultrasonic acoustic microphones and recording units were deployed to catalog the bat species foraging in the study area (Appendix B). One unit was deployed along Lee Vining Creek approximately 120 feet downstream of Saddlebag Dam and the second unit was deployed along Lee Vining Creek below the tail race at Poole Powerhouse.

Anabat Swift units manufactured by Titley Scientific were used for acoustic recording. These units were deployed from August 9 through August 11, 2023, and the recording extended from approximately sunset overnight until approximately 30 minutes before sunrise. All data were recorded in full spectrum format with varying settings to filter and minimize background noise recorded during the survey (e.g., high-frequency insect calls, wind noise) to aid in bat echolocation identification.

The data collected were processed and analyzed with SonoBat 4.4.5, a bat species identification software, using the California classifier. This version of SonoBat automatically associates bat echolocation call patterns to the likely bat species. The software cannot definitively identify the bat species making the call; therefore, Senior Bat Biologist Steve Norton further analyzed the recordings to verify the accuracy of species-level identifications. The subsequent review referenced patterns with internal call libraries and various call parameter keys, such as the *Echolocation Call Characteristics of California Bats* by Humboldt State University Bat Laboratory. The sonogram of each recording was visually inspected for echoes, noise, and other distortions that could lead to misidentification. All auto-generated identifications that were not diagnostic of a species or a unique group of species were rejected and the erroneous results were not reported.

4.5. Willow Flycatcher Habitat Assessment

The portion of Lee Vining Creek downstream of Poole Powerhouse and upstream of the reservoir at the LADWP Diversion Dam (Willow Flycatcher Study Area) was assessed for the presence of potentially suitable nesting habitat for the willow flycatcher and relevant subspecies (i.e., southwestern willow flycatcher [*E. t. extimus*]). Aerial photography was first reviewed for potential habitat areas followed by an in-person visual assessment of the potential habitat on June 2, 2022. Habitat was assessed using habitat parameters described in U.S. Geological Survey Techniques and Methods 2A-10 (Sogge et al., 2010).

5.0 RESULTS

5.1. GENERAL WILDLIFE

The wildlife observed or otherwise documented during the 2022 and 2023 surveys are listed in Table 5.1-1.

Table 5.1-1. Wildlife Compendium

Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs	Poole Powerhouse
AMPHIBIANS							
BUFONIDAE—TRUE TOAD FAMILY							
Anaxyrus canorus	Yosemite toad	FT, SSC	X	X			
Anaxyrus sp.	unknown toad					X	
HYLIDAE—TREEFROG FAMILY							
Pseudacris sierra	Sierran treefrog		X	X		X	
SNAKES							
NATRICIDAE—HARMLESS LIVE-BEARING SNAKE FAMILY							
Thamnophis elegans elegans	mountain gartersnake					X	
BIRDS							
ANATIDAE—SWAN, GOOSE, AND DUCK FAMILY							
Anas platyrhynchos	mallard		X			X	
Mergus merganser	common merganser		X		X		
PHASIANIDAE—PARTRIDGE AND TURKEY FAMILY							
Dendragapus fuliginosus	sooty grouse		X				
TROCHILIDAE—HUMMINGBIRD FAMILY							
Selasphorus calliope	calliope hummingbird		X				
SCOLOPACIDAE—SANDPIPER FAMILY							
Actitis macularius	spotted sandpiper			X			
PANDIONIDAE—OSPREY FAMILY							
Pandion haliaetus	osprey			X			

Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs	Poole Powerhouse
ACCIPITRIDAE—HAWK FAMILY							
Haliaeetus leucocephalus	bald eagle	SE, FP	X	X			
Buteo jamaicensis	red-tailed hawk					X	
Aquila chrysaetos	golden eagle	FP	X				
PICIDAE—WOODPECKER FAMILY							
Sphyrapicus thyroideus	Williamson’s sapsucker			X			
Picoides arcticus	black-backed woodpecker			X			
Colaptes auratus	northern flicker		X	X	X	X	X
FALCONIDAE—FALCON FAMILY							
Falco peregrinus	peregrine falcon	FP	X				
Falco mexicanus	prairie falcon		X				
TYRANNIDAE—TYRANT FLYCATCHER FAMILY							
Contopus cooperi	olive-sided flycatcher	SSC		X			
Empidonax oberholseri	dusky flycatcher			X		X	
CORVIDAE—JAY AND CROW FAMILY							
Cyanocitta stelleri	Steller's jay		X	X		X	X
Nucifraga columbiana	Clark’s nutcracker		X	X			X
Corvus corax	common raven		X	X			X
PARIDAE—TITMOUSE FAMILY							
Poecile gambeli	mountain chickadee		X	X	X	X	X
SITTIDAE—NUTHATCH FAMILY							
Sitta canadensis	red-breasted nuthatch		X	X			

Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs	Poole Powerhouse
Sitta carolinensis	white-breasted nuthatch			X		X	X
CERTHIIDAE—CREEPER FAMILY							
Certhia americana	brown creeper		X	X			X
TROGLODYTIDAE—WREN FAMILY							
Salpinctes obsoletus	rock wren		X				
REGULIDAE—KINGLET FAMILY							
Regulus satrapa	golden-crowned kinglet		X	X			
Regulus calendula	ruby-crowned kinglet					X	X
TURDIDAE—THRUSH FAMILY							
Sialia currucoides	mountain bluebird			X		X	X
Catharus guttatus	hermit thrush			X		X	
Turdus migratorius	American robin		X	X	X		X
FRINGILLIDAE—FINCH FAMILY							
Haemorhous purpureus	purple finch		X				
Haemorhous cassinii	Cassin’s finch		X	X			
Spinus pinus	pine siskin			X		X	
PASSERELLIDAE—NEW WORLD SPARROW FAMILY							
Passerella iliaca	fox sparrow					X	
Junco hyemalis	dark-eyed junco		X	X	X	X	X
Zonotrichia leucophrys	white-crowned sparrow		X	X		X	X
Melospiza melodia	song sparrow		X	X	X	X	X
Melospiza lincolnii	Lincoln's sparrow					X	

Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs	Poole Powerhouse
Pipilo chlorurus	green-tailed towhee		X	X		X	
ICTERIDAE—BLACKBIRDS AND ORIOLES							
Euphagus cyanocephalus	Brewer's blackbird					X	
PARULIDAE—WOOD-WARBLER FAMILY							
Leiothlypis celata	orange-crowned warbler					X	
Geothlypis tolmiei	MacGillivray's warbler					X	
Setophaga coronata	yellow-rumped warbler			X	X	X	X
Cardellina pusilla	Wilson's warbler					X	
MAMMALS							
SCIURIDAE—SQUIRREL FAMILY							
Tamiasciurus douglasii	Douglas' squirrel		X	X			
Marmota flaviventris	yellow-bellied marmot		X	X			
Callospermophilus lateralis	golden-mantled ground squirrel			X	X		
Urocitellus beldingi	Belding’s ground squirrel		X				
Neotamias alpinus	alpine chipmunk		X				
Neotamias minimus	least chipmunk		X	X	X	X	
Thomomys bottae	Botta’s pocket gopher			X		X	
OCHOTONIDAE—PIKAS							
Ochotona princeps	American pika		X	X			
LEPORIDAE—HARE AND RABBIT FAMILY							
Lepus americanus tahoensis	snowshoe hare	SSC				X	

Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs	Poole Powerhouse
Lepus townsendii townsendii	white-tailed jackrabbit	SSC				X	
MOLOSSIDAE—MOLOSSID BAT FAMILY							
Tadarida brasiliensis [c]	Mexican free-tailed bat		X				
VESPERTILIONIDAE—VESPERTILIONID BAT FAMILY							
Lasiurus frantzii	western red bat						X
Aeorestes cinereus	hoary bat						X
Lasionycteris noctivagans	silver-haired bat						X
Myotis ciliolabrum	small-footed bat						X
Myotis evotis	long-eared bat		X				X
Myotis lucifugus	little brown bat		X				X
Myotis volans	long-legged bat						X
Myotis yumanensis	Yuma bat						X
FELIDAE—CAT FAMILY							
Puma concolor	mountain lion			X			
CANIDAE—DOG FAMILY							
Canis latrans	coyote		X	X		X	
URSIDAE—BEAR FAMILY							
Ursus americanus	black bear		X	X		X	
CERVIDAE—DEER FAMILY							
Odocoileus hemionus	mule deer		X	X	X	X	
BOVIDAE—BOVID FAMILY							

Scientific Name	**Common Name**	**Status [a]**	**Saddlebag Lake**	**Tioga Lake**	**Ellery Lake**	**Study Area between Reservoirs**	**Poole Powerhouse**
Ovis canadensis nelsoni sierrae	Sierra Nevada bighorn sheep	FE, SE, FP		X		X	

[a] Federal (U.S. Fish and Wildlife Service)
FE = Endangered
FT = Threatened

State (California Department of Fish and Wildlife)
SE = Endangered
FP = Fully Protected
SSC = Species of Special Concern
Source: CDFW, 2023

5.2. TRAIL CAMERA SURVEYS

Only large mammals were successfully captured on the trail cameras, specifically mountain lion (*Puma concolor*), coyote (*Canis latrans*), black bear (*Ursus americanus*), and mule deer (*Odocoileus hemionus*). The camera at Tioga Lake captured all the above species. The camera along Lee Vining Creek captured coyote and mule deer, while the camera at the northwestern end of Saddlebag Lake captured only coyote. Representative photographs collected by the trail cameras are included in Appendix B.

5.3. BAT OCCUPANCY

No evidence of bat roosting was observed in any of the Project facilities and none of the facilities are expected to support any static colonies of roosting bats.

The acoustic recording unit deployed at the Saddlebag Dam recorded foraging of three bat species: Mexican free-tailed bat (*Tadarida brasiliensis*), long-eared bat (*Myotis evotis*), and little brown bat (*Myotis lucifugus*). The acoustic recording unit deployed below the Poole Powerhouse tailrace recorded foraging of nine bat species: Mexican free-tailed bat, long-eared bat, little brown bat, western red bat (*Lasiurus frantzii*), hoary bat (*Aeorestes cinereus*), silver-haired bat (*Lasionycteris noctivagans*), small-footed bat (*Myotis ciliolabrum*), long-legged bat (*Myotis volans*), and Yuma bat (*Myotis yumanensis*).

5.4. WILLOW FLYCATCHER

5.4.1. LITERATURE REVIEW

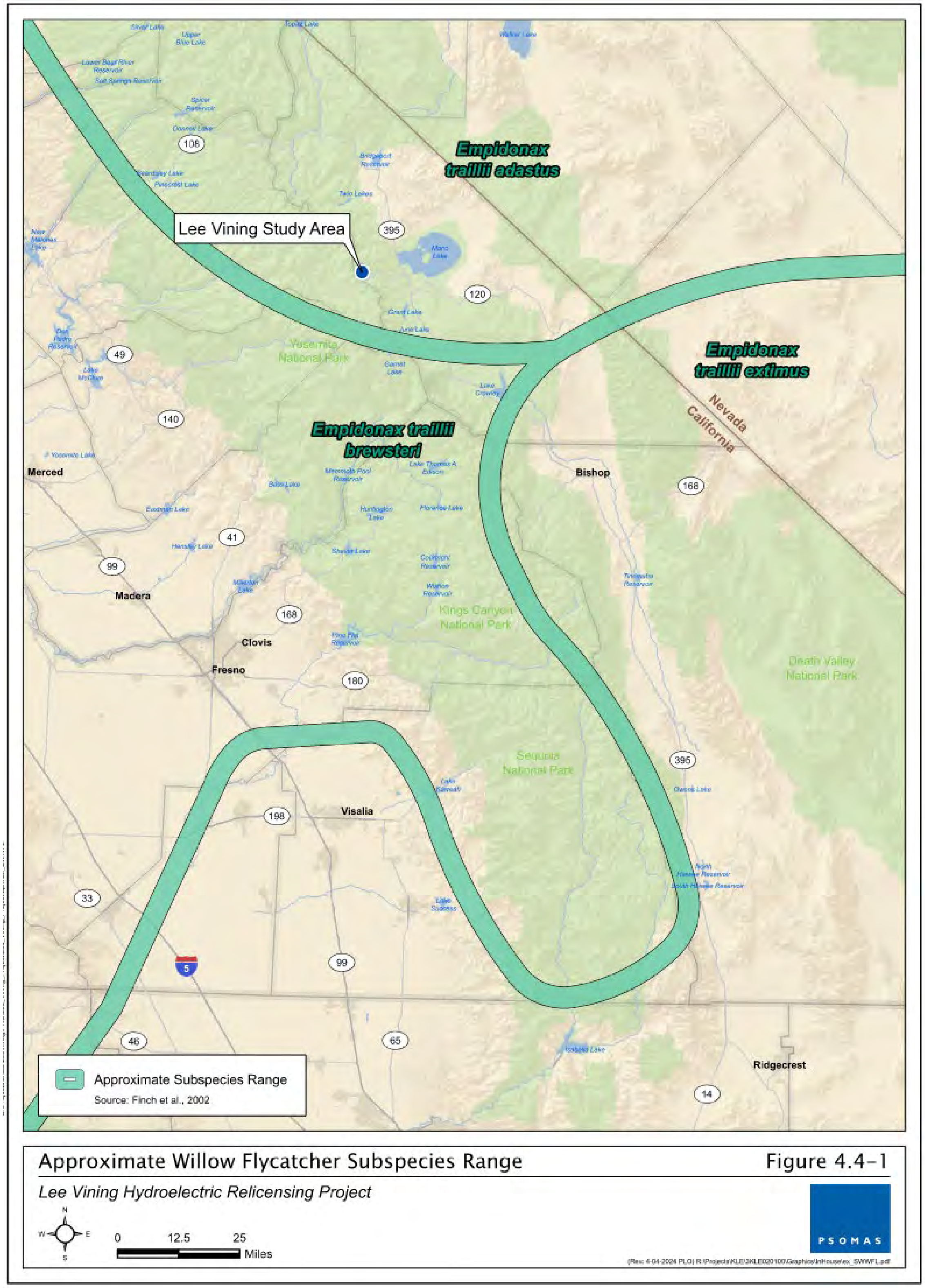
The willow flycatcher (*Empidonax traillii*) is a widespread species that breeds across much of the United States. In California, there are three subspecies of breeding willow flycatchers: southwestern willow flycatcher (*E. t. extimus*), little willow flycatcher (*E. t. brewsteri*), and Great Basin willow flycatcher (*E. t. adastus*). The State of California lists the species as Endangered when nesting; therefore, all three subspecies of the willow flycatcher species that occur in California are protected under the California Endangered Species Act (ESA). The federal government lists only the southwestern willow flycatcher subspecies as Endangered under the federal ESA.

The three subspecies generally occur in different regions across California with the southwestern subspecies occurring south of the Project, the little subspecies occurring west of the Project, and the Great Basin subspecies occurring north and east of the Project. The current known ranges of the three subspecies adjacent to the Willow Flycatcher Study Area are shown on Figure 5.4-1, as taken from the *Final Recovery Plan for Southwestern Willow Flycatcher* (Finch et al., 2002) and reinforced in the *2017 Southwestern Willow Flycatcher 5-Year Review* (USFWS, 2017).

Southwestern willow flycatchers generally tend to nest in central and southern California sites, but there are confirmed nesting records for the southwestern willow flycatcher as far north as Pleasant Valley in Inyo County (CDFW, 2022). The other two subspecies migrate through the southwestern willow flycatcher range and continue northward to their breeding ranges. The higher elevation sites along the Sierra Nevada range and into the northwestern United States tend to have little willow flycatchers.

In California, the little willow flycatcher occurs in wet meadows and montane riparian habitats from 2,000 to 8,000 feet amsl in elevation and it is a common migrant at lower elevations, primarily in riparian habitats, throughout the state exclusive of the north coast (Zeiner et al., 1990).

Sightings documented in the riparian areas of the Great Basin Desert on the eastern side of the Sierra Nevada and north of the City of Independence are most likely Great Basin willow flycatcher (Unitt, 1987). Specimens taken from northern Inyo and Mono Counties all proved to be of the Great Basin willow flycatcher subspecies (Unitt, 1987). There have been no recorded nesting occurrences for willow flycatcher reported in the literature. The known reported occurrences in the CNDDB are mapped in Figure 5.4-1.



Source: Finch et al., 2002

Figure 5.4-1. Approximate Willow Flycatcher Subspecies Range Maps in the Vicinity of the Project.

Collectively, all the willow flycatcher subspecies inhabit extensive thickets of low, dense willow (*Salix* spp.) vegetation on the edge of wet meadows, ponds, or backwaters between 2,000 and 8,000 feet amsl (CDFW, 2022). In California, the habitat requirements for breeding willow flycatchers include aboveground water, shrub cover, and dense stands of willow vegetation (CDFG, 1990). The species is associated with willow vegetation that has dense foliage for nesting and cover (Whitmore, 1977; Stafford and Valentine, 1985; Flett and Sanders, 1987). Suitable nesting habitat is also associated with willow vegetation that is at least 4.9 feet tall to provide sufficient foliage cover above nests, which are usually placed about 3 feet above the ground (Sanders and Flett, 1989). Of the three subspecies in California, the southwestern willow flycatcher has the most detailed habitat information published because it is federally listed, but the habitat parameters are applicable to all three subspecies. The following habitat parameters are written for the southwestern subspecies, but the same features are consistent across all three subspecies in California.

The southwestern willow flycatcher occurs in dense riparian habitat along rivers, streams, and other wetlands. Shrubs or trees used for nesting range from 6 feet to 98 feet in height; lower stature thickets tend to occur at higher elevation sites, while taller stature thickets occur at middle and lower elevations (Finch et al., 2002). Typically, southwestern willow flycatchers nest in thickets of trees and shrubs 13 to 23 feet or greater in height, with a dense understory and a high percentage of canopy cover (USFWS, 1995). Nest sites are typically composed of a riparian patch with dense vegetation in the interior or an aggregate of dense patches interspersed with openings. The dense patches are often interspersed with small openings, open water, or small areas of shorter/sparse vegetation that create a mosaic of habitat that is not uniformly dense (Finch et al., 2002). In almost all cases, slow-moving or still surface water and/or saturated soil is present during wet or non-drought years (Finch et al., 2002). Where flycatchers occur along moving streams, those streams tend to be of relatively low gradient (i.e., slow-moving with few or widely spaced riffles). However, hydrological conditions in the southwest can be highly variable both within a season and between years; water availability at a site may range from flooded to dry over the course of a breeding season or year to year (Sogge et al., 2010). Plant species composition of low- to mid-elevation sites range from monotypic stands to mixtures of broadleaf trees and shrubs including willow, cottonwood (*Populus* sp.), coast live oak (*Quercus agrifolia*), ash (*Fraxinus* sp.), alder (*Alnus* sp.), blackberry (*Rubus* sp.), and nettle (*Urtica* sp.) (Finch et al., 2002). They can also nest in riparian habitats dominated by a mix of native and introduced species, such as Russian olive (*Elaeagnus angustifolia*) and tamarisk (*Tamarix* sp.), or in monotypic stands of these introduced species; however, southwestern willow flycatchers rarely nest in giant reed (*Arundo donax*) (Finch et al., 2002). Overall, nest site selection appears to be driven more by plant structure than species composition (Sogge et al., 2010).

Breeding territory size typically ranges from 0.25 acre to 5.7 acres, with most in the range of 0.5 to 1.2 acres (Sogge et al., 2010; Finch et al., 2002). Based on a range-wide review, a patch has an average of 2.7 acres of dense riparian vegetation for each flycatcher territory (Finch et al., 2002). Southwestern willow flycatchers are generally not found nesting in confined floodplains where only a single narrow strip of riparian vegetation less than approximately 33 feet wide develops, although they may use such vegetation during migration or if it extends out from larger patches (Finch et al., 2002). The structure and size of willow canopy is consistent with data on the collective three subspecies.

Several authors have suggested that willow flycatchers prefer meadows where the willow cover is divided into clumps separated by openings, rather than solid masses of willow (Finch et al., 2002; Sanders and Flett, 1989). On average, willow flycatcher territories in the Sierra Nevada contain at least 0.5 acre of riparian shrub cover, usually dominated by willow (Sanders and Flett, 1989). The shrub layer is rarely continuous. In the Sierra Nevada, willow flycatchers have nested in meadows as small as 1 acre (Stafford and Valentine, 1985) and as large as several hundred acres (Flett and Sanders, 1987). Tree cover that is too dense (greater than 50 percent canopy cover) also creates unsuitable conditions for willow flycatcher nesting (CDFG, 1990).

5.4.2. Habitat Assessment

Lee Vining Creek flows east into Mono Lake. Within the Willow Flycatcher Study Area, the stream varies from some reaches that are narrow, incised, and fast moving to reaches of slow-moving waters with small pools to reaches with broad meadows.

The Willow Flycatcher Study Area included in this habitat assessment consists of the reach of Lee Vining Creek between Poole Powerhouse and the reservoir at the LADWP Diversion Dam, which is approximately 5 miles long. Willow vegetation is generally present within the Willow Flycatcher Study Area; however, it is only dominant between the Aspen Campground and the Lower Lee Vining Campground, a reach of approximately 2 miles. Between the Aspen Campground and the Lower Lee Vining Campground, willow vegetation occurs as a low to mid-range canopy with height range from 6 to 20 feet. The dominant willow species found along this reach is narrowleaf willow (*Salix exigua*). Other riparian tree species that occur in the same mid-range vegetative structure include cottonwood and alder. A sparse overstory of pine trees including Jeffrey pine (*Pinus jeffreyi*), lodgepole pine (*Pinus contorta*), and singleleaf pinyon (*Pinus monophylla*) are present with a dense understory of various shrub species including Wood's rose (*Rosa woodsii*), currant (*Ribes* sp.), and snowberry (*Symphoricarpos* sp.). In the adjacent meadows and dry washes, Souler's willow (*Salix scouleriana*) is the dominant species. Great Basin mixed scrub and conifer forest borders the riparian vegetation.

West (upstream) of the Aspen Campground and east (downstream) of Lower Lee Vining Creek Campground, the vegetation along Lee Vining Creek is dominated by a dense overstory of upland montane conifers (pine trees) with willow and other riparian trees occurring in the understory with a substantially decreased density.

The closest recorded willow flycatcher nest site (not identified to subspecies) is approximately 4 miles south of the Project in the Pumice Valley of the Mono Basin region (McCreedy, 2007; CDFW, 2022). Observations of willow flycatcher (not identified to subspecies) occur along Lee Vining Creek in the Willow Flycatcher Study Area, but there are no records of nesting (CDFW, 2022; eBird, 2022; Figure 5.4-1).

The reach of Lee Vining Creek between the Aspen Campground and the Lower Lee Vining Campground supports potentially suitable nesting habitat for willow flycatcher. This reach contains perennial aboveground water with a mosaic of open areas (including riparian floodplains, meadows, or dry washes) among extensive stands of shrubby willow thickets over 5 feet tall, greater than 0.5 acre in size, and without substantial canopy cover of pine trees.

The reach of Lee Vining Creek west (upstream) from the Aspen Campground has sparse understory vegetation and high canopy cover (over 75 percent cover) from the conifers in the overstory. Although there are willow, cottonwood, and alder trees with a sparse understory of Wood's rose within this reach, the dense overstory canopy of conifer trees makes these portions of Lee Vining Creek not suitable breeding habitat for willow flycatcher.

5.5. SIERRA NEVADA BIGHORN SHEEP

The Sierra Nevada bighorn sheep is both a federally and state endangered species. On August 5, 2008, the USFWS published the current Final Rule designating approximately 417,577 acres of land as Critical Habitat for the Sierra Nevada bighorn sheep in Tuolumne, Mono, Fresno, Inyo, and Tulare Counties, California (USFWS, 2008). Only a very small portion of the 1997 FERC Project Boundary (less than 1 acre) is within areas mapped as Critical Habitat for Sierra Nevada bighorn sheep. However, this parcel of land where designated Critical Habitat overlaps with the FERC Project Boundary is proposed to be removed from the Project going forward in this DLA (see the Project Lands and Roads [LAND-1] Final Technical Report, which is filed in Volume III of this DLA). In 2007 the USFWS published a recovery plan for the Sierra Nevada bighorn sheep (USFWS, 2007). CDFW is the lead agency implementing plan. The distribution of bighorn sheep is determined by topography, visibility, water availability, and forage quality and quantity. Typical Sierra Nevada bighorn terrain is rough, rocky, and steep. It also encompasses alpine meadows, summit plateaus, and meadows fed by springs within escape terrain. In its range they tend to prefer open un-cluttered areas where they can use their keen eyesight to detect and avoid predators, such as mountain lion (CDFW, 2024).

The Project occurs at the boundary of two established herds: the Warren Mountain Herd is to the north of Tioga Pass and the Gibb Mountain Herd is to the south of Tioga Pass (CDFW, 2024). Sheep scat was observed incidentally in two locations during the pedestrian portion of the wildlife surveys: approximately 100 feet east of Tioga Lake and along Saddlebag Lake Road approximately 500 feet northeast of Sawmill Campground. Evidence of sheep (such as scat) was expected to be observed during the survey. Because of the generally arid nature of high montane habitats, the presence of wet meadows and lakes would be expected to draw bighorn sheep into the study area to take advantage of these water resources.

6.0 CONSULTATION SUMMARY

In preparation to file the Pre-Application Document (PAD) and Notice of Intent (NOI) filed in August 2021, SCE hosted Terrestrial and Botanical Technical Working Group (TWG) meetings on January 27, February 24, April 7, and May 26, 2021. These TWG meetings resulted in study requests from Stakeholders to address questions regarding wildlife resources. Notes and materials from these meetings are available on SCE's Project website (www.sce.com/leevining).

SCE filed draft Study Plans with the PAD and NOI on August 12, 2021, to address issues discussed with the TWGs. The Stakeholder comment period for these filings ended on January 18, 2022. SCE reviewed all comments received and drafted Revised Technical Study Plans, which were distributed to the TWGs on February 18, 2022, for another 30-day review period. Stakeholder comments received on the Revised Technical Study Plans were reviewed and incorporated as appropriate in the Final Technical Study Plans, which were filed with FERC on April 25, 2022 (SCE, 2022). Extensive coordination regarding Yosemite toad survey timing and methods occurred between SCE, Psomas, USFS, U.S. Fish and Wildlife (USFWS), California Department of Fish and Wildlife (CDFW), and National Park Service (NPS) before and during survey implementation in 2022 and 2023. Coordination efforts consisted of several calls, in-person meetings, and emails. A summary of the communications are as follows:

- April through June 2022: Coordination with USFWS and CDFW on Yosemite toad survey timing for 2022 season.
- June, July, and August 2022: Discussions/summaries of 2022 survey findings as they occurred after each field event with CDFW and USFWS.
- January 2023: Planning call for 2023 field efforts with CDFW and USFWS.
- March through July 2023: Coordination with USFS, CDFW, and NPS on DNA sample collection, use of existing agency permits for DNA collection, and survey timing for 2023 season.
- August and September 2023: NPS collected Yosemite toad DNA samples and corresponded about probable results timeline.

Ultimately, the agencies and SCE were in full agreement with methods and survey timing for Yosemite toad surveys. A complete compilation of email correspondence, summaries of phone conversations, and in-person meeting summaries will be filed with the Draft License Application's Consultation Log.

Draft Technical Reports were distributed to TWGs on April 16, 2024, for a 60-day comment period. On May 14, 2024, SCE held a public meeting at the Lee Vining Community Center to discuss the draft reports and study findings to date. On June 12, 2024, at the end of the comment period, comments were received from USFS, USFWS, CDFW, State Water Resources Control Board, and Mono Lake Committee. All comments received related to Study TERR-2 are included in Table 6-1 below. Responses to Stakeholder comments on the 2023 Draft Technical Report are included in Table 1-1 in Volume III of the DLA.

Table 6-1. Consultation Summary—Response to Comments

Comment Number	Entity	Date/Forum	Comment	SCE Response
1	CDFW	6/29/2022 Phone discussions	Discussion about survey results and field observations	The results and observations discussed are included in the Terrestrial Wildlife Technical Memorandum.
2	CDFW	7/25/2022 Phone discussion	Discussion about survey results and field observations	The results and observations discussed are included in the Terrestrial Wildlife Technical Memorandum.
3	CDFW	12/12/2022 Virtual meeting	Discussion about 2022 field observations and 2023 Study Plan revisions and Study Area expansion.	Revised study methods were implemented as discussed as was the expanded Study Area.
4	CDFW	12/17/2022 Email communications	CDFW recommends applying for the USFWS Take Permit and the CDFW Scientific Collecting Permit necessary for collecting of DNA samples of ESA/CESA listed species.	Project team partnered with Yosemite National Park biologist who holds the necessary permits to collect DNA samples of the target species. (response updated August 2024)
5	USFWS, CDFW	1/6/2023 Virtual meeting	Discussion about 2023 Study Plan revisions and Study Area expansion.	Revised study methods were implemented as discussed, as was the expanded Study Area.
6	USFS	2/9/2023 In-person discussion	Discussions about 2022 field observations and 2023 study methods.	Study methods were implemented as discussed.
7	CDFW	7/27/2023 Email communications	Confirmation of interest and contact information for submitting DNA sample for large carnivore species analysis.	Project team has a sample to submit for CDFW analysis.
8	CDFW	8/8/2023 In-person discussion	Confirmed interest in large carnivore sample for DNA analysis.	Delivered sample for analysis at CDFW office.
9	CDFW	11/29/2023	Large carnivore DNA analysis complete.	The species identified has already been documented by other survey methods and is included in the wildlife compendium of the Terrestrial Wildlife Technical Report.

Comment Number	Entity	Date/Forum	Comment	SCE Response
10	USFS	1/12/2024 In-person discussion	Discussions about survey results and field observations	The details discussed are provided in the Terrestrial Wildlife and Yosemite Toad Technical Reports.

Bd = *Batrachochytrium dendrobatidis;* CDFW = California Department of Fish and Wildlife; CESA = California Endangered Species Act; CNDDB = California Natural Diversity Database; DLA = Draft License Application; FERC = Federal Energy Regulatory Commission; ft = feet; FWS = Fish and Wildlife Service; O&M = operation and maintenance; PAD = Pre-Application Document; SCE = Southern California Edison; TWG = Technical Working Group; USFS = U.S. Forest Service; VES = visual encounter survey; YOTO = Yosemite Toad

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APPENDIX A
YOSEMITE TOAD TECHNICAL REPORT

Southern California Edison
Lee Vining Hydroelectric Project
(FERC Project No. 1388)

Yosemite Toad
Final Technical Report

September 2024

SOUTHERN CALIFORNIA EDISON

Lee Vining Hydroelectric Project
(FERC Project No. 1388)

YOSEMITE TOAD
FINAL TECHNICAL REPORT

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

September 2024

Support from:

PSOMAS

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LIST OF ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
FERC	Federal Energy Regulatory Commission
GPS	global positioning system
O&M	operation and maintenance
Project	Lee Vining Hydroelectric Project (FERC Project No. 1388)
SCE	Southern California Edison
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

This Technical Report transmits findings of literature research and field studies specific to the Yosemite toad (*Anaxyrus canorus*) in association with the *General Wildlife Resources Survey (TERR-2) Technical Study Plan* (Study Plan) in support of Southern California Edison (SCE) Company's Lee Vining Hydroelectric Project (Project) relicensing effort, Federal Energy Regulatory Commission (FERC) Project Number 1388. The Final Technical Study Plan was filed with FERC in April 2022 (SCE, 2022).

1.1. Project Description and Location

SCE is the licensee, owner, and operator of the Project. The Project is located on the eastern slope of the Sierra Nevada along the eastern boundary of Yosemite National Park, and approximately 9 miles upstream from Mono Lake and the town of Lee Vining in Mono County, California (see Figure A-1 in Attachment A). The 11.25-megawatt Project is situated on Lee Vining Creek, largely within the Inyo National Forest managed by the U.S. Forest Service (USFS); the remaining Project lands are privately owned.

The Project consists of three dams and reservoirs, an auxiliary dam, a flowline consisting of a pipeline and penstock, and a powerhouse. These features and facilities all occur within a defined boundary, hereafter referred to as the FERC Project Boundary. SCE currently operates the Project under a 30-year license issued by FERC on February 4, 1997. The license will expire January 31, 2027. SCE is seeking a license renewal to continue operation and maintenance (O&M) of the Project.

1.2. Purpose and Need

The purpose of this study is to provide supplemental information on the occurrence and distribution of the Yosemite toad, a species listed as threatened under the federal Endangered Species Act. The data in this study are needed by SCE, FERC, federal and state resource agencies, and interested Stakeholders to determine the potential for Project O&M activities to affect local populations of the species. Further, the data from this study are needed to help the U.S. Fish and Wildlife Service (USFWS) analyze and understand the potential Project effects to Yosemite toad and how those effects should be addressed.

1.3. Study Objectives

The study objectives identified in the Study Plan are to:

- Determine persistence of known Yosemite toad populations within the Project Area and identify active breeding locations in areas subject to potential effects by the Project's routine O&M.
- Determine interactions between dispersed recreational use and breeding habitat for Yosemite toad.

- Develop sufficient data for informal and formal consultation needs for USFWS with respect to the Yosemite toad.

1.4. EXISTING CONDITIONS

1.4.1. TOPOGRAPHY

The area surrounding the FERC Project Boundary is within the Cascade-Sierra Mountains physiographic province, sculpted by glaciers and characterized by rounded granite outcrops, U-shaped valleys, glacial lakes within glacial till deposits, and talus slopes (FERC, 1992). Within Mono Basin, elevations range from over 13,000 feet (3,960 meters) above mean sea level (amsl) along the Sierra Nevada peaks to approximately 6,400 feet (1,950 meters) amsl at the shoreline of Mono Lake (Millar and Woolfenden, 1999), with the basin floor generally below 7,000 feet (2,130 meters) (Vorster, 1985).

The three Project reservoirs include Saddlebag Lake, Tioga Lake, and Ellery Lake. Saddlebag Lake lies within a glacially carved U-shaped valley. Steep, 1,200-foot (365 meter) ridges bound the lake on the east and west sides, and talus slopes form most of the rock shoreline (FERC, 1992). Tioga Lake lies in a valley on glacial till with a scattering of rounded rock outcrops (FERC, 1992). Ellery Lake has a rocky shoreline with several areas of talus slopes entering the lake from the steep terrain along the southern margin.

Lee Vining Creek drains the eastern Sierra Nevada crest and Glacier Creek is a tributary that flows from Tioga Lake. Mount Dana (13,053 feet [3,978 meters] amsl), the highest peak in Mono Basin, and several other peaks above 12,000 feet (3,560 meters) amsl rim the watershed boundary (Jones & Stokes Associates, 1993). Lee Vining Creek drops precipitously down the eastern Sierra escarpment from Ellery Lake at 9,500 feet (2,895 meters) amsl to Poole Powerhouse at 7,825 feet (2,385 meters) amsl (Jones & Stokes Associates, 1993).

The 1992 Final Environmental Assessment (FERC, 1992) for the Project describes Lee Vining Creek as having three distinct stream reaches differentiated by habitat and channel morphology between Saddlebag Dam and Ellery Lake:

- Lee Vining Creek from Saddlebag Dam to the confluence of Slate Creek (an unimpaired tributary to Lee Vining Creek). This reach is 1,258 feet (383 meters) long and, as of 1992, reportedly comprised moderate gradient riffles of various widths and a small amount of cascade habitat (approximately 85 percent riffle, approximately 10 percent cascade).

- Lee Vining Creek from the confluence of Slate Creek to the confluence of Glacier Creek. This reach is 10,750 feet (3,280 meters) long and, as of 1992, reportedly comprised two low gradient meadow sections, totaling 7,880 feet (2,400 meters) in stream length, separated by a steeper gradient canyon of 2,870 feet (875 meters) stream length.

- Lee Vining Creek from the confluence of Glacier Creek to Ellery Lake. This reach is 2,406 feet (733 meters) long, is wide and relatively shallow, and as of 1992, reportedly comprised riffle, run, and cascade habitat with cobble and gravel substrate.

1.4.2. Vegetation Types

Thirteen vegetation communities and other areas were identified in 2022 during the botanical survey conducted for the Project: alpine grasses and forbs, barren, developed, lakeshore, lodgepole pine, mixed conifer–fir, non-vegetated, quaking aspen, wet meadow, whitebark pine–alpine grasses and forbs, whitebark pine–lodgepole pine, water, and willow.

1.4.2.1. Alpine Grasses and Forbs

This vegetation community consists of a variety of native and non-native annual and perennial grasses and forbs, with few scattered shrubs or trees. The habitat is drier than the wet meadow vegetation type, described below. Species composition varies by site, but includes rough bent grass (*Agrostis scabra*), reflexed rockcress (*Boechera retrofracta*), abrupt-beaked sedge (*Carex abrupta*), sagebrush sedge (*Carex filifolia* var. *erostrata*), squirreltail wildrye (*Elymus elymoides* var. *elymoides*), reduced buckwheat (*Erodium nudum* var. *deductum*), pale fragrant monardella (*Monardella odoratissima* ssp. *pallida*), Sierra beardtongue (*Penstemon heterodoxus* var. *heterodoxus*), Newberry's beardtongue (*Penstemon newberryi*), and compact spear phacelia (*Phacelia hastata* var. *compacta*).

1.4.2.2. Barren

This landcover consists of exposed bedrock, cliffs, and scree slopes with limited vegetation. Areas with soil development are mapped as non-vegetated.

1.4.2.3. Developed

Developed areas are unvegetated and consist of buildings, paved roads, and parking lots.

1.4.2.4. Lakeshore

The area around the Saddlebag Lake has a fluctuating shoreline that is dependent on climatic conditions (e.g., rainfall, snowpack) and water releases. During the July and August 2022 botanical surveys, water levels in Saddlebag Lake were low and much of the lakeshore was exposed. This area contained scattered vegetation such as mountain bent grass (*Agrostis humilis*), rough bent grass, and abrupt-beaked sedge.

Variable water levels within Saddlebag Lake create a ring of predominantly unvegetated rock and soil surrounding the reservoir. Reservoir shorelines are typically underlain by bedrock and other resistant materials associated with coarse-grained talus and rockfall. Less frequently occurring areas underlain by finer-grained materials show some terracing from wind wave erosion, particularly along the north shore where slopes are more gradual.

Tioga Lake maintains a more stable water level with highly vegetated shorelines occupied by stable large woody debris. There were no signs of shoreline retreat in vegetated areas due to wind wave erosion. Shorelines at the southern end of the reservoir near the tributary inlet are underlain by finer-grained materials, but shoreline erosion was not apparent in this area.

Much like Tioga Lake, Ellery Lake maintains a relatively stable water level that limits wind wave erosion within the zone of fluctuation. Much of the shoreline is underlain by resistant material (e.g., talus, rockfall, coarse-grained alluvial fans, and bedrock). Shorelines are typically highly vegetated at and above the waterline and do not show evidence of wind wave erosion.

1.4.2.5. Lodgepole Pine

This vegetation type is dominated by a canopy of lodgepole pine (*Pinus contorta* ssp. *murrayana*). The understory varies but contains species such as sagebrush sedge, fireweed (*Chamerion angustifolium* ssp. *circumvagum*), western prickly gooseberry (*Ribes montigenum*), northern goldenrod (*Solidago multiradiata*), and Fendler's meadow-rue (*Thalictrum fendleri*).

1.4.2.6. Mixed Conifer–Fir

This vegetation type is dominated by a canopy of Jeffrey pine (*Pinus jeffreyi*) and white fir (*Abies concolor*). The understory contains species such as mugwort (*Artemisia douglasiana*), silver wormwood (*Artemisia ludoviciana*), big sagebrush (*Artemisia tridentata*), bush chinquapin (*Chrysolepis sempervirens*), and roundleaf snowberry (*Symphoricarpos rotundifolius*).

1.4.2.7. Non-vegetated

This landcover lacks vegetation or has sparse vegetation. It includes the exposed slope on the back of Saddlebag Dam as well as larger dirt roads and graded areas. Small dirt trails found in other areas were not mapped separately from the surrounding vegetation type.

1.4.1. Quaking Aspen

This vegetation type is dominated by a canopy of quaking aspen (*Populus tremuloides*) with lesser amount of gray-leafed Sierra willow (*Salix orestera*) and bitter cherry (*Prunus emarginata*).

1.4.1.1. Wet Meadow

This vegetation type is dominated by a variety of sedges and rushes such as abrupt-beaked sedge, Mexican rush (*Juncus mexicanus*), Parry's rush (*Juncus parryi*), and Sierra woodrush (*Luzula orestera*). Other species include primrose monkeyflower (*Erythranthe primuloides*), Sierra gentian (*Gentianopsis holopetala*), ranger's button

(*Angelica capitellata*), and Pacific onion (*Allium validum*). The habitat is wetter than the alpine grasses and forbs vegetation type, described above.

1.4.1.2. Whitebark Pine–Alpine Grasses and Forbs

This vegetation type is characterized by the presence of whitebark pine (*Pinus albicaulis*). A relatively small amount of lodgepole pine or limber pine (*Pinus flexilis*) is also present. The understory contains species typical of the alpine grasses and forbs and the lodgepole pine vegetation types.

1.4.1.3. Whitebark Pine–Lodgepole Pine

This vegetation type contains a mix of whitebark pine and lodgepole pine. A relatively small amount of lodgepole pine or limber pine is also present. The understory contains species typical of the alpine grasses and forbs and the lodgepole pine vegetation types.

1.4.1.4. Water

Water occurs within all three Project lakes and within Lee Vining Creek and associated tributaries. This landcover is considered unvegetated.

1.4.1.5. Willow

The willow vegetation type is dominated by various shrubby willow species, depending on location. The willow density is generally high with few understory species. Common species include Sierra willow (*Salix eastwoodiae*), narrow-leaved willow (*Salix exigua*), Jepson's willow (*Salix jepsonii*), and gray-leafed willow (*Salix orestera*). Co-occurring species may include fireweed, American dogwood (*Cornus sericea*), shrubby cinquefoil (*Dasiphora fruticosa*), and Wood's rose (*Rosa woodsia*).

2.0 SPECIES BACKGROUND

Most of the species description below was taken from the March 3, 2020, Biological Opinion issued by the USFWS to Yosemite National Park for Wilderness Pack Stock Use (USFWS, 2020). Portions of this description have been updated per more recent findings on the species.

2.1. LISTING STATUS

The Yosemite toad was listed as a threatened species on April 29, 2014, under the Endangered Species Act of 1973 (USFWS, 2014). Critical Habitat was designated for this species on August 26, 2016, and occurs in Alpine, Fresno, Inyo, Madera, Mariposa, Mono, and Tuolomne Counties (USFWS, 2016). The entire extent of the FERC Project Boundary, including and upstream from Rhinedollar Dam, is located within this designated Critical Habitat. The Yosemite toad population in the Project Area are included in Critical Habitat Unit 5, which includes portions of Mono, Mariposa, Madera, and Tuolumne Counties. This unit is currently occupied and contains the physical or biological features essential to the conservation of the species. This unit contains a high concentration of Yosemite toad breeding locations, represents a variety of habitat types utilized by the species, has high genetic variability, and, due to the long-term occupancy of this unit, is considered an essential locality for Yosemite toad populations. The Tuolumne Meadows / Cathedral unit is an essential component of the entirety of this critical habitat designation because it provides continuity of habitat between adjacent units, as well as providing for a variety of habitat types necessary to sustain Yosemite toad populations under various climate regimes.

Primary Constituent Elements

As part of the species listing under the Endangered Species Act, USFWS identified Primary Constituent Elements of Yosemite toad habitat (USFWS, 2016). Per the USFWS documentation, the Primary Constituent Elements specific to the Yosemite toad physical or biological features and habitat characteristics required to sustain the species' life history processes are composed of:

1. Aquatic breeding habitat.
    a. This habitat consists of bodies of fresh water, including wet meadows, slow-moving streams, shallow ponds, spring systems, and shallow areas of lakes, that:
        i. Are typically (or become) inundated during snowmelt;
        ii. Hold water for a minimum of 5 weeks, but more typically 7 to 8 weeks; and
        iii. Contain sufficient food for tadpole development.
    b. During periods of drought or less-than-average rainfall, these breeding sites may not hold surface water long enough for individual Yosemite toads to complete metamorphosis, but they are still considered essential breeding habitat because they provide habitat in most years.
2. Upland areas.
    c. This habitat consists of areas adjacent to or surrounding breeding habitat up to 0.78 mile (1.26 kilometers) in most cases (that is, depending on surrounding landscape and dispersal barriers), including seeps, springheads, talus and boulders, and areas that provide:
        i. Sufficient cover (including rodent burrows, logs, rocks, and other surface objects) to provide summer refugia;
        ii. Foraging habitat;
        iii. Adequate prey resources;
        iv. Physical structure for predator avoidance;

v. Overwintering refugia for juvenile and adult Yosemite toads;

vi. Dispersal corridors between aquatic breeding habitats;

vii. Dispersal corridors between breeding habitats and areas of suitable summer and winter refugia and foraging habitat; and/or

viii. The natural hydrologic regime of aquatic habitats (the catchment).

d. These upland areas should also maintain sufficient water quality to provide for the various life stages of the Yosemite toad and its prey base.

2.2. DESCRIPTION

The Yosemite toad was originally described as *Bufo canorus* by Camp (1916). Frost et al. (2006) divided the paraphyletic[1] genus *Bufo* into three genera, assigning the North American toads, including the Yosemite toad, to the genus *Anaxyrus*.

The Yosemite toad is a moderately sized amphibian ranging in size from 1.2 to 2.8 inches (Lannoo, 2005; Dodd, 2013). Juveniles have a thin mid-dorsal stripe that disappears or is reduced with age, a process which occurs more quickly in males (Lannoo, 2005; Dodd, 2013). The toad's iris is dark brown with gold iridophores[2] (Dodd 2013), and it has large parotid glands that are rounded to slightly oval in shape, situated at a distance less than one gland-width apart. Male Yosemite toads are smaller than females, with less conspicuous warts (Stebbins, 1951; Stebbins, 2003; Lannoo, 2005; Stebbins and McGinnis, 2012; Dodd, 2013; Green et al., 2014). Males have a nearly uniform dorsal coloration of yellow green, olive drab, or darker greenish brown, whereas females have black spots or blotches edged with white or cream set against a gray, tan, or brown background color (Jennings and Hayes, 1994; Lannoo, 2005; Dodd, 2013; Green et al., 2014).

Yosemite toad tadpoles exhibit a uniform black coloration, concealing their coiled intestines from view. The snout, when viewed in profile, appears blunt and rounded from above (Karlstrom and Livezey, 1955; Stebbins, 1951, 2003). The dorsal fin of Yosemite toad tadpoles is transparent and marked with a few relatively large branched melanophores, with the tail reaching its greatest depth about midway along its length (Karlstrom and Livezey, 1955). Tadpoles measure between 0.39 to 1.46 inches (10 to 37 millimeters) in length and develop two upper and three lower rows of labial teeth (or denticles), with a gap in the first upper row (Stebbins, 1951, 2003; Karlstrom and Livezey, 1955).

Yosemite toad eggs are laid in two strings (one from each ovary), appearing as individual strands, a double strand, or variously folded to form a radiating network or a cluster of four to five eggs deep (Karlstrom and Livezey, 1955; Kagarise Sherman, 1980). Each strand is enveloped by two jelly layers, with an outer thinner envelope creating a scalloped

[1] A group of animals including a common ancestor and some, but not all, of the descendants.
[2] Iridophores are the cells that are made up of stacks of thin protein plates that function as multilayer reflectors.

casing due to the way the jelly constricts around each egg, and a thicker inner envelope individually surrounding each egg (Karlstrom and Livezey, 1955).

2.3. CURRENT RANGE AND DISTRIBUTION

The Yosemite toad is endemic to the high-elevation Sierra Nevada in California, ranging from the Blue Lakes region north of Ebbetts Pass in Alpine County to just south of Kaiser Pass in the Evolution Lake / Darwin Canyon area in Fresno County (Jennings and Hayes, 1994; Lannoo, 2005; Liang et al., 2010; Liang and Stohlgren, 2011; Stebbins and McGinnis, 2012; Dodd, 2013; Green et al., 2014). Most of the Yosemite toad's range occurs on lands managed by the USFS (72 percent; USFS, 2014) or National Park Service.

2.4. HABITAT AND LIFE HISTORY

Yosemite toads typically inhabit high-elevation wet meadows and lakeshores surrounded by forests or shrublands (Camp, 1916; Lannoo, 2005; Stebbins and McGinnis, 2012; Wang, 2012; Dodd, 2013). The toad is capable of successfully utilizing both large and small patches of potential habitat but prefers sites with less variation in mean annual temperature (Liang, 2010). Breeding and rearing takes place at the time of snow melt (Psomas field observation) and after snowmelt (generally May to June) in shallow warm waters of primarily wet meadows, but also small permanent and ephemeral ponds, lake edges, and slow-moving streams (Karlstrom and Livezey, 1955; Kagarise Sherman and Morton, 1993; Martin, 2008). Liang's (2010) study in the Sierra National Forest highlighted that breeding sites were likely to be in seasonal waters with warmer water temperatures, facing a southwesterly direction. Knapp (2005) in Yosemite National Park associated breeding occurrence with high elevations and meadow shorelines, while Roche et al. (2012) found positive correlations between annual occupancy and annual precipitation. In a comprehensive 8-year study across 14 watersheds (2002 to 2009), Brown et al. (2012) discovered that only 30 percent of 61 breeding sites were consistently occupied, and most watersheds had 1 to 2 consistently occupied sites, with others occupied intermittently. These unoccupied sites remain important because they are often reoccupied in later years. The reasons for these patterns, whether due to small population sizes or variations in habitat and environmental conditions, remain unclear (Brown et al., 2012).

Males emerge first from overwintering sites and form breeding choruses (Kagarise Sherman, 1980; Kagarise Sherman and Morton, 1984). Breeding occurs over a few days to a few weeks, with females leaving breeding sites before males (Kagarise Sherman, 1980; Brown et al., 2012). Females lay a large clutch, sometimes 1,000 to 2,000 eggs in a single season, and may either split their clutches or lay them communally with other toads (Kagarise Sherman, 1980; Brown et al., 2015). Clutches are laid in shallow water (1.5 to 3 inches), along the edges of small pools or flooded meadows (Kagarise Sherman, 1980; Roche et al., 2012). Eggs hatch in 4 to 15 days; tadpoles metamorphose in 40 to 50 days and do not overwinter (Jennings and Hayes, 1994; Brown et al., 2014). The Yosemite toad is a late-maturing and long-lived species, known to live up to 18 years (Kagarise Sherman and Morton, 1984). Females first breed when they are 4 to 6 years of age (Kagarise Sherman, 1980). Most adult males appear to breed annually, whereas females may skip years between breeding (Kagarise Sherman, 1980; Brown et al., 2012).

Adults are difficult to find outside of the breeding season, so less is known about non-breeding habitat, where they spend the majority of their lives. One study conducted in subalpine forest in the Stanislaus National Forest found that toads dispersed upslope, generally along ephemeral streams, seeps, or springs with lush vegetation (Martin, 2008). Another study conducted in a drier habitat in the Sierra National Forest demonstrated that toads extensively used upland habitats and were found most often in burrows, both shallow and underground, but also under logs, rocks, and tree stumps (Liang, 2010). Martin (2008) reported the mean total home range for the Yosemite toad in the Stanislaus National Forest Study Area was 2.09 acres (8,457.93 square meters). In the Sierra National Forest, Yosemite toads moved up to 3,780 feet (1,260 meters) from their breeding pools, with a mean distance of 810 feet (270 meters) (Liang, 2013). Morton (1981) reported several female Yosemite toads 2,250 feet (750 meters) from the nearest breeding pools. On the Stanislaus National Forest, Martin (2008) reported maximum dispersal distances for Yosemite toads at 1,973 feet (657.44 meters) from breeding pools to upland foraging habitat; however, most Yosemite toads observed traveled less than 750 feet (250 meters).

Martin (2008) found that this species conducts much of its post-reproductive activity at night and that many of the long-range migrations took place nocturnally. Most of the longer-distance movements occur in the 2 months after the breeding season. Additionally, there appear to be some sex-specific differences in non-breeding habitat use and movement: females tend to range further than males (Martin, 2008; Liang, 2010; Morton and Pereyra, 2010). Morton and Pereyra (2010) found that during late July and August at Tioga Pass, females were more likely to move farther upland to rocky hillside habitats and males stayed in lowland meadow habitats near breeding ponds. Adult females appear to spend much of the active season in upland habitats except for the few days spent breeding every 2 to 3 years (Kagarise Sherman, 1980).

To overwinter, toads may use rodent burrows, crevices under rocks and stumps, and root tangles at the base of willows (Davidson and Fellers, 2005; Kagarise Sherman, 1980; Martin, 2008). Some metamorphs appear to overwinter their first year in the terrestrial meadow habitat adjacent to their rearing site but move to more distant terrestrial habitat during mid-summer of their second year (Kagarise Sherman and Morton, 1993; Morton and Pereyra, 2010). Individual Yosemite toads show high fidelity to both breeding meadows and terrestrial habitats (Brown et al., 2012; Kagarise Sherman and Morton, 1984; Liang, 2010).

Detecting Yosemite toads is difficult because of short suitable survey periods for each life stage. Adult males are most easily detected during the short breeding window at snowmelt (1 to 2 weeks). As tadpoles are present for a longer period of time (6 to 8 weeks), they could be easier to find, but again, surveys must be carefully timed. Furthermore, even the breeding meadows and breeding areas within the meadows can be highly variable according to snowpack and management activities. Toads are rarely seen once they disperse into their upland habitats, and thus determining presence or absence is challenging (Brown et al., 2012).

Diet has not been well-characterized, but the toads are thought to be largely ambush predators and consume primarily terrestrial invertebrates during the non-breeding active season (Mullally, 1953). Martin (2008) observed that much of the foraging activity in terrestrial habitats for this species appears to occur at night. Grinnell and Storer (1924) reported stomach contents, including tenebrionid beetles, weevils, large ants, a centipede, and fir needles.

In 1991, Martin analyzed stomach contents of Yosemite toads at various life stages, revealing a diverse range of prey items from six insect orders and two arachnid groups. The data suggested a shift in prey size with body size. Newly metamorphosed toads primarily consumed spider mites and owl flies, while 2-month-old metamorphs shifted to small spiders and chalid wasps. One-year-olds predominantly consumed ants, and adult toads exhibited varied diets. Tadpoles are grazers and highly opportunistic (Grinnell and Storer, 1924). Opportunistic feeding behavior, such as swarming on a dead ground squirrel, has been documented in tadpoles (Martin, 1991). Instances of Yosemite toads feeding on the tadpoles of chorus frogs (*Pseudacris regilla/sierrae*) and predaceous diving beetle (family *Dytiscidae*) larvae have been observed, though the opportunistic nature of these interactions remains unclear (Brown et al., 2015).

2.5. Status and Threats Overall

The species historically inhabited elevations ranging from 4,790 to 11,910 feet (1,460 to 3,630 meters) (Stebbins, 2003), and was most abundant above 8,000 feet (2,438 meters) below permanent snow and ice. Occupancy studies indicate a decline of greater than 50 percent of former sites range-wide (Stebbins and Cohen, 1995; Drost and Fellers, 1996). Current populations are thought to be very small (fewer than 20 adult males). The only long-term, site-specific population study of the Yosemite toad at Tioga Pass Meadow from 1971 to 1991 found a dramatic decline from 258 males entering breeding pools, down to 28 in the early 1980s, with only one found in 1991 (Kagarise Sherman et al., 1993). Within its current range on National Forest lands, breeding is currently found in only 22 percent of watersheds (Brown et al., 2012). The Yosemite toad is imperiled by a variety of factors, especially damage and loss of habitat, livestock grazing, chytrid fungus, and global climate change (Lannoo, 2005; Davidson and Fellers, 2005; Martin, 2008; Green et al., 2014). High meadow habitat quality in the western United States, and specifically the Sierra Nevada, has been degraded by a variety of stressors over the last century (Ratliff, 1985; Vale, 1987).

Because Yosemite toads rely on shallow, ephemeral water, they may be particularly sensitive to even minor effects on their habitat. Drying of meadow systems is one of the more significant changes, primarily because of widespread historic livestock overgrazing (Ratliff, 1985; Menke et al., 1996; Lind et al., 2011; Weixelman et al., 2011; McIlroy et al., 2013). Timber harvest, road construction, and an altered fire regime has introduced additional disturbance pressures to meadows, including tree encroachment. Approximately 33 percent of the toad's current range is within active USFS grazing allotments. Besides degradation of meadow habitat, livestock and recreation (including hikers, pack animals, and vehicles) can directly affect individual toads through trampling, collapse of rodent burrows, and harassment. Breeding toads and metamorphs are particularly vulnerable to such trampling (Martin, 2008).

Although effects of road and trail fragmentation on Yosemite toad populations is unknown, there is evidence that roads and trails reduce Yosemite toad connectivity (Maier, 2018). Diseases, especially chytrid fungus, also play an important role in Yosemite toad population dynamics. Although Yosemite toad individuals appear less prone to epidemic outbreaks than mountain yellow-legged frogs (*Rana sierra/mucosa*) (Green and Kagarise Sherman, 2001; Brown et al., 2015), pathogen prevalence appeared to coincide with recent declines (Fellers et al., 2007; USFWS, 2013). From 2006 to 2011, Dodge and Vredenburg (2012 as cited in USFWS, 2013; Dodge et al., 2023) found infection intensities between 17 and 26 percent, and that juvenile toads were more likely to be infected. In an experimental study, 100 percent of juvenile toads exposed to chytrid fungus became infected and died within 25 days (Lindauer, 2018). Yosemite toads are expected to be vulnerable to a warming climate, but recent genetic research illustrated that the genetic diversity of Yosemite toads in Yosemite National Park may allow for local adaptation to climate change. Maier (2018) identified four main lineages of Yosemite toad in Yosemite National Park and patterns of tadpole development differed between lineages. For example, tadpoles developed faster in one lineage, which may prove advantageous if meadows dry at a faster rate in a warming climate. As the majority of remaining populations are likely small and isolated, they are vulnerable to stochastic environmental events and loss of genetic diversity (USFWS, 2014). Additionally, the Yosemite toad's high fidelity to breeding and non-breeding sites can increase the vulnerability of small populations when individuals return to habitats that are no longer suitable.

3.0 STUDY AREA

The initial Yosemite Toad Study Area was derived from a review of the existing literature. The study area consisted of the known Yosemite toad occupied locations adjacent to the FERC Project Boundary and other potentially suitable breeding habitat areas, based on a review of aerial imagery. These areas included:

- The pool southeast of Saddlebag Lake
- The California Natural Diversity Database (CNDDB)-identified area at the northwest end of Saddlebag Lake
- The inlets at Tioga Lake
- The areas downstream of Tioga Dam along access roads

Based on the initial field observations in early 2022, additional areas of potentially suitable breeding habitat along Lee Vining Creek were added to the survey later in 2022. Figure A-2 in Attachment A shows the area surveyed in 2022 to identify potentially suitable breeding habitat plus the habitat included in the preliminary focused visual encounter surveys. Prior to both the 2022 and 2023 field seasons, the Project team coordinated with the USFWS and the California Department of Fish and Wildlife (CDFW) to prioritize the survey locations. Based on coordination with the agencies, the 2023 Yosemite toad survey field season focused on five regions:

- Northern Saddlebag Lake
- South of Saddlebag Lake
- Upper Lee Vining Creek
- Lower Lee Vining Creek
- Tioga Lake

Figure A-3 in Attachment A shows the prioritized potential breeding habitat included in the focused visual encounter surveys for the 2023 field season. These areas are hereafter referred to as the study area (note: the south of Saddlebag Lake and upper Lee Vining Creek regions share one map page).

The Northern Saddlebag Lake region includes the margins of the northern half of Saddlebag Lake, the northern inlets to the lake coming from Greenstone Lake, and some pools along the northern portion of Greenstone Lake. The south of Saddlebag Lake region includes the two pools south of Saddlebag Lake (supporting a well-established Yosemite toad population), a large pool within the Sawmill Campground, a small meadow located south of the trail into the Sawmill Campground, and a small pool located along a southwestern-facing slope approximately 1,345 feet (410 meters) south of Saddlebag Lake and approximately 1,345 feet (410 meters) northeast of Sawmill Campground. The upper Lee Vining Creek region is composed of a large, elevated meadow complex located downstream from the Slate Creek–Lee Vining Creek intersection. The Lower Lee Vining Creek region is composed of the Lee Vining Creek basin extending downstream from the upper Lee Vining Creek region to the intersection of Lee Vining Creek with the Junction Campground. The Tioga Lake region consist of all potential breeding habitat along the margins of Tioga Lake up to 200 feet (60 meters) out from the FERC Project Boundary, including the major inlets from the south and the minor inlets from the east and west.

4.0 METHODS

The Study Plan details the proposed study area, methods, and schedule to meet the study objectives identified for Yosemite toad (SCE, 2022). As a result of the observations made during the initial field work and additional consultation with the resource agencies, the field data collected was modified and expanded. The revised methods implemented are described below.

4.1. LITERATURE REVIEW

Prior to conducting field surveys, the following sources were reviewed to identify known and other potential areas to survey for Yosemite toad and potentially suitable breeding habitat. The primary sources are listed below; however, the references section of this Technical Report includes the additional literature and databases reviewed for this report.

- Aerial and infrared imagery collected in 2021 for vegetation surveys conducted for existing license requirements;
- Movements and Habitat Use of Yosemite Toads (*Anaxyrus* [formerly *Bufo*] *canorus*) in the Sierra National Forest, California (Liang, 2013);
- Fine-Scale Habitat Characteristics Related to Occupancy of the Yosemite Toad, *Anaxyrus canorus* (Liang, et al., 2017);
- Habitat suitability of patch types: A case study of the Yosemite toad (Liang and Stohlgren, 2011);
- Habitat use by Yosemite toads: life history traits and implications for conservation (Morton and Pereyra, 2010);
- Occurrence data provided by CDFW and USFS biologists;
- iNaturalist;
- *Designation of Critical Habitat for the Sierra Nevada Yellow-Legged Frog, the Northern DPS* [distinct population segment] *of the Mountain Yellow-Legged Frog, and the Yosemite Toad* (USFWS, 2016);
- Decline, Movement and Habitat Utilization of the Yosemite Toad (*Bufo canorus*): An Endangered Anuran Endemic to the Sierra Nevada of California (Martin, 2008); and
- Yosemite Toad Conservation Assessment (Brown, et al., 2015).

4.2. VISUAL ENCOUNTER SURVEYS

Focused visual encounter surveys for Yosemite toad were performed within potential breeding habitat in the study area for 2 consecutive years. Two survey years were performed to document previously unknown breeding locations. Further, the 2022 field season had lower-than-average snowfall.[3] This lack of normal snowfall caused potential breeding ponds to dry out early in the season. The 2023 field season was performed to observe breeding in those ponds and other identified potential breeding areas because 2023 was an above average precipitation year.

Surveys were performed during the daytime starting at least 2 hours after sunrise to coincide with warmer air temperatures and peak toad activity periods. The first survey visit in 2022 (June 1) was determined in cooperation with CDFW and per observations of the snow conditions made by SCE Operations staff. All parties agreed that enough snow

[3] The average snow depth in Tioga Pass during the April measurements (between 1939 and 2023) is 68 inches. The same measurement in March of 2022 was 34 inches (50 percent of average) and in April of 2023 was 144 inches (211 percent of average) (NRCS, 2023).

had melted to potentially allow for toad breeding. The first survey in 2023 (July 6) was determined using similar observation data on the remnant snowpack made by SCE Operations staff. Table 4.2-1 lists the survey dates, the biologist(s) performing the survey, and any study area accessibility issues.

Table 4.2-1. Survey Dates and Study Area Accessibility

Survey Year	Survey Date	Surveying Biologists	Accessibility Notes
2022	June 1–2	Steve Norton, Jonathan Aguayo	Tioga Lake completely thawed. Saddlebag Lake mostly frozen. Northern Saddlebag completely covered in snow. Open water in southern Saddlebag pool was amphibian-accessible.
	June 15–16	Steve Norton, Jason Berkley	Saddlebag Lake completely thawed. Northern Saddlebag no longer covered in snow.
	July 26–27	Steve Norton, Jonathan Aguayo	All areas were accessible.
	August 9–11	Jason Berkley	Upper Lee Vining Creek area added to survey area.
	August 23–24	Steve Norton, Jason Berkley	All areas accessible.
2023	July 6–7	Steve Norton, Sarah Berryman	Ellery Lake thawed. Tioga Lake mostly frozen. Saddlebag Lake Road closed to vehicles; biologists entered on foot. Southern Saddlebag pool covered by snow and not amphibian-accessible. West side of Lee Vining Creek inaccessible to biologists due to high creek flows and snowpack.
	July 13–14	Steve Norton, Sarah Berryman	Saddlebag Lake Road partially plowed. Tioga Lake completely thawed. Saddlebag Lake mostly frozen. Open water amphibian-accessible in southern Saddlebag pool. Western Lee Vining Creek (both upper and lower portions) remained inaccessible to biologists due to high flows.
	July 21–22	Jason Berkley, Sarah Berryman	All of Lower Lee Vining Creek accessible by biologists.
	July 27–28	Jason Berkley	Upper Lee Vining Creek accessible by biologists.
	August 1–2	Jason Berkley, Jonathan Aguayo	All areas accessible.
	August 9–11	Steve Norton, Sarah Berryman	All areas accessible.
	August 23	Steve Norton	All areas accessible.
	September 20–21	Jason Berkley	All areas accessible.
	October 10–11	Steve Norton	Pool south of Saddlebag Lake frozen over.

Survey Year	Survey Date	Surveying Biologists	Accessibility Notes
	October 31–November 1	Jason Berkley	Toga Lake remains thawed, but Ellery Lake now mostly frozen. Recent snow on ground.

The visual encounter surveys consisted of pedestrian, diurnal searches to determine the presence of any species in the *Anaxyrus* genus (hereafter referred to as “toad”). Binoculars were used to directly observe wildlife (amphibian or otherwise) from a distance to minimize potential trampling risk to Yosemite toads. Further, care was taken to not trample sensitive habitat, such as wet meadow areas potentially supporting Yosemite toad tadpoles, subadults, and adults. All wildlife species observed directly or indirectly (including observations of species’ evidence such as scat, footprints, burrows, inactive nests, eggs strings, etc.) were recorded in field notes. Any evidence of significant pedestrian or bicycle traffic observed during the surveys in potential toad breeding habitat was also noted. All life stages of toad were sought during the surveys, including eggs, tadpoles, subadults, and adults. Lake shorelines, stream banks, and relevant habitats were visually and aurally (listening to diagnostic vocalizations) scanned for signs of breeding activities (including egg masses, larval toads, adults, and adult advertisement calls) and for potentially suitable breeding habitat.

Potentially suitable habitat was assessed using the Primary Constituent Elements for habitat as defined by the USFWS and listed in the species description above. Areas matching these criteria were mapped as potentially suitable habitat using global positioning system (GPS)-enabled tablets with high resolution aerial photographs. All toad breeding locations observed were documented using the same tablets. Photographs were taken of each site and associated habitat, and, where possible, photographs of Yosemite toads at all life stages. For parity with relevant data in the CDFW High Mountain Lakes—Amphibian and Reptile Visual Encounter Sheet (CDFW, 2022) and per the potentially relevant habitat elements identified during our literature review, a data dictionary loaded onto a tablet device was utilized to collect observed habitat parameters on each of the potential toad breeding locations during the surveys. A list of the habitat parameters identified was submitted to both CDFW and USFWS for review prior to the second survey year. The subsequent potential habitat characteristics recorded during the surveys are shown in Table 4.2-2. Note that two characteristics (approximate surface area of above ground water observed and median distance from the closest three potential habitats) were calculated after the field season using Geographic Information System software.

Table 4.2-2. Potential Habitat Characteristics Recorded

Habitat Characteristic	Unit of Measurement
Approximate percentage of the pooled area with emergent vegetation growing from within (such as terrestrial grasses submerged within the pooled water)	None, 25%, 50%, 75%, or greater than 95%
Presence or absence of tree canopy cover within 16.4 feet (5 meters) of the pooled area	Presence or absence

Habitat Characteristic	Unit of Measurement
Approximate percent vegetative cover of adjacent terrestrial areas (up to 6.6 feet [2 meters] from pool edge) by herbaceous plants or woody plants less than one meter tall	Less than 5%, 25%, 50%, 75%, or greater than 95%
Approximate percent vegetative cover of adjacent terrestrial areas (up to 6.6 feet [2 meters] from pool edge) by woody plants greater than 3.3 feet (one meter) tall	Less than 5%, 25%, 50%, 75%, or greater than 95%
Dominant plant species within 6.6 feet (2 meters) of pool edge	Grasses (*Poaceae* family), shrubby willows (*Salix* species), and/or pines (*Pinus* species)
Presence or absence of wildlife burrows within 6.6 feet (2 meters) of pool edge	Presence or absence
Presence or absence of accumulated aquatic detritus within the pooled area	Presence or absence
Water flow into the pooled area	Lentic (still), or Lotic (flowing)
Deepest water depth of the pooled area	Centimeters up to 30
Approximate percentage of pooled area less than 12 inches (30 centimeters) deep	None, 25%, 50%, 75%, or 100%
Life stage of any Sierran tree frog (*Pseudacris sierra*) observed	None, tadpole, or adult
Life stage of any toad (*Anaxyrus* sp.) observed	None, tadpole, or adult
Species of any other aquatic or semi-aquatic vertebrate observed	Brook trout (*Salvelinus fontinalis*), and/or mountain garter snake (*Thamnophis elegans elegans*)
Approximate surface area of the above ground water observed	Square meters
Median distance from the closest three potential habitats	Meters

For consistency in data collection, surveys were conducted by the same four qualified biologists: Steve Norton, Jason Berkley, Jonathan Aguayo, and Sarah Berryman. To further standardize data collection, field surveys were scheduled so the biologists were rotated and paired with the previous week's surveyor.

4.3. Acoustic Recording Surveys

Six acoustic recording devices were deployed in potential toad breeding habitat across the study area during the 2023 survey season (July through October). The devices were Song Meter Micro units manufactured by Wildlife Acoustics and were programed to record 5 consecutive minutes every hour. The devices were deployed as access became available (snow melted and water began pooling) and, where possible, deployment at each location was staggered to record during the peak breeding period anticipated at that location. Ten locations were ultimately sampled. The devices were affixed to vegetation adjacent to either known or high-potential toad breeding locations: four of the locations were along Lee Vining Creek, three of the locations were around Tioga Lake, two of the locations were around Saddlebag Lake, and one of the locations was in a meadow south of Saddlebag Lake between approximately 1,410 to 1,475 feet amsl (430 to 450 meters). Memory card status and battery life was checked and maintained throughout the 2023 field season. The deployment dates are listed in Attachment B. Locations of the acoustic detectors are shown on Figure 5.4-1.

The recordings collected were downloaded at the end of the season and processed to isolate and identify any Yosemite toad breeding calls recorded. A sample of 270 recordings known to have contain multiple Yosemite toad breeding calls were manually vetted by Biologist Steve Norton, which included visually inspecting sonograms of the recordings and listening to relevant portions of the recordings. Mr. Norton then adjusted the settings in the cluster analysis tool part of Wildlife Acoustic's Kaleidoscope software to isolate potential Yosemite toad breeding calls. After a detailed refinement of the settings to sufficiently isolate calls within the vetted 270 recordings, the remaining 8,800 recordings were run through the cluster analysis tool. The isolated files were then manually vetted and the number of verified Yosemite toad calls were tabulated.

4.4. DNA SAMPLING

In collaboration with the National Park Service, samples suitable for DNA analysis were obtained from two populations of toad within the study area were collected on August 8, 2023 (Attachment C). The two populations sampled were located at the pool south of Saddlebag Lake (approximately 295.3 feet (90 meters) east of Saddlebag Campground) and at the meadow complex immediately below the intersection of Slate Creek and Lee Vining Creek in the upper Lee Vining Creek region. Table 4.4-1 shows the location and type of sample collected by Yosemite National Park.

Table 4.4-1. Genetic Sampling of Toad within Study Area

General Sampling Region	Latitude	Longitude	Elevation	No. of Individuals Observed During Sampling	No. of Samples Collected
South of Saddlebag Lake	37.96511	-119.26891	10,079 feet amsl	200–300 tadpoles	10 tadpoles
Upper Lee Vining Creek	37.95694	-119.27389	9,850 feet amsl	200–250 tadpoles	10 tadpoles

amsl = above mean sea level

The samples collected will ultimately be compared against a hybrid genetic panel of Yosemite toad and western toad (*Anaxyrus boreas*) currently being developed by the Eldorado National Forest.

5.0 RESULTS

5.1. LITERATURE REVIEW RESULTS

In preparation for the species review, field techniques, and methods, over 50 research papers were reviewed and, of those, 23 papers were evaluated and utilized in various capacities to govern the work accomplished in this report. CDFW and the USFS were invaluable sources of many of these papers. The key categories and related insights from the literature review are discussed below.

5.1.1. Ecology and Habitat

Yosemite toads breed in both permanent and ephemeral water habitats, adults and subadults are terrestrial after the breeding period, and tadpoles transform and disperse in one season (Brown et al., 2013). During a study by Brown et al. (2013), only a few animals moved among meadows for breeding, suggesting that Yosemite toads have high site fidelity at the scale of individual meadows. Yosemite toads were described as, “explosive breeders with rapidly maturing larvae” by Fellers et al. (2015). Yosemite toads were generally found to avoid the larger lakes by Fellers et al. (2015). Fellers et al. (2015) also found that elevation had the largest positive effect for Yosemite toad (i.e., occurrence increased in elevation). Maximum water depth showed a negative effect for Yosemite toad (i.e., occurrence decreased as water depth increased). They were also more likely to occupy sites with shallower waters/wetlands but tended to occupy wetlands with longer shore lengths. During a study by Roche et al. (2012), occupancy was evenly split between lentic (nonflowing) and lotic (flowing) pools in 2006 and 2008. However, only lentic pools were occupied during the dry, short breeding season of 2007 when the majority of pools were lentic. Berlow et al. (2013) considered the distribution of Yosemite toad breeding habitat to be a network of discrete meadow patches linked by dispersal.

Liang (2013) found that the maximum distance traveled by the Yosemite toad from upland to breeding meadows was greater for females (4137 feet [1,261 meters]) than for males (2839 feet [865 meters]), the mean distance traveled by females was twice as great as by males, and the average home range was more than 1.5 times as large for females than for males, but the difference in the latter was not significant. There were no significant differences between toads from different meadows for mean distance traveled, mean maximum distance traveled, or home range. “Herbaceous, shrub, and tree species from 20 different families were identified. Locations where toads were present generally had more herbaceous plants such as *Lupinus* and *Lotus* species but included fewer woody plants and had less canopy cover. Locations without toads generally had more trees and shrubs such as red fir (*Abies magnifica*), white fir (*Abies concolor*), and bush chinquapin (*Chrysolepis sempervirens*). Woody species were found in the ground layer as well as the understory and overstory in locations without toads but not in locations with toads” Liang (2013).

Liang (2013) also discovered that adult Yosemite toads exhibited strong site fidelity to aquatic breeding sites, site fidelity to micro cover sites, and site fidelity to upland sites. They stressed the importance of the terrestrial habitat due to the amount of time spent in the uplands, and most long-distance movement occurring just days after breeding concluded. The study found that toads primarily inhabit burrows, both shallow ones where they are visible and deeper ones where they are hidden. Additionally, they were found under various types of cover like logs, rocks, and tree stumps. The choice of microsite cover appears to be opportunistic, likely influenced by availability. Open areas typically exhibited a greater percentage of herbaceous species in the ground layer, particularly those that thrive in full sun such as Lupinus and Lotus species. These plants attract insects like ants and bees, potentially enhancing food resources compared to areas with fewer herbaceous plants (Liang, 2013). Highly suitable consistent-site habitats are characterized by several factors: low slopes; specific vegetation types such as wet meadow, alpine-dwarf shrub, montane chaparral, red fir, and subalpine conifer; as well as warm temperatures. Additionally, these habitats have low aspect-classes and experience precipitation ranging from approximately 20 to 32 inches (500 to 800 millimeters) during the coldest quarter. Moreover, they exhibit a mean diurnal temperature range between approximately 48 to 59°F (Liang and Stohlgren, 2011). At Tioga Pass, the edges of talus slopes seem to be favorable for summering female toads as they tend to cluster there. This could be because talus slopes act as barriers to further dispersal. Toads migrate to "high-quality" summer habitats characterized by higher vegetation diversity and abundant food resources. The use of widely disconnected habitat patches may be a common behavior among toads in high altitude environments (Morton and Pereyra, 2010).

In research of Yosemite toad habitat (especially upland, non-breeding habitat), western toad research was used to further understand the demarcation and potential overlap in habitat usage with the Yosemite toad. Survival probability of western toads in Colorado was found to be influenced by minimum daily winter air temperature, snow depth, and winter environmental moisture level (Scherer et al., 2008), suggesting that the suitable sites available for western toad hibernation may be limiting at the northern edge of the species' range and at high elevations (Browne and Paszkowski, 2010). In the Yukon, the species has only been reported from valleys that receive high snowfall, which prevents deep frost penetration (Cook, 1977). Western toads were hypothesized to select conifer forests for hibernation because of differences in frost depth and availability of suitable microhabitats (e.g., tunnels). Balland et al. (2006) compared winter frost depth among Jack pine (*Pinus banksiana*), black spruce (*Picea mariana*), and aspen (*Populus* sp.) stands in central Saskatchewan and showed that frost penetrated the least in black spruce stands. Peat hummocks, squirrel tunnels, and cavities under spruce trees (the structures used by 71 percent of toads at pasture) were associated with conifer forests. Dry shrubland was the other landcover type that was selected more frequently than deciduous forest at pasture. Western toads were found to hibernate in a variety of natural landcover types but did not hibernate in any human-altered landcover types (e.g., agricultural fields, forestry cut-blocks, residential yards, and roadsides).

5.1.2. Physiology and Genetics

A morphological difference of interest between Yosemite toad and western toad (two morphologically similar species) includes the parotoid glands. Karlstrom (1973) states "the round to subovate parotoid glands are usually broader and lower than those of [western toad] and often merge with smaller warts. Inter-parotoid distance is narrow, approximately the width of the gland."

Grasso et al. (2010) determined, in a joint field and laboratory study, that Yosemite toad was not palatable to brook trout as eggs, tadpoles, or recently metamorphosed toads and stated that Yosemite toads, "like most other bufonids, likely possess toxic properties throughout their aquatic and terrestrial life histories, rendering them unpalatable to trout. Flier et al. (1980) found that a class of cardiac glycosides (bufadienolides) in the skin may be responsible for unpalatable properties in toads." In a study by Fellers et al. (2015), Yosemite toads were more commonly found in shallow high-elevation ponds and their occurrence was minimally affected by the presence of fish.

Western toads occur in Yosemite Valley (3,937 feet [1,200 meters]), but only one individual was located during the 38 surveys conducted by Fellers et al. (2015) in Yosemite Valley over the last 19 years. The population dynamics and structure of Yosemite toads remain unclear. Although currently recognized as one taxonomic unit, genetic data suggest the possibility of multiple discrete lineages within what is presently classified as Yosemite toads. Additionally, the relationship between Yosemite toads and their closest relatives is ambiguous and requires further clarification (USFWS, 2014). Goebel et al. (2008) extrapolated further information on the divergence of the western toad species group and its three major clades. They found support for the hypothesis of Pleistocene divergence and suggest that the phylogeographic history of the group was heavily influenced by dynamic Pleistocene glacial and climatic changes, and especially pluvial changes, in western North America. They also found a paraphyletic split between the northwest and southwest haplotype groups of Yosemite toad. Hybrids of Yosemite toad and western toad were identified by collectors at the northern end of the range of Yosemite toad in the Goebel study (2008). Hybridization studies produced F2 hybrids of Yosemite toad and western toad in the laboratory (Blair, 1972), but the collection localities of these specimens were not identified by Blair (1972) so their correlation with mitochondrial DNA studies is not clear.

5.1.3. Field Techniques

Brown et al. (2013) postulated that because basic abundance counts are seasonally dependent for Yosemite toad and due to which obtaining demographic information (e.g., abundance, survival) at large scales is logistically impractical, occupancy can be used as a relatively affordable metric to evaluate distributional changes bioregionally and more detailed demographic information can be collected at a smaller subset of locations. They visited a subset of watersheds every year and the remaining watersheds were to be visited once every 5 years on a rotating schedule. Visual encounter surveys were conducted in all lentic sites (lakes, meadows) and a sample of stream sites, and detection and count data were recorded. In a more intensive design component for Yosemite toad, they conducted capture-mark-recapture surveys for adult breeding males using the "Robust Design" and egg mass counts in six meadows in two watersheds during spring breeding. Yosemite toad had the most variable detectability, both for any life stage and at sites with reproductive stages according to Fellers et al. (2015).

Liang et al. (2012) observed that Yosemite toad occupancy of suitable breeding habitat varies: not all pools were occupied and not all potential pools were unoccupied. Of the parameters collected during their study (water temperature, depth, detritus depth, canopy cover, and live vegetation height), predictors of toad occupancy were found to be mean water depth, temperature, and surface water amount. Occupied pools tended to be deeper, warmer, and had more surface water compared to unoccupied ones. These conditions likely facilitate quicker developmental times in shallow water ephemeral habitats available in spring and summer. Despite generally shallow breeding pools, toads appear to choose slightly deeper pools relative to other years. Breeding pools were very shallow water bodies (mean depth 1.7 inches [4.4 centimeters] for occupied pools), and differences in depth between pools that are occupied and unoccupied each year are small but notable (Liang et al., 2017).

5.1.4. Abiotic Factors

As mentioned in the species description, there are several abiotic factors that have been hypothesized to negatively affect the Yosemite toad, and other special-status amphibians. Bradford et al. (1993) studied water chemistry and the effect on Yosemite toads and found it did not differ between sites containing the species and sites lacking the species in a manner consistent with the acidic deposition hypothesis. Adams et al. (2005) found that ambient ultraviolet B light did not have a negative association on presence of western toad and Cascades frog (*Rana cascadae*) in ponds studied in the field. However, ultraviolet B light levels in tandem with a variety of stressors could affect amphibian populations.

Liang and Stohlgren (2011) noted that Yosemite toad "does not have a simple relationship with the environment and is found within a range of environmental conditions." Consistent distribution of occupied sites is influenced by topographic and bioclimatic factors and includes tolerance of a broad range of temperature and precipitation gradients.

Roche et al (2012) found that only water depth, temperature, and total nitrogen content were significant predictors of toad occupancy of potential breeding pools over the 3-year study. Toad occupancy rate increased with water temperature and total nitrogen concentration and decreased with water depth.

5.2. Habitat Parameters Observed

5.2.1. Available Upland Habitat

The vast majority of the study area contains upland habitat elements known to support Yosemite toads, as identified in the Primary Constituent Elements for the species by the USFWS. Specifically, suitable upland habitat is considered areas up to 0.78 mile (1.26 kilometers) away from breeding habitat (not separated by dispersal barriers, such as heavily used roadways), that that provide:

- Sufficient cover (including rodent burrows, logs, rocks, and other surface objects) to provide summer refugia;
- Foraging habitat;
- Adequate prey resources;
- Physical structure for predator avoidance;

- Overwintering refugia for juvenile and adult Yosemite toads;
- Dispersal corridors between aquatic breeding habitats;
- Dispersal corridors between breeding habitats and areas of suitable summer and winter refugia and foraging habitat; and/or
- The natural hydrologic regime of aquatic habitats.

Because of the abundance of suitable upland habitat, the study effort focused on the availability of potential breeding habitat.

5.2.2. Available Breeding Habitat

Based on observations made during the 2022 field season, 49 potential breeding locations were identified for additional surveys (Figure 5.4-1). The habitat structure of these different locations were varied to sufficiently sample all potential toad breeding locations. The data table in Attachment D shows the variables collected for each of the potential habitat locations. No consistent patterns between occupied and unoccupied habitat were observed or recorded.

5.2.2.1. Northern Saddlebag Lake

All of the potential breeding locations within the Northern Saddlebag Lake region were fed water by off-site sources (including snowmelt or overflow from adjacent streams that ultimately flow into the FERC Project Boundary). Only two potential breeding locations were observed within the FERC Project Boundary, and both were fed water through sheet flow originating from snowmelt along the slopes north of Saddlebag Lake. Of the remaining locations, the largest meadow and pool complex was fed water from two sources: Greenstone Lake and snowmelt from the north-facing slopes along the western side of Saddlebag Lake. This complex has diverse hydrologic features (including shallow, grassy meadows; deep, still pools; and narrow, flowing streams of varying depths) and was documented in CDFW’s CNDDB as previously supporting Yosemite toad breeding. Other potentially suitable habitat in this region includes two isolated, shallow pools fed by Greenstone Lake and off-site snowmelt, and the shallow margins of a deep pool above Greenstone Lake.

The reduced water levels of Saddlebag Lake in 2022 exposed large portions of ground which was surveyed during the 2022 field season. Despite this additionally exposed area, no additional shallow pooling was observed.

5.2.2.2. South of Saddlebag Lake

There are five potential or known breeding locations in the south of Saddlebag Lake region. All these locations are outside of the FERC Project Boundary and fed water from off-site snowmelt unassociated with the Project. The first two are pools approximately 50 feet (15 meters) apart and are both located above Saddlebag Lake to the south, approximately 295 feet (90 meters) east of Saddlebag Campground. The shallower of these two pools is known to support a population of Yosemite toads. The third potential breeding location is a pooled meadow approximately 1,150 feet (350 meters) south of the first two pools discussed at this location and is the nearest potential breeding location to these pools. This meadow is located on a southwest-facing slope. The remaining two potential breeding locations are within the Sawmill Campground facilities. These locations consist of a large pool within the Sawmill Campground and a small meadow located south of the trail into the Sawmill Campground.

5.2.2.3. Upper Lee Vining Creek

The large, elevated meadow complex is fed water by snowmelt from the northeast-facing slopes to the west. A small, meandering drainage feature runs through the meadow complex ultimately draining into Lee Vining Creek to the east. Potential breeding habitat is generally concentrated along this drainage. Several shallow pools (generally less than 4 inches [10 centimeters] deep) occur along the edges of the drainage feature. Further, there are isolated oxbows and shallow bars within the drainage feature that also provided potential breeding habitat.

5.2.2.4. Lower Lee Vining Creek

The floodplain adjacent to Lee Vining Creek supported a high concentration of isolated pools with a wide diversity of habitat parameters (sizes, depths, etc.). The inflow to the different pools varied as some are fed water by off-site snowmelt associated the adjacent slopes and valleys, while some are fed water by overflow from Lee Vining Creek. During the survey effort, many of the pools thought to be fed by off-site snowmelt dried almost completely on cloudy days with air temperatures at or near freezing, while others thought to be fed by Lee Vining Creek (either through surface or subsurface flow) continued to have pooled water.

5.2.2.5. Tioga Lake

Tioga Lake is fed water by several sources. Perennial water flow enters the lake from the south (draining Tioga Pass) and from the southeast (draining the Dana Lake area). Additional inflow includes runoff from the adjacent slopes to the east and west; however, considerably less water enters the lake from these sources. Potentially suitable breeding habitat along the margins of Tioga Lake was generally concentrated around these inflow areas. The wet meadows associated with the smaller eastern and western inflows supported some temporary, potentially suitable breeding habitat. The water flow originating from Tioga Pass was more channelized and did not create meadow habitat along the Tioga Lake margins; however, topography approximately 131 feet (40 meters) upstream of Tioga Lake supported a meadow with potential breeding habitat. Water flow draining the Dana Lake area was also substantial and mostly channelized; however, the topography along the Tioga Lake margins fans out and supports a wide, shallow meadow area fed by channel overflow and partially supported by peak water levels within Tioga Lake. This area is also potential breeding habitat.

5.3. VISUAL ENCOUNTER SURVEYS

5.3.1. NORTHERN SADDLEBAG LAKE

No toads were observed anywhere within the Northern Saddlebag Lake region during either the 2022 or 2023 field seasons. See Figure A-4-1, Pools 1 to 9 in Attachment A.

5.3.2. SOUTH OF SADDLEBAG LAKE

In the western pool located south of Saddlebag Lake, all four life stages of Yosemite toads (eggs, tadpoles, subadults, and adults) were observed during both the 2022 and the 2023 field seasons (Pool 11: Figure A-4_2 in Attachment A). No evidence of toad breeding was observed in the second pool (located approximately 50 feet [15 meters] east of the occupied pool) despite adult toads being observed adjacent to the pool (Pool 12: Figure A-4_2 in Attachment A). No sign of toad or toad breeding was observed in any of the other potential breeding locations including the locations at Sawmill Campground and the location 1,150 feet (350 meters) south of the other pools (see Figure A-4-2 in Attachment A).

5.3.3. UPPER LEE VINING CREEK

Portions of upper Lee Vining Creek draining the Slate Creek Meadow Complex below Slate Creek were observed supporting toad tadpoles (Pools 16, 18, and 19; see Figure A-4-2 in Attachment A). This area was not surveyed in 2022 and was inaccessible during the early part of the 2023 survey season due to extraordinarily high-water flow in Lee Vining Creek. Regardless, high numbers of toad tadpoles were observed in multiple locations (Pools 16, 18, and 19). The tadpoles were generally located in very shallow water edges (1 inch [3 centimeters] or less) along the flowing drainage or within adjacent meadows supporting very shallow water. Some tadpoles were observed in the flowing water channel downstream closer to the intersection with Lee Vining Creek; however, these individuals were larger and were assumed to have washed down with high-water flows rather than hatching within the water channel.

5.3.4. LOWER LEE VINING CREEK

No toads were observed anywhere within the Lower Lee Vining Creek region during the 2023 field season even though the ponds retained water through the season (Pools 23 to 26, 28 to 32, 34 to 43, and 60 to 62: Figure A-4-3 in Attachment A). During the 2022 surveys, two pools contained recently hatched tadpoles that could be identified as either treefrog or toad (Pools 31 and 63). A follow-up visit was conducted at these pools to intentionally coincide with tadpole metamorphosis; however, both pools had dried completely and there was no remnant evidence of any amphibians. No other observation of tadpoles or toads were made during any of the other survey visits. Many of the pools along Lower Lee Vining Creek were observed to support Sierran treefrogs during both the 2022 and 2023 survey seasons.

5.3.5. Tioga Lake

No toads were observed anywhere within the wet meadows associated with the small inflows along the eastern or western margins of Tioga Lake. However, A portion of the overflow meadow associated with the larger inflow draining the Dana Plateau was observed to support toad breeding during the 2022 and 2023 field seasons (Pool 47; see Figure A-4-4 in Attachment A). The observations included hearing mating calls and seeing adults, eggs, and tadpoles.[4]

The pool (Pool 50: Figure A-4-4 in Attachment A) above Tioga Lake to the south was also determined to have potential breeding habitat but was outside of the FERC Project Boundary and was not regularly included in the visual encounter surveys. No toad breeding was visually observed at this location, during the two visits of the 2022 season and the one visit during the 2023 season. However, toad breeding was detected at this location using the audio recorders (details are provided in the Acoustic Surveys section below).

5.4. Acoustic Surveys

Acoustic recording devices were deployed in potential toad breeding habitat in the 2023 survey season (July through October). Of the 10 locations deployed, only 2 audio recorder locations detected Yosemite toad breeding calls. Figure 5.4-1 shows the number of separate call events recorded throughout the period sampled daily at the two separate locations. Note, the number of separate call events shown on Figure 5.4-1 include instances of overlapping calls by different males simultaneously listed as one separate call.

[4] Portions of CDFW's 2022 herpetological surveys overlapped with the Project's 2022 Yosemite toad survey effort. The staggered timing of the Project's survey efforts and CDFW's survey efforts (albeit closely staggered) allowed each survey effort to make observations not shared by both parties. Notably, CDFW observed Yosemite toad tadpoles in some pools above the southern margins of Tioga Lake.

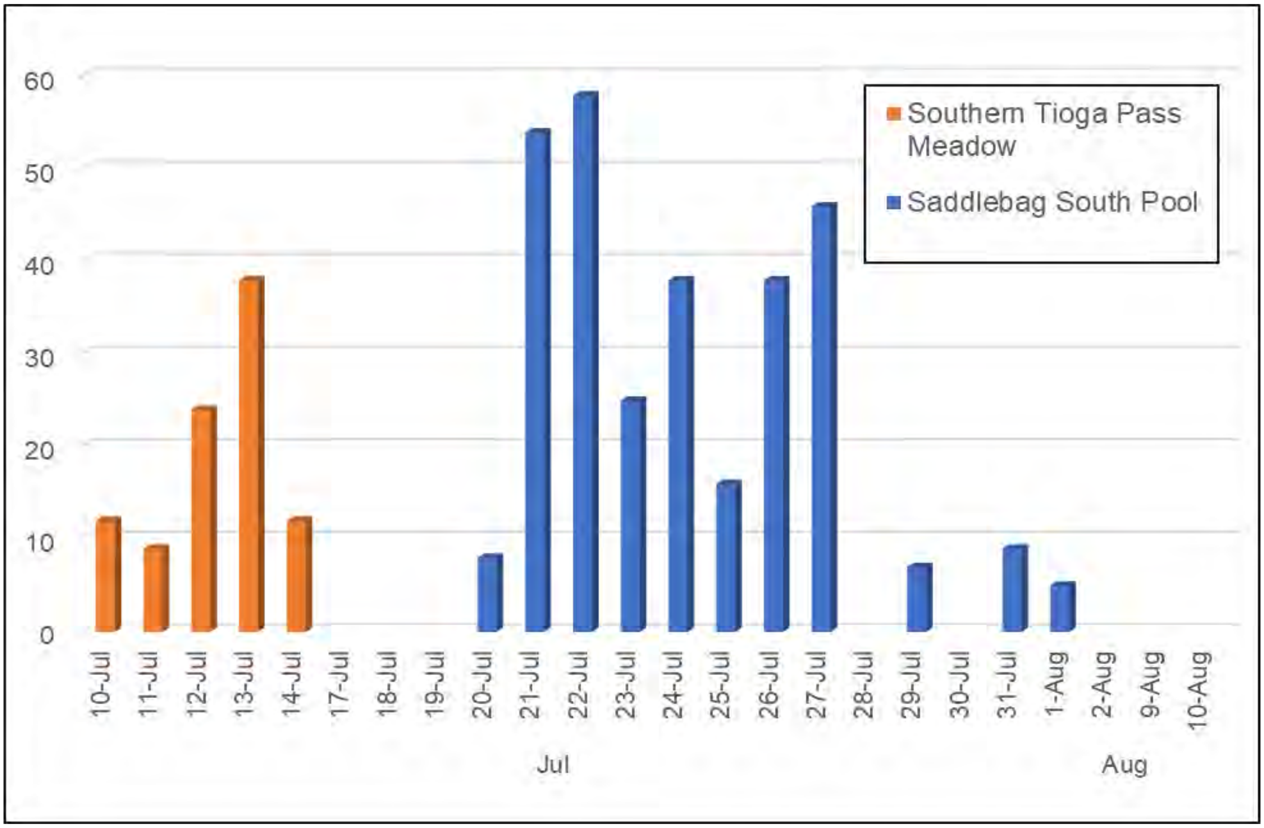

Figure 5.4-1. Yosemite Toad Breeding Calls Recorded Daily.

The audio recorders were determined to have a recordable range between approximately 50 to 100 feet (15 to 30 meters). This range was not systematically tested but all calls at or greater than 100 feet (30 meters) away were subsequently determined to be out of range of the recorders. Figure A-4 in Attachment A shows the location of the audio recorders in relation to the potential breeding habitat observed.

5.4.1. Northern Saddlebag Lake

Despite successful audio recorder deployment, no Yosemite toad breeding calls were recorded in the Northern Saddlebag Lake region (Pools 1 to 9: Figure A-4-1 in Attachment A). Only one detector was deployed in this area; however, it was in the center of the meadow complex within the Greenstone Lake outflow to Saddlebag Lake and the majority of potential breeding habitat in that meadow was within approximately 100 feet (30 meters) of the detector. None of the other potential breeding locations were recorded.

5.4.2. South of Saddlebag Lake

Audio recorders were deployed in one known breeding location (Pool 11: Figure A-4-1 in Attachment 1) and one potential breeding location (Pool 13: Figure A-4-1 in Attachment 1). The recorder at the known breeding location was deployed in a tree approximately 56 feet (17 meters) to the west of the pool's waterline. The eastern extent of the pool was greater than 131 feet (40 meters) away from the recorder and the total number of calls reported may underrepresent the total calls at this pool. Regardless, the number of calls recorded at this location occurred for 8 consecutive days followed by intermittent recordings for an additional 5 days.

The second recorder was deployed at the isolated meadow (Pool 13) located approximately 1,150 feet (350 meters) south of Saddlebag Lake and no breeding calls were recorded. This meadow is less than 200 feet (60 meters) in diameter and the recorder was attached to a sapling located in the center of the meadow. Any breeding calls at this meadow are likely to have been recorded by the audio recorder if they had occurred.

5.4.3. Upper Lee Vining Creek

Two audio recorders were deployed within the upper Lee Vining Creek meadow complex (Western Slate Creek Meadow and Pool 16: Figure A-4-2 in Attachment A); however, access limitations prevented recorder deployment until after the anticipated Yosemite toad breeding calls would have occurred. No Yosemite toad breeding calls were recorded on either recorder within the upper Lee Vining Creek region.

5.4.4. Lower Lee Vining Creek

An audio recorder was deployed in two locations within the Lower Lee Vining Creek region (Central LV Creek Westside, near pools 63,29,30, 60 and 31 and central LV Creek Eastside near pools 42, 41, and 39: Figure A-4-3 in Attachment 1), with the first location only being recorded before access was available to the west side of Lee Vining Creek. There were several limitations to audio recording the potential breeding habitat along this portion of Lee Vining Creek. First, the potential breeding habitat is dispersed across a wide area and sufficient coverage of all potential habitat would be a substantial effort. Second, the ambient noise from the high-water flows of Lee Vining Creek substantially reduces the distance clear recordings can be collected by the equipment. Third, this area is heavily used for recreation (specifically fishing) and there is limited vegetation to secure and hide the audio recorders. Regardless, the detector along the western side of Lee Vining Creek was deployed within 100 feet (30 meters) of a pool with unidentified tadpoles during the 2022 survey. No Yosemite toad breeding calls were recorded within any portion of the Lower Lee Vining Creek region.

5.4.5. Tioga Lake

Three locations around Tioga Lake had audio recorders deployed during 2023. The first recorder was deployed in the center of a meadow complex along the northwestern side of Tioga Lake (Pool 46/Western Tioga Lake Meadow: Figure A-4-4 in Attachment A). Multiple portions of the meadow complex extended beyond 100 feet (30 meters) from the acoustic recorder location; however, the majority of potential breeding habitat was within 100 feet (30 meters). No Yosemite toad breeding calls were recorded at this location. The second recorder was deployed at the meadow and small pool complex associated with inflow from the Dana Plateau (Pool47/ Southeast Margin Tioga Lake: Figure A-4-4 in Attachment A). A portion of this meadow was observed to support breeding Yosemite toad; however, the audio recorder was greater than 165 feet (50 meters) away from the observed breeding location. Subsequently, no Yosemite toad breeding calls were recorded by this detector. The final location was at the potential breeding habitat above Tioga Lake to the south (Pool 50/Southern Tioga Pass Meadow: Figure A-4-4 in Attachment A). The habitat was small (approximately 100 feet [30 meters] in diameter) and the audio recorder along the western boundary. This habitat was not regularly included in the visual encounter surveys and as a result, no breeding activity was observed at this location. The audio recorder recorded Yosemite toad breeding calls at this location for 5 consecutive days.

5.5. RECREATION INTERACTIONS

As part of the Existing Recreation Facilities Condition Assessment (REC-2 Study) performed for the Project, the location of dispersed recreational activities were assessed, including identifying informal pedestrian trails. The assessment included both a desktop review of aerial images and a field assessment. Of the 7,048 linear feet (2,148.2 meters) of trails identified around Saddlebag Lake and the 9,924 linear feet (3,024.8 meters) of trails around Tioga Lake, 1,129 linear feet (344 meters) of trails intersect with potential breeding habitat and 303 linear feet (92 meters) of trails intersect with the occupied breeding habitat observed. More specifically, the intersection of pedestrian trails and potential breeding habitat occurred along within the Northern Saddlebag Lake region and the intersection of pedestrian trails and occupied breeding habitat occurred in the Tioga Lake region (see Figure A-5 in Attachment A).

5.6. DNA SAMPLING

Yosemite toad are known to interbreed with western toad in multiple locations within California (personal communication, Paul Maier, Population Geneticist, Gene by Gene, January 13, 2023). The closest known hybrid location is believed to be at approximately 10,000 feet (3,048 meters) amsl, approximately 4.7 miles (7.6 kilometers) north of Saddlebag Lake (see Figure A-6 in Attachment A). Figure A-5 shows toad occurrence records compiled from multiple sources, including Yosemite toad records in CNDDB (CDFW, 2020), western toad records from iNaturalist (iNaturalist, 2022), the western toad and Yosemite toad museum records in Tioga Pass along the Tuolumne County and Mono County border (MVZ Arctos Database, 2021), and anecdotal records of the Yosemite toad–western toad hybrid population in the Blue Lake area (personal communication, Paul Maier, Population Geneticist, Gene by Gene, January 13, 2023). To date, no genetic analysis of any of toad populations within the study area has been performed.

The DNA samples collected in 2023 at the two sites within the study area are scheduled to be processed and compared against a hybrid genetic panel currently being developed by the Eldorado National Forest. Because the sample processing and analysis are in progress, no results are yet available.

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ATTACHMENT A
FIGURES

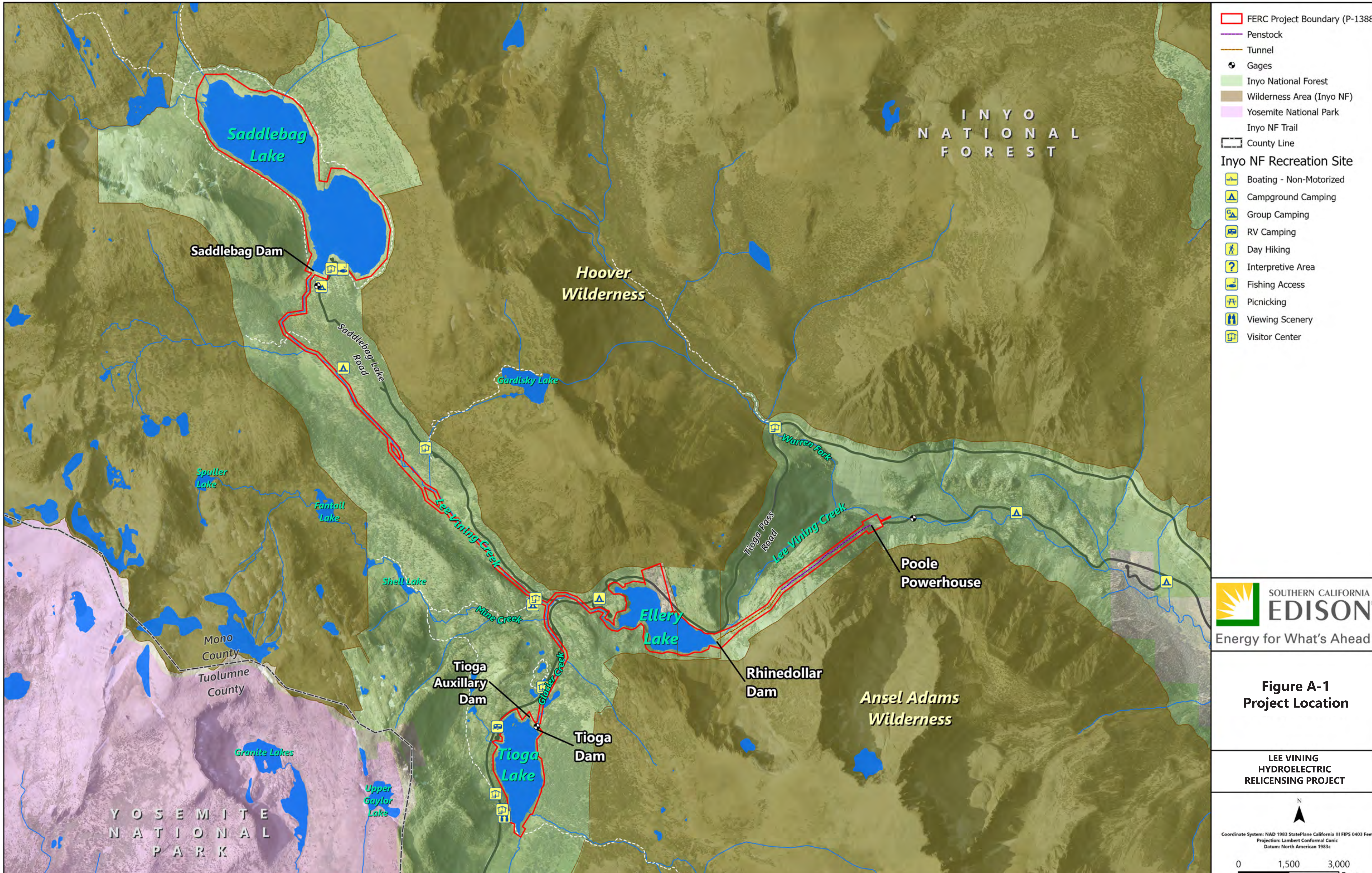
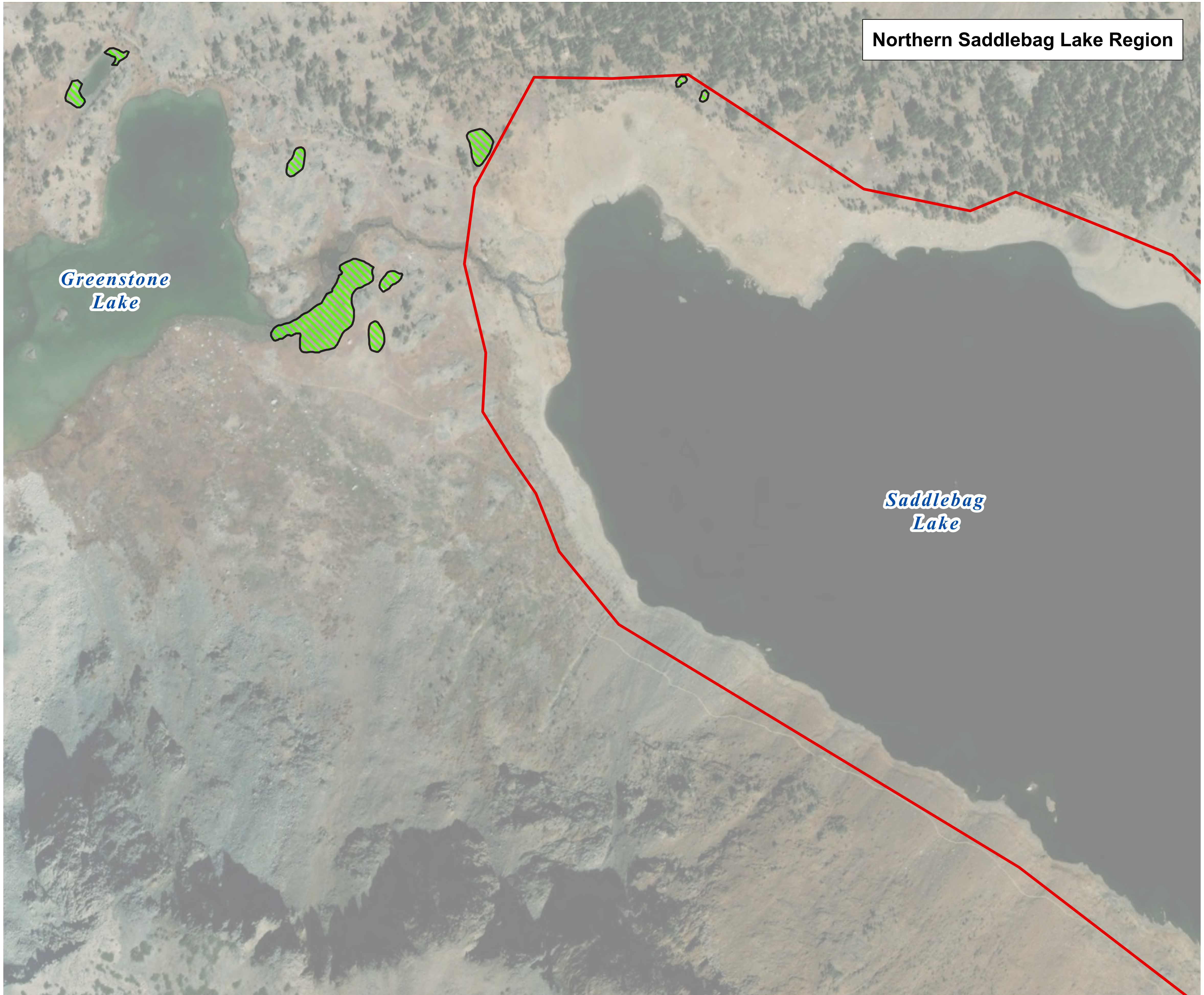


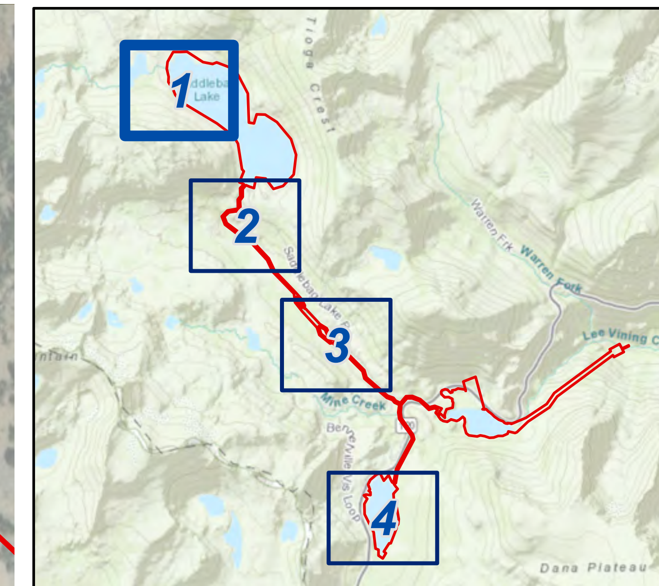
Figure A-1
Project Location

Figure A-2

2022 Yosemite Toad Habitat Study Area

LEE VINING HYDROELECTRIC RELICENSING PROJECT





FERC Project Boundary

YOTO Occupied Potential Habitat

Potential Breeding Habitat Observed

N
W E
S

400 200 0 400 Feet

Aerial Source: ESRI, Maxar 2022

Prioritized Yosemite Toad Study Area

Figure A-3-1

Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead

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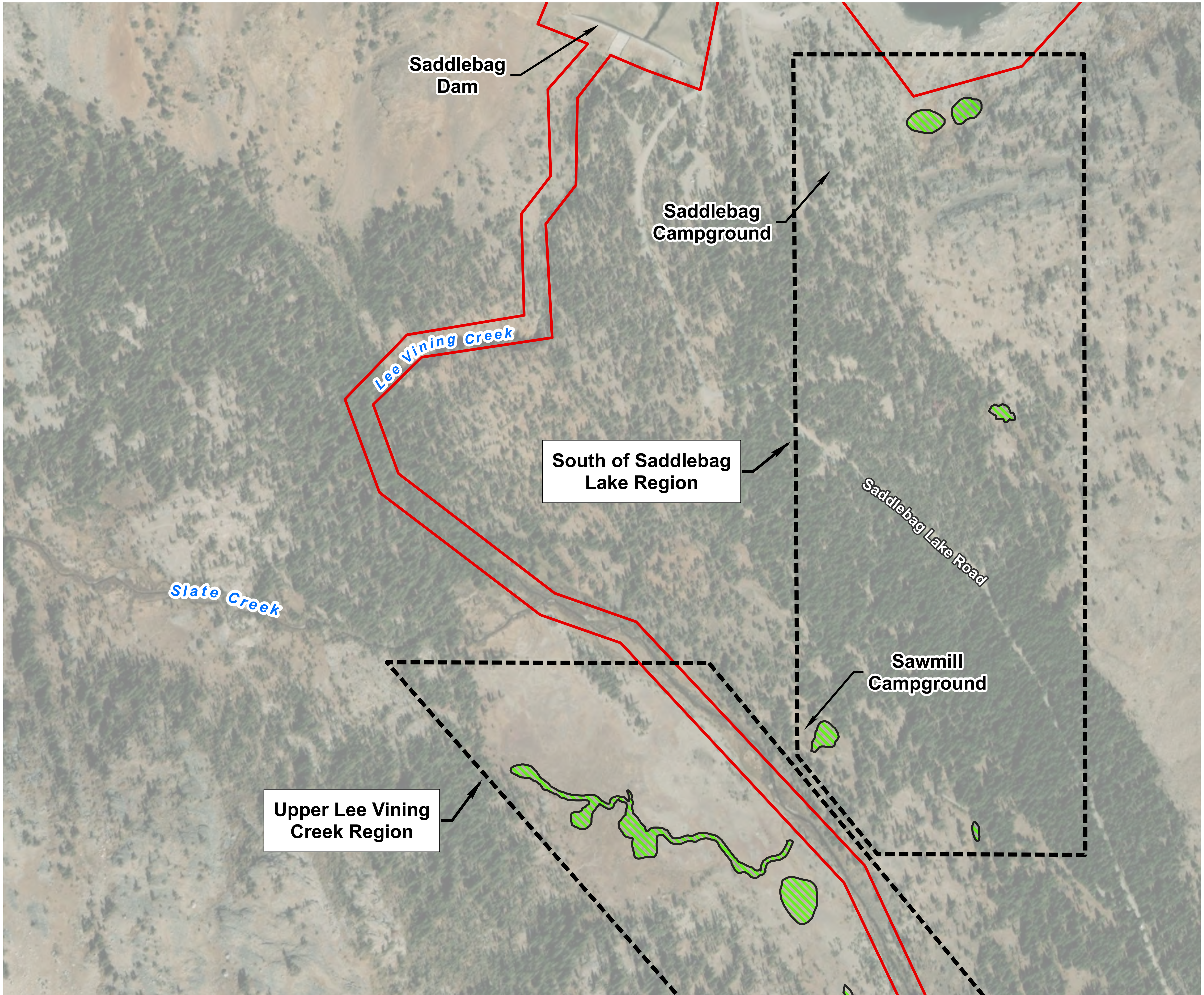

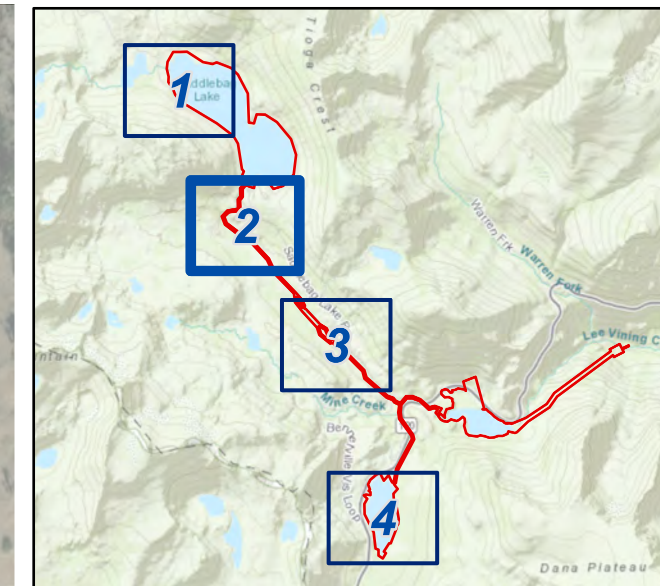

FERC Project Boundary

YOTO Occupied Potential Habitat

Potential Breeding Habitat Observed

N
W E
S

400 200 0 400 Feet

Aerial Source: ESRI, Maxar 2022

Prioritized Yosemite Toad Study Area

Figure A-3-2

Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON

Energy for What's Ahead

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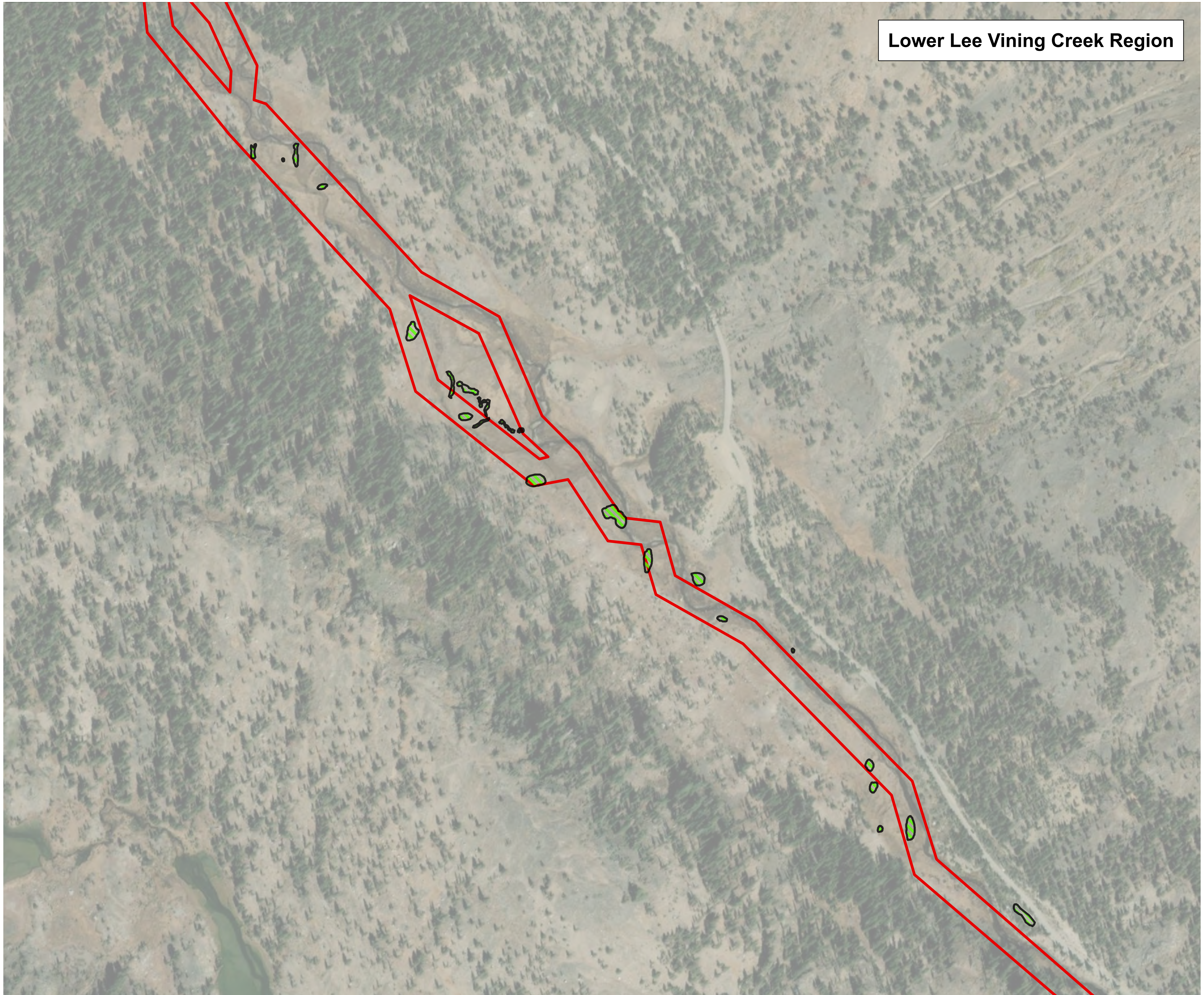

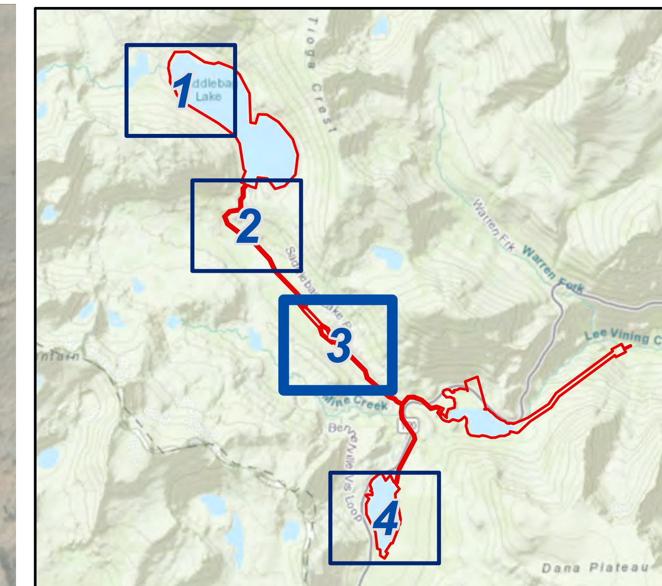

FERC Project Boundary

YOTO Occupied Potential Habitat

Potential Breeding Habitat Observed

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400 200 0 400
Feet

Aerial Source: ESRI, Maxar 2022

Prioritized Yosemite Toad Study Area

Figure A-3-3

Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead

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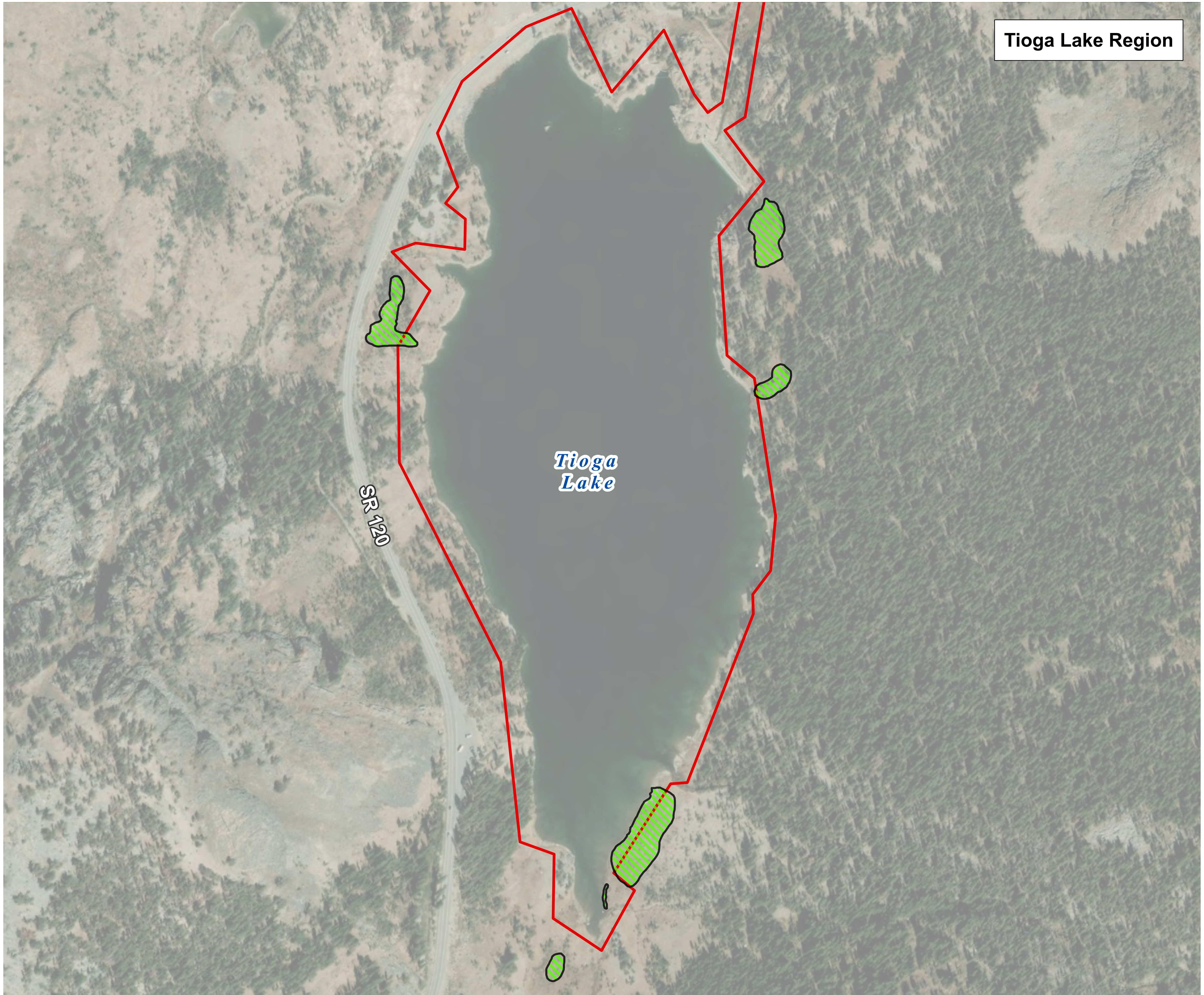

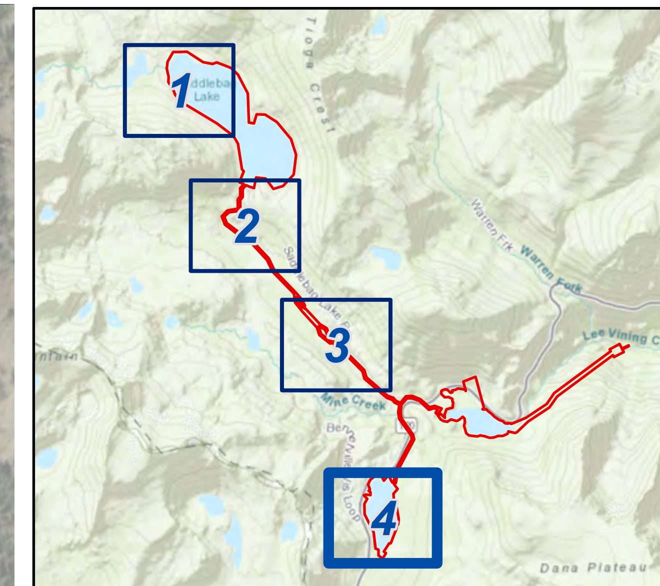

FERC Project Boundary

YOTO Occupied Potential Habitat

Potential Breeding Habitat Observed

N W E S

400 200 0 400 Feet

Aerial Source: ESRI, Maxar 2022

Prioritized Yosemite Toad Study Area

Figure A-3-4

Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON Energy for What's Ahead

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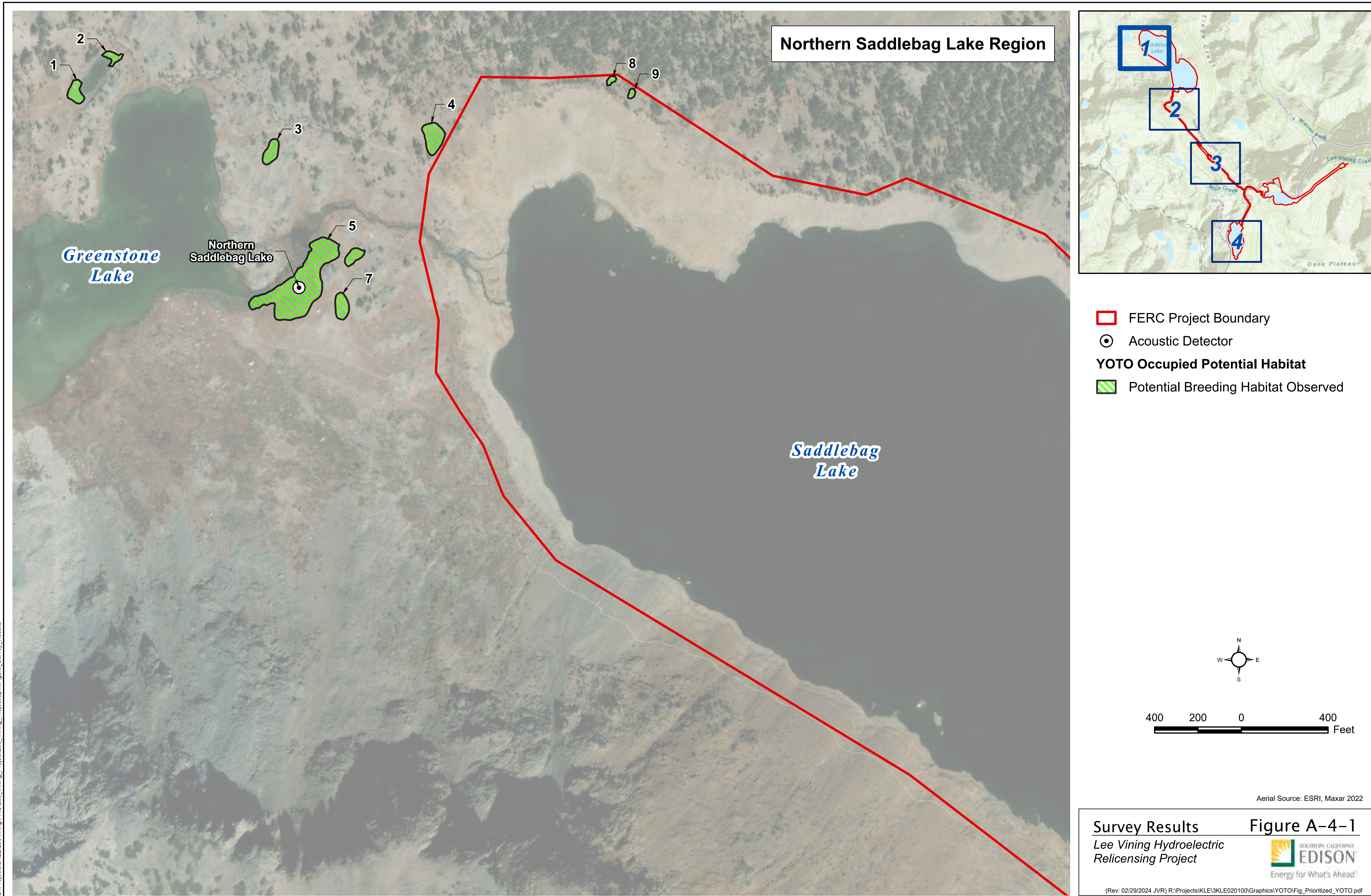

Northern Saddlebag Lake Region
1
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8
9
Greenstone Lake
Northern Saddlebag Lake
Saddlebag Lake
1
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3
4
Dana Plateau
Lee Vining Creek
FERC Project Boundary
Acoustic Detector
YOTO Occupied Potential Habitat
Potential Breeding Habitat Observed
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400 200 0 400
Feet
Aerial Source: ESRI, Maxar 2022
Survey Results
Figure A-4-1
Lee Vining Hydroelectric Relicensing Project
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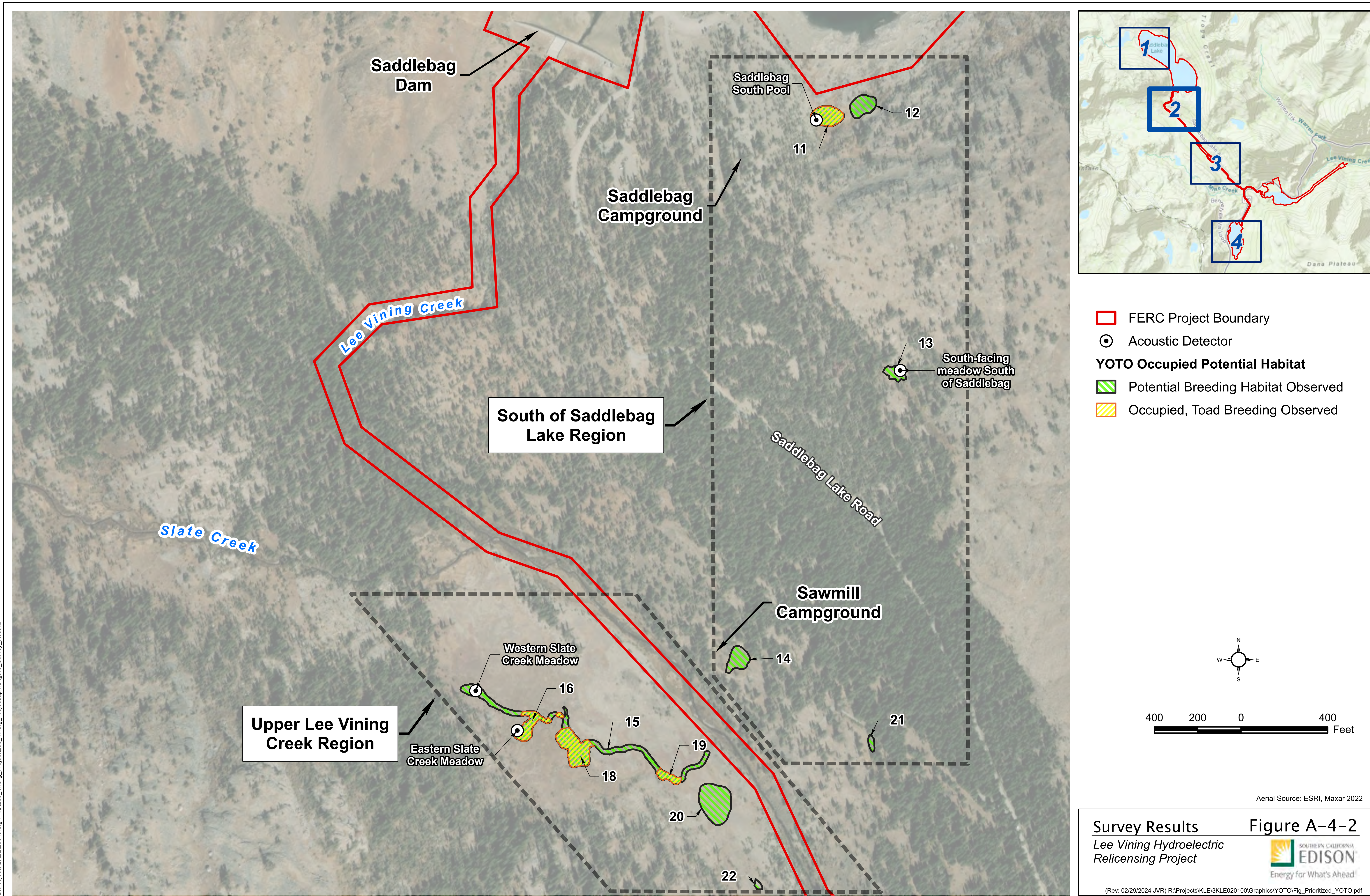

Survey Results
Figure A-4-2
Lee Vining Hydroelectric Relicensing Project

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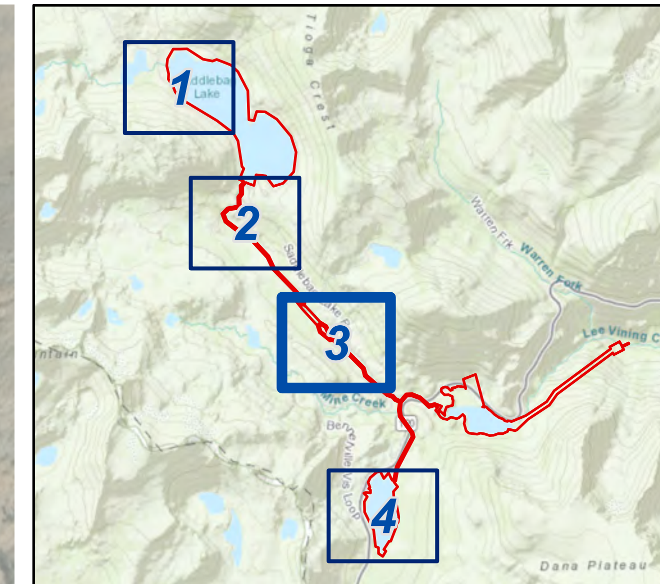

FERC Project Boundary
Acoustic Detector
YOTO Occupied Potential Habitat
Potential Breeding Habitat Observed

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400 200 0 400
Feet

Aerial Source: ESRI, Maxar 2022

Survey Results

Figure A-4-3

Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead

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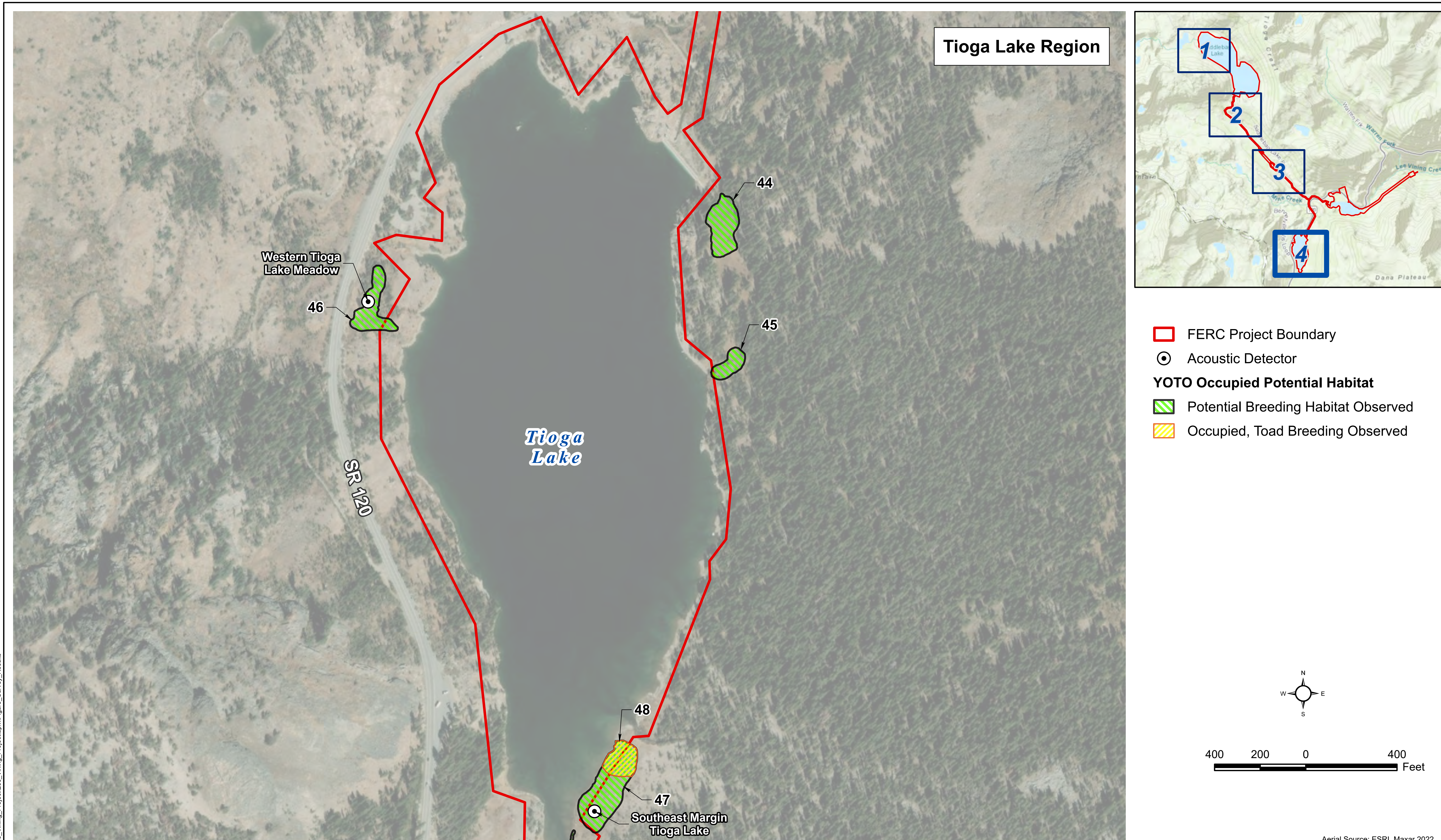

Survey Results Figure A-4-4
Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead

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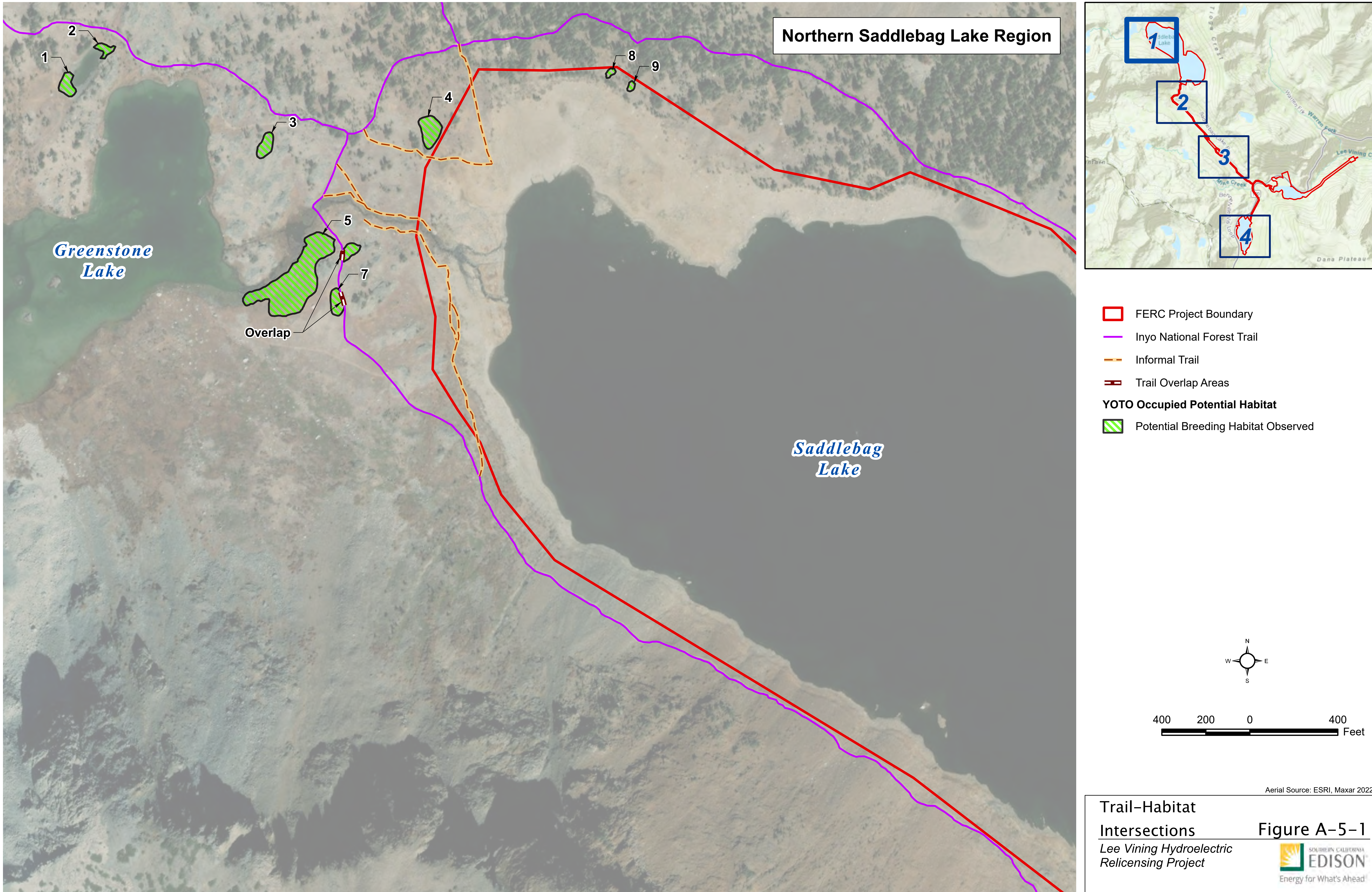

Trail-Habitat Intersections

Figure A-5-1

Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON Energy for What's Ahead

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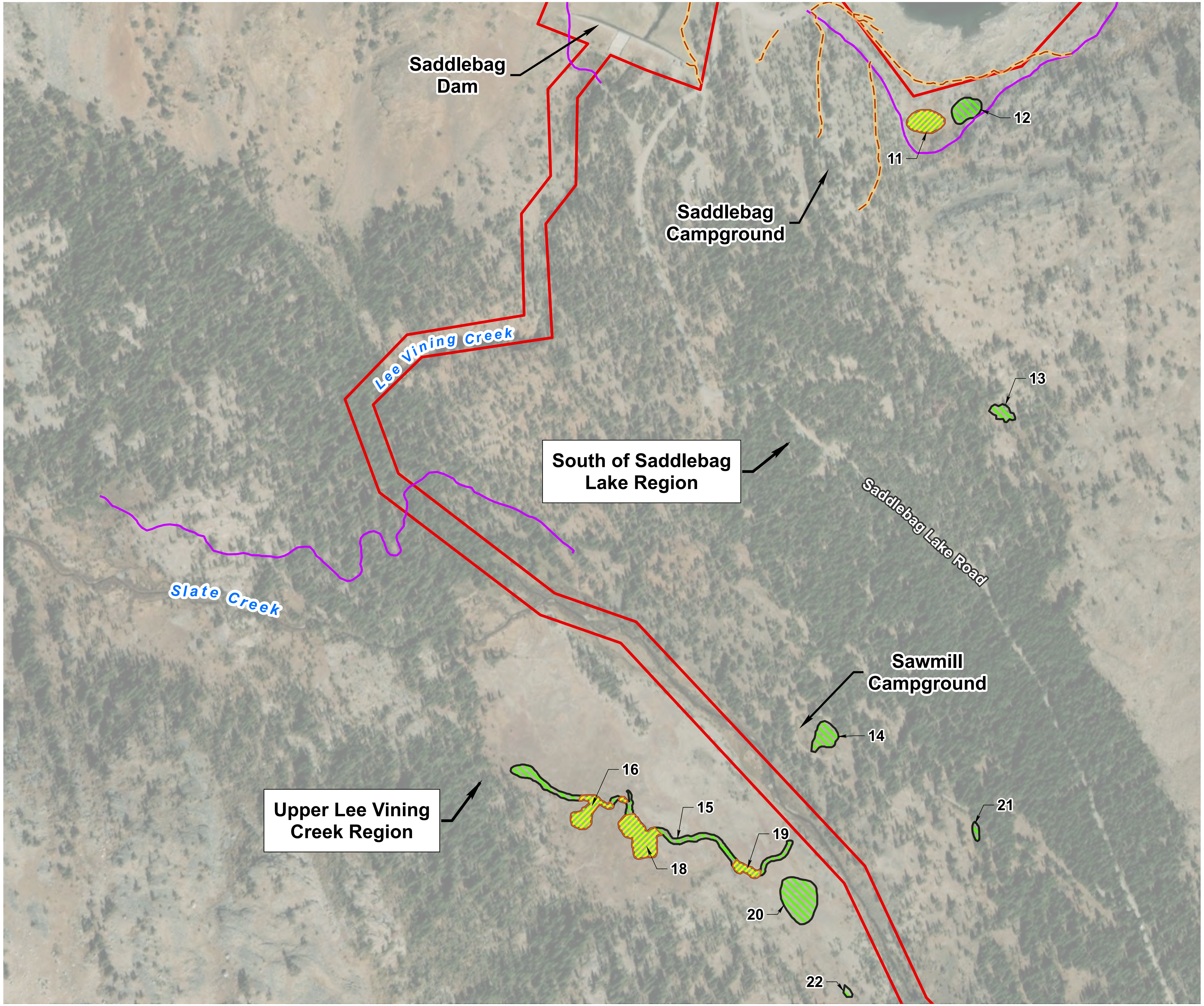
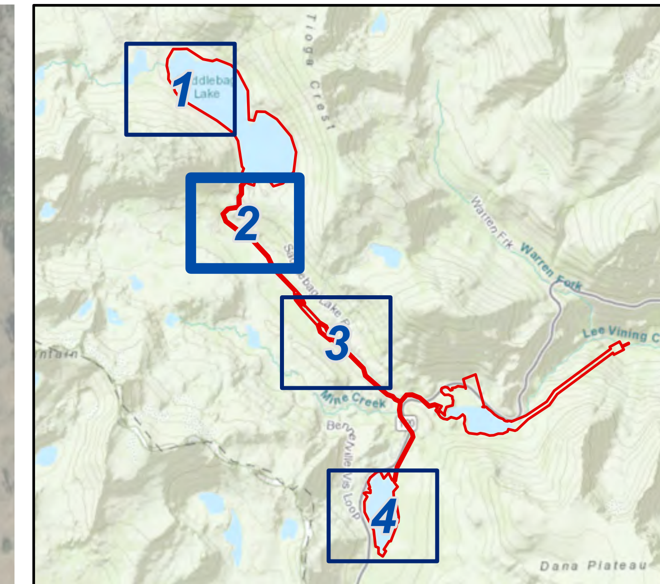




FERC Project Boundary
Inyo National Forest Trail
Informal Trail

YOTO Occupied Potential Habitat

Potential Breeding Habitat Observed
Occupied, Toad Breeding Observed

400 200 0 400 Feet

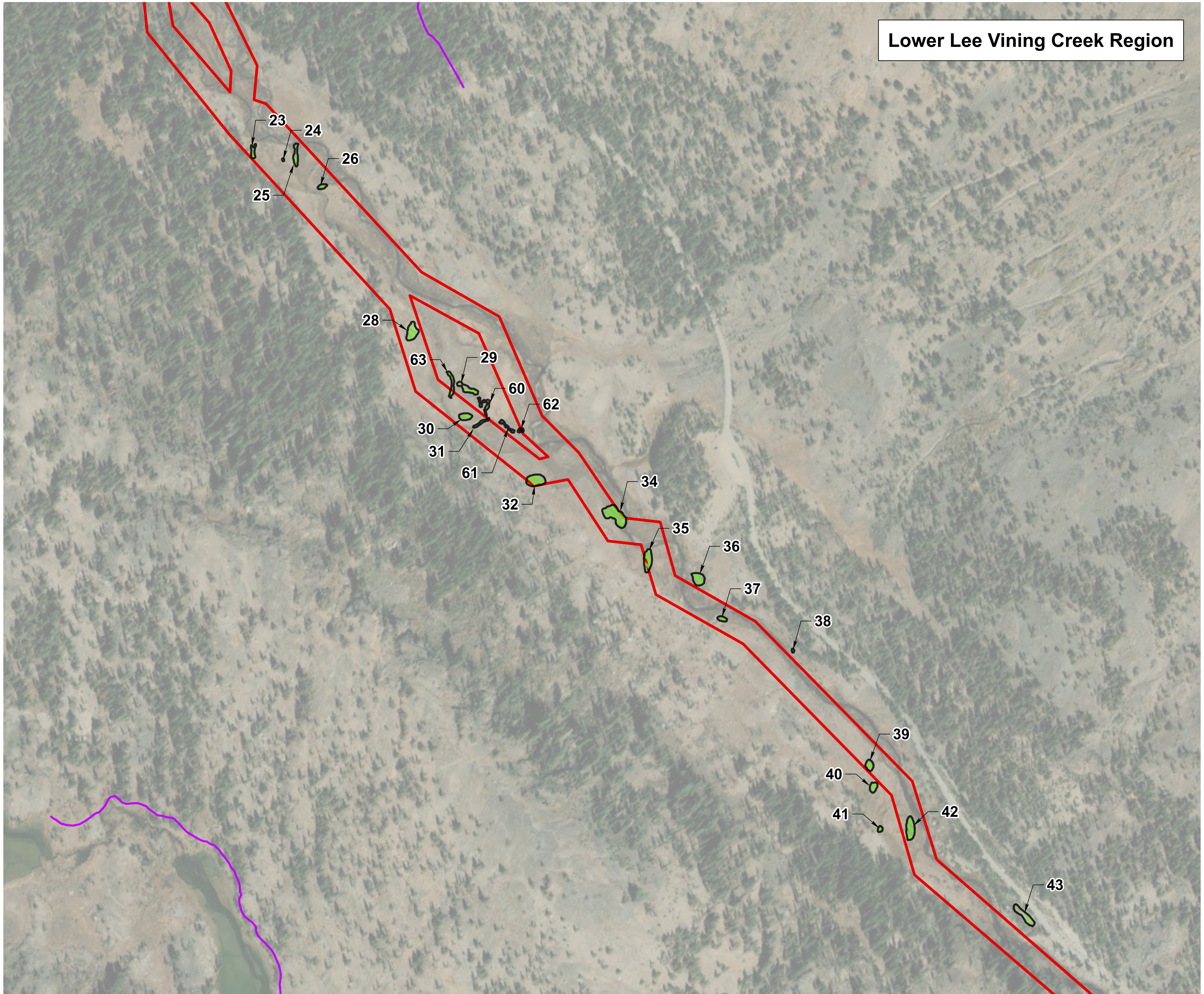
Aerial Source: ESRI, Maxar 2022

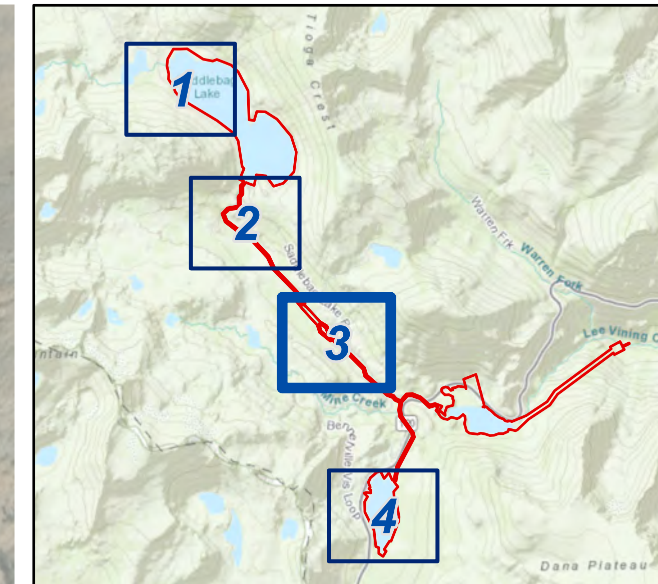
Trail–Habitat Intersections

Figure A-5-2

Lee Vining Hydroelectric Relicensing Project

Southern California Edison
Energy for What's Ahead





FERC Project Boundary

Inyo National Forest Trail

YOTO Occupied Potential Habitat

Potential Breeding Habitat Observed

N
W E
S

400 200 0 400
Feet

Aerial Source: ESRI, Maxar 2022

Trail-Habitat Intersections

Figure A-5-3

Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead

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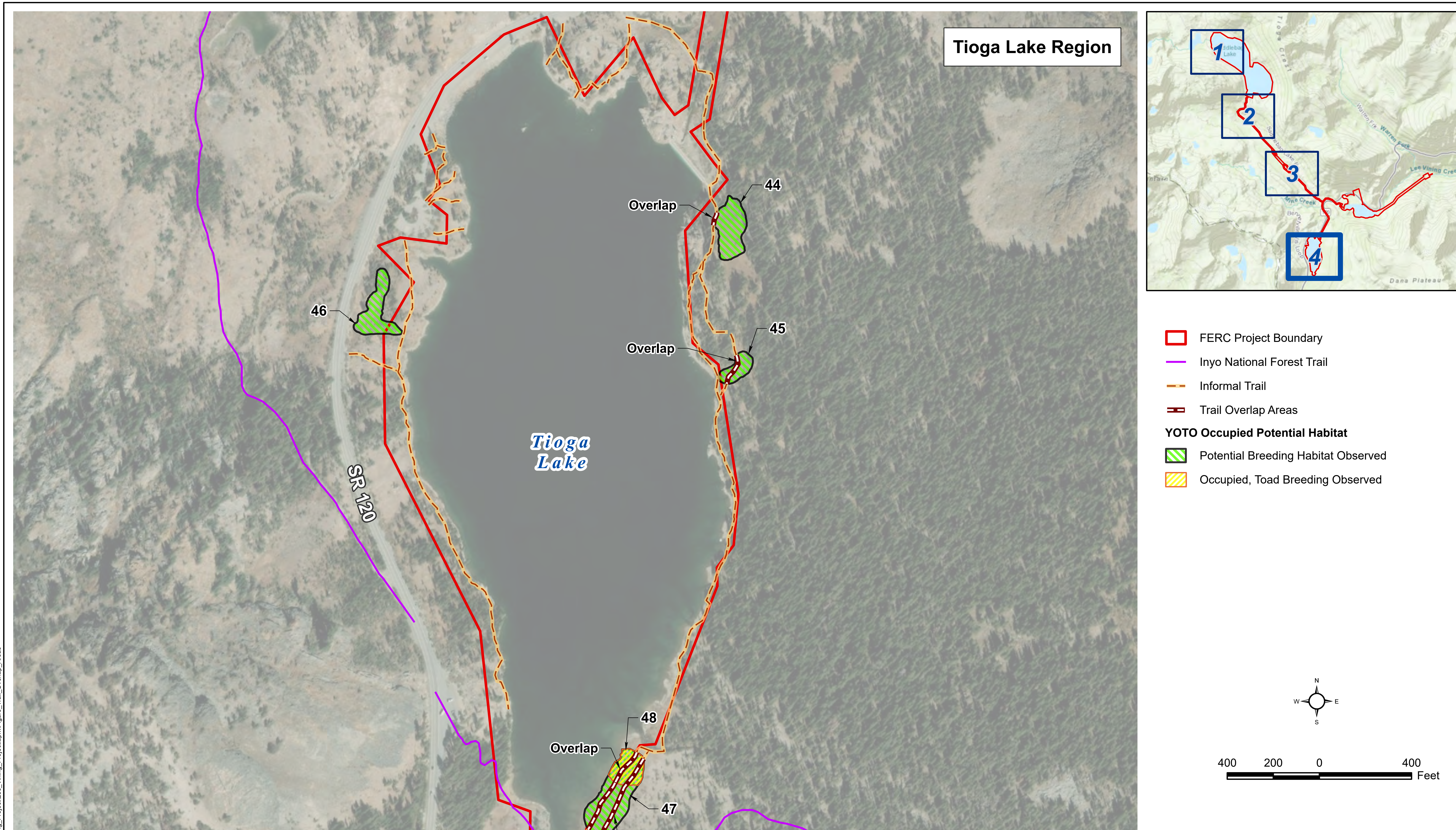

Trail-Habitat Intersections

Figure A-5-4

Lee Vining Hydroelectric Relicensing Project

SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead

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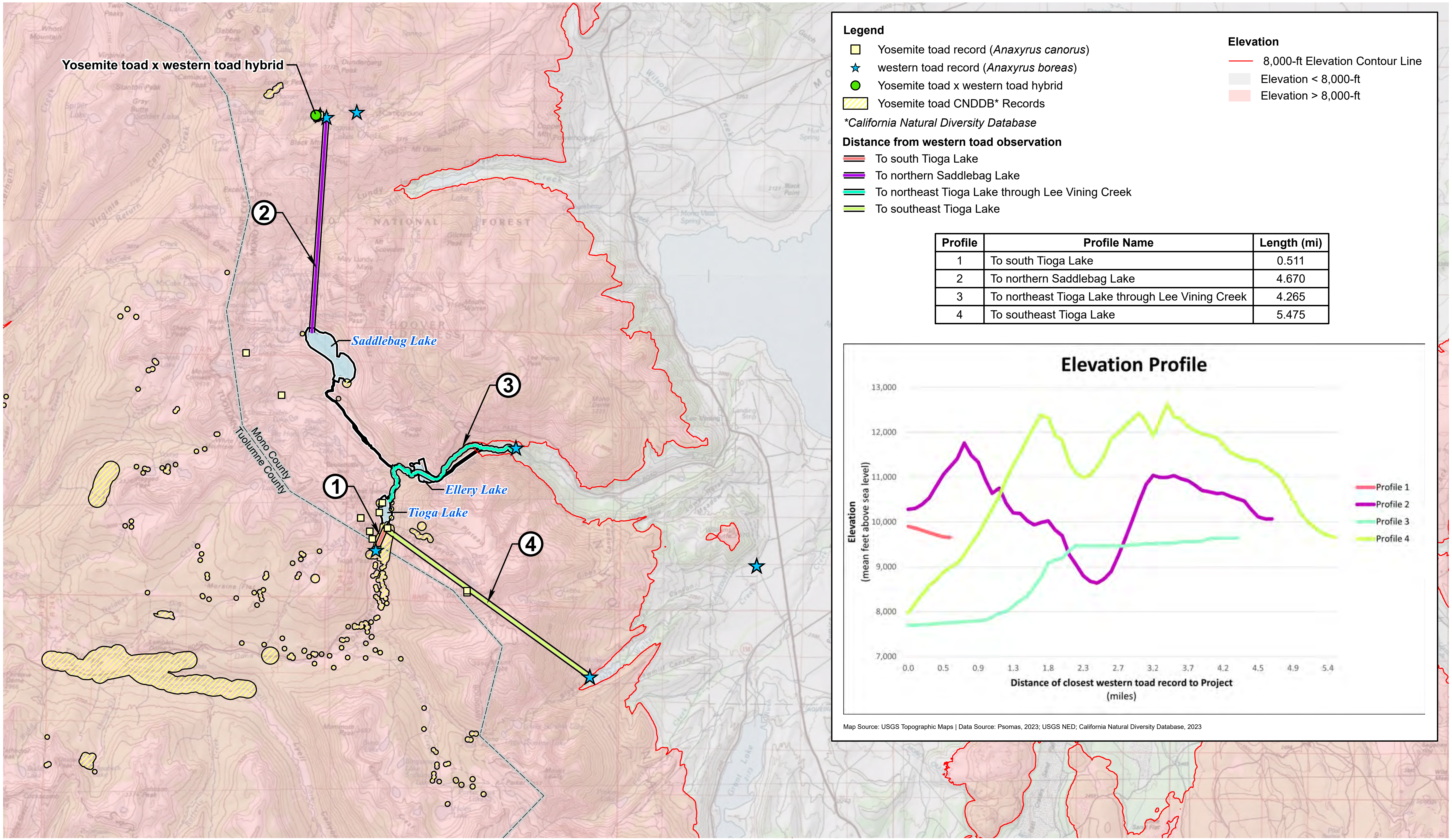

Profile	Profile Name	Length (mi)
1	To south Tioga Lake	0.511
2	To northern Saddlebag Lake	4.670
3	To northeast Tioga Lake through Lee Vining Creek	4.265
4	To southeast Tioga Lake	5.475

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Historic Regional Yosemite Toad and Western Toad Locations

Figure A-6

Lee Vining Hydroelectric Relicensing Project

N W E S 2 1 0 2 Miles

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ATTACHMENT B
CONSECUTIVE AUDIO RECORDERS HOURS RECORDED BY DATE

Attachment B
Consecutive Audio Recorders Hours Recorded by Date

Date (2023)	Southern Tioga Pass Meadow	Southeast Margin Tioga Lake	Western Tioga Lake Meadow	Central Lee Vining Creek Eastside	Central Lee Vining Creek Westside	Western Slate Creek Meadow	Eastern Slate Creek Meadow	South-facing Meadow South of Saddlebag	Saddlebag South Pool	Northern Saddlebag Lake
6-Jul		9								
7-Jul	15	24	14	15						
8-Jul	24	24	24	24						
9-Jul	24	24	24	24						
10-Jul	24	24	24	24						
11-Jul	24	24	24	24						
12-Jul	24	24	24	24						
13-Jul	24	24	14	24	8					
14-Jul	24	24		10	24			12	14	
15-Jul	24	24			24			24	24	
16-Jul	24	24			24			24	24	
17-Jul	24	24			24			24	24	
18-Jul	24	24			24			24	24	
19-Jul	24	24			24			24	24	
20-Jul	24	24			24			24	24	
21-Jul	24	24			24			24	24	
22-Jul	24	24			24			24	24	
23-Jul	24	24			24			24	24	
24-Jul	24	24			24			24	24	
25-Jul	24	24			24			24	24	
26-Jul	24	24			24			24	24	
27-Jul	10	10			24	12	12	24	24	
28-Jul					24	24	24	24	23	
29-Jul					24	24	24	24	24	
30-Jul					24	24	24	24	24	
31-Jul					24	24	24	24	24	
1-Aug					24	24	24	24	24	
2-Aug					24	24	24	24	24	
3-Aug					24	24	24	24	24	
4-Aug					24	24	24	24	24	
5-Aug					24	24	24	24	24	
6-Aug					24	24	24	24	24	
7-Aug					24	24	24	24	24	
8-Aug					24	24	24	24	24	
9-Aug					24	24	24	25	24	12
10-Aug					25	13	24	24	25	24
11-Aug					24		24	24	24	24
12-Aug					24		24	24	24	24
13-Aug					24		24	24	24	24
14-Aug					24		24	24	24	24
15-Aug					24		24	24	24	24
16-Aug					24		24	24	24	24

Attachment B
Consecutive Audio Recorders Hours Recorded by Date

Date (2023)	Southern Tioga Pass Meadow	Southeast Margin Tioga Lake	Western Tioga Lake Meadow	Central Lee Vining Creek Eastside	Central Lee Vining Creek Westside	Western Slate Creek Meadow	Eastern Slate Creek Meadow	South-facing Meadow South of Saddlebag	Saddlebag South Pool	Northern Saddlebag Lake
17-Aug					24		24	24	24	24
18-Aug					24		24	24	24	24
19-Aug					24		24	24	24	24
20-Aug					24		24	24	24	24
21-Aug					24		24	24	24	24
22-Aug					24		24	24	24	24
23-Aug					24		24	24	24	24
24-Aug					24		24	24	24	24
25-Aug					24		24	24	24	24
26-Aug					24		24	24	24	24
27-Aug					24		24	24	24	24
28-Aug					24		24	24	24	24
29-Aug					24		24	24	24	24
30-Aug					24		24	24	24	24
31-Aug					24		24	24	24	24
1-Sep					24		24	24	24	24
2-Sep					24		24	24	24	24
3-Sep					24		24	24	24	24
4-Sep					24		24	24	24	24
5-Sep					24		24	24	24	24
6-Sep					24		24	24	24	24
7-Sep					24		24	24	24	24
8-Sep					24		24	24	24	24
9-Sep					24		24	21	24	24
10-Sep					24		24		24	24
11-Sep					24		24		24	24
12-Sep					24		24		24	24
13-Sep					24		24		24	24
14-Sep					24		24		24	24
15-Sep					24		24		24	24
16-Sep					24		24		24	24
17-Sep					24		24		24	4
18-Sep					24		24		24	
19-Sep					24		24		24	
20-Sep					24		24		24	
21-Sep					14		24		11	
22-Sep							24			
23-Sep							24			
24-Sep							24			
25-Sep							24			
26-Sep							24			
27-Sep							24			

Attachment B
Consecutive Audio Recorders Hours Recorded by Date

Date (2023)	Southern Tioga Pass Meadow	Southeast Margin Tioga Lake	Western Tioga Lake Meadow	Central Lee Vining Creek Eastside	Central Lee Vining Creek Westside	Western Slate Creek Meadow	Eastern Slate Creek Meadow	South-facing Meadow South of Saddlebag	Saddlebag South Pool	Northern Saddlebag Lake
28-Sep							24			
29-Sep							19			

ATTACHMENT C
SUMMARY OF VOUCHER SPECIMENS COLLECTED

United States Department of the Interior

NATIONAL PARK SERVICE
Yosemite National Park
P. O. Box 577
Yosemite, California 95389

IN REPLY REFER TO:

Saddle Bag Lake, Inyo National Forest, Mono County, California. Yosemite toad (*Anaxyrus* spp.) – tadpole collection for suspected potential hybridization/contact zone with Western toad (*Anaxyrus boreas*).

August 23, 2023

TE-86906B-2 – SPECIAL TERMS AND CONDITIONS requirement for [3. Authorized Take.] 14-day report for the collection of potential *Anaxyrus canorus* larvae (tadpoles).

By this email message, you are authorized to collect Yosemite toad (*Anaxyrus canorus*) toe clips, tail clips, or whole voucher specimens (tadpoles only), as specified in your June 27, 2023, email request, per the conditions of your recovery permit (86906B-2) and attached amendment. Surveys and genetic sampling will be conducted in the Saddlebag Lake region, Inyo National Forest, Mono County, California. Please remember to carry a copy of your permit while doing the work and to follow the terms and conditions therein. This authorization does not include access to the property which must be arranged with the landowner or manager. Please let us know if the activities are not performed as authorized, or if they are done by a different permittee under a separate authorization.

Please send survey reports with the reference # [86906B-2-RFWO-Grasso] to FW8_RFWO_Permits@fws.gov and Chad Mellison (chad_mellison@fws.gov).to your direction.

Site Location
Saddle Bag Lake and vicinity – Inyo National Forest, Mono County, California

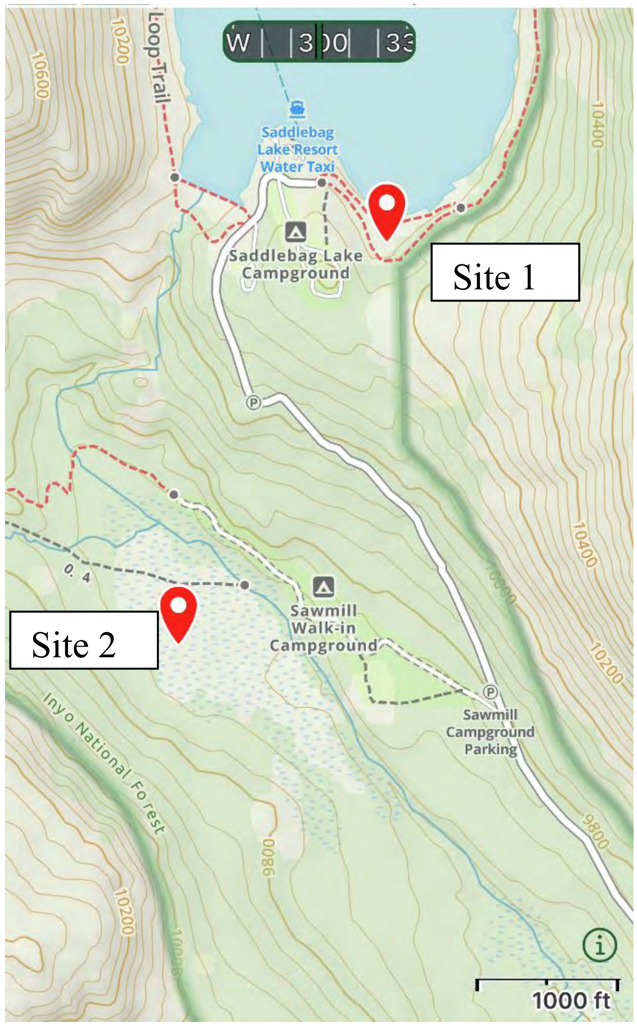
Collection Period
August 8, 2023
Start time: 1200
End time: 1400
Collector: Rob Grasso (Yosemite National Park)
Assistants: Nico Grasso (volunteer)

Summary: Due to suspected contact zone between *Anaxyrus canorus* and *A. boreas*, special permission was requested to collect voucher specimens from two locations near Saddle Bag Lake, Inyo National Forest, Mono County, California that could be requested for genetic analyses to establish if hybridization is occurring in this region.

On 8 August 2023, Rob Grasso and one volunteer traveled to Saddle Bag Lake to collect *A. spp*. specimens to be available for genetic analyses. The first location visited was approximately 0.25 mi. east of the dam along the south shore of the lake in a small, ponded meadow area: [Latitude: 37.96511°; Longitude: -119.26891°, Elevation: 10,079 ft, Map 1, Photo 1] accessed via the lake loop trailhead parking at the lake shore resort. Approximately 200-300 early-stage tadpoles were observed in two distinct pools in the meadow as well as a total of 16 recently metamorphosed or second year toadlets along pond shorelines. A total of 10 *A. spp* tadpoles were collected from 4-6 distinct aggregations of tadpoles from both ponds and placed in 90% ethanol. Tadpoles were small (< 20 mm), dark (black), and had a paddle-shaped tail equal to the length of the body. All characteristics consistent with *A. canorus*. Metamorphs/toadlets also had paratoid gland spacing consistent with *A. canorus*. No adult toads were observed.

The second collection was located below the Saddle Bag Lake dam in a large meadow west of Lee Vining Creek [Latitude: 37.95694°; Longitude: -119.27389°, Elevation: 9,850 ft, Map 1, Photo 2]. A visual encounter survey of suitable *A. canorus* habitat in the meadow (Map 2) was performed of the area prior to collecting. *A. spp*. tadpoles in the meadow were sparse and spread out. We estimated less than 250 total tadpoles in the area. A total of 10 *A. spp.* tadpoles were collected from 6-8 distinct small aggregations of tadpoles from around the meadow in small ponds as well as stream locations and placed in 90% ethanol. Tadpoles were large (> 20 mm), dark (black), and had a paddle-shaped tail equal to the length of the body. All characteristics consistent with *A. canorus.* No other life stages of toads were observed.

Disposition of *A. canorus* samples: All samples (n=20) are preserved in ethanol and currently stored in -20 freezer at the Yosemite National Park Maintenance Facility located at 5083 Foresta Rd in El Portal, CA, 95318. They are on the first-floor freezer in the wet lab of the Resources Management and Science Building and will be availably upon request to an entity with permission from the U.S. Fish & Wildlife Service.



Map 1. Depicting two *Anaxyrus* spp. collection locations (red balloon markers) in proximity to Saddle Bag Lake, Inyo National Forest, Mono County, California. Site 1, approximately 0.25 mi. from Saddle Bag Lake dam; and Site 2 west of Lee Vining Creek and Sawmill Walk-in Campground.

Map 2. Depicting visual encounter survey track of Site 2 west of Sawmill Walk-in Campground and Lee Vining Creek, Inyo National Forest, Mono County, California.

ATTACHMENT D
POTENTIAL YOSEMITE TOAD BREEDING HABITAT SURVEYED

Attachment D
Potential Yosemite Toad Breeding Habitat Surveyed

			Adjacent Vegetative Cover [a,c]		Dominant Adjacent Plant Species [a]															
General Site Location	Pool No.	Tree cover[b]	Herbs or <1 m tall	Woody or >1 m tall	Grass (Poacea family)	Shrubby willow (*Salix* spp.)	Pine (*Pinus* spp.)	Wildlife Burrows Present [a]	Emergent vegetation[c]	Aquatic detritus	Observed inflow	Inflow	Approx. area pooled (m^2)	Deepest water depth (cm)	Percentage of pool <= 30 cm deep [c]	Mean distance to 3 closest habitat areas (m)	Treefrog present	Toad present	Unknown tadpoles present	Predators present
Northern Saddlebag Lake	1	Yes	75%	25%	X		X	No	25%	Yes	Offsite runoff	Lentic (still)	516	>30	75%	224	tadpoles	None	No	mountain garter snake
Northern Saddlebag Lake	2	Yes	75%	25%	X	X		Yes	50%	Yes	Offsite runoff	Lentic (still)	286	7	100%	218	tadpoles	None	No	None
Northern Saddlebag Lake	3	Yes	75%	<5%	X			No	50%	Yes	Greenstone Lake	Lentic (still)	541	>30	75%	165	tadpoles	None	No	None
Northern Saddlebag Lake	4	Yes	95%	5%	X			No	75%	Yes	Offsite runoff	Lentic (still)	981	15	100%	182	None	None	No	None
Northern Saddlebag Lake	5	No	>95%	<5%	X			Yes	75%	Yes	Greenstone Lake/ Offsite runoff	Lentic (still)	5,741	>30	50%	52	adults, tadpoles	None	No	None
Northern Saddlebag Lake	7	No	>95%	<5%	X			Yes	>95%	Yes	Offsite runoff	Lentic (still)	581	20	100%	88	None	None	No	None
Northern Saddlebag Lake	8	Yes	100%	5%	X		X	Yes	50%	Yes	Offsite runoff	Lentic (still)	113	7	100%	225	None	None	No	None
Northern Saddlebag Lake	9	Yes	100%	5%	X		X	Yes	50%	Yes	Offsite runoff	Lentic (still)	103	7	100%	238	None	None	No	None
South of Saddlebag Lake	11	Yes	>95%	<5%	X			Yes	25%	Yes	Offsite runoff	Lentic (still)	1,008	>30	25%	366	adults, tadpoles	adults, tadpoles	No	None
South of Saddlebag Lake	12	Yes	75%	<5%	X			Yes	25%	Yes	Offsite runoff	Lentic (still)	856	>30	50%	374	tadpoles	None	No	None
South of Saddlebag Lake	13	Yes	75%	<5%	X			No	75%	Yes	Offsite runoff	Lentic (still)	437	20	100%	376	tadpoles	None	No	None
South of Saddlebag Lake	14	Yes	>95%	<5%	X			No	50%	Yes	Offsite runoff	Lentic (still)	815	10	100%	156	tadpoles	None	No	None
Upper Lee Vining Creek	15	No	>95%	<5%	X	X		Yes	25%	Yes	Offsite runoff	Lotic (flowing)	5,274	>30	75%	103	tadpoles	None	No	mountain garter snake
Upper Lee Vining Creek	16	No	>95%	<5%	X			Yes	75%	Yes	Offsite runoff	Lentic (still)	941	20	None	0	None	tadpoles	No	mountain garter snake
Upper Lee Vining Creek	18	No	>95%	<5%	X			Yes	50%	Yes	Offsite runoff	Lentic (still)	1,640	8	100%	0	tadpoles	tadpoles	No	mountain garter snake
Upper Lee Vining Creek	19	No	>95%	<5%	X			Yes	25%	Yes	Offsite runoff	Lotic (flowing)	359	15	100%	0	None	tadpoles	No	brook trout
Upper Lee Vining Creek	20	No	>95%	<5%	X			Yes	>95%	Yes	Offsite runoff	Lentic (still)	2,031	3	100%	91	None	None	No	None
South of Saddlebag Lake	21	Yes	75%	75%			X	Yes	50%	Yes	Offsite runoff	Lentic (still)	154	8	100%	209	None	None	No	None
Upper Lee Vining Creek	22	Yes	75%	25%	X		X	Yes	75%	Yes	Offsite runoff	Lentic (still)	99	20	100%	168	tadpoles	None	No	None
Lower Lee Vining Creek	23	Yes	>95%	25%	X	X		Yes	25%	Yes	Lee Vining Creek	Lentic (still)	75	30	100%	55	None	None	No	None
Lower Lee Vining Creek	24	No	95%	<5%	X	X		Yes	25%	Yes	Offsite runoff	Lentic (still)	9	25	100%	32	None	None	No	None
Lower Lee Vining Creek	25	No	25%	75%		X		No	>95%	Yes	Lee Vining Creek	Lentic (still)	123	15	100%	31	None	None	No	brook trout
Lower Lee Vining Creek	26	No	75%	25%	X	X		No	75%	Yes	Lee Vining Creek	Lotic (flowing)	52	>30	25%	58	None	None	No	brook trout
Lower Lee Vining Creek	28	Yes	75%	25%	X	X		Yes	75%	Yes	Offsite runoff	Lentic (still)	227	>30	50%	81	adults	None	No	None
Lower Lee Vining Creek	29	No	>95%	<5%	X			Yes	25%	Yes	Offsite runoff	Lentic (still)	155	7	100%	11	tadpoles	None	No	None
Lower Lee Vining Creek	30	No	>95%	<5%	X			Yes	75%	Yes	Offsite runoff	Lentic (still)	112	20	100%	16	tadpoles	None	No	None
Lower Lee Vining Creek	31	No	>95%	<5%	X			Yes	25%	Yes	Offsite runoff	Lentic (still)	55	>30	75%	8	tadpoles	None	Yes	None
Lower Lee Vining Creek	32	No	>95%	<5%	X			Yes	75%	Yes	Offsite runoff	Lentic (still)	277	6	100%	63	None	None	No	None
Lower Lee Vining Creek	34	No	>95%	<5%	X			Yes	>95%	Yes	Lee Vining Creek	Lentic (still)	460	3	100%	74	None	None	No	None
Lower Lee Vining Creek	35	No	>95%	<5%	X			Yes	50%	Yes	Lee Vining Creek	Lotic (flowing)	221	>30	25%	65	None	None	No	None
Lower Lee Vining Creek	36	No	50%	50%		X		No	50%	Yes	Lee Vining Creek	Lotic (flowing)	191	>30	None	66	None	None	No	brook trout
Lower Lee Vining Creek	37	Yes	>95%	25%	X	X		Yes	75%	Yes	Lee Vining Creek	Lentic (still)	57	>30	25%	79	None	None	No	brook trout
Lower Lee Vining Creek	38	Yes	>95%	75%		X		No	25%	Yes	Lee Vining Creek	Lentic (still)	12	>30	25%	129	None	None	No	None
Lower Lee Vining Creek	39	No	>95%	50%	X			Yes	>95%	Yes	Offsite runoff	Lentic (still)	99	>30	50%	53	None	None	No	None
Lower Lee Vining Creek	40	Yes	>95%	50%	X			Yes	>95%	Yes	Offsite runoff	Lentic (still)	91	>30	50%	36	tadpoles	None	No	None
Lower Lee Vining Creek	41	Yes	>95%	50%	X			Yes	50%	Yes	Offsite runoff	Lentic (still)	34	7	100%	47	None	None	No	None
Lower Lee Vining Creek	42	No	>95%	25%	X	X		Yes	50%	Yes	Lee Vining Creek	Lentic (still)	245	>30	25%	52	adults	None	No	None
Lower Lee Vining Creek	43	Yes	<5%	>95%	X	X	X	Yes	75%	Yes	Offsite runoff	Lentic (still)	230	25	100%	188	None	None	No	None
Margins of Tioga Lake	44	Yes	50%	75%			X	Yes	75%	Yes	Offsite runoff	Lotic (flowing)	2,589	5	100%	404	None	None	No	None
Margins of Tioga Lake	45	Yes	75%	50%	X		X	No	75%	No	Offsite runoff	Lotic (flowing)	1,084	5	100%	348	None	None	No	None
Margins of Tioga Lake	46	Yes	>95%	75%			X	Yes	>95%	Yes	Offsite runoff	Lotic (flowing)	2,352	10	75%	492	None	None	No	None
Margins of Tioga Lake	47	No	>95%	25%	X	X		Yes	75%	Yes	Offsite runoff	Lentic (still)	4,950	7	100%	211	None	None	No	None
Margins of Tioga Lake	48	No	>95%	<5%	X			Yes	>95%	Yes	Offsite runoff	Lotic (flowing)	1,654	10	100%	44	None	tadpoles	No	None

Attachment D
Potential Yosemite Toad Breeding Habitat Surveyed

General Site Location	Pool No.	Tree cover[b]	Adjacent Vegetative Cover [a,c]		Dominant Adjacent Plant Species [a]			Wildlife Burrows Present [a]	Emergent vegetation[c]	Aquatic detritus	Observed inflow	Inflow	Approx. area pooled (m^2)	Deepest water depth (cm)	Percentage of pool <= 30 cm deep [c]	Mean distance to 3 closest habitat areas (m)	Treefrog present	Toad present	Unknown tadpoles present	Predators present
			Herbs or <1 m tall	Woody or >1 m tall	Grass (Poacea family)	Shrubby willow (*Salix* spp.)	Pine (*Pinus* spp.)													
Margins of Tioga Lake	49	No	>95%	25%	X			Yes	50%	Yes	Tioga Lake	Lentic (still)	103	10	100%	242	None	None	No	brook trout
Margins of Tioga Lake	50	Yes	>95%	<5%	X			Yes	50%	Yes	Offsite runoff	Lentic (still)	574	>30	75	309	None	tadpoles	No	None
Lower Lee Vining Creek	60	No	>95%	<5%	X			Yes	25%	Yes	Offsite runoff	Lentic (still)	93	5	100%	7	tadpoles	None	No	None
Lower Lee Vining Creek	61	No	>95%	<5%	X			Yes	25%	Yes	Offsite runoff	Lentic (still)	58	12	100%	11	tadpoles	None	No	mountain garter snake
Lower Lee Vining Creek	62	No	>95%	<5%	X			Yes	25%	Yes	Offsite runoff	Lentic (still)	22	15	100%	28	tadpoles	None	No	None
Lower Lee Vining Creek	63	No	>95%	<5%	X			Yes	>95%	Yes	Offsite runoff	Lentic (still)	114	>30	25%	19	adults, tadpoles	None	Yes	None

Legend:

a - within 2 meters from water's edge

b - within 5 meters from water's edge

c - None, 25%, 50%, 75%, >95%

cm = centimeters, m = meters, m^2 = square meters, spp. = species

APPENDIX B
SITE PHOTO LOCATIONS AND REPRESENTATIVE PHOTOGRAPHS

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Site Photo Locations

Appendix B-1

Lee Vining Hydroelectric Relicensing Project

N W E S

3,200 1,600 0 3,200 Feet

PSOMAS

(Rev: 1-26-2024 JVR) R:\Projects\KLE\3KLE020100\Graphics\Wildlife\Att_SP.pdf

Photo 1. Photo of a coyote (*Canis latrans*) taken by Camera B along the western side of Lee Vining Creek facing west.

Photo 2. Photo of a mule deer (*Odocoileus hemionus*) taken by Camera C on the eastern side of Tioga Lake facing east.

Photo 3. Photo taken by Camera C of a juvenile black bear (*Ursus americanus*).

Photo 4. Photo taken by Camera C of a mule deer at 1:33 AM.

Photo 5. Photo taken by Camera C of a mountain lion (*Puma concolor*) carrying prey at 1:49 AM.

Photo 6. Photo taken by Camera C of the same mountain lion continuing to carry prey at 1:50 AM.

Representative Photographs

Appendix B-3

Lee Vining Hydroelectric Relicensing Project

PSOMAS

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Photo 7. Representative photo of the area monitored by Camera A between Saddlebag Lake and Greenstone Lake. No clearly distinguishable or otherwise notable wildlife photo were taken by this camera.

Photo 8. Photo of the location recorded by Bat Acoustic Recorder A downstream of Saddlebag Dam.

Photo 9. Photo of the location recorded by Bat Acoustic Recorder B downstream of Poole Powerhouse.

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SOUTHERN CALIFORNIA EDISON
Lee Vining Hydroelectric Project
(FERC Project No. 1388)

RECREATION USE ASSESSMENT (REC-1)
DRAFT TECHNICAL REPORT

JANUARY 2025

SOUTHERN CALIFORNIA EDISON

Lee Vining Hydroelectric Project
(FERC Project No. 1388)

RECREATION USE ASSESSMENT (REC-1)
DRAFT TECHNICAL REPORT

Southern California Edison
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LIST OF ACRONYMS AND ABBREVIATIONS

ABA	Architectural Barriers Act
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CPUE	catch per unit effort
DC	desired conditions
FERC	Federal Energy Regulatory Commission
GDL	guidelines
GOAL	goals
MA-DRA	management area-destination recreation area
MA-GRA	management area-general recreation area
OBJ	objectives
Project	Lee Vining Hydroelectric Project (FERC Project No. 1388)
QA	quality assurance
QC	quality control
REC-FW	Recreation-forest wide
SCE	Southern California Edison
STD	standards
TWG	Technical Working Group
USFS	U.S. Forest Service

1.0 INTRODUCTION

This draft technical report presents the data of the Recreation Use Assessment (REC-1) Study conducted in 2022 and 2024 surrounding the Lee Vining Hydroelectric Project (Project). The REC-1 Technical Study Plan detailed Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

This REC-1 Study characterizes existing recreation use and access within and surrounding the Project and aims to assess future recreation needs that may be associated with the Project.

All recreation facilities in the upper Lee Vining Canyon are currently owned and operated by the U.S. Forest Service (USFS) and not associated with the FERC Project license. However, many of these sites are located adjacent to the existing FERC Project Boundary. The first study season (Phase 1) of the REC-1 Study evaluated which Inyo National Forest recreation facilities or activities have a potential connection to the Project and thus warranted inclusion in the broader study proposed for the second study season (Phase 2).

2.0 STUDY GOALS AND OBJECTIVES

The primary objective of Phase 1 in 2022 was to determine which Inyo National Forest recreation facilities or activities have a potential connection to the Project and may warrant inclusion in the broader studies proposed for Phase 2 conducted in 2024.

The objectives of Phase 2 in 2024 included:

- Characterization of existing recreation opportunities and visitation.
- Characterization of existing recreation visitor characteristics, needs, and preferences.
- Estimates of current recreational fishing effort in Project creeks and reservoirs.
- Estimates of future recreational demand and needs, including the need for additional recreation facility and access enhancements or enforcement actions.
- Assessment of the consistency of current recreation opportunities with the desired conditions, goals, standards, and guidelines described in the *Land Management Plan for the Inyo National Forest* (USFS, 2019).

2.1. STUDY AREA

The REC-1 Study area is shown on Figure 2.1-1 and specific study sites based on methodology are listed in Table 2.1-1. For Phase 1, the REC-1 Study area was divided into two geographies: upper Lee Vining Canyon and lower Lee Vining Canyon. Based on the results of Phase 1, only those sites in the upper Lee Vining Canyon identified as having a potential nexus to the Project were included in Phase 2 of REC-1 Study.

Table 2.1-1. Study Sites and Survey Method

Geographic Area	Site Number	Site Name	User Surveys (2022)	User Surveys (2024)	Creel Surveys	Spot Counts	Counters
Upper Lee Vining Canyon	1	Saddlebag Lake Campground [a]	☑	☑	☑	☑	☑
	2	Saddlebag Lake Day Use Area [b]	☑	☑	☑	☑	☑
	3	Saddlebag Lake Trailhead [c]	☑	☑	No	☑	☑
	4	Sawmill Walk-in Campground	☑	☑	☑	☑	No
	5	Carnegie Station Trailhead	☑	No	No	No	No
	6	Gardisky Lake Trailhead	☑	No	No	No	No
	7	Junction Campground	☑	☑	☑	☑	No
	8	Bennettville Trailhead	☑	☑	No	☑	No
	9	Tioga Lake Overlook Info Site	☑	☑	No	☑	No
	10	Glacier Canyon Trailhead	☑	☑	No	☑	No
	11	Nunatak-Tioga Tarns Trailhead	☑	No	No	No	No
	12	Tioga Lake Campground [d]	☑	☑	☑	☑	☑
	13	Nunatak Nature Trail	☑	No	No	No	No
	14	Ellery Lake Campground [e]	☑	☑	☑	☑	☑
	15	Warren Fork Trailhead	☑	No	No	No	No
	22	Informal Fishing Access [f]	No	No	☑	No	No
	23	Ellery Lake Caltrans Pullout [g]	No	☑	No	☑	☑

Geographic Area	Site Number	Site Name	User Surveys (2022)	User Surveys (2024)	Creel Surveys	Spot Counts	Counters
Lower Lee Vining Canyon	16	Big Bend Campground	☑	No	No	No	No
	17	Aspen Grove Campground	☑	No	No	No	No
	18	Boulder Day Use Area	☑	No	No	No	No
	19	Moraine Campground	☑	No	No	No	No
	20	Lower Lee Vining Campground	☑	No	No	No	No
	21	Cattleguard Campground [h]	☑	No	No	No	No

Caltrans = California Department of Transportation
[a] Traffic counter placed on Saddlebag Lake Road to capture all traffic to Saddlebag Lake.
[b] Two trail counters were placed on the Saddlebag Lake loop trail to the east of the trailhead within the Saddlebag Lake Day Use Area.
[c] One trail counter was placed on the Saddlebag Lake loop trail to the west of the trailhead.
[d] One trail counter was placed on a dispersed use trail that originates at a pullout on Tioga Pass Road, south of Tioga Lake Campground.
[e] One trail counter was placed on a dispersed use trail that originates at a pullout on Tioga Pass Road, approximately 560 feet up canyon from Ellery Lake Campground.
[f] California Department of Fish and Wildlife (CDFW) requested that creel surveys be conducted at this informal site. Flyers were placed at the site requesting users to fill out the survey online, no in-person surveys were conducted.
[g] Requests from Mono Lake Committee and Access Fund were received to include the formal Caltrans pullout site in the study. This site was included in the list of sites to have user surveys and spot counts completed. Additionally, a trail counter was placed along the uphill path to the Rhinedollar Dam climbing area.
[h] Cattleguard Campground consists of an administrative building and is not open to the public.

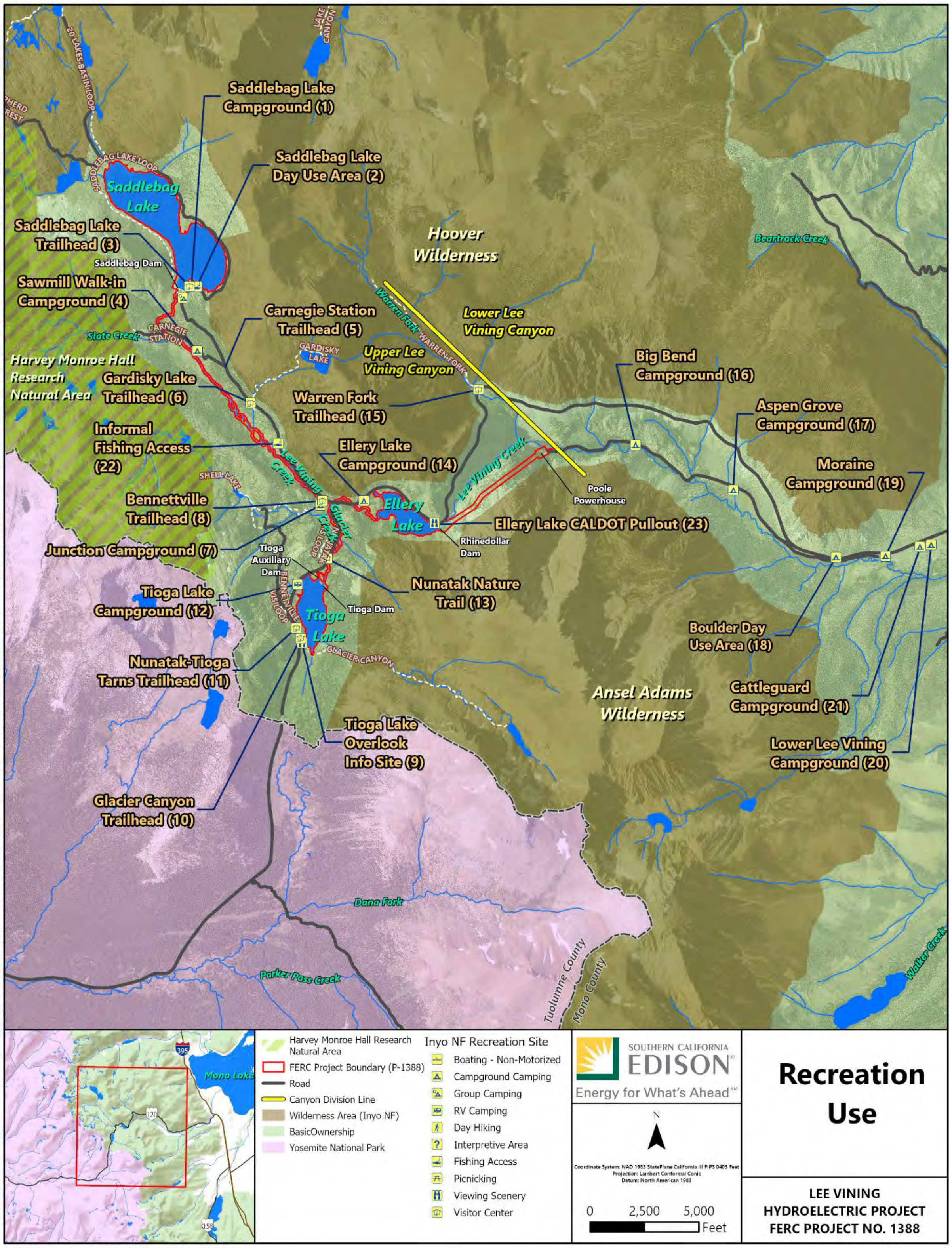


Figure 2.1-1. Recreation Facilities in Project Vicinity.

3.0 METHODS

To accomplish the goals and objectives of the REC-1 Study, SCE used a variety of data collection techniques to compile both historical and current recreation use and needs patterns for the Project Area. Historical use patterns were determined by analyzing the studies, reports, and management plans listed in the Revised Technical Study Plan (SCE, 2022). Current use and needs information were collected through user surveys, creel surveys, spot counts, and traffic and trail counters. A description of each collection technique is provided below.

3.1. USER SURVEYS (2022 AND 2024)

3.1.1. PHASE 1 SURVEYS (2022)

During the 2022 study season, user surveys were conducted on-site using a survey form at the sites identified in Table 2.1-1. These Phase 1 surveys were intended to identify the primary reason for each recreator's visit to determine which Inyo National Forest recreation sites or areas may have a potential connection to the Project and thus may warrant inclusion in Phase 2 of the study. SCE worked with the Recreation and Land Use Resources Technical Working Group (TWG) to develop parameters for determining nexus and final survey forms prior to conducting the Phase 1 surveys (Appendix A).

Phase 1 user surveys were conducted on the dates listed in Table 3.1-1. One user survey circuit included conducting surveys at the sites identified in Table 2.1-1. There were three 4-hour shifts: Shift 1 (7 a.m. to 11 a.m.), Shift 2 (11 a.m. to 3 p.m.), and Shift 3 (3 p.m. to 7 p.m.). On each of the 11 days, two survey circuits were completed within a 4-hour shift. SCE anticipated each circuit would take approximately 2 hours. Within each shift, once the first circuit was completed, the second circuit commenced. The user surveys were conducted following a bus route method (e.g., Pollock et al., 1994); the shift, the starting recreation site for each circuit, and the direction of travel (i.e., clockwise or counterclockwise) were selected randomly on the days the surveys were conducted.

Table 3.1-1. 2022 Phase 1 User Survey Schedule

Date	Type	Start Time	Direction	Starting Site
Sunday, June 12, 2022	Non-peak Weekend	11:00 a.m./3:00 p.m.	CCW/CW	1/11
Wednesday, June 22, 2022	Weekday	7:00 a.m./11:00 a.m.	CCW/CW	13/3
Sunday, June 26, 2022	Non-peak Weekend	11:00 a.m./3:00 p.m.	CW/CCW	6/8
Friday, July 1, 2022	Weekday	7:00 a.m./3:00 p.m.	CW/CW	3/14
Saturday, July 2, 2022	Peak Weekend	11:00 a.m./3:00 p.m.	CCW/CCW	13/11
Saturday, August 13, 2022	Non-peak Weekend	7:00 a.m./11:00 a.m.	CCW/CCW	4/14

Date	Type	Start Time	Direction	Starting Site
Tuesday, August 16, 2022	Weekday	7:00 a.m./3:00 p.m.	CW/CW	1/8
Wednesday, August 31, 2022	Weekday	7:00 a.m./3:00 p.m.	CW/CW	6/9
Thursday, September 1, 2022	Weekday	11:00 a.m./3:00 p.m.	CW/CCW	1/13
Saturday, September 10, 2022	Non-peak Weekend	7:00 a.m./11:00 a.m.	CW/CCW	9/14
Sunday, September 25, 2022	Non-peak Weekend	7:00 a.m./11:00 a.m.	CW/CCW	10/6

CW = clockwise; CCW = counterclockwise

3.1.2. Phase 2 Surveys (2024)

As discussed in Section 4.1, *Phase 1 User Surveys (2022)*, SCE performed a statistical analysis of the Phase 1 survey data to identify sites with a potential Project nexus to be moved forward to Phase 2 surveys. For those selected sites, Phase 2 user surveys were conducted with a survey form (available in both English and Spanish; Appendix B) to collect recreation user characteristics and demographics (e.g., origin, age, and group size); satisfaction; type of activities; length of stay; and perception of crowdedness, site conditions, fees, and site needs. The data collected were used to provide a general pattern of recreation use (e.g., type, amount, and day) and assist in the development of recreation use estimates for the Project Area. The data included recreation user inputs on “crowdedness” and perceived facility needs. Final survey forms, methods, and study locations were developed in collaboration with the Recreation and Land Use Resources TWG prior to field implementation.

Phase 2 user surveys were conducted on the dates listed in Table 3.1-2, for a total of 11 field survey days. One survey circuit included user surveys at the sites identified in Table 2.1-1. On each day, field staff visited each site for 1 hour conducting user surveys following a bus route method (Pollock et al., 1994); the shift, the starting recreation site, and the direction of travel (clockwise or counterclockwise) were selected randomly on the days the surveys were conducted.

As a means of quality control (QC), all survey clerks for Phase 1 surveys, Phase 2 surveys, and creel surveys (discussed in Section 3.2, *Creel Surveys (2024)*, below) were trained thoroughly. Field staff were provided with detailed information on the study schedule, equipment and materials to aid in data collection, and direction on appropriate interviewing techniques and attire.

Table 3.1-2. 2024 Phase 2 User Survey and Spot Count Schedule

Date	Type	Start Time	Direction	Starting Site Number (Team 1)	Starting Site Number (Team 2)
Saturday, June 15, 2024	Non-peak Weekend	8:00 a.m.	CW	4	14

Date	Type	Start Time	Direction	Starting Site Number (Team 1)	Starting Site Number (Team 2)
Wednesday, June 19, 2024	Peak Holiday	8:00 a.m.	CCW	23	7
Wednesday, June 26, 2024	Weekday	8:00 a.m.	CW	1	8
Saturday, July 13, 2024	Non-peak Weekend	12:00 p.m.	CCW	7	23
Tuesday, July 23, 2024	Weekday	12:00 p.m.	CW	9	2
Saturday, August 3, 2024	Non-peak Weekend	12:00 p.m.	CW	23	7
Friday, August 16, 2024	Weekday	12:00 p.m.	CW	23	7
Friday, September 6, 2024	Weekday	8:00 a.m.	CW	14	4
Sunday, September 8, 2024	Non-peak Weekend	8:00 a.m.	CW	8	1
Sunday, October 13, 2024	Non-peak Weekend	8:00 a.m.	CCW	2	9
Wednesday, November 6, 2024	Weekday	8:00 a.m.	CW	12	--

CW = clockwise; CCW = counterclockwise

3.2. CREEL SURVEYS (2024)

Creel surveys were conducted according to the standard protocols published in *Fisheries Techniques, Third Addition* (Zale et al., 2013). Surveys used a field data sheet at the sites identified in Table 2.1-1 to collect angler characteristics; determine current angler timing, effort, harvest, composition, and success; and estimate catch per unit effort (CPUE) by species. Creel surveys were conducted during the 2024 fishing season (June 15, 2024, through September 2, 2024), which equated to a period of 80 days. During consultation, TWG members requested that creel surveys be conducted at an informal pullout location off of Saddlebag Lake Road. Due to the informal nature of this location, SCE committed to posting a flyer with a link to the survey online to address this request.

SCE conducted creel surveys for approximately 30 percent of the fishing season (24 days), including 1 representative day from each of the major holiday weekends (Juneteenth: June 19, 2024, and June 22 to June 23, 2024; Independence Day: July 5 to July 7, 2024; and Labor Day: August 31 to September 2, 2024), and the remainder of survey days were split between 10 weekdays and 11 non-peak weekend days. The survey schedule is shown in Table 3.2-1. One creel survey circuit was completed on each sampling day and included conducting creel surveys at the sites identified in Table 2.1-1 for 1 hour each survey day, following a bus route method (Pollock et al., 1994); the shift, the starting recreation site, and the direction of travel (clockwise or counterclockwise) were selected randomly on the days the surveys were conducted.

Creel survey forms, methods, and study locations were developed in collaboration with the Recreation and Land Use Resources TWG and are included in Appendix C.

Table 3.2-1. Creel Survey Schedule

Date	Type	Start Time	Direction	Starting Site
Tuesday, June 18, 2024	Weekday	12:00 p.m.	CW	2
Sunday, June 23, 2024	Peak Weekend	8:00 a.m.	CW	2
Monday, June 24, 2024	Weekday	8:00 a.m.	CCW	4
Saturday, June 29, 2024	Non-peak Weekend	8:00 a.m.	CW	1
Sunday, June 30, 2024	Non-peak Weekend	12:00 p.m.	CCW	1
Tuesday, July 2, 2024	Weekday	12:00 p.m.	CCW	7
Sunday, July 7, 2024	Peak Weekend	8:00 a.m.	CCW	7
Sunday, July 14, 2024	Non-peak Weekend	8:00 a.m.	CW	14
Tuesday, July 16, 2024	Weekday	8:00 a.m.	CW	1
Thursday, July 18, 2024	Weekday	12:00 p.m.	CW	1
Saturday, July 20, 2024	Non-peak Weekend	12:00 p.m.	CW	14
Sunday, July 21, 2024	Non-peak Weekend	8:00 a.m.	CW	1
Friday, July 26, 2024	Weekday	8:00 a.m.	CW	2
Sunday, July 28, 2024	Non-peak Weekend	8:00 a.m.	CCW	1
Sunday, August 4, 2024	Non-peak Weekend	12:00 p.m.	CCW	12
Friday, August 9, 2024	Weekday	12:00 p.m.	CW	14
Sunday, August 11, 2024	Non-peak Weekend	8:00 a.m.	CW	12
Monday, August 12, 2024	Weekday	8:00 a.m.	CW	12
Friday, August 16, 2024	Weekday	12:00 p.m.	CCW	12
Saturday, August 17, 2024	Non-peak Weekend	8:00 a.m.	CW	1
Sunday, August 18, 2024	Non-peak Weekend	12:00 p.m.	CW	7
Friday, August 23, 2024	Weekday	8:00 a.m.	CW	1
Monday, August 26, 2024	Non-peak Weekend	12:00 p.m.	CW	12
Sunday, September 1, 2024	Peak Weekend	12:00 p.m.	CCW	4

CW = clockwise; CCW = counterclockwise

3.3. TRAFFIC COUNTERS (2024)

SCE installed one traffic counter just before the Saddlebag Lake Trailhead on Saddlebag Lake Road (Figure 3.3-1) to document the number of vehicles accessing the Saddlebag Lake area recreation sites on an hourly basis. The daily total number of vehicles was calculated from the hourly counts and used in the analysis. The traffic counter was installed on June 13, 2024, and recovered on October 29, 2024. Due to equipment malfunction, data collection began on June 29, 2024.[1] Data collected from June 29 to

[1] The Juneteenth holiday was not captured due to the equipment malfunction.

October 28 are included in the analysis. Calibration counts were conducted three times throughout the field season, and data were downloaded biweekly in June and July and once per month in August, September, and October (Appendix D). Table 3.3-1 lists the dates calibration counts were conducted.

SCE met with the Recreation and Land Use Resources TWG on February 8, 2024, to finalize the calibration count form, traffic counter location, and schedule for the 2024 field season; the calibration count form is included in Appendix D.

Table 3.3-1. Calibration Schedule for Traffic and Trail Counters

Date	Type	Start Time	Direction	Starting Site (Team 1)	Starting Site (Team 2)
Friday, June 28, 2024	Weekend	8:00 a.m.	CCW	Ellery-Rhinedollar Trail	Saddlebag Trail East 2
Wednesday, August 21, 2024	Weekday	8:00 a.m.	CCW	Ellery-Rhinedollar Trail	Tioga Pullout Access Trail
Tuesday, October 8, 2024	Weekday	8:00 a.m.	CW	Tioga Pullout Access Trail	Saddlebag Trail East 1

CW = clockwise; CCW = counterclockwise

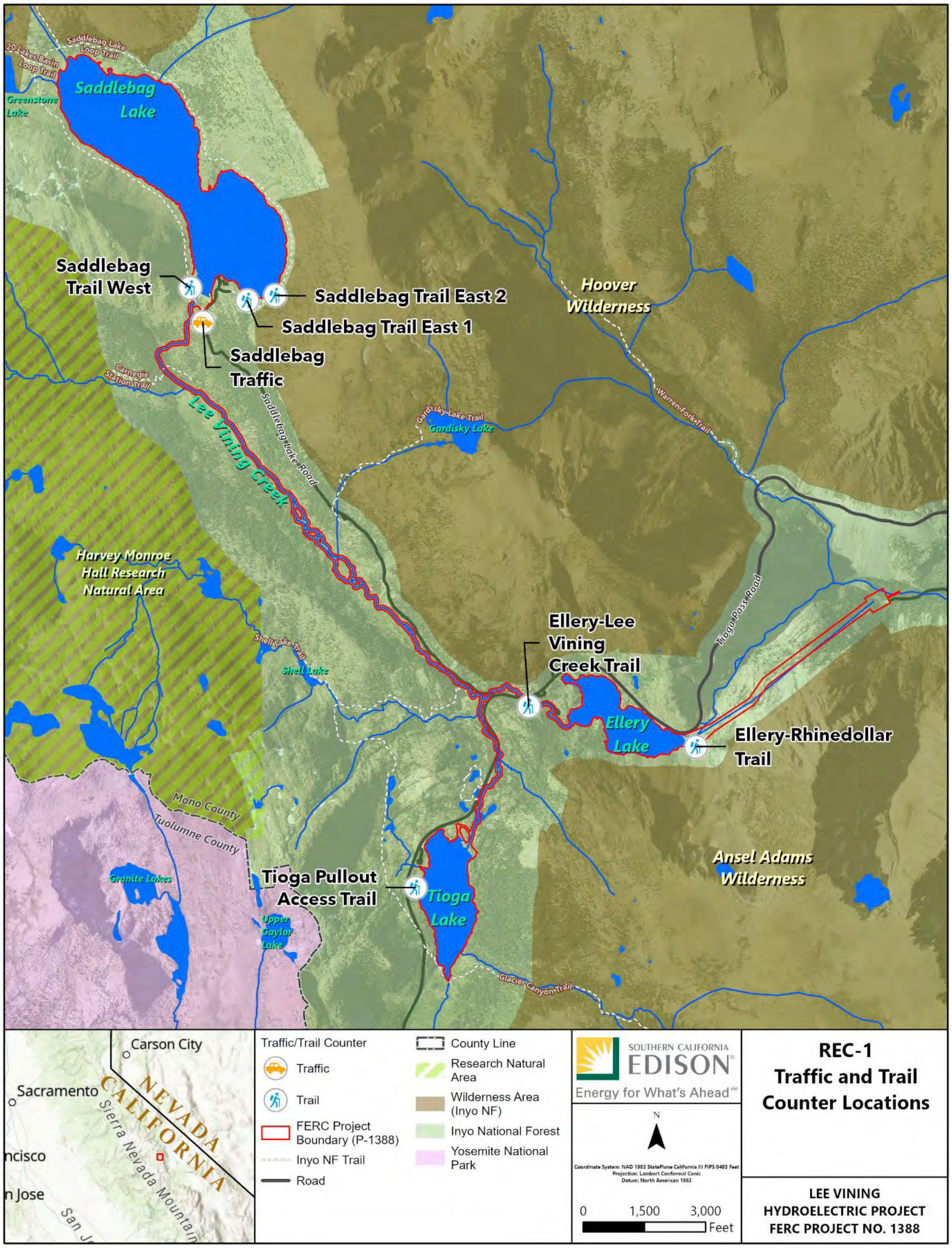


Figure 3.3-1. Traffic and Trail Counter Locations.

3.4. TRAIL COUNTERS (2024)

SCE installed six trail counters at the recreation sites identified in Table 2.1-1 (Figure 3.3-1). Trail counters recorded the number of recreationists using the trails on an hourly basis; the daily total number of people was calculated from the hourly counts. Trail counters were installed as soon as the survey team had access to the recreation facilities, on June 13, 2024, and were recovered on October 29, 2024. Data collected between June 15[2] and October 28 are included in the analysis. Calibration counts were conducted three times throughout the field season, and data were downloaded biweekly in June and July and once per month in August, September, and October. Calibration count data from Saddlebag Trail East 1, Saddlebag Trail East 2, and Ellery-Rhinedollar Trail on August 21, 2024, were lost due to staff operator error. Table 3.3-1 lists the dates calibration counts were conducted.

SCE met with the Recreation and Land Use Resources TWG on February 8, 2024, to finalize the calibration count form, the number and location of trail counters, and schedule for the 2024 field season; the calibration count form is included in Appendix D.

3.5. SPOT COUNTS (2024)

Spot counts were conducted at each recreation site identified in Table 2.1-1 in conjunction with Phase 2 user surveys outlined above. At recreation sites with parking areas (Saddlebag Lake Day Use Area [Site 2], Saddlebag Lake Trailhead [Site 3], Bennettville Trailhead [Site 8], Tioga Lake Overlook / Glacier Canyon Trailhead [Site 9/10], and Ellery Lake California Department of Transportation [Caltrans] Pullout [Site 23]), the spot counts documented the number of vehicles at each parking area as a means of estimating the number of users currently at the site. Additionally, the weather, time, and number of people observed participating in recreation activities were recorded. SCE conducted spot counts on the days shown in Table 3.1-2.

At the campgrounds, the number of occupied camp sites was also recorded during each spot count. Occupation of the group campsite at the Saddlebag Lake Trailhead and the Architectural Barriers Act (ABA) compliant campsites at Junction Campground and Tioga Lake Campground was recorded. Saddlebag Lake Campground was closed during the three spot counts conducted in June. All campgrounds were closed during the October 13 and November 6 spot counts.

SCE met with the Recreation and Land Use Resources TWG on February 8, 2024, to finalize the spot count locations and schedule for the 2024 field season; the spot count form is included in Appendix E.

3.6. QUALITY ASSURANCE AND QUALITY CONTROL MEASURES

All field data (spot count, calibration count, traffic counter, and trail counter data) and survey data (user surveys and creel surveys) collected as part of this REC-1 Study are

[2] Training took place on June 13 and 14. Actual surveys and counts started on June 15.

subject to a rigorous multi-step quality assurance (QA) and QC protocol to validate the dataset used in the recreation use analyses.

The QA/QC protocol involved a multi-stage approach to ensure the integrity and accuracy of the data as follows:

- QC1 focused on verifying that all field data were properly recorded.
- QC2 included a detailed examination of the data to identify and address outliers or suspect values. Data were examined to identify erroneously repeated data, data with questionable validity, or data that contained suspect information otherwise not captured.
- QC3 entailed standardizing data formats and units, as well as more in-depth checks for erroneous data, spelling errors, etc. The QC3 process continued throughout the analysis.

3.7. Current Recreation Use and Utilization Estimates

For the day use sites, recreation days were estimated using a combination of data from the user surveys and spot counts, and calculated as follows (Pollock et al., 1994):

Average Vehicle Count (by month and day type from spot count data)

× **Median People per Vehicle** (from user survey data)

× **Recreation Day[3] Length** (12 hours assumed for day use)

× **Total Number of Days** (by month and day type)

÷ **Median Trip Length** (from user survey data)

= **Estimated Number of Recreation Days** (by month and day type)

For the purposes of this study, the median people per vehicle was assumed to be the median group size collected from the user surveys. The estimates are presented as total recreation days by month, day type, and site.

The parking capacity was assessed at day use sites only. Parking capacity for a recreation site was defined as the number of vehicles that can be parked at a recreation site at one time based on the number of available parking spaces associated with that site. Parking capacities for each site with a parking area were described in the *Existing Recreation Facilities Condition Assessment (REC-2) Final Technical Report* (SCE, 2024). To determine the parking utilization, the average number of vehicles observed on holiday and non-holiday weekends was calculated from the spot counts. This was divided by the available parking capacity. The Ellery Lake Caltrans Pullout was not inventoried during

[3] As defined by FERC, a recreation day is each visit by a person to the study site for recreational purposes during any portion of a 24-hour period.

the REC-2 Study; thus, an estimate of the parking capacity was made based on a review of aerial imagery and the estimated dimensions of the parking area. An estimated parking capacity of 30 spaces was used in the parking utilization analysis for the Ellery Lake Caltrans Pullout. The formula for determining parking utilization is shown below.

Parking utilization = $\left(\frac{Average\ Vehicles}{Parking\ Capacity}\right) \text{x } 100$

The campground capacity was defined as the number of available campsites associated with that site. Campground capacities for each site with a campground were described in the REC-2 Final Technical Report (SCE, 2024). For the sites with single campgrounds (Saddlebag Lake Campground, Ellery Lake Campground, Junction Campground, Sawmill Walk-in Campground, and Tioga Lake Campground), the formula for estimating campground utilization on holiday and non-holiday weekends is shown below.

Campground utilization =$\left(\frac{Average\ Campsites\ Occupied}{Campground\ Capacity}\right) \text{x } 100$

3.8. FUTURE RECREATION USE ESTIMATES

Population estimates from 2013 to 2022 were obtained from the U.S. Census Bureau for the state of California, and for the six individual counties where more than 3 percent of survey respondents reported residing (Table 4.2-1; U.S. Census Bureau, 2024). From the 2013 to 2022 population data, the 10-year average rate of change in the population for the state and the subset of six counties was estimated using log-linear population models. The average rate of change for the subset of six counties was weighted based on the proportion of visitors reporting residing in these counties. This rate of change was used to estimate the population projections for 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060, 2065, 2070, and 2075 for the state of California and the subset of the six counties.

3.9. RECREATION NEEDS ASSESSMENT

The need for new recreation opportunities, new site development, or modification of existing recreation resources was assessed based on the results of facility condition assessments, site capacity estimates, and user surveys that provided user preferences and opinions on needs and crowding at each site and the Project Area as a whole. Based on these results, recommendations were proposed to address effects of future Project facilities and operations, consistent with the desired conditions, goals, standards, and guidelines described in the *Land Management Plan for the Inyo National Forest* (USFS, 2019), to then be discussed with the Recreation and Land Use Resources TWG.

3.10. MODIFICATIONS TO METHODS

During Phase 1 surveys, four modifications to the methods were made: (1) survey dates were shifted due to campground and road opening dates early in the recreation season; (2) an unrelated field staff injury resulted in moving one survey day from July into September; (3) surveys were conducted only in English rather than English and Spanish as originally proposed; and (4) Cattleguard Campground consists of an administrative building and is not open to public use and, therefore, was not surveyed.

Phase 2 surveys were originally planned to be conducted in 2023. Due to heavy snowfall leading to a wet water year, study sites were not accessible until the middle of July 2023. SCE consulted with the Recreation and Land Use Resources TWG members throughout that spring and ultimately, on July 17, 2023, the decision was made to postpone the REC-1 Study to the 2024 study season. Consensus with the TWG was reached via email on July 17, 2023. Additionally, due to a brief closure of State Route 120 (also called Tioga Pass Road) due to a storm, the October 31, 2024, survey day was canceled and rescheduled for November 6, 2024.

The flyer for the online creel survey at the Informal Fishing Access Turnout along Saddlebag Lake Road was not installed at the start of the creel survey season. Consultation between SCE and the USFS was conducted to determine potential impacts to cultural resources due to ground disturbance with a t-post being installed for the online creel survey flyer to attach. The t-post with the flyer was installed on August 15, 2024. Due to the delay in installation, the flyer remained on-site through October 31, 2024, past the original end date for creel surveys.

4.0 STUDY RESULTS

4.1. PHASE 1 USER SURVEYS (2022)

Recreation survey data from the Phase 1 user surveys are summarized in Table 4.1-1 and Table 4.1-2. Data are presented by the number of responses received during the recreation season and then further broken out to show the answer to the main survey question: “What is the primary purpose of your trip to Lee Vining Canyon?” The responses have been broken out by the location where the survey was conducted.

Table 4.1-1. Survey Responses Received During the 2022 Recreation Season by Site

Location of Survey (Site Number)	Surveys Accepted	Surveys Declined	Total Surveys
Saddlebag Lake Rec Areas (1, 2, 3)	50	9	59
Sawmill Walk-in Campground (4)	20	2	22
Carnegie Station Trailhead (5)	5	1	6
Gardisky Lake Trailhead (6)	8	3	11
Junction Campground, Bennettville Trailhead (7, 8)	42	10	52
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	31	11	42
Nunatak-Tioga Tarns Trailhead (11)	1	0	1
Tioga Lake Campground (12)	22	9	31
Nunatak Nature Trail (13)	5	1	6
Ellery Lake Campground (14)	19	4	23
Warren Fork Trailhead (15)	1	1	2
Big Bend Campground (16)	27	8	35
Aspen Grove Campground (17)	38	8	46
Boulder Day Use Area (18)	1	0	1
Moraine Campground (19)	24	4	28
Lower Lee Vining Campground (20)	36	11	47
Totals	**330**	**82**	**412**

Table 4.1-2. Phase 1 Survey Responses to Main Survey Question by Site

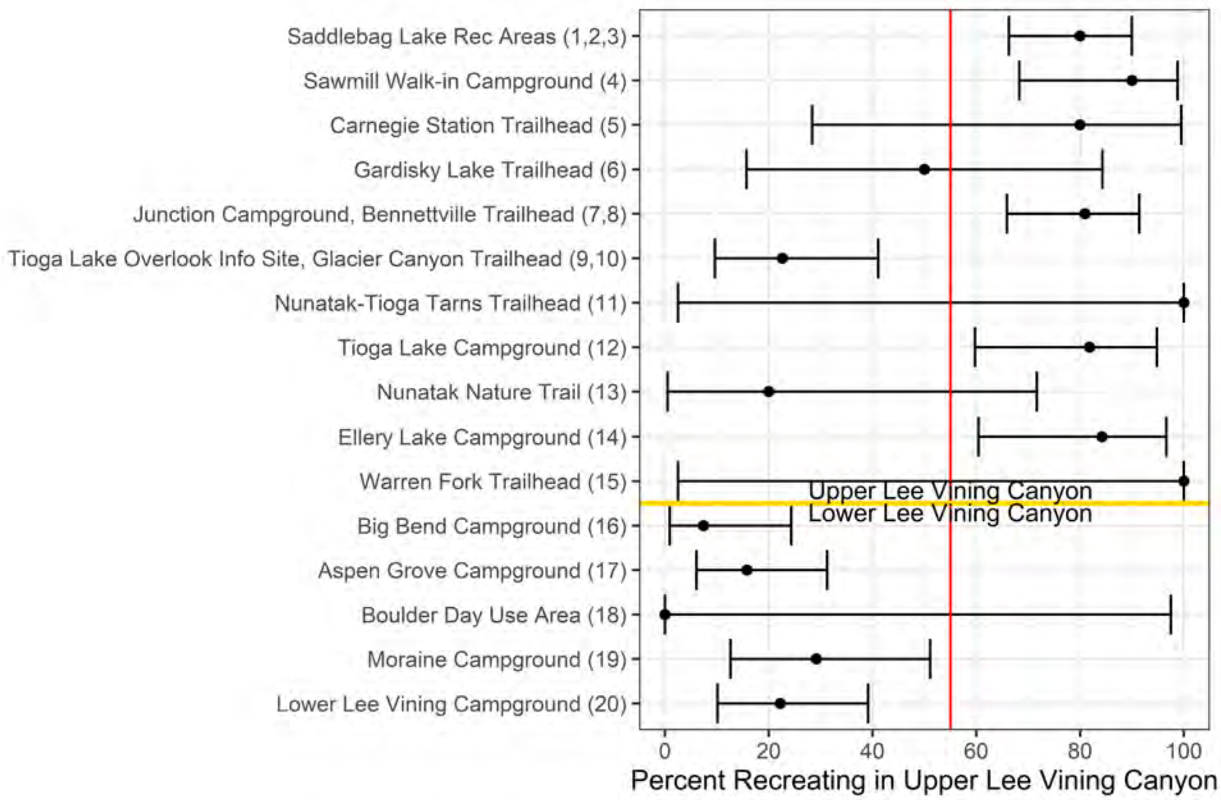
Main Survey Question Response	Passing through on my way to Yosemite National Park	Passing through on my way to Eastern Sierras (Mono Lake, June Lake, Mammoth Lakes, Bishop, etc.)	Recreate in the Upper Lee Vining Canyon (Saddlebag Lake, Lee Vining Creek, Tioga Lake, Glacier Creek, Ellery Lake, etc.)	Recreate in the Lower Lee Vining Canyon (Campgrounds and Lee Vining Creek access below Poole Powerhouse)	Other	User Surveys (2024)	Spot Counts (2024)	Counters (2024)
Location of Survey (Site Number) **Upper Lee Vining Canyon**								
Saddlebag Lake Rec Areas (1, 2, 3)	7	3	40	0	0	☑	☑	☑
Sawmill Walk-in Campground (4)	2	0	18	0	0	☑	☑	☑
Carnegie Station Trailhead (5) [a]	0	1	4	0	0	No	No	No
Gardisky Lake Trailhead (6) [a]	1	2	4	0	1 – Locals from Mono fire and Forest Service hiking Gardisky	No	No	No
Junction Campground, Bennettville Trailhead (7, 8)	7	1	34	0	0	☑	☑	☑
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	11	11	7	1	1 – Motorcycle ride	☑ [b]	☑	No
Nunatak-Tioga Tarns Trailhead (11) [a]	0	0	1	0	0	No	No	No
Tioga Lake Campground (12)	3	1	18	0	0	☑	☑	☑
Nunatak Nature Trail (13) [a]	4	0	1	0	0	No	No	No
Ellery Lake Campground (14)	3	0	16	0	0	☑	☑	☑
Warren Fork Trailhead (15) [a]	0	0	1	0	0	No	No	No
Location of Survey (Site Number) **Lower Lee Vining Canyon**								
Big Bend Campground (16) [a]	0	2	2	22	1 – Going to Bridgeport area	No	No	No
Aspen Grove Campground (17) [a]	4	0	6	28	0	No	No	No
Boulder Day Use Area (18) [a]	0	0	0	1	0	No	No	No
Moraine Campground (19) [a]	3	0	7	14	0	No	No	No
Lower Lee Vining Campground (20) [a]	1	1	8	24	2 – Driving through to Orange County Passing through to Washington	No	No	No
Totals	**46**	**22**	**167**	**90**	**5**			

[a] These sites did not meet the potential Project nexus threshold criteria to be considered for further study (as discussed below).
[b] Data for the Tioga Lake Overlook Site and Glacier Canyon Trailhead did not meet the potential Project nexus threshold criteria (as discussed below); however, SCE committed to moving these sites forward to the 2024 study season in the original Study Plan.

In addition to the data provided above, SCE performed statistical analysis on the data to determine the sites that may have a potential Project nexus to be moved forward to Phase 2 surveys. As captured in Table 4.1-3, the number of visitors encountered at each site during the Phase 1 surveys varied from 1 to 59, with 50 to 100 percent of those encountered at all sites accepting the survey. The percent of surveyed visitors at each site reporting a primary purpose of recreating in upper Lee Vining Canyon ranged from zero to 100 percent (Table 4.1-3). If the survey represents a random sample of site visitors, the precision of these proportion estimates can be estimated as a function of the number of surveys at each site, as displayed in Figure 4.1-1.

The true proportion of overall visitors with primary purpose of recreating in upper Lee Vining Canyon is unknown, but the 95-percent binomial confidence intervals indicate the range of values that are most likely to include the true proportion based on the sample. There were six recreation sites with highly uncertain results, indicated by confidence intervals greater than 50 percent. These sites had few visitors during the survey period (less than 15), and therefore, had fewer survey responses (less than 10), which resulted in a high level of uncertainty. Although some of the estimated proportions for these six sites are greater than 55 percent, these results are not reliable because there were too few surveys conducted. The reason for this uncertainty is that these sites did not receive many visitors during the survey period.

When the results for these less-used sites are excluded, there is a clear division between the remaining recreation sites in which five have more than 55 percent (red vertical line in Figure 4.1-1) of visitors primarily recreating in upper Lee Vining Canyon, and five that clearly have less than 55 percent of visitors recreating in upper Lee Vining Canyon. The five sites with more than 20 visitors encountered and with 95-percent confidence that more than 55 percent of visitors were recreating in upper Lee Vining Canyon have a higher potential nexus to the Project. These sites are highlighted with bold font in Table 4.1-3.



Note: This figure illustrates the estimated percentage of visitors at each site that were primarily recreating in upper Lee Vining Canyon. Error bars have varying widths based on sample size and represent 95% confidence intervals on the estimated percentages. The red vertical line is at 55%.

Figure 4.1-1. Estimated Percent of Visitors Recreating in Upper Lee Vining Canyon.

Table 4.1-3. Estimated Percent of Site Visitors Using Recreation Sites

Location (Site Number)	Number of Visitors Encountered	Number of Surveys Accepted	Number Recreating in Upper Lee Vining Canyon	Percent Recreating in Upper Lee Vining Canyon	Lower 95% CL	Upper 95% CL
Upper Lee Vining Canyon						
Saddlebag Lake Rec Areas (1,2,3)	**59**	**50**	**40**	**80%**	**66%**	**90%**
Sawmill Walk-in Campground (4)	**22**	**20**	**18**	**90%**	**68%**	**99%**
Carnegie Station Trailhead (5)	6	5	4	80%	28%	99%
Gardisky Lake Trailhead (6)	11	8	4	50%	16%	84%
Junction Campground Bennettville Trailhead (7, 8)	**52**	**42**	**34**	**81%**	**66%**	**91%**
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	42	31	7	23%	10%	41%
Nunatak-Tioga Tarns Trailhead (11)	1	1	1	100%	2.5%	100%
Tioga Lake Campground (12)	**31**	**22**	**18**	**82%**	**60%**	**95%**
Nunatak Nature Trail (13)	6	5	1	20%	0.5%	72%
Ellery Lake Campground (14)	**23**	**19**	**16**	**84%**	**60%**	**97%**
Warren Fork Trailhead (15)	2	1	1	100%	2.5%	100%
Lower Lee Vining Canyon						
Big Bend Campground (16)	35	27	2	7%	0.9%	24%
Aspen Grove Campground (17)	46	38	6	16%	6.0%	31%
Boulder Day Use Area (18)	1	1	0	0%	0%	98%
Moraine Campground (19)	28	24	7	29%	13%	51%
Lower Lee Vining Campground (20)	47	36	8	22%	10%	39%

CL = Confidence Limit
Sites shown in bold are considered to have a higher potential nexus to the Project due to their higher traffic and 95% confidence that more than 55% of visitors were recreating in upper Lee Vining Canyon.

4.2. PHASE 2 USER SURVEYS (2024)

The user surveys conducted during Phase 2 provided a variety of information for the study sites, including demographics, user experience, and user feedback. Between June 15, 2024, and November 6, 2024, a total of 349 user surveys were attempted. Of those, 109 visitors declined to participate in the survey, leading to a user survey participation rate of approximately 68.8 percent, and a verified total of 240 completed surveys were used for data analysis.

In some instances, respondents did not provide responses to each question; therefore, the total responses for each question may be less than the total number of completed surveys. The number of survey respondents that did not respond to a question and the number of responses received are provided for each question, where appropriate. The numbers provided in the total rows and the associated percentages in the tables in this section do not include the counts from survey respondents that did not answer a question.

4.2.1. VISITOR DEMOGRAPHICS

Surveyed groups were mainly residents of California (66.8 percent), with more than one-third of surveyed groups from six California counties (Los Angeles, Alameda, Orange, Mono, San Diego, and Inyo Counties). Nevada was the second-most common state of surveyed groups (6.9 percent), and there was a similar number of international visiting groups (6.7 percent) (Table 4.2-1).

Table 4.2-1. Respondents County and State of Residence (Q1)

State	County	Number of Responses	Percent of Total Responses
California	Los Angeles County	21	8.8
California	Alameda County	14	5.8
California	Orange County	14	5.8
California	Mono County	13	5.4
California	San Diego County	11	4.6
California	Inyo County	9	3.8
California	San Bernardino County	7	2.9
California	Mariposa County	6	2.5
California	Riverside County	5	2.1
California	Santa Clara County	5	2.1
California	Kern County	4	1.7
California	Sacramento County	4	1.7
California	San Francisco County	4	1.7
California	Santa Cruz County	4	1.7

State	County	Number of Responses	Percent of Total Responses
California	Stanislaus County	4	1.7
California	Yolo County	4	1.7
California	Contra Costa County	3	1.2
California	Fresno County	3	1.2
California	Nevada County	3	1.2
California	Placer County	3	1.2
California	San Mateo County	3	1.2
California	Sonoma County	3	1.2
California	Ventura County	3	1.2
California	Santa Barbara County	2	0.8
California	Tulare County	2	0.8
California	El Dorado County	1	0.4
California	Humboldt County	1	0.4
California	Marin County	1	0.4
California	Mendocino County	1	0.4
California	San Luis Obispo County	1	0.4
California	Shasta County	1	0.4
California	Tuolumne County	1	0.4
California Total		**161**	**66.8**
Nevada	Clark County	5	2.1
Nevada	Carson City	3	1.2
Nevada	Douglas County	3	1.2
Nevada	Lyon County	2	0.8
Nevada	Washoe County	2	0.8
Nevada	Nye County	1	0.4
Nevada	Pershing County	1	0.4
Nevada Total		**17**	6.9
Arizona	Maricopa County	2	0.8
Arizona	Yavapai County	1	0.4
Arizona Total		**3**	**1.2**
Florida	Broward County	1	0.4
Florida	Hillsborough County	1	0.4
Florida	Leon County	1	0.4

State	County	Number of Responses	Percent of Total Responses
Florida Total		**3**	**1.2**
Oregon	Deschutes County	1	0.4
Oregon	Josephine County	1	0.4
Oregon	Klamath County	1	0.4
Oregon Total		**3**	**1.2**
Colorado	Boulder County	1	0.4
Colorado	Jefferson County	1	0.4
Colorado Total		**2**	**0.8**
Illinois	Douglas County	1	0.4
Illinois	Lake County	1	0.4
Illinois Total		**2**	**0.8**
Ohio	Franklin County	1	0.4
Ohio	Henry County	1	0.4
Ohio Total		**2**	**0.8**
Washington	King County	1	0.4
Washington	Whatcom County	1	0.4
Washington Total		**2**	**0.8**
Idaho	Cassia County	1	0.4
Idaho Total		**1**	**0.4**
Michigan	Wayne County	1	0.4
Michigan Total		**1**	**0.4**
Mississippi	Rankin County	1	0.4
Mississippi Total		**1**	**0.4**
Montana	Lincoln County	1	0.4
Montana Total		**1**	**0.4**
New York	New York County	1	0.4
New York Total		**1**	**0.4**
Pennsylvania	Washington County	1	0.4
Pennsylvania Total		**1**	**0.4**
Texas	Harris County	1	0.4
Texas	Smith County	1	0.4

State	County	Number of Responses	Percent of Total Responses
Texas Total		**2**	**0.8**
Virginia	Norfolk County	1	0.4
Virginia Total		**1**	**0.4**
Wisconsin	Dane County	1	0.4
Wisconsin Total		**1**	**0.4**
Wyoming	Teton County	1	0.4
Wyoming Total		**1**	**0.4**
International		**16**	**6.7**
Invalid ZIP Code		**4**	**1.7**
No Response		**14**	**5.8**
Total		**240**	**100**

The average group size across all sites was three people, and the median was two. The average group sizes were largest at the Saddlebag Lake Trailhead (4.1) and the Ellery Lake Caltrans Pullout (3.8). The largest single groups (22 to 24) were observed at the Saddlebag Lake Day Use Area and Trailhead. Overall, the surveyed visitors (n=240) represented 715 total visitors (Table 4.2-2).

Table 4.2-2. Summary of Respondents Group Size (Q2)

Site Number	Count	Group Size (people)				Total People
		Minimum	Average	Median	Maximum	
1	26	1	2.8	2	11	**74**
2	47	1	3	2	22	**140**
3	36	1	4.1	2	24	**147**
4	14	1	2.6	2	11	**37**
7	28	1	2.4	2	10	**66**
8	5	2	2.6	2	4	**13**
9/10	30	1	2.2	2	8	**66**
12	19	1	2.9	2	12	**56**
14	19	1	2.9	2	7	**55**
23	16	1	3.8	4	7	**61**
Totals	**240**	**1**	**3**	**2**	**24**	**715**

Of the 213 visitors providing group ages, 19.6 percent were greater than 65 years old, with the second largest category represented by 25 to 34 years old (17.4 percent). Children less than 18 years old were the smallest demographic at 8.7 percent (Figure 4.2-1).

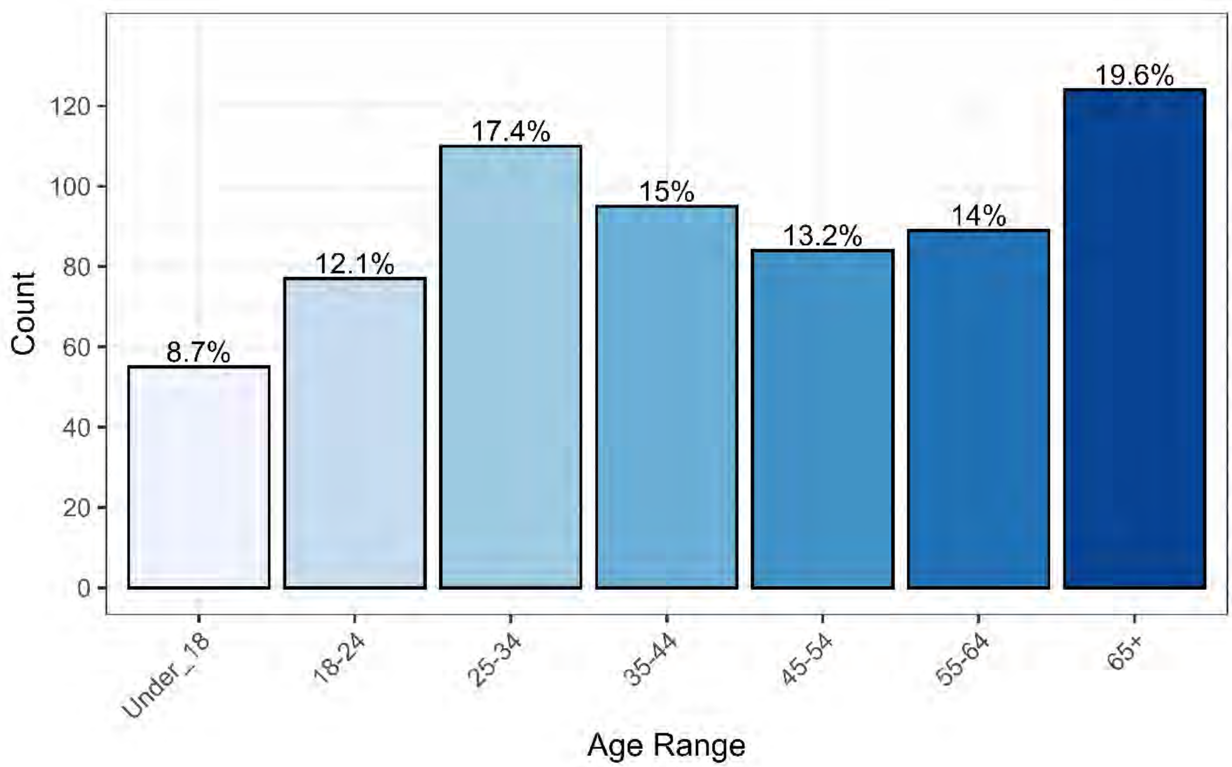


Figure 4.2-1. Age Range of Visitors.

4.2.2. CURRENT TRIP INFORMATION

Most surveyed visitors had visited upper Lee Vining Canyon previously (69.2 percent). The highest proportion of new visitors occurred at the Tioga Lake Overlook / Glacier Canyon Trailhead site (17/30 = 56.6 percent) and Ellery Lake Campground (9/19 = 47.4 percent) (Table 4.2-3)

<u>Table 4.2-3. Summary of Responses for First-time Visitors to Upper Lee Vining Canyon (Q4)</u>

Response	Number of Responses per Site										Total Responses	
	1	2	3	4	7	8	9/10	12	14	23	Count	Percent
No	21	34	24	12	24	4	13	15	10	9	**166**	**69.2**
Yes	5	13	11	2	4	1	17	4	9	7	**73**	**30.4**
No Answer	0	0	1	0	0	0	0	0	0	0	**1**	**0.4**
Total	**26**	**47**	**36**	**14**	**28**	**5**	**30**	**19**	**19**	**16**	**240**	**100**

Figure 4.2-2 shows the day type in which respondents arrived at the recreation sites. Most visitors reported arriving at Lee Vining Canyon on a non-holiday weekday (60 percent).

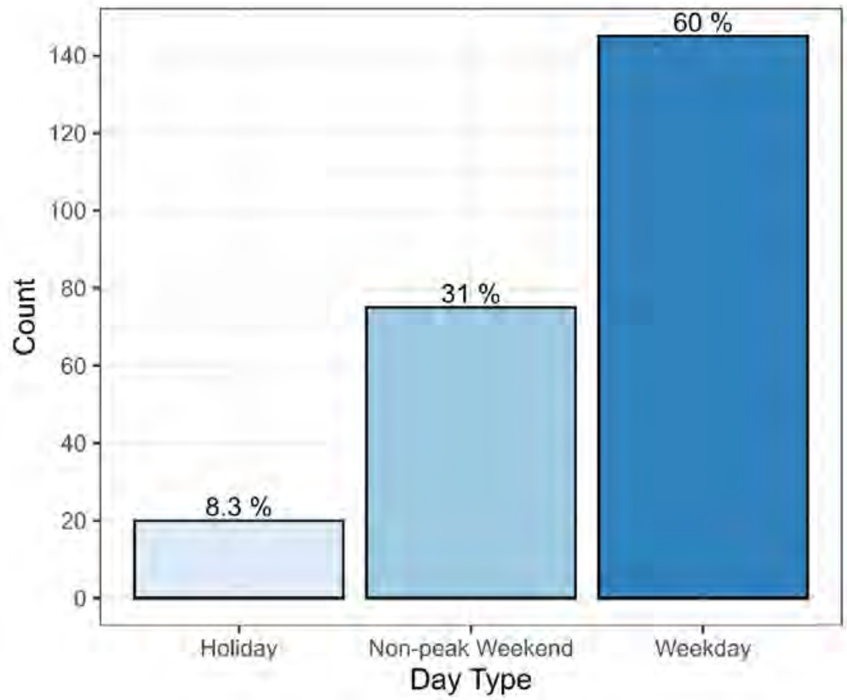


Figure 4.2-2. Type of Day Respondents Arrived in the Upper Lee Vining Canyon (Q5).

The average length of stay reported by respondents at the Bennettville Trailhead, the Ellery Lake Caltrans Pullout, and the Tioga Lake Overlook / Glacier Canyon Trailhead was similar, with mean and median visits between 1 and 4 hours. Visitors at the Saddlebag Lake Day Use Area reported longer visits, with a median time of 5 hours. The Saddlebag Lake Trailhead site had average and median times of about 2 days, indicating that visitors using this parking area were camping and/or backpacking (Table 4.2-4).

Table 4.2-4. Summary of Reported Length of Stay (Hours) by Site (Q6/Q7)

Response	Length of Stay by Day Use Site or Trailhead					Total
	Site 2	Site 3	Site 8	Site 9/10	Site 23	
# Responses	47	36	5	30	16	**134**
Minimum Hours	1	1	1	1	1	**1**
Average Hours	7.2	47	3	4	2.3	**17**
Median Hours	5	48	3	1.5	2	**5**
Maximum Hours	23	127	6	24	7	**127**

The average length of stay reported by respondents at campgrounds was 4.4 days (median 3 days). Longer stays were reported at Saddlebag Lake Campground, and shorter stays at Sawmill Walk-in Campground. Some visitors at campgrounds reported total stay length less than 1 day, and 1 visitor reported a stay of 35 days (Table 4.2-5).

Table 4.2-5. Summary of Reported Length of Stay (Days) by Site (Q6/Q7)

Response	Length of Stay by Campground Site					Total
	Site 1	Site 4	Site 7	Site 12	Site 14	
# Responses	26	14	28	19	19	106
Minimum Days	0.08	0.75	0.25	0.5	0.04	**0.04**
Average Days	5	2.9	4.2	6.2	3.1	**4.4**
Median Days	4.2	2.2	3	3	3	**3**
Maximum Days	14	7	14	35	7	**35**

A total of 40 percent of survey respondents reported staying overnight in Lee Vining area campgrounds or recreation sites. In addition, 58 percent (n=44) of the 76 respondents noting “other” accommodations indicated they were camping at locations outside of the recreation sites included in this study (Table 4.2-6).

Table 4.2-6. Use of Overnight Accommodations (Q8)

Accommodation	Count	Percent
Campground	96	40
Rental	26	10.8
Own Property	20	8.3
Other	76	31.7
No Answer	28	11.7

Hiking (79 percent) and camping (51 percent) were the most common activities reported by survey respondents (Table 4.2-7). These were also the top primary activities, followed by fishing and relaxing (Table 4.2-8). “Other” activities cited included swimming, jogging or trail running, disc golf, meditating, or just passing through.

Table 4.2-7. Respondents Recreation Activities (Q10)

Activities	Number of Responses per Site										Total Responses	
	1	2	3	4	7	8	9/10	12	14	23	Count	Percent [a]
Hiking	17	41	30	14	22	5	21	15	14	11	190	79

Activities	Number of Responses per Site										Total Responses	
	1	2	3	4	7	8	9/10	12	14	23	Count	Percent [a]
Camping	16	18	10	9	20	3	14	11	17	4	**122**	**51**
Relaxing	6	15	20	7	13	3	18	7	8	5	**102**	**42**
Viewing Scenery	8	14	12	6	8	3	16	7	6	6	**86**	**36**
Scenic Driving	8	13	8	4	6	2	20	3	7	8	**79**	**33**
Viewing Wildlife	5	14	12	5	9	2	10	2	5	4	**68**	**28**
Fishing (Lake)	9	16	7	2	5	1	5	8	3	5	**61**	**25**
Photography/Painting	3	6	9	5	4	1	16	3	4	5	**56**	**23**
Fishing (Creek)	5	10	2	1	9	1	3	2	6	2	**41**	**17**
Picnicking	2	6	4	2	5	1	6	5	3	1	**35**	**15**
Climbing	1	3	8	1	4	0	5	2	2	1	**27**	**11**
Overnight Backpacking	2	4	7	2	3	0	1	0	0	1	**20**	**8.3**
Biking	0	2	3	0	1	0	3	0	2	2	**13**	**5.4**
Watercraft	1	1	1	1	0	0	1	1	1	0	**7**	**2.9**
OHV Use	0	0	1	0	1	1	0	0	0	0	**3**	**1.2**
Snowmobiling	0	0	1	0	0	0	0	0	0	0	**1**	**0.42**
Snowboarding	0	0	0	0	0	0	0	0	0	1	**1**	**0.42**
Snowshoeing	0	0	0	0	0	1	0	0	0	0	**1**	**0.42**
Skiing (Back Country)	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Skiing (Cross Country)	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Other	2	4	5	3	5	0	2	2	0	2	**25**	**10**
No Answer	2	0	3	0	0	0	1	1	1	1	**9**	**3.8**

OHV = off highway vehicle
[a] Respondents were able to select more than one response; therefore, the percentage does not total 100.

Table 4.2-8. Respondents Primary Recreation Activity (Q9)

Primary Activity	Number of Responses per Site										Total Responses	
	1	2	3	4	7	8	9/10	12	14	23	Count	Percent
Hiking	7	26	21	9	15	4	7	10	6	7	112	46.7
Camping	7	5	1	2	3	1	5	2	6	0	**32**	**13.3**
Fishing (Lake)	4	7	3	0	1	0	1	4	0	3	**23**	**9.6**
Relaxing	2	1	1	0	4	0	2	2	1	0	**13**	**5.4**
Fishing (Creek)	0	2	0	0	3	0	1	0	4	1	**11**	**4.6**
Climbing	1	2	3	1	0	0	3	1	0	0	**11**	**4.6**

Primary Activity	**Number of Responses per Site**										**Total Responses**	
	1	**2**	**3**	**4**	**7**	**8**	**9/10**	**12**	**14**	**23**	**Count**	**Percent**
Overnight Backpacking	2	1	3	1	2	0	0	0	0	1	**10**	**4.2**
Viewing Scenery	1	0	1	0	0	0	3	0	1	1	**7**	**2.9**
Photography/Painting	0	1	0	0	0	0	3	0	0	1	**5**	**2.1**
Scenic Driving	0	0	0	0	0	0	2	0	1	1	**4**	**1.7**
Biking	0	0	1	0	0	0	1	0	0	0	**2**	**0.8**
Viewing Wildlife	0	0	0	0	0	0	1	0	0	0	**1**	**0.4**
Other	2	2	2	1	0	0	0	0	0	1	**8**	**3.3**
No Answer	0	0	0	0	0	0	1	0	0	0	**1**	**0.4**
Total	**26**	**47**	**36**	**14**	**28**	**5**	**30**	**19**	**19**	**16**	**240**	**100**

Only 11.2 percent of survey respondents identified other recreation facility or activity needs at Lee Vining Canyon (Table 4.2-9), with most listing more camping or overnight parking, more biking trails and facilities, or need for resort-like facilities (e.g., boat rentals, ice machines, zip lining).

Table 4.2-9. Respondents Needs for Additional Recreation Activities or Facilities at the Upper Lee Vining Canyon (Q11a)

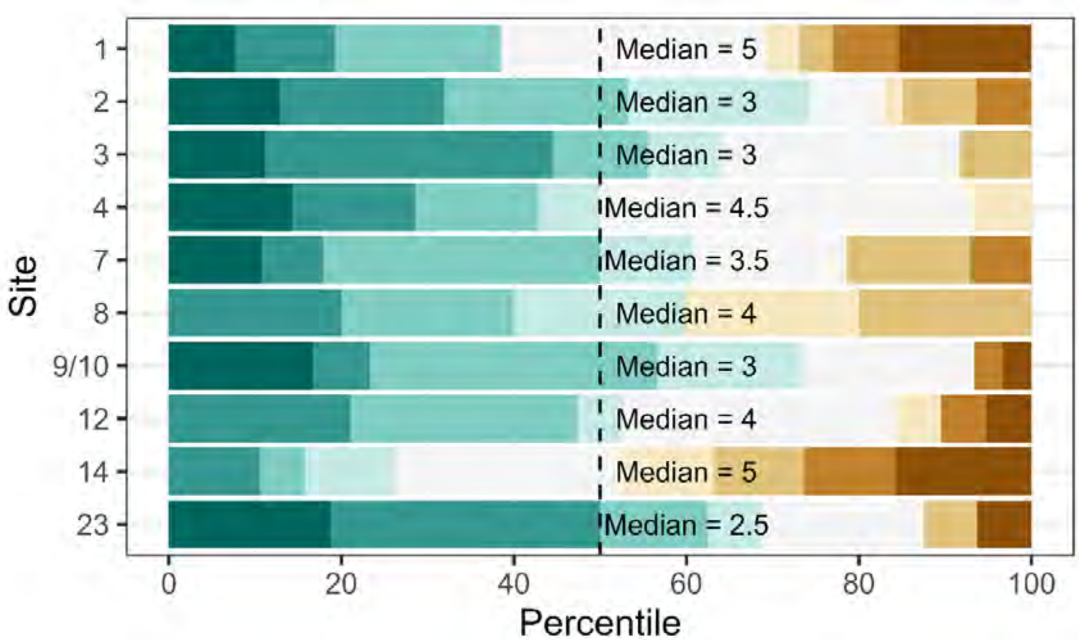
Response	**Number of Responses per Site**										**Total Responses**	
	1	**2**	**3**	**4**	**7**	**8**	**9/10**	**12**	**14**	**23**	**Count**	**Percent**
No	23	38	25	12	20	4	26	17	16	13	194	80.8
Yes	2	6	8	1	4	0	2	1	2	1	**27**	**11.2**
No Answer	1	3	3	1	4	1	2	1	1	2	**19**	**7.9**
Total	**26**	**47**	**36**	**14**	**28**	**5**	**30**	**19**	**19**	**16**	**240**	**99.9**

Most of the sites were reported as not crowded or only slightly crowded by most visitors. Ellery Lake Campground and Saddlebag Lake Campground had a median of 5, meaning that 50 percent of the respondents found crowding to be at neutral levels, and 23 to 27 percent of respondents at these sites reported that conditions were overcrowded (8 or 9 rating) (Table 4.2-10) (Figure 4.2-3).

Table 4.2-10. Percent of Responses: Rating of Crowdedness (Q12a)

Site Number	N/A	Count	Median	1	2	3	4	5	6	7	8	9
				Not Crowded		Slightly Crowded			Moderately Crowded		Extremely Crowded	
1	0	26	5	7.7	12	19	0	31	3.8	3.8	7.7	15
2	0	47	3	13	19	21	21	8.5	2.1	8.5	6.4	0
3	0	36	3	11	33	11	8.3	28	0	8.3	0	0
4	0	14	4.5	14	14	14	7.1	43	7.1	0	0	0
7	0	28	3.5	11	7.1	32	11	18	0	14	7.1	0
8	0	5	4	0	20	20	20	0	20	20	0	0
9/10	0	30	3	17	6.7	33	17	20	0	0	3.3	3.3
12	0	19	4	0	21	26	5.3	32	5.3	0	5.3	5.3
14	0	19	5	0	11	5.3	11	26	11	11	11	16
23	0	16	2.5	19	31	12	6.2	19	0	6.2	0	6.2

N/A = not applicable
Note: Percentages across rows do not always total 100 due to rounding.



Note: See Table 4.2-10 for color legend.

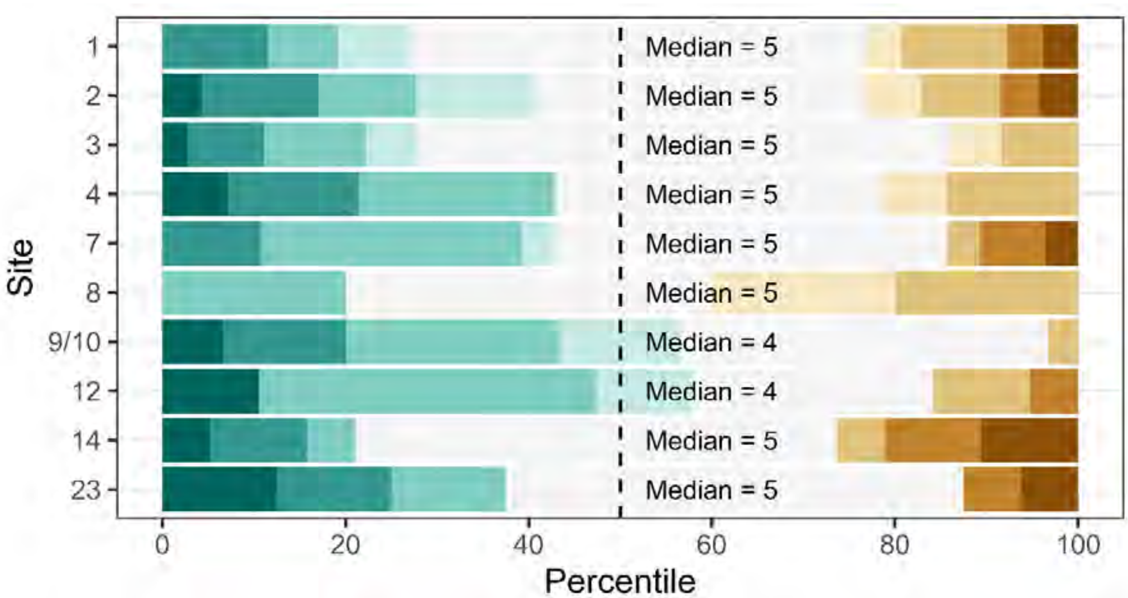
Figure 4.2-3. Perception of Crowdedness.

At most sites, visitors were fairly evenly divided on whether crowds were more or less than expected (median = 5 = same as expected). Respondents at the Tioga Lake sites more often found less crowding than expected (median = 4). Reports of crowding much higher than expected (rating of 8 or 9) were most often found at Ellery Lake Campground (Table 4.2-11) (Figure 4.2-4).

Table 4.2-11. Respondents Rating on Expectations of Crowdedness (Q12b)

Site Number	N/A	Count	Median	1	2	3	4	5	6	7	8	9
				Much Less Crowded				Same			Much More Crowded	
1	0	26	5	0	12	7.7	7.7	50	3.8	12	3.8	3.8
2	0	47	5	4.3	13	11	13	36	6.4	8.5	4.3	4.3
3	0	36	5	2.8	8.3	11	5.6	58	5.6	8.3	0	0
4	0	14	5	7.1	14	21	0	36	7.1	14	0	0
7	0	28	5	0	11	29	3.6	43	0	3.6	7.1	3.6
8	0	5	5	0	0	20	0	40	20	20	0	0
9/10	0	30	4	6.7	13	23	13	40	0	3.3	0	0
12	0	19	4	11	0	37	11	26	0	11	5.3	0
14	0	19	5	5.3	11	5.3	0	53	0	5.3	11	11
23	0	16	5	12	12	12	0	50	0	0	6.2	6.2

N/A = not applicable
Note: Percentages across rows do not always total 100 due to rounding



Note: See Table 4.2-11 for color legend.

Figure 4.2-4. Expectation of Crowdedness.

Approximately 58 percent of the respondents indicated they did not change their use of the upper Lee Vining Canyon due to crowding. Approximately 25 percent of respondents reported that they changed their visiting strategy to avoid crowding (Table 4.2-12); most of these respondents changed strategies to visit during weekday and/or non-holidays (Table 4.2-13).

Table 4.2-12. Respondents Indicating a Change in Visiting Strategy for the Upper Lee Vining Canyon Due to Crowding (Q13a)

Response	Number of Responses per Site										Total Responses	
	1	2	3	4	7	8	9/10	12	14	23	Count	Percent
No	15	27	27	6	13	2	18	14	9	9	140	**58.3**
Yes	7	15	4	6	12	2	2	4	5	2	**59**	**24.6**
No Answer	4	5	5	2	3	1	10	1	5	5	**41**	**17.1**
Total	26	47	36	14	28	5	30	19	19	16	**240**	**100**

Table 4.2-13. Respondents Change of Visiting Strategy Due to Crowding at the Upper Lee Vining Canyon (Q13b)

Response	Number of Responses per Site										Total Responses	
	1	2	3	4	7	8	9/10	12	14	23	Count	Percent
Visit during weekdays	3	6	2	5	7	2	2	3	4	1	**35**	**25.2**
Visit during non-holidays	5	8	3	2	8	2	2	1	3	1	**35**	**25.2**
Visit during off season	0	5	2	4	5	2	2	1	2	1	**24**	**17.3**
Visit a different part of the Lee Vining Area	3	4	1	1	3	2	2	2	3	1	**22**	**15.8**
Visit early in the morning	0	7	1	2	3	1	0	0	3	0	**17**	**12.2**
Other	1	3	0	0	1	0	0	0	0	1	**6**	**4.3**
No answer	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Total	12	33	9	14	27	9	8	7	15	5	**139**	**100**

4.2.2.1. Upper Lee Vining Canyon Feedback

Of those respondents providing a 1-9 rating response, most (51 to 83 percent) indicated the number of facilities to be just right (median=5 for all facilities). The facilities most frequently given a "too few" rating (i.e., 1-3) were fish cleaning facilities (37 percent, 19/51 responses) and campsites (21 percent, 38/185 responses) (Table 4.2-14).

Table 4.2-14. Respondents Rating on the Number of Existing Recreation Facilities in the Upper Lee Vining Canyon (Q14)

Facility	N/A	Count	Median	1 Too Few	2	3	4	5 About Right	6	7	8	9 Too Many
Publicly Available Recreation Sites	10	230	5	3.9	2.2	5.7	2.6	72	5.2	3.9	2.6	1.7
Restrooms	8	232	5	5.2	3	3	3.9	75	3	2.6	0.86	3.9
Parking	5	235	5	2.1	1.7	4.7	7.7	72	3	5.1	0.85	2.6
Picnic or Day Use Areas	55	185	5	2.2	2.2	4.9	0.54	81	2.2	2.7	2.2	2.7
Boat Launches	190	50	5	2	4	0	0	74	4	10	0	6
Public Docks	199	41	5	2.4	4.9	9.8	2.4	56	7.3	12	0	4.9
Hiking Trails	22	218	5	0	0.46	1.8	2.3	83	2.8	5.5	2.3	2.3
Swim Areas	115	125	5	2.4	1.6	4	4.8	78	0.8	6.4	0	2.4
Campsites	55	185	5	8.1	2.2	10	6.5	58	1.6	5.9	3.2	4.3
Signage	13	227	5	4.8	0.88	7.9	6.6	71	0.88	2.6	2.2	2.6
Fish Cleaning Stations	189	51	5	14	9.8	14	2	51	2	5.9	0	2

N/A = not applicable
Note: Percentages across rows do not always total 100 due to rounding.

Of those respondents providing a response, most were satisfied with the conditions of recreation facilities. Hiking trails (52 percent), campsites (40 percent), picnic areas (36 percent), and restrooms (35 percent) were most often given a ranking of 9, indicating very satisfied. Fish cleaning stations (8 percent), boat launches (7 percent), restrooms (5 percent), and public docks (5 percent) were most often given a 1 or 2 rating, indicating very dissatisfied (Table 4.2-15); however, the median response for these facilities was 5 for fish cleaning stations and 7 for boat launches, restrooms, and public docks.

Boat rental and campground fees were most often reported to be about right, but 24 percent thought boat fees were too high (i.e., rating 1 to 4), and 28 percent thought campground fees were too high (i.e., rating 1 to 4) (Table 4.2-16).

Table 4.2-15. Respondents Rating of the Condition of Existing Recreation Facilities in the Upper Lee Vining Canyon (Q15)

Facility	N/A	Count	Median	1	2	3	4	5	6	7	8	9
				Very Dissatisfied				Neutral				Very Satisfied
Publicly Available Recreation Sites	12	228	7	0.44	0	1.3	0.44	23	7.9	19	17	31
Restrooms	13	227	7	3.1	2.2	5.3	3.1	14	4.8	20	13	35
Parking	7	233	7	0.86	0.43	3	2.1	21	6	22	12	32
Picnic or Day Use Areas	60	180	8	1.1	0	2.2	0	20	5.6	17	18	36
Boat Launches	197	43	7	2.3	4.7	0	0	35	7	16	14	21
Public Docks	200	40	7	2.5	2.5	2.5	0	32	7.5	20	12	20
Hiking Trails	26	214	9	0.47	0.47	1.9	0	11	4.2	16	14	52
Swim Areas	121	119	8	0	1.7	0.84	0.84	25	3.4	17	17	34
Campsites	67	173	8	1.2	0.58	2.9	2.9	16	2.3	13	21	40
Signage	15	225	7	1.3	1.3	7.1	4	19	4	19	19	26
Fish Cleaning Stations	192	48	5	8.3	0	17	4.2	27	4.2	10	10	19

N/A = not applicable
Note: Percentages across rows do not always total 100 due to rounding.

Table 4.2-16. Respondents Rating of the Fees Associated with Boat Rentals and Campgrounds in the Upper Lee Vining Canyon (Q16)

Fee Types	N/A	Count	Median	1	2	3	4	5	6	7	8	9
				Too High				About Right				Too Low
Boat Rentals	215	25	5	0	0	16	8	76	0	0	0	0
Campground Fees	85	155	5	7.1	6.5	11	3.2	66	3.2	0.65	0.65	1.9

N/A = not applicable
Note: Percentages across rows do not always total 100 due to rounding.

When asked what they liked most about their visit to the upper Lee Vining Canyon, 183 respondents provided an answer (Table 4.2-17). The most common themes identified were nature/scenery, peace/quiet, and facilities/amenities. For a complete list of responses, see Appendix F.

Table 4.2-17. What Respondents Liked the Most About Their Visit to the Upper Lee Vining Canyon (Q17)

	Count	Percent
Nature/Scenery	127	69.4
Peace/Quite	20	10.9
Facilities/Activities	13	7.1
Hiking	9	4.9
Fishing	5	2.7
Weather	5	2.7
Other	3	1.6
Everything is Good	1	0.5
Total	**183**	**100.0**

When asked what they liked least about their visit to the upper Lee Vining Canyon, 148 respondents provided an answer (Table 4.2-18). The most common themes identified were around crowding, bugs, and roads. For a complete list of responses, see Appendix F.

Table 4.2-18. What Respondents Liked the Least About Their Visit to the Upper Lee Vining Canyon (Q18)

	Count	Percent
Nothing	24	16.2
Crowding	21	14.2
Bugs	16	10.8
Other	14	9.5
Roads	14	9.5
People	13	8.8
Campsite availability	7	4.7
Weather	5	3.4
Bathrooms	5	3.4
Dogs	4	2.7

	Count	Percent
Facilities	4	2.7
Travel time	3	2.0
Reservations	3	2.0
Fee	3	2.0
Parking	2	1.4
Signage	2	1.4
Wildfires	2	1.4
Traffic	2	1.4
Trash	1	0.7
Water	1	0.7
Fish cleaning station	1	0.7
Trail use	1	0.7
Total	**148**	**100**

When asked to provide additional comments, 173 respondents said no, they did not have any additional comments, while 67 respondents provided comments (Table 4.2-19). The most common themes identified in the additional responses were around signage, reservation systems, and campground fees. For a complete list of responses, see Appendix F.

Table 4.2-19. Respondents Additional Comments (Q19)

	Count	Percent
Signage	12	17.9
Other	9	13.4
Reservations	8	11.9
Everything Good	6	9.0
Fees	5	7.5
More Campsites	5	7.5
Less Development	4	6.0
Drinking Water	3	4.5
Fish Stocking	2	3.0
Website	2	3.0
Water Taxi	2	3.0
Showers	2	3.0

	Count	Percent
Roads	2	3.0
Parking	1	1.5
Trails	1	1.5
Low Water	1	1.5
RV Spots	1	1.5
Restrooms	1	1.5
Total	**67**	**100.0**

RV = recreational vehicle

4.3. Creel Surveys (2024)

Fish stocking is an annual occurrence in the upper Lee Vining Canyon. Based on data received from the California Department of Fish and Wildlife (CDFW), fish were stocked as listed in Table 4.3-1 within the study area from 2019 to 2024.

Table 4.3-1. Fish Stocking by California Department of Fish and Wildlife in the Upper Lee Vining Canyon 2019 to 2024

Waterbody	Pounds of Fish Stocked					
	2019	2020 [a]	2021	2022 [b]	2023	2024
Ellery Lake	2,100	0	1,200	0	2,000	1,600
Lee Vining Creek	450	0	0	0	0	300
Saddlebag Lake	2,000	0	0	0	2,000	3,900
Tioga Lake	2,000	0	600	0	1,500	3,900
Total upper Lee Vining Canyon	6,550	0	1,800	0	5,500	9,700

Source: Personal communication, Graham Meese, Senior Environmental Scientist, CDFW, November 15, 2024

[a] No fish stocked due to COVID-19 pandemic
[b] No fish stocked due to a bacterial outbreak within hatchery facility

Creel surveys were initiated at the study sites identified in Table 2.1-1 beginning June 15, 2024. The data discussed below compiles all creel surveys from June 15, 2024, through September 2, 2024, for a total of 24 survey days.[4] During this time, 191 in-person creel surveys were completed. The tables and figures below provide a summary of data reported by anglers to the creel survey team during the field season. Of the 191 surveys conducted, the average number of anglers in each group was 2.3. Number of surveys

[4] Surveys were delayed in starting due to road access to the sites. Once roads were cleared, a new sampling schedule was created to capture 30 percent of days available from June 15, 2024, through September 2, 2024.

conducted, average group size, and average anglers per group by location are provided in Table 4.3-2.

Table 4.3-2. Survey by Location, Average Group Size, and Average Anglers per Group

Waterbody	Site	Surveys Conducted	Average Group Size	Average Anglers Per Group
Ellery Lake	Ellery Lake Campground	25	2.5	1.7
Lee Vining Creek	Junction Campground	22	2.6	1.9
	Sawmill Walk-in Campground	9	2.9	2.0
Saddlebag Lake	Saddlebag Lake Campground	33	2.7	1.8
	Saddlebag Lake Day Use Area	72	3.6	2.8
Tioga Lake	Tioga Lake Campground	30	2.9	2.1
	Total	**191**	**3**	**2.3**

The count and percent of first time versus repeat visitors at each site is displayed in Table 4.3-3. The distribution of visits per year across all sites is displayed in Figure 4.3-1. Most surveyed anglers at each site (range of 58 to 73 percent; average of 63 percent for all sites) had visited the site before. Of the repeat visitors, most reported visiting once per year or 2 to 5 times per year, with 1 angler reporting more than 10 visits per year.

Table 4.3-3. Angler Visit Frequency by Site

Waterbody	Site	First Time	Count	Percent
Ellery Lake	Ellery Lake Campground	No	17	68
		Yes	8	32
Lee Vining Creek	Junction Campground	No	16	73
		Yes	6	27
	Sawmill Walk-in Campground	No	6	67
		Yes	3	33
Saddlebag Lake	Saddlebag Lake Campground	No	21	64
		Yes	12	36
	Saddlebag Lake Day Use Area	No	42	58
		Yes	30	42
Tioga Lake	Tioga Lake Campground	No	19	63
		Yes	11	37

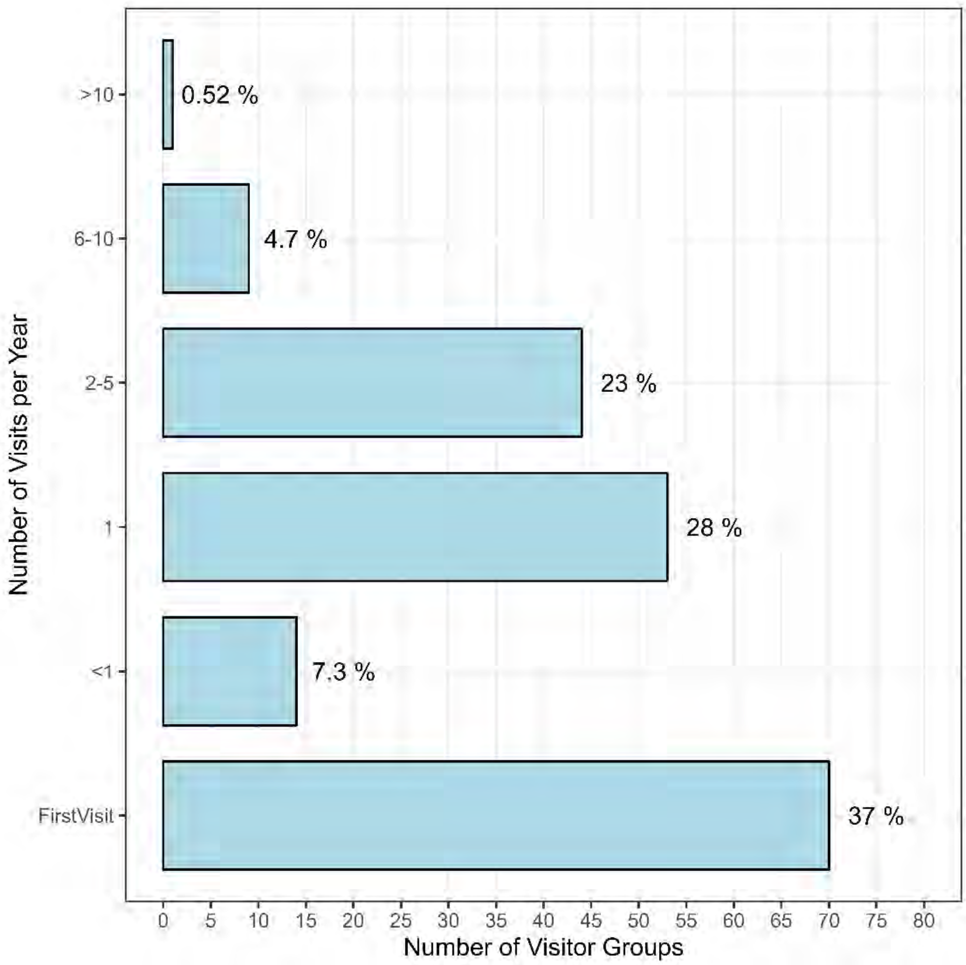


Figure 4.3-1. Annual Frequency of Anglers Fishing in the Area.

Table 4.3-4 lists counts and percents of anglers by county and state. Fifteen of 191 anglers surveyed did not provide a valid zip code, and 3 anglers indicated they lived outside the United States. California residents comprised 86 percent of the surveyed anglers, with 18.3 percent of total anglers from Los Angeles County, and more than 5 percent from each of San Diego, Riverside, and Orange Counties.

Table 4.3-4. Anglers County and State of Residence

State	County	Number of Responses	Percent of Total Responses
California	Los Angeles County	35	18.3
California	San Diego County	17	8.9
California	Riverside County	16	8.4
California	Orange County	15	7.9
California	San Bernardino County	9	4.7
California	Marin County	7	3.7

State	County	Number of Responses	Percent of Total Responses
California	Ventura County	7	3.7
California	Contra Costa County	5	2.6
California	Inyo County	5	2.6
California	Mariposa County	4	2.1
California	Mono County	4	2.1
California	Nevada County	4	2.1
California	Placer County	4	2.1
California	Alameda County	3	1.6
California	Sacramento County	3	1.6
California	Santa Barbara County	3	1.6
California	Stanislaus County	3	1.6
California	El Dorado County	2	1
California	Kern County	2	1
California	Madera County	2	1
California	San Francisco County	2	1
California	Santa Clara County	2	1
California	Yolo County	2	1
California	Calaveras County	1	0.5
California	Fresno County	1	0.5
California	Merced County	1	0.5
California	San Joaquin County	1	0.5
California	San Luis Obispo County	1	0.5
California	Santa Cruz County	1	0.5
California	Tulare County	1	0.5
California	Tuolumne County	1	0.5
California Total		**164**	**86**
Arizona	Maricopa County	2	1
Arizona Total		**2**	**1**
Kansas	Butler County	1	0.5
Kansas Total		**1**	**0.5**
North Carolina	Henderson County	1	0.5
North Carolina Total		**1**	**0.5**
Nevada	Clark County	3	1.6

State	**County**	**Number of Responses**	**Percent of Total Responses**
Nevada	Douglas County	1	0.5
Nevada Total		**4**	**2.1**
Oregon	Josephine County	1	0.5
Oregon Total		**1**	**0.5**
International	International	3	1.6
International Total		**3**	**1.6**
Invalid ZIP	Invalid ZIP	4	2.1
Invalid ZIP Total		**4**	**2.1**
No Response	**No Response**	**11**	**5.8**
Total		**191**	**100**

The majority of anglers surveyed reported targeting rainbow trout (*Oncorhynchus mykiss*) 65 percent cited as primary target and 40 percent cited as secondary target), and brook trout (*Salvelinus fontinalis*) was the second-most-targeted species (17 percent primary, 25 percent secondary) (Table 4.3-5 and Table 4.3-6).

<u>Table 4.3-5. Target Species by Site</u>

Target Species	**Ellery Lake**	**Lee Vining Creek**		**Saddlebag Lake**		**Tioga Lake**	**Total Count**	**Total Percent**
	Camp ground	**Junction Camp ground**	**Sawmill Walk-in Campground**	**Camp ground**	**Day Use Area**	**Camp ground**		
Rainbow trout	16	10	4	22	52	21	125	65
Brook trout	4	6	2	5	10	6	33	17
Brown trout	3	5	2	2	3	3	18	10
Golden trout	0	0	0	3	5	0	8	4
All species	2	1	1	1	2	0	7	4

Table 4.3-6. Secondary Species by Site

Target Species	Ellery Lake	Lee Vining Creek		Saddlebag		Tioga Lake	Total Count	Total Percent
	Camp ground	Junction Camp ground	Sawmill Walk-in Camp ground	Camp ground	Day Use Area	Camp ground		
Rainbow trout	6	12	3	12	32	11	76	40
Brook trout	5	3	3	10	19	8	48	25
Brown trout	10	2	1	5	13	6	37	19
Golden trout	0	0	1	0	2	0	3	2
All species	4	5	1	6	6	5	27	14

Anglers reported catching rainbow trout, brook trout, and brown trout (*Salmo trutta*) at all waterbodies, with the exception of Saddlebag Lake where no brown trout were caught (Table 4.3-7). No catches of Lahontan redside (*Richardsonius egregious*) were reported at any of the waterbodies. In general, the total catch decreased with size, with most of the fish caught measuring less than or equal to 12 inches; however, 10 percent of the fishes landed were greater than 12 inches long.

Table 4.3-7. Total Counts of Fish Reported by Length

Waterbody	Species	Length (inches)													Total Fish Caught
		<8	8	9	10	11	12	13	14	15	16	17	18	>18	
Ellery Lake	Brook trout	8	0	3	2	0	0	0	0	0	0	0	0	0	**13**
	Brown trout	3	1	0	0	0	0	0	0	0	0	0	0	0	**4**
	Lahontan redside	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Rainbow trout	2	1	2	3	2	9	1	0	0	1	0	1	0	**22**
Lee Vining Creek	Brook trout	19	2	0	0	0	0	0	0	0	0	0	0	0	**21**
	Brown trout	7	0	1	3	0	1	0	0	0	0	0	0	0	**12**
	Lahontan redside	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Other	0	2	0	0	0	0	0	0	0	0	0	0	0	**2**
	Rainbow trout	3	0	1	0	4	0	0	0	1	2	1	2	0	**14**
Saddlebag Lake	Brook trout	15	5	5	3	1	1	1	2	0	0	0	1	0	**34**
	Brown trout	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Lahontan redside	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Other	3	0	0	0	0	2	0	0	0	0	0	0	0	**5**
	Rainbow trout	12	10	30	13	5	6	3	5	0	1	0	1	2	**88**
Tioga Lake	Brook trout	17	2	1	1	0	1	0	0	0	0	0	0	0	**22**
	Brown trout	1	0	0	0	0	0	0	0	0	0	0	0	0	**1**
	Lahontan redside	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Rainbow trout	11	4	1	7	11	5	0	4	0	0	0	0	0	**43**
	Total	**101**	**27**	**44**	**32**	**23**	**25**	**5**	**11**	**1**	**4**	**1**	**5**	**2**	**281**
	Percent	**36**	**10**	**16**	**11**	**8**	**9**	**2**	**4**	**0**	**1**	**0**	**2**	**1**	**100**

[a] Lengths are self-reported by anglers in the field. Assumption for this data is total length of fish.

Figure 4.3-2, Figure 4.3-3, and Figure 4.3-4 display catch by site and size for rainbow, brook, and brown trout.

Rainbow trout were the most frequently reported species of fish, over half of which were caught at Saddlebag Lake (88 fish). The size distributions of rainbow trout differed by site. At Saddlebag Lake, 34 percent (30 out of 88) were 9 inches long. At Ellery Lake, 41 percent (9 out of 22) were 12 inches long. Only 2 fish greater than 18 inches in length were reported during creel surveys, and these were both rainbow trout captured at Saddlebag Lake.

Approximately 66 percent (59 out of 90) of captured brook trout were less than 8 inches long. All of the brook trout caught at Lee Vining Creek measured 8 inches long or less, while 1 angler reported an 18-inch brook trout caught at Saddlebag Lake.

Brown trout were primarily caught at Lee Vining Creek (70 percent or 12 out of 17), and 65 percent (11 out of 17) of captured brown trout across all sites measured less than 8 inches long. No brown trout were reported at Saddlebag Lake over the course of this study.

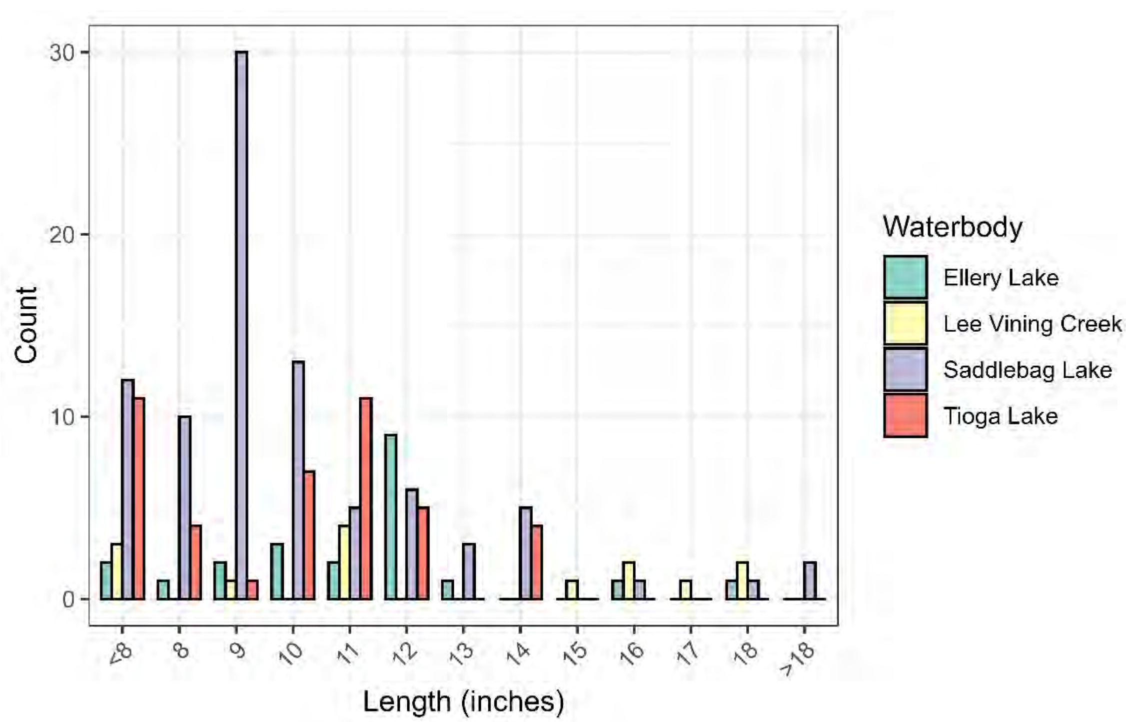


Figure 4.3-2. Catch Count by Size for Rainbow Trout.

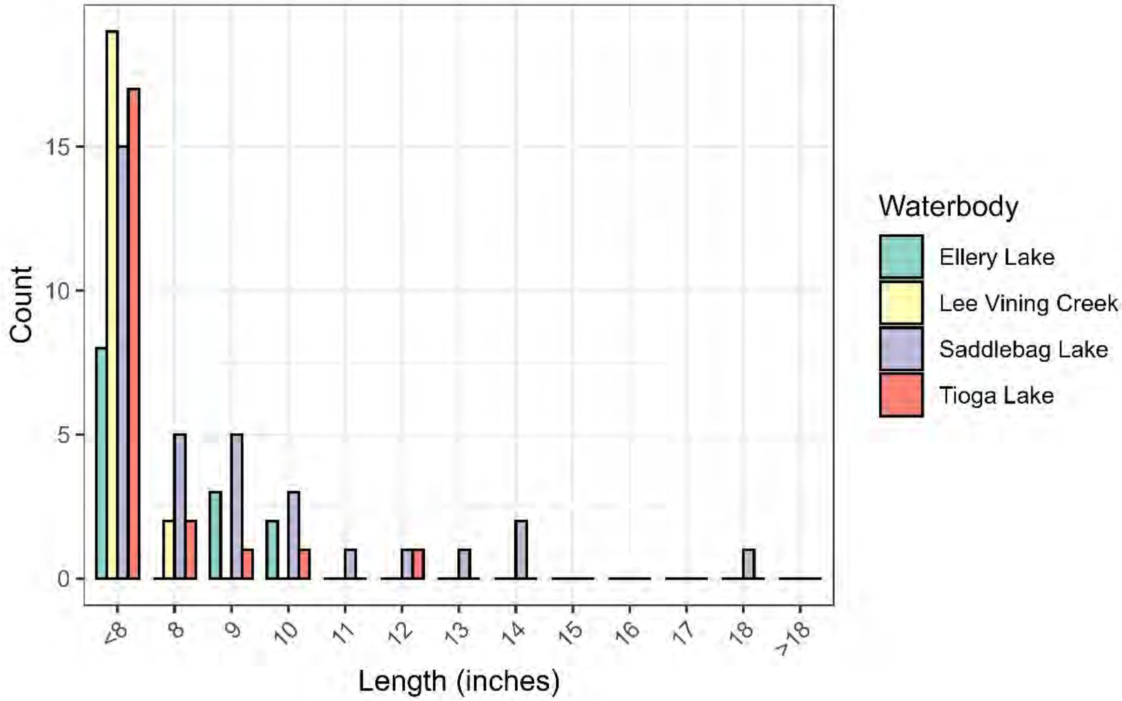


Figure 4.3-3. Catch Count by Size for Brook Trout.

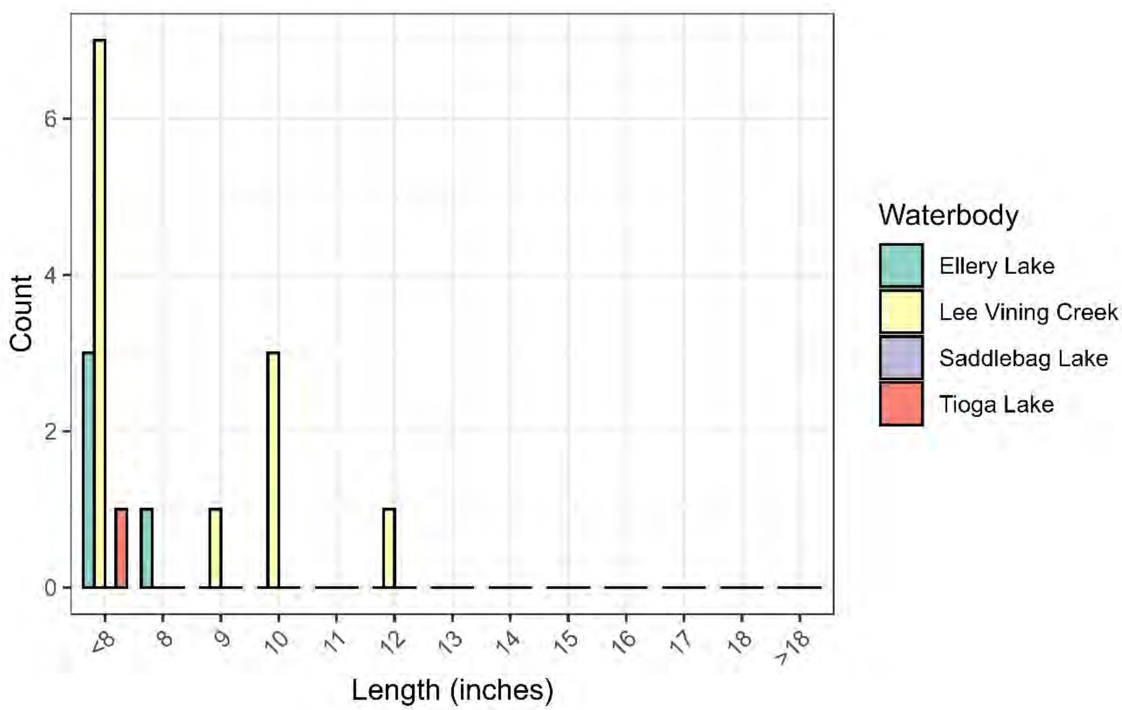


Figure 4.3-4. Catch Count by Size for Brown Trout.

The majority of anglers, the most hours spent fishing, and the greatest number of fish caught were reported at Saddlebag Lake (Table 4.3-8). The CPUE was highest at Tioga Lake (0.79 fish per hour) and similar in Lee Vining Creek (0.78 fish per hour). CPUE was similar at Saddlebag Lake and Ellery Lake.

Table 4.3-8. Estimate of Fish per Effort-Hour

Location	Angler Count	Hours Spent Fishing [a]	Total Fish Caught	CPUE (Hour) [b]
Ellery Lake	21	55.1	36	0.65
Lee Vining Creek	27	62.5	49	0.78
Saddlebag Lake	87	163	104	0.64
Tioga Lake	23	60.7	48	0.79

CPUE = catch per unit effort
[a] Represents self-reported time spent fishing by anglers interviewed.
[b] Total fish caught per hour(s) spent fishing.

Table 4.3-9 presents responses from surveyed anglers regarding the quality of fishing (note that multiple selections were allowed). A total of 55 percent of anglers surveyed listed natural setting as a definition of fishing quality, and 43 percent cited catch rate. Eight surveyed anglers cited additional quality definitions not listed in the table (one each): consistency, elevation, fisher etiquette, location, management of fishing limits, optimal and sustainable, parking, and the friends we meet.

Table 4.3-9. Quality of Fishing

Site Name	Ellery Lake	Lee Vining Creek		Saddlebag Lake		Tioga Lake	Total Count	Percent
	Campground	Junction Campground	Sawmill Walk-in Campground	Campground	Day Use Area	Campground		
Natural Setting	14	14	6	18	36	17	105	55
Catch Rate	11	7	4	14	34	13	83	43
Solitude	13	10	6	13	24	7	73	38
Fish Species or Size	6	8	3	12	25	12	66	35
Water Access	13	10	5	9	13	14	64	34
Proximity	4	3	1	3	9	8	28	15
Park Amenities	6	3	0	1	6	5	21	11

Most anglers reported that fishing conditions were the same or better than other nearby locations (Table 4.3-10). However, 33.5 percent (7 out of 21) of Saddlebag Lake Campground and 25.3 percent (6 out of 24) of Tioga Lake Campground anglers surveyed reported slightly worse or worse conditions than nearby locations (Figure 4.3-5).

Table 4.3-10. Fishing Condition Compared to Other Nearby Locations

Survey Location	N/A	Count	Median	1 Much Worse	2 Worse	3 Slightly Worse	4 Same	5 Slightly Better	6 Better	7 Much Better
Ellery Lake Campground	8	17	6	0	0	0	35	12	41	12
Junction Campground	7	15	6	0	0	0	33	13	47	6.7
Saddlebag Lake Campground	12	21	4	0	9.5	24	24	24	14	4.8
Saddlebag Lake Day Use Area	17	55	4	0	1.8	15	38	9.1	27	9.1
Sawmill Walk-in Campground	3	6	5	0	0	17	17	33	17	17
Tioga Lake Campground	6	24	5.5	0	8.3	17	12	12	25	25
Total	53	138	5	0	3.6	13	30	14	28	12

N/A = not applicable
Note: Percentages across rows do not always total 100 due to rounding.

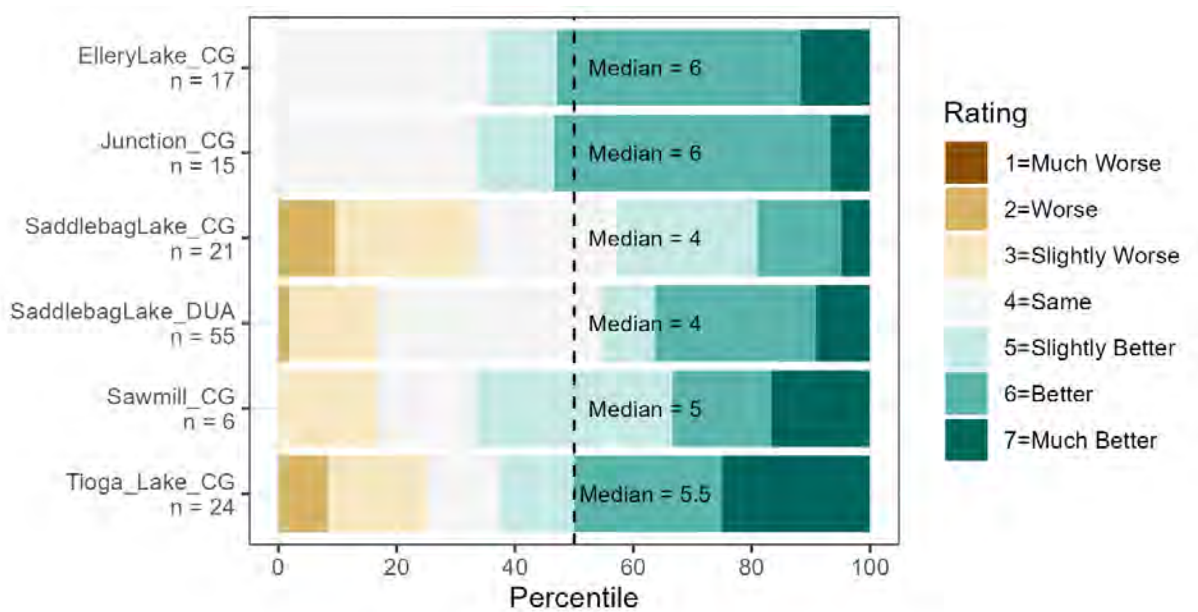


Figure 4.3-5. Ratings for Overall Fishing Quality Compared to Other Nearby Locations Fished (Q11).

Most anglers reported that fishing conditions were the same or better than previous conditions (Table 4.3-11), although a small percentage of respondents reported deteriorated conditions at all locations other than Sawmill Campground (Figure 4.3-6).

Table 4.3-11. Fishing Condition Compared to Previous Visits

Survey Location	N/A	Count	Median	1 Much Worse	2 Worse	3 Slightly Worse	4 Same	5 Slightly Better	6 Better	7 Much Better
Ellery Lake Campground	12	13	4	7.7	7.7	0	38	7.7	15	23
Junction Campground	5	17	4	0	5.9	18	29	0	41	5.9
Saddlebag Lake Campground	14	19	5	5.3	11	21	5.3	26	26	5.3
Saddlebag Lake Day Use Area	25	47	4	2.1	2.1	13	43	8.5	23	8.5
Sawmill Walk-in Campground	3	6	4	0	0	0	67	17	17	0
Tioga Lake Campground	9	21	4	0	9.5	24	19	14	24	9.5
Total	68	123	4	2.4	5.7	15	32	11	25	8.9

N/A = not applicable
Note: Percentages across rows do not always total 100 due to rounding.

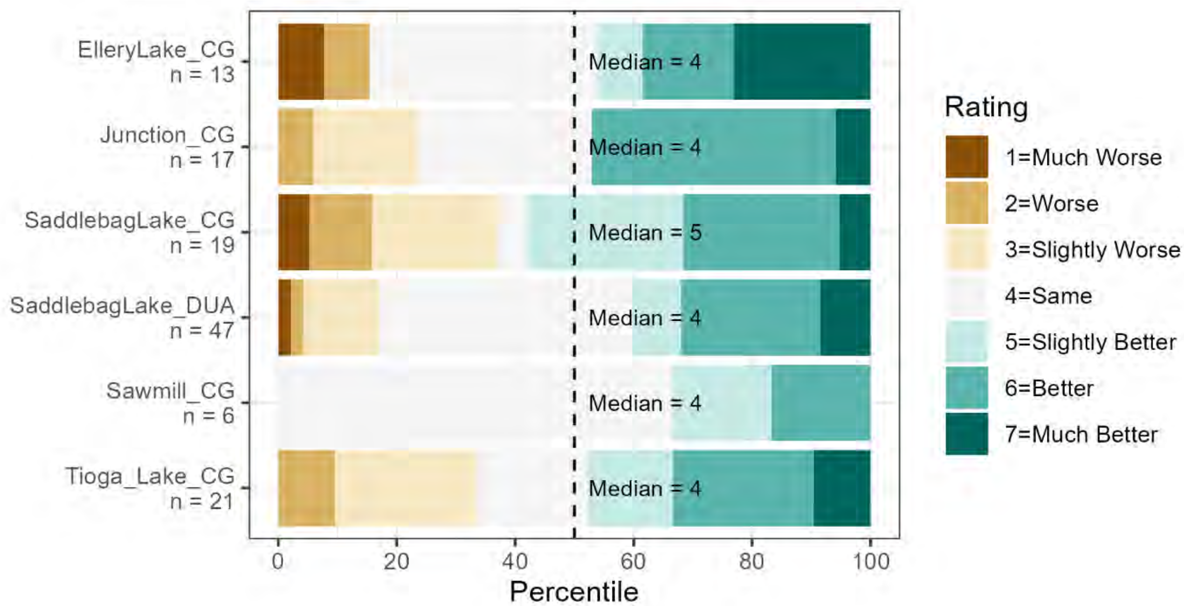


Figure 4.3-6. Rating for Overall Fishing Quality Compared to Past Visits (Q12).

4.4. TRAFFIC AND TRAIL COUNTERS (2024)

Beginning June 15, 2024, traffic and trail counters were installed at sites shown on Figure 3.3-1. The traffic counter data is summarized below for use by day type from June 28, 2024, through October 28, 2024.

4.4.1. TRAFFIC COUNTER

Statistics for the daily total number of vehicles recorded by the traffic counter on the Saddlebag Lake Road (Figure 4.4-1) from June 29, 2024, through October 28, 2024, are presented in Table 4.4-1. During this time, there was an average of 97 vehicles visiting the Saddlebag Lake area on weekdays, 129 vehicles on weekend days, and 256 vehicles on holiday weekend days (Independence Day: July 5 to July 7, 2024; and Labor Day: August 31 to September 2, 2024) (Table 4.4-1). There were more vehicles visiting the area in July and August than in September and October (Figure 4.4-1). The only holiday weekend day in August was the Saturday of Labor Day weekend.

Table 4.4-1. Saddlebag Lake Road Traffic Counter Data

Month	Day Type [a]	Total Days	Minimum	Median	Average	Maximum	Total
June	Weekend	2	106	138	138	170	276
July	Weekday	22	94	130	133	205	2,924
	Weekend	6	135	166	165	197	992
	Holiday	3	177	246	225	250	674
August	Weekday	22	74	127	126	192	2,777

Month	Day Type [a]	Total Days	Minimum	Median	Average	Maximum	Total
	Weekend	8	83	178	164	207	1,316
	Holiday	1	413	413	413	413	413
September	Weekday	20	15	75	75	134	1,496
	Weekend	8	89	115	117	154	933
	Holiday	2	147	225	225	302	450
October	Weekday	20	0	45	46	98	912
	Weekend	8	30	76	75	120	600
Full Season	Weekday	84	0	100	97	205	8,108
	Weekend	32	30	129	129	207	4,116
	Holiday	6	147	248	256	413	1,536

[a] Holiday dates include Independence Day (July 5 to July 7, 2024) and Labor Day (August 31 to September 2, 2024).

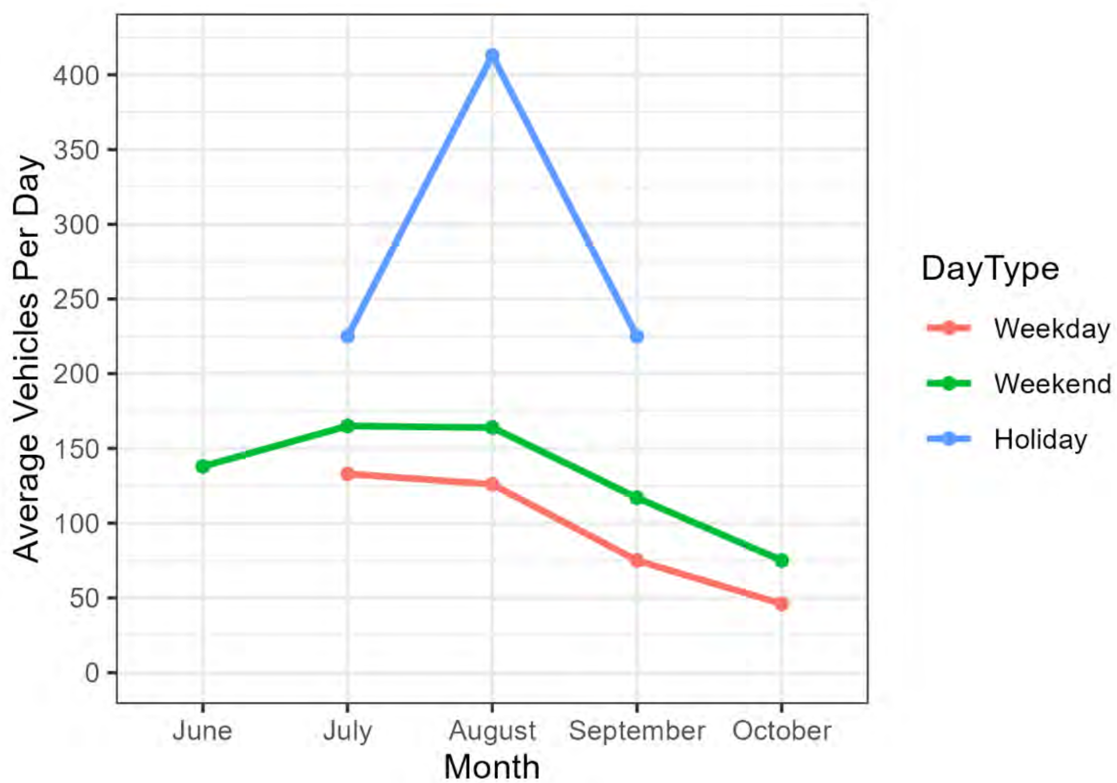


Figure 4.4-1. Average Vehicles per Day at Saddlebag Recreation Area by Month and Day Type from June 29 to October 28, 2024.

4.4.2. Trail Counters

Statistics for the daily total number of people recorded by the trail counters are summarized by day type and month for each site in Table 4.4-2, Table 4.4-3, Table 4.4-4, Table 4.4-5, Table 4.4-6, Table 4.4-7, and Figure 4.4-2, from June 15, 2024 to October 28, 2024, after consideration of anomalous data. The day type estimated total was calculated by multiplying the average number of people by the total days for that month/day type so that the day type estimated total is not impacted by days that were removed due to apparently erroneous data.

Table 4.4-2. Saddlebag Lake Trail West Trail Counter Data

Month	Day Type	Total Days	Observed Days	Minimum	Median	Average	Maximum	Total
June	Weekday	9	9	32	51	53.9	87	**485**
	Weekend	4	4	58	94	106	179	**424**
	Holiday	3	3	59	101	100	140	**300**
July	Weekday	22	22	67	121	124.5	282	**2,739**
	Weekend	6	6	141	220	218.5	303	**1,311**
	Holiday	3	3	215	279	262.7	294	**788**
August	Weekday	22	22	40	98	101.5	180	**2,233**
	Weekend	8	8	52	210	197.9	300	**1,583**
	Holiday	1	1	524	524	524.5	524	**524**
September	Weekday	20	20	3	66	65.6	106	**1,312**
	Weekend	8	8	114	140	149.5	196	**1,196**
	Holiday	2	2	231	308	308	385	**616**
October	Weekday	20	20	0	36	36.8	94	**736**
	Weekend	8	8	42	67	77.1	147	**617**
Full Season	Weekday	93	93	0	78.7	80.7	282	**7,505**
	Weekend	34	34	42	148	150.9	303	**5,131**
	Holiday	9	9	59	253.3	247.6	524	**2,228**

Table 4.4-3. Saddlebag Lake Trail East 1 Trail Counter Data

Month	Day Type	Total Days	Observed Days [a]	Minimum	Median	Average	Maximum	Total
June	Weekday	9	9	72	87	107.9	224	**971**
	Weekend	4	4	62	102	128.8	250	**515**
	Holiday	3	3	123	137	149.7	189	**449**
July	Weekday	22	22	51	131	135.5	204	**2,981**
	Weekend	6	6	84	164	157.7	215	**946**
	Holiday	3	3	136	221	202.7	251	**608**
August	Weekday	22	16	60	115	115.6	215	**2,543**
	Weekend	8	5	47	138	113.8	161	**910**
	Holiday	1	1	264	264	264	264	**264**
September	Weekday	20	20	0	70	61	104	**1,220**
	Weekend	8	8	74	110	110.1	162	**881**
	Holiday	2	2	103	170	170	237	**340**
October	Weekday	20	20	0	31	33	84	**660**
	Weekend	8	8	18	42	60.8	128	**486**
Full Season	Weekday	93	87	0	88.3	90.1	224	**8,375**
	Weekend	34	31	18	109.2	110	250	**3,738**
	Holiday	9	9	103	186.4	184.6	264	**1,661**

[a] Observed days are less than total days because data identified as anomalous during the QC2 process have not been included in this analysis.

Table 4.4-4. Saddlebag Lake Trail East 2 Trail Counter Data

Month	Day Type	Total Days	Observed Days [a]	Minimum	Median	Average	Maximum	Total
June	Weekday	9	9	52	70	74.1	102	667
	Weekend	4	4	45	60	93	208	372
	Holiday	3	3	95	106	113	138	339
July	Weekday	22	17	49	98	104.8	194	2,306
	Weekend	6	5	93	117	126.4	169	758
	Holiday	3	2	179	212	212.5	246	638
August	Weekday	22	22	45	71	78.9	176	1,736
	Weekend	8	8	32	122	110.6	153	885
	Holiday	1	1	211	211	211	211	211
September	Weekday	20	20	1	63	55.8	88	1,116

Month	Day Type	Total Days	Observed Days [a]	Minimum	Median	Average	Maximum	Total
	Weekend	8	8	77	91	107.1	163	857
	Holiday	2	2	86	150	150	214	300
October	Weekday	20	19	4	29	42.2	145	844
	Weekend	8	8	25	66	87.6	237	701
Full Season	Weekday	93	87	1	66.5	71.7	194	6,669
	Weekend	34	33	25	93.4	105.1	237	3,573
	Holiday	9	8	86	162.8	165.3	246	1,488

[a] Observed days are less than total days because data identified as anomalous during the QC2 process have not been included in this analysis.

Table 4.4-5. Tioga Pullout Access Trail Counter Data

Month	Day Type	Total Days	Observed Days	Minimum	Median	Average	Maximum	Total
June	Weekday	9	9	1	6	9.4	41	85
	Weekend	4	4	11	13	68.9	239	276
	Holiday	3	3	1	4	6.8	16	20
July	Weekday	22	22	0	18	34.6	175	761
	Weekend	6	6	2	7	13.6	48	82
	Holiday	3	3	26	66	61.3	92	184
August	Weekday	22	22	0	7	7.7	26	169
	Weekend	8	8	0	4	5.9	16	47
	Holiday	1	1	17	17	17	17	17
September	Weekday	20	20	0	5	5.1	11	102
	Weekend	8	8	4	6	8.6	16	69
	Holiday	2	2	12	13	12.8	14	26
October	Weekday	20	20	0	0	2.1	19	42
	Weekend	8	8	0	1	1.6	4	13
Full Season	Weekday	93	93	0	7.6	12.5	175	1,159
	Weekend	34	34	0	5.4	14.3	239	487
	Holiday	9	9	1	28.1	27.4	92	247

Table 4.4-6. Ellery-Lee Vining Creek Trail Counter Data

Month	Day Type	Total Days	Observed Days [a]	Minimum	Median	Average	Maximum	Total
June	Weekday	9	9	0	3	4.2	16	38
	Weekend	4	4	2	10	9.7	16	39
	Holiday	3	3	0	2	5.2	14	16
July	Weekday	22	19	0	13	23.2	142	510
	Weekend	6	6	3	6	26.3	121	158
	Holiday	3	3	5	9	8.4	12	25
August	Weekday	22	17	0	4	13.2	80	290
	Weekend	8	6	0	7	7.4	20	59
	Holiday	1	1	6	6	6.5	6	6
September	Weekday	20	19	0	2	14.8	129	296
	Weekend	8	8	1	3	46	202	368
	Holiday	2	2	100	106	105.5	112	211
October	Weekday	20	20	0	0	3.1	28	62
	Weekend	8	8	0	4	18.4	106	147
Full Season	Weekday	93	84	0	4.7	12.9	142	1,196
	Weekend	34	32	0	5.5	22.7	202	771
	Holiday	9	9	0	27.9	28.7	112	258

[a] Observed days are less than total days because data identified as anomalous during the QC2 process have not been included in this analysis.

Table 4.4-7. Ellery-Rhinedollar Trail Counter Data

Month	Day Type	Total Days	Observed Days	Minimum	Median	Average	Maximum	Total
June	Weekday	9	9	1	4	3.4	6	31
	Weekend	4	4	0	2	2.8	6	11
	Holiday	3	3	4	5	14.3	34	43
July	Weekday	22	22	0	2	2.5	13	55
	Weekend	6	6	0	1	1.2	2	7
	Holiday	3	3	0	0	2	5	6
August	Weekday	22	22	0	52	47.5	116	1,045
	Weekend	8	8	0	23	45	116	360
	Holiday	1	1	14	14	14.5	14	14
September	Weekday	20	20	0	2	15.3	80	306

Month	Day Type	Total Days	Observed Days	Minimum	Median	Average	Maximum	Total
	Weekend	8	8	0	0	6.9	36	55
	Holiday	2	2	12	29	28.8	46	58
October	Weekday	20	20	0	0	2.2	31	44
	Weekend	8	8	0	1	0.8	2	6
Full Season	Weekday	93	93	0	13.6	15.9	116	1,481
	Weekend	34	34	0	6.1	12.9	116	439
	Holiday	9	9	0	9.7	13.4	46	121

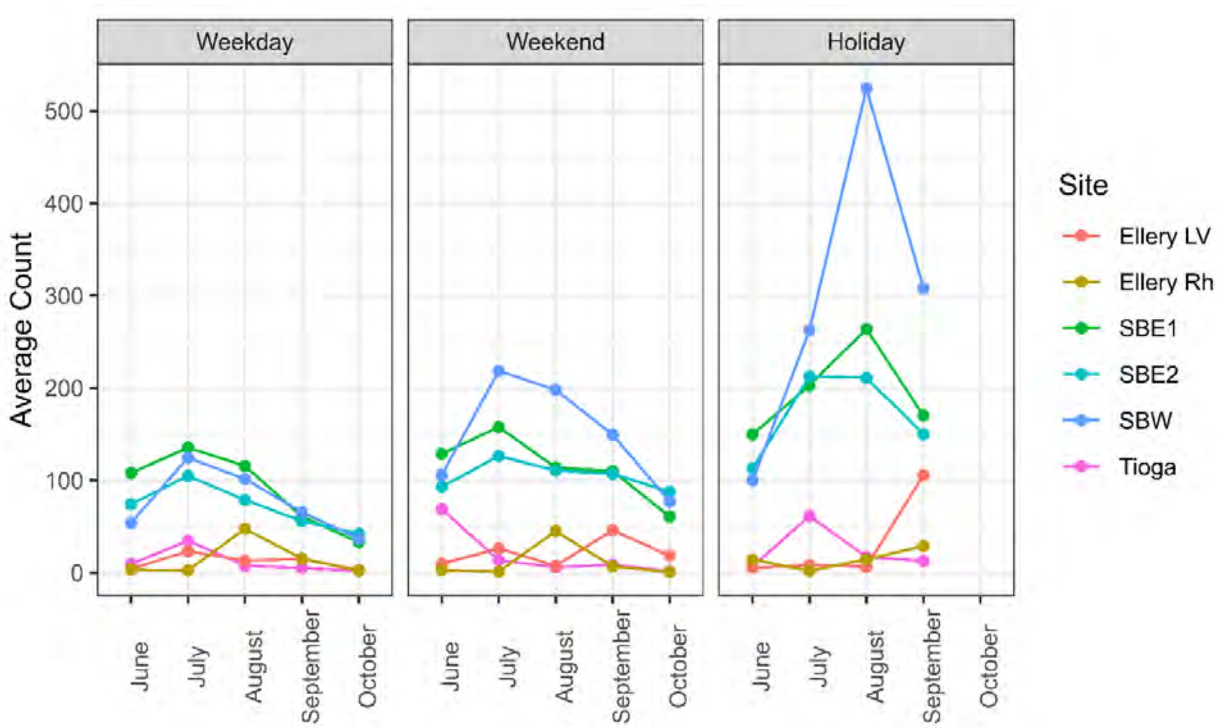


Figure 4.4-2. Average Trail Users Based on Trail Counters at Six Sites over the Period June 15 to October 28, 2024.

4.5. Spot Counts

Table 4.5-1 lists the total number of vehicles at each of the day use sites during the 11 spot counts and lists the corresponding day of the week. Between June 15, 2024, and November 6, 2024, 532 vehicles were counted during the 11 spot counts. Overall, Saddlebag Lake Day Use Area (Site 2) and the Saddlebag Lake Trailhead (Site 3) had the highest total counts of vehicles.

Table 4.5-1. Summary of Vehicle Spot Counts

Date	Day of the Week	Site Number					Total
		2	3	8	9/10	23	
June 15, 2024	Saturday	13	18	4	18	1	54
June 19, 2024	Wednesday (Hol.)	25	6	6	12	3	52
June 26, 2024	Wednesday	6	8	3	6	1	24
July 13, 2024	Saturday	17	30	1	4	3	55
July 23, 2024	Tuesday	24	16	0	9	1	50
August 3, 2024	Saturday	21	32	7	16	2	78
August 16, 2024	Friday	39	43	8	12	1	103
September 6, 2024	Friday	25	14	6	4	0	49
September 8, 2024	Sunday	15	20	1	7	0	43
October 13, 2024	Sunday	14	3	0	3	1	21
November 6, 2024	Wednesday	0	0	2	1	0	3
	Total	**199**	**190**	**38**	**92**	**13**	**532**

SCE also collected data on the number of people and the types of recreation activities observed during spot counts throughout the study season. During the 11 spot count days, 591 people were observed. Of those, the most popular activities observed were camping and walking/hiking. Other activities observed included biking, hanging out, playing board games, climbing, swimming, and backcountry skiing. Non-recreation activities included observations of SCE or other workers. Table 4.5-2 summarizes the number of people observed participating in recreation activities at each recreation site within the study area.

Table 4.5-2. Recreation Activities Observed During Spot Counts

Site Number	Activities								
	Boating	Fishing	Walking/ Hiking/Running	Picnicking	Camping	Sightseeing/ Birding/ Photography	Non-recreation	Other	Total
1	0	3	2	0	60	1	3	0	69
2	18	21	25	2	0	7	2	10	85
3	0	0	15	0	9	0	0	3	27
4	0	1	3	0	31	0	0	3	38
7	0	0	4	3	57	5	4	0	73
8	0	4	19	0	0	0	0	0	23
9/10	4	6	24	7	0	30	8	0	79
12	1	9	5	17	47	0	0	9	88
14	0	3	11	2	67	1	1	3	88
23	0	11	4	0	0	4	2	0	21
Total	**23**	**58**	**112**	**31**	**271**	**48**	**20**	**28**	**591**

4.6. Current Recreation Use and Density Estimates

For the day use sites, recreation days and parking utilization were estimated using a combination of data from the user surveys and spot counts.

4.6.1. Recreation Use

Recreation days were estimated for five sites: Saddlebag Lake Day Use Area (Site 2), Saddlebag Lake Trailhead (Site 3), Bennettville Trailhead (Site 8), Tioga Lake Overlook / Glacier Canyon Trail (Site 9/10), and Ellery Lake Caltrans Pullout (Site 23). The calculations provide the recreation days from June 15, 2024, to October 31, 2024.

The estimated recreation days by month and day type (holiday, weekday, weekend), between June 15, 2024, and October 31, 2024, are provided in Table 4.6-1. During the study period, there was an estimated total of 39,250 recreation days. Of the five sites, estimates were highest at the Saddlebag Lake Day Use Area (14,250) and lowest at the Saddlebag Lake Trailhead (2,510).

Table 4.6-1. Estimated Recreation Visitation (Recreation Days) from June 15, 2024 to October 31, 2024

Day Type	Site Number					Total
	2	3	8	9/10	23	
June						
Total Holiday	320	64	110	480	150	1,124
Total Weekday	1,000	150	410	690	260	2,510
Total Weekend	270	85	62	510	93	1,020
Total June	**1,590**	**299**	**582**	**1,680**	**503**	**4,654**
July						
Total Holiday	320	64	110	480	150	1,124
Total Weekday	2,500	360	1,000	1,700	630	6,190
Total Weekend	400	130	94	770	140	1,534
Total July	**3,220**	**554**	**1,204**	**2,950**	**920**	**8,848**
August						
Total Holiday	110	21	36	160	50	377
Total Weekday	2,500	360	1,000	1,700	630	6,190
Total Weekend	540	170	120	1,000	190	2,020
Total August	**3,150**	**551**	**1,156**	**2,860**	**870**	**8,587**

Day Type	Site Number					Total
	2	3	8	9/10	23	
September						
Total Holiday	210	43	72	320	99	744
Total Weekday	2,300	320	910	1,500	580	5,610
Total Weekend	540	170	120	1,000	190	2,020
Total September	**3,050**	**533**	**1,102**	**2,820**	**869**	**8,374**
October						
Total Weekday	2,600	370	1,000	1,800	660	6,430
Total Weekend	540	170	120	1,000	190	2,020
Total October	**3,140**	**540**	**1,120**	**2,800**	**850**	**8,450**
Complete Study Season						
Total Holiday	950	190	320	1,400	450	3,310
Total Weekday	11,000	1,600	4,400	7,400	2,800	27,200
Total Weekend	2,300	720	530	4,400	790	8,740
Total Annual	**14,250**	**2,510**	**5,250**	**13,200**	**4,040**	**39,250**

4.6.2. Parking and Campground Utilization

Based on spot count estimates, Bennettville Trailhead reached 100 percent utilization on the holiday weekend (n=1) and averaged 43.3 percent utilization on weekend days (n=5) and 63.3 percent on weekdays (n=5). For the remaining sites, Saddlebag Lake Day Use Area saw the highest parking utilization on the holiday weekend (59.5 percent), as well as on weekend days (38.1 percent) and weekdays (44.8 percent). An estimated 30 parking spaces were available at Ellery Lake Caltrans Pullout, but typically only a small number of cars parked there (maximum observed was 3) (Table 4.6-2).

Table 4.6-2. Estimated Parking Utilization within the Project Area from June 15, 2024 to October 31, 2024

Site Number	Site Name	Parking Capacity (Vehicle Spaces)	Holiday Weekend Parking Utilization (%)	Weekend Parking Utilization (%)	Weekday Parking Utilization (%)
2	Saddlebag Lake Day Use Area	42	59.5	38.1	44.8
3	Saddlebag Lake Trailhead	63	9.5	32.7	25.7
8	Bennettville Trailhead	6	100	43.3	63.3
9/10	Tioga Lake Overlook Info Site/ Glacier Canyon Trailhead	30	40	32	21.3

Site Number	Site Name	Parking Capacity (Vehicle Spaces)	Holiday Weekend Parking Utilization (%)	Weekend Parking Utilization (%)	Weekday Parking Utilization (%)
23	Ellery Lake Caltrans Pullout	30	10	4.7	2

Caltrans = California Department of Transportation

Table 4.6-3 provides the average single-site camping utilization by site and day type. Utilization tended to be higher on weekdays than weekends, with the exception of Saddlebag Lake Campground. The utilization on Juneteenth (Wednesday)—the only holiday with a spot count—was highest at Tioga Lake Campground.

Table 4.6-3. Estimated Campground Utilization within the Project Area from June 15, 2024 to October 31, 2024

Site Number	Site Name [a]	Campground Capacity (Camp Sites)	Weekend Campground Utilization (%)	Holiday Campground Utilization (%)	Weekday Campground Utilization (%)
1	Saddlebag Lake Campground	20	88.3	N/A[a]	76.7
4	Sawmill Walk-In Campground	11	36.4	9.1	45.5
7	Junction Campground	14	82.1	78.6	88.1
12	Tioga Lake Campground	13	61.5	84.6	73.1
14	Ellery Lake Campground	15	68.3	20	75

N/A = not applicable

[a] Saddlebag Lake Campground data is based on July to September (closed June [including the Juneteenth Holiday Weekend], October, November). All campgrounds were closed during the October and November spot counts.

Throughout the season, the Saddlebag Lake Trailhead group site was occupied during 64 percent of spot count visits (7/11 spot counts). The ABA sites at Junction Campground were occupied during 62.5 percent of spot count visits (5/8 spot counts), while ABA sites at Tioga Lake Campground were occupied during 55.6 percent of spot count visits (5/9 spot counts).

4.7. INYO NATIONAL FOREST CAMPGROUND UTILIZATION

The Mono Lake Ranger District of the Inyo National Forest operates and maintains recreational facilities and opportunities within upper Lee Vining Canyon, providing approximately 6 public campgrounds with 79 camping units in the upper canyon, one of which is a group unit accommodating up to 25 guests, as summarized in Table 4.7-1 (USFS, 2020). The majority of these sites are adjacent to Project water features (Saddlebag Lake, Tioga Lake, Ellery Lake, Glacier Creek, and Lee Vining Creek), Saddlebag Lake Road, and State Route 120 (also called Tioga Pass Road).

Table 4.7-1. Inyo National Forest Camping Facilities in Upper Lee Vining Canyon (Listed Generally Upstream to Downstream)

Name	Amenities	Number of Sites	Open
Saddlebag Lake Campground	B/v/RV	19	July–September
Saddlebag Lake Trailhead Group Campground	B/R/v	1 (accommodates 25 people)	July–September
Sawmill Walk-in Campground	No RVs or trailers/B/v	12	July–September
Junction Campground	B/v	13	July–October
Tioga Lake Campground	B/v/RV	13	July–September
Ellery Lake Campground	B/v	21	July–October

Source: USFS, 2020

B = bear boxes; R = reservations; RV = small recreational vehicles or short trailers only, no RV hook up; v = vault restroom

Per USFS data, the occupancy rates at the upper Lee Vining Canyon campgrounds were generally less in 2022 than in 2021 (Table 4.7-2). Campgrounds were open for a limited season in summer 2023 due to the heavy snowfall the previous winter. The two resorts in the area, Saddlebag Lake Resort and Tioga Pass Resort, did not operate in 2023.

Table 4.7-2. Upper Lee Vining Canyon Area Campground Occupancy Rates in 2021 and 2022

Campground	Occupancy Rate (%)			
	2021	2022	2023 [a]	2024 [a]
Saddlebag Lake Campground	81	69	Closed	N/A
Saddlebag Lake Trailhead Group Campground	76	59	N/A	N/A
Tioga Lake Campground	88	89	N/A	N/A
Ellery Lake Campground	92	85	N/A	N/A
Junction Campground	85	84	N/A	N/A
Sawmill Walk-in Campground	52	46	Closed	N/A

Source: Personal communication, Adam Barnett, Public Services Staff Officer, USFS, June 26, 2024

NA = data not available
[a] Occupancy rate data for 2023 and 2024 from USFS will be included when available.

4.8. FUTURE RECREATION USE AND NEEDS ESTIMATES

Visitors to Lee Vining Canyon arrive from many counties across the United States, as well as from other countries. Based on the visitor survey results, about 67 percent travel from California, with more than half of these California visitors from 6 counties: Alameda, Inyo, Los Angeles, Mono, Orange, and San Diego. The 2013 to 2022 populations for these counties and the entire state of California are shown in Table 4.8-1.

Table 4.8-1. Population from 2013 through 2022

	2013	2014	2015	2016	2017	2018	2019	2020	2020	2022
Alameda County	1,535,248	1,559,308	1,584,983	1,605,217	1,629,615	1,643,700	1,656,754	1,661,584	1,673,133	1,628,997
Inyo County	18,482	18,439	18,373	18,326	18,195	18,085	17,977	17,930	18,804	18,829
Los Angeles County	9,893,481	9,974,203	10,038,388	10,057,155	10,105,722	10,098,052	10,081,570	10,040,682	10,019,635	9,936,690
Mono County	14,217	14,193	14,146	14,051	14,058	14,174	14,310	14,395	13,291	13,219
Orange County	3,051,771	3,086,331	3,116,069	3,132,211	3,155,816	3,164,182	3,168,044	3,170,345	3,182,923	3,175,227
San Diego County	3,138,265	3,183,143	3,223,096	3,253,356	3,283,665	3,302,833	3,316,073	3,323,970	3,296,317	3,289,701
California	37,659,181	38,066,920	38,421,464	38,654,206	38,982,847	39,148,760	39,283,497	39,346,023	39,455,353	39,356,104

Log-linear population increase models were fit to the 2013 to 2022 populations for each of the six counties and the state of California. The rate of change in population in Orange, Alameda, and San Diego Counties and the state of California showed significant increases over the 2013 to 2022 period. Inyo, Los Angeles, and Mono Counties had increases and decreases, with no clear trend (trend was not significantly different from zero over the 2013 to 2022 period). The projected population increases for these counties and California are displayed in Table 4.8-2.

Table 4.8-2. Population Projections through 2065

Year	Alameda County	Inyo County	Los Angeles County	Mono County	Orange County	San Diego County	California
2030	1,805,000	17,900	10,040,700	14,400	3,306,900	3,507,300	41,348,400
2035	1,881,300	17,900	10,040,700	14,400	3,377,300	3,602,700	42,387,400
2040	1,960,800	17,900	10,040,700	14,400	3,449,300	3,700,800	43,452,600
2045	2,043,700	17,900	10,040,700	14,400	3,522,800	3,801,500	44,544,500
2050	2,130,000	17,900	10,040,700	14,400	3,597,900	3,904,900	45,663,900
2055	2,220,100	17,900	10,040,700	14,400	3,674,500	4,011,100	46,811,400
2060	2,313,900	17,900	10,040,700	14,400	3,752,800	4,120,300	47,987,800
2065	2,411,700	17,900	10,040,700	14,400	3,832,800	4,232,400	49,193,700

The weighted average of population growth estimates for the six California counties with the most visitors was used to estimate recreation days in the future. The average was weighted based on the percent of visitors that reported residing in each county. The current recreation use is estimated to be approximately 39,250 recreation days in 2024 for the Project Area. FERC may issue SCE a new license for the Project for a term of 40 years, during which annual recreation days could increase to approximately 44,100 in the Project Area by 2065. This is an increase of approximately 4,850 recreation days, or approximately 12.4 percent (Table 4.8-3).

Table 4.8-3. Estimated Future Recreation Days, 2030 to 2065

Year	Site Number					Total
	2	3	8	9/10	23	
2030	14,500	2,600	13,400	5,300	4,100	39,900
2035	14,700	2,600	13,600	5,400	4,200	40,500
2040	14,900	2,600	13,800	5,500	4,200	41,100
2045	15,100	2,700	14,000	5,600	4,300	41,700
2050	15,300	2,700	14,200	5,700	4,400	42,300
2055	15,600	2,700	14,400	5,700	4,400	42,900

Year	Site Number					Total
	2	3	8	9/10	23	
2060	15,800	2,800	14,600	5,800	4,500	43,500
2065	16,000	2,800	14,800	5,900	4,500	44,100

Future recreation needs within the Project Area can be assessed in part by comparing the recreation use estimates and parking utilization percentages determined for 2024 to the projected population growth rates of California and the subset of six counties from which the Project is most frequently visited. In addition, the future recreation needs are assessed by the preferences and perception of recreation in the area noted by visitors during the visitor intercept surveys. Based on qualitative data collected, visitors are satisfied with the area the way it is currently. When looking at the surrounding area of the Inyo National Forest, the National Visitor Use Monitoring reports show an ebb and flow of visitation over the years. From 2011 to 2016, the National Visitor Use Monitoring shows an increase of visits to day use developed sites of approximately 3.3 percent, while visits to developed overnight sites decreased by approximately 49.6 percent. However, from 2016 to 2021 a decrease in visitation occurred at day use developed sites of approximately 21.6 percent and at overnight developed sites of approximately 22.7 percent (USFS, 2025a, 2025b, 2025c). Based on these trends in visitation use, the future recreation estimates for the Project Area would be anticipated to increase slightly, which is in alignment with the population trend for California and the subset of six counties most frequenting the Project Area.

5.0 CONSISTENCY WITH THE INYO NATIONAL FOREST LAND MANAGEMENT PLAN

The *Land Management Plan for the Inyo National Forest* (USFS, 2019) was developed to provide direction and adaptive management for the resources in the Project Area. The following Inyo National Forest recreation-forest wide (REC-FW) desired conditions (DC), goals (GOAL), standards (STD), and guidelines (GDL) were found to be relevant to and consistent with this study:

- Sites provide a variety of nature-based recreation opportunities year-round (REC-FW-DC 01, 03, 12).
- Sites accommodate diverse cultures (REC-FW-DC 02).
- Sites provide recreation opportunities with minimal impacts on sensitive environments (REC-FW-DC 05).
- Trail systems provide recreational opportunities compatible with other resources (REC-FW-DC 07, 13).
- Dispersed sites exist in areas outside of high visitation, which does not adversely impact resources (REC-FW-DC 09).

- Infrastructure meets the minimum needs of potential uses and mimics the area's natural landscape (REC-FW-GDL 02).

The sites were found to align with the following Management Area, Destination Recreation Area (MA-DRA) desired conditions (DC), objectives (OBJ), goals (GOAL), and guidelines (GDL):

- Sites have a developed footprint that is appropriate to the setting, visually appealing, and well maintained (MA-DRA-DC 01).
- Sites provide scenic integrity with a natural-appearing landscape retained outside of the development footprint (MA-DRA-DC 02).
- Sites provide infrastructure and amenities that are consistent with user capacity (MA-DRA-DC 06).
- Sites provide traffic and parking that do not negatively impact the visitor experience (MA-DRA-DC 08).

Additionally, the sites were found to align with the following Management Area, General Recreation Area (MA-GRA) desired conditions (DC), objectives (OBJ), goals (GOAL), and guidelines (GDL):

- Sites have limited amenities and minor developments (MA-GRA-DC 01).
- Sites provide scenic integrity, including a mosaic of vegetation, while retaining the natural character of landscapes (MA-GRA-DC 02, 07).
- Recreation opportunities are compatible with other resources and result in infrequent conflicts between different uses (MA-GRA-DC 03, 06).
- Roads and trails at the sites support recreation activities (MA-GRA-DC 08).
- Recreation sites provide opportunities for those seeking solitude, as well as high-use areas (MA-GRA-DC 09).

6.0 CONSULTATION SUMMARY

6.1. Recreation and Land Use Resources Technical Working Group Consultation

In preparation to file the Pre-Application Document and Notice of Intent, SCE hosted Recreation and Land Use Resources TWG meetings on January 28, February 25, April 1, and May 27, 2021. These TWG meetings resulted in study requests from stakeholders to address questions regarding existing recreation facilities. Notes and materials from these meetings are available on SCE's Project website.[5]

[5] www.sce.com/leevining

SCE filed draft Study Plans with the Pre-Application Document and Notice of Intent on August 12, 2021, to address issues discussed with the TWGs. The stakeholder comment period for these filings ended on January 18, 2022. SCE reviewed all comments received and drafted revised technical Study Plans, which were distributed to the TWGs on February 18, 2022, for another 30-day review period. Stakeholder comments received on the revised Study Plans were reviewed and incorporated as appropriate in the final Study Plans, which were filed with FERC on April 25, 2022 (SCE, 2022).

SCE hosted Recreation and Land Use Resources TWG Meetings on March 1, March 15, and April 19, 2023, to discuss implementation of the recreation Study Plans. Throughout spring and summer 2023, SCE continued to consult with USFS and CDFW regarding the heavy snowfall which caused a multitude of delays, closures, flooding, and damage in the area. On July 17, 2023, SCE emailed the Recreation and Land Use TWG requesting concurrence to conduct Phase 2 of the REC-1 Study in 2024 due to the heavy snowfall and wet water year. Concurrence was reached on July 17, 2023.

SCE hosted a Recreation and Land Use TWG meeting on February 28, 2024, to discuss implementation of Phase 2 of the REC-1 Study during the 2024 study season.

Comments received on the REC-1 Study are included in Table 6.1-1.

Table 6.1-1. Consultation Summary—Response to Comments

Comment Number	Entity	Date/Forum	Comment	SCE Response
1	CDFW	1/28/2021 TWG Meeting	*Paraphrase of comment in meeting:* The Project creates reservoirs, and our department needs to stock those to maintain the value of them to fishermen. Our stocking plan is based on use data, so we will be asking for a study to quantify fishing pressure on reservoirs to inform mitigation measures for stocking. Currently, we have no idea how many fishermen are using the lakes other than a qualitative guess. To capture the target species, catch rates would be the intent. The study would mainly focus on the reservoirs, though we will want to look at creeks as well.	SCE received your formal study request on 2/8/2021 and incorporated it into the REC-1 Study .
2	Access Fund	1/28/2021 TWG Meeting	*Paraphrase of comment in meeting:* There is a substantial amount of ice climbing that happens below Ellery Lake. Where are the flows coming from and will they change? What fact finding do I need to do to figure out what's happening there? Travel to the climbing site would be over snow, not on trails, resulting in less impacts on vegetation and soil. I would be happy to provide this information. It's a unique area for ice climbing.	SCE is not aware that Project operations contribute to the ice climbing environment below Ellery Lake. The integrity of flowlines is inspected regularly as part of the dam safety program. SCE would welcome any information that may inform future inspections. SCE is proposing to characterize winter use as part of its REC-1 Study and will work with the TWG to determine method and sites for analysis.
3	USFS	1/28/2021 TWG Meeting	*Paraphrase of comment in meeting:* In the past, there have been conflicts at Saddlebag Lake between the resort's water taxi service and lake levels. Since there are no lake level requirements on Saddlebag Lake, the resort sometimes has issues with lake levels being too low to operate.	SCE reviews instream flows and resulting lake levels at Saddlebag Lake annually in April and August with the USFS. SCE will characterize use at the resort—including its water taxi service as it relates to lake levels—as part of its REC-1 Study, using SCE lake level data and USFS concessionaire data.

Comment Number	Entity	Date/Forum	Comment	SCE Response
4	MLC	1/28/2021 TWG Meeting	*Paraphrase of comment in meeting:* I'm interested in the pullouts at Ellery and Tioga Lakes. Are those in the Project area? Are there opportunities to organize/clarify traffic there, manage people, and include interpretive displays since the pullouts attract people to observe the scenery? What about adding restrooms?	Pullouts on State Route 120 alongside Ellery and Tioga Lakes are ultimately the responsibility of Caltrans. However, the formal pullout at Ellery Lake will be included in user surveys and spot counts conducted under REC-1 efforts in the 2023 field season. Informal pullouts surrounding the Project reservoirs (Saddlebag, Ellery, and Tioga Lakes) will be included in the 2022 dispersed use assessment. Based on the information collected from that assessment, SCE will discuss with the TWG whether additional surveys, spot counts, or traffic/trail counters may be needed during REC-1 efforts in the 2023 field season.
5	CDFW	2/8/2021 Formal Study Request (Emailed Document)	[Formal request for creel survey]	SCE received your formal study request and incorporated it into the REC-1 Study. Creel sampling will follow the standard protocols published in *Fisheries Techniques, Third Addition* (Zale et al., 2013), and analysis will include review of CDFW's *Strategic Trout Management Plan* (CDFG, 2003). Methods will include surveys and spot counts at both the Project reservoirs and campgrounds located on creeks within the FERC Project Boundary (Sawmill Walk-in and Junction Campgrounds).
6	CDFW	2/25/2021 TWG Meeting	*Paraphrase of comment in meeting:* To summarize the Creel Census study request, we don't have a good estimate of fishing pressure at the Project. The reservoirs/resources are essentially created by the Project. We want to determine what the users would like to see, what fish they want to catch, etc. We want to use professional standards for a good robust creel survey, the industry standard. We also want to include areas around campgrounds, but in general we are more concerned with the lakes. Consider doing a "roving	SCE received your formal study request and incorporated it into the REC-1 Study. Creel sampling will follow the standard protocols published in *Fisheries Techniques, Third Addition* (Zale et al., 2013), and analysis will include review of CDFW's *Strategic Trout Management Plan* (CDFG, 2003). Methods will include surveys and spot counts at both the Project reservoirs and campgrounds located on creeks within the FERC Project Boundary (Sawmill Walk-in and Junction Campgrounds).

Comment Number	Entity	Date/Forum	Comment	SCE Response
			creel" or "car creel" to estimate differential pressure between lakes and streams. The assumption is that fishermen using campground areas and creeks are also fishing in the lakes. We could get a rough count of creek fishers while doing the lake assessment.	
7	Access Fund	2/25/2021 TWG Meeting	*Paraphrase of comment in meeting:* It is already well known, but this year especially this added camping pressure is a product of needing to have permits to enter Yosemite. There is a lot of dispersed camping anywhere you can fit a vehicle. The permit requirement was reinstated for 2021, it was implemented as a response to Covid-19.	Pullouts on State Route 120 alongside Ellery and Tioga Lakes are ultimately the responsibility of Caltrans. However, the formal pullout at Ellery Lake will be included in user surveys and spot counts conducted under REC-1 efforts in the 2023 field season. Informal pullouts surrounding the Project reservoirs (Saddlebag, Ellery, and Tioga Lakes) will be included in the 2022 dispersed use assessment. Based on the information collected from that assessment, SCE will discuss with the TWG whether additional surveys, spot counts, or traffic/trail counters may be needed during REC-1 efforts in the 2023 field season.
8	MLC	2/25/2021 TWG Meeting	*Paraphrase of comment in meeting:* We are putting together our study requests still. Possibility of focused recreation use studies at Saddlebag, Ellery pull out, and at north end of Tioga Lake in regards to vehicle density on dirt areas. There is the possibility of non-point source pollution and run off (dumping of coolers, pet waste, etc.) at these pullouts increasing due to recreation/vehicle use at these pull outs. Pulling off in these areas is due to the scenic views at the reservoirs, so they seem related to the Project. Camping right at the shoreline of Saddlebag and Tioga Lakes is increasing, with no buffer between vehicles. This isn't happening at Ellery Lake because there is no direct driving access to the shoreline.	Pullouts on State Route 120 alongside Ellery and Tioga Lakes are ultimately the responsibility of Caltrans. However, the formal pullout at Ellery Lake will be included in user surveys and spot counts conducted under REC-1 efforts in the 2023 field season. Informal pullouts surrounding the Project reservoirs (Saddlebag, Ellery, and Tioga Lakes) will be included in the 2022 dispersed use assessment. Based on the information collected from that assessment, SCE will discuss with the TWG whether additional surveys, spot counts, or traffic/trail counters may be needed during REC-1 efforts in the 2023 field season. The nexus between water quality impacts from non-Project pullouts is discussed in the *WQ-1 Stream and Reservoir Water Quality Technical Study Plan*.

Comment Number	Entity	Date/Forum	Comment	SCE Response
9	Access Fund	2/25/2021 TWG Meeting	*Paraphrase of comment in meeting:* Regarding recreation use at Saddlebag Lake, I use that trail a lot. I noticed last year that there is a ferry across Saddlebag Lake that cuts out about two miles of easy walking. There are impacts from people offloading from the ferry on Saddlebag Lake and scattering across the tundra grass there. There is degradation of trails and vegetation there from picnicking and offloading. There is less camping, more backpacking, fishing, and picnicking happening. Wondering if it’s worth looking at since there are a lot of people using the area.	A dispersed use assessment will be conducted in 2022 around each of the Project reservoirs (Saddlebag, Ellery, and Tioga Lakes), including the use at the back end of Saddlebag Lake. Based on the information collected from that assessment, SCE will discuss with the TWG whether additional surveys, spot counts, or traffic/trail counters may be needed during REC-1 efforts in the 2023 field season. The REC-1 Study will also characterize water taxi use at the lake using USFS concessionaire data.
10	USFS	4/1/2021 TWG Meeting	*Paraphrase of comment in meeting:* Are recreation studies only proposed in the spring/summer? We may not be capturing all of the Project-induced recreation if we only focus on one time of year.	SCE will work with the TWG to develop an appropriate schedule for REC-1 studies that will capture relevant recreation use throughout the recreation season(s), understanding that the type of use changes depending on time of year (e.g., spring/summer compared to winter).
11	USFS	4/1/2021 TWG Meeting	*Paraphrase of comment in meeting:* We are working on additional details for those three studies using your form. There are other things we’d like you to capture. Some of the use is outside of the currently defined Project boundary but has a strong nexus. We want to make sure those things aren’t overlooked in analysis, such as Poole Powerhouse access road and access areas to recreation areas along the road. Also include an assessment of use of Project area when people come up from the campgrounds farther downstream on Lee Vining Creek; we would like a better understanding of whether people using these downstream campgrounds are using the Project area for recreation. We are putting these questions/concerns into a format for the relicensing team to use.	SCE proposes to utilize the first field season (2022) for on-site user surveys at each developed Inyo National Forest recreation site mentioned in the USFS’s proposed study requests. These initial surveys are intended to collect the primary reason for each recreator’s visit to determine which Inyo National Forest recreation sites or areas may have a potential connection to the Project. The collected information will be used in discussions with the TWG to determine which sites warrant broader studies (REC-1 Study, REC-2 Study) in a second field season (2023) but would not imply that they are ultimately related to Project operations.

Comment Number	Entity	Date/Forum	Comment	SCE Response
12	MLC	4/1/2021 TWG Meeting	*Paraphrase of comment in meeting:* Considering road pullouts, whoever is responsible for them, they do cross between both Caltrans and SCE. The pullouts affect the Project area, viewshed and recreation experience, bathrooms, etc. The recreation use study will probably cover it, but existing facilities clearly don't meet the needs of visitors (especially bathrooms). Point source pollution is still an issue. Dispersed camping and overnight parking are also being invited in these areas. The conditions/facilities of pullouts around the Project area are promoting incremental use. I'm thinking specifically of the Ellery and Saddlebag pullout locations. SCE isn't responsible for the increase in travelers, but SCE is the custodian for this part of the forest where their Project is located. The Project encourages visitors to stop along the way. People can't reasonably enjoy the area as they have in the past given the lacking existing facilities. People stop where there are pullouts, or any spaces off the road to park, those are invitations to recreate for dog walking, launching a kayak, taking photos, etc.	Pullouts on State Route 120 alongside Ellery and Tioga Lakes are ultimately the responsibility of Caltrans. However, the formal pullout at Ellery Lake will be included in user surveys and spot counts conducted under REC-1 efforts in the 2023 field season. Informal pullouts surrounding the Project reservoirs (Saddlebag, Ellery, and Tioga Lakes) will be included in the 2022 dispersed use assessment. Based on the information collected from that assessment, SCE will discuss with the TWG whether additional surveys, spot counts, or traffic/trail counters may be needed during REC-1 efforts in the 2023 field season.
13	USFS	4/1/2021 TWG Meeting	*Paraphrase of comment in meeting:* It seems like we are assuming a lot, that people are there not for the Project or are using the pullouts as an invitation. There are a lot of unknowns. We need to think about how to ask these questions. Unless there is a study that defends it, we need to take a deeper look. We can also come up with a recreation plan where we come back together at look at these needs every so often.	SCE proposes to utilize the first field season (2022) for on-site user surveys at each developed Inyo National Forest recreation site mentioned in the USFS's proposed study requests. These initial surveys are intended to collect the primary reason for each recreator's visit to determine which Inyo National Forest recreation sites or areas may have a potential connection to the Project. The collected information will be used in discussions with the TWG to determine which sites warrant broader studies

Comment Number	Entity	Date/Forum	Comment	SCE Response
				(REC-1 Study, REC-2 Study) in a second field season (2023) but would not imply that they are ultimately related to Project operations.
14	USFS	4/22/2021 Formal Study Request (Emailed Document)	Evaluate recreation use of Lower Lee Vining Canyon campgrounds (Big Bend, Aspen, Moraine, Lower Lee Vining, Cattleguard) to determine dependence of users on project stream flows and project reservoirs. Evaluate public use of recreation facilities, trails, and dispersed camping surrounding Saddlebag Lake and along the Saddlebag Lake access road including backpacking and camping use at the north end of the lake.	SCE proposes to utilize the first field season (2022) for on-site user surveys at each developed Inyo National Forest recreation site mentioned in the USFS's proposed study requests. These initial surveys are intended to collect the primary reason for each recreator’s visit to determine which Inyo National Forest recreation sites or areas may have a potential connection to the Project. The collected information will be used in discussions with the TWG to determine which sites warrant broader studies (REC-1 Study, REC-2 Study) in a second field season (2023) but would not imply that they are ultimately related to Project operations. A dispersed use assessment will be conducted in 2022 around each of the Project reservoirs (Saddlebag, Ellery, and Tioga Lakes), including the use at the back end of Saddlebag Lake. Based on the information collected from that assessment, SCE will discuss with the TWG whether additional surveys, spot counts, or traffic/trail counters may be needed during REC-1 efforts in the 2023 field season. The REC-1 Study will also characterize water taxi use at the lake using USFS concessionaire data.
15	USFS	4/22/2021 Formal Study Request (Emailed Document)	Evaluate public education needs for areas closed to dispersed camping.	Information collected for dispersed use at the Project reservoirs will be used in post-field-season TWG discussions to determine whether public education or management efforts are needed.
16	USFS	4/22/2021 Formal Study	Include use of Saddlebag Lake water taxi service in study analysis.	SCE reviews instream flows and resulting lake levels at Saddlebag Lake annually in April and

Comment Number	Entity	Date/Forum	Comment	SCE Response
		Request (Emailed Document)		August with the USFS. SCE will characterize use at the resort, including its water taxi service as it relates to lake levels, as part of its REC-1 Study using SCE lake level data and USFS concessionaire data.
17	USFS	4/22/2021 Formal Study Request (Emailed Document)	Include the following site-specific recreation activities in the study design: Ellery Lake access to Ellery Bowl for backcountry skiing and climbing…	SCE will work with the TWG to incorporate Ellery Bowl into winter data collection efforts during REC-1 Study efforts in the 2023 field season.
18	USFS	4/22/2021 Formal Study Request (Emailed Document)	Include the following site-specific recreation activities in the study design: ... Kayaking at all lakes and the need for put-in development…	REC-1 surveys conducted during the 2023 field season will be designed to collect information regarding current kayaking use or desired use at the Project reservoirs.
19	USFS	4/22/2021 Formal Study Request (Emailed Document)	Include the following site-specific recreation activities in the study design: … Dispersed camping around Ellery outlet and waterfall…	A dispersed use assessment will be conducted in 2022 around each of the Project reservoirs (Saddlebag, Ellery, and Tioga Lakes), including use below Rhinedollar Dam/Outlet. Based on the information collected from that assessment, SCE will discuss with the TWG whether additional surveys, spot counts, or traffic/trail counters may be needed during REC-1 efforts in the 2023 field season.
20	USFS	4/22/2021 Formal Study Request (Emailed Document)	Include the following site-specific recreation activities in the study design: ... Ice climbing use on Poole Power plant Rd which is plowed during winter for plant access.	See response to Comment 2 above.
21	USFS	4/22/2021 Formal Study Request (Emailed Document)	Include assessment of winter recreation activities.	SCE will work with the TWG to develop an appropriate schedule for REC-1 studies that will capture relevant recreation use throughout the recreation season(s), understanding that the type of use changes depending on time of year (e.g., spring/summer compared to winter).

Comment Number	Entity	Date/Forum	Comment	SCE Response
22	USFS	4/22/2021 Formal Study Request (Emailed Document)	The proposed project includes the Poole Power Plant Road which was likely built as part of the creation of the Lee Vining hydropower project. The new road provided additional access to Lee Vining creek and opened a new area of the Inyo NF to recreation development including Big Bend, Aspen, and Moraine campgrounds. The Lower Lee Vining and Cattleguard campgrounds may also have a nexus to the proposed project if this study finds that a significant portion of campground users stay here in order to recreate in the project vicinity, such as fishing at Tioga, Ellery, or Saddlebag Lakes. In addition, there is likely a nexus to recreation facilities on the Saddlebag Lake road which provides easy access to Saddlebag group camp, campground, trailheads, picnic area, boat ramp, Sawmill campground, and Gardisky Lake trailhead. Many of these facilities depend directly on the existing lake and the other facilities depend on the presence of the road. There is also a nexus to recreation facilities in the vicinity of Tioga and Ellery lakes including Ellery Lake Campground, Tioga Lake Campground, and Tioga Lake overlook/Glacier Canyon trailhead. These facilities were built after the proposed project and located in relationship to the project reservoirs in order to provide for their use by the public. The study area should include all campgrounds, day use sites, trailheads, FS system trails, user-created trails, roads, and dispersed campsites adjacent to or in the vicinity of: Lee Vining Creek, Glacier Creek, Ellery Lake, Tioga Lake, or Saddlebag Lake.	SCE proposes to utilize the first field season (2022) for on-site user surveys at each developed Inyo National Forest recreation site mentioned in the USFS's proposed study requests. These initial surveys are intended to collect the primary reason for each recreator's visit to determine which Inyo National Forest recreation sites or areas may have a potential connection to the Project. The collected information will be used in discussions with the TWG to determine which sites warrant broader studies (REC-1 Study, REC-2 Study) in a second field season (2023) but would not imply that they are ultimately related to Project operations. The LAND-1 Study will include consultation with USFS staff to identify roads or access trails that may be used predominantly for Project purposes, such as for operation and maintenance of Project facilities or access to Project-related recreation opportunities. A dispersed use assessment will be conducted in 2022 around each of the Project reservoirs (Saddlebag, Ellery, and Tioga Lakes) but not along the creeks. Based on the information collected from that assessment, SCE will discuss with the TWG whether additional surveys, spot counts, or traffic/trail counters may be needed during REC-1 efforts in the 2023 field season.

Comment Number	Entity	Date/Forum	Comment	SCE Response
			Rec sites: Include all developed recreation sites in Lee Vining Canyon, along Saddlebag Road, and around Saddlebag Lake. NFS trails: Saddlebag Lk trail, Glacier Canyon trail User-created trails: trails around project lakes and along creeks	
23	USFS	4/22/2021 Formal Study Request (Emailed Document)	The study area should include all campgrounds, day use sites, trailheads, FS system trails, user-created trails, roads, and dispersed campsites adjacent to or in the vicinity of: Lee Vining Creek, Glacier Creek, Ellery Lake, Tioga Lake, or Saddlebag Lake. Rec sites: Include all developed recreation sites in Lee Vining Canyon, along Saddlebag Road, and around Saddlebag Lake. NFS trails: Saddlebag Lk trail, Glacier Canyon trail User-created trails: trails around project lakes and along creeks	SCE will include all developed USFS sites listed in this request as part of its Phase 1 user surveys to determine the primary reason for user visits and whether there is a nexus to the Project itself. SCE will include an assessment of Saddlebag Lake Trail in Season 2 use and needs studies but does not propose including Glacier Canyon Trail in any detailed assessments. The trailhead facilities for Glacier Canyon Trail and any informal spurs leading around Tioga Lake will be studied as part of Phase 2 activities, but no assessment of the trail or trail use itself is being proposed as the draw is the wilderness and not Tioga Lake. SCE proposes to conduct a dispersed use assessment around Ellery, Saddlebag, and Tioga Lakes. This will include the dispersed camping and pullout areas previously identified in TWG discussions. This will not include an inventory of use along the creeks.
24	USFS	4/22/2021 Formal Study Request (Emailed Document)	Provide historic context for recreation facility development and hydropower facility development including an analysis of the timeline and location of recreation facilities in relationship to project reservoirs. For example, the construction of Big Bend, Aspen, and Moraine campgrounds after the construction of the Poole Power Plant road.	SCE does not understand how this context would inform discussions of Project nexus since the current baseline is the existing Project facilities. The REC-1 phased approach will assist in determining nexus through user survey implementation.

Comment Number	Entity	Date/Forum	Comment	SCE Response
25	USFS	5/27/2021 TWG Meeting	*Paraphrase of comment in meeting:* Usually landscape architects work with the visual study team to figure out how the visual quality impacts visitors' experience. We have done this in other projects.	SCE understands that there is usually a crossover between recreation user surveys and visual surveys and an opportunity to efficiently combine efforts. Visual surveys will be considered in the selection of REC-1 survey and data collection methods and locations for the 2023 field season.
26	USFS	5/27/2021 TWG Meeting	*Paraphrase of comment in meeting:* What are the proposed study seasons, how will you determine if you'll do a second season for each Study? Since we had such an abnormal amount of use in 2020 because of COVID-19, I'd like to hear back from our recreation specialists, maybe the first season would have odd results. It could be a high or low use year in 2021/2022. Having both seasons of data would help us get a better understanding of what is going on.	No data will be collected in 2021; study seasons will begin in 2022. SCE understands that we are currently in a unique environment and that atypical recreation use and/or unexpected events that would affect the proposed studies are highly likely in the coming years. SCE will continue to coordinate with the TWG and rely on USFS staff for guidance on whether studies should be altered or rescheduled as we move through the study season.
27	MLC	5/27/2021 TWG Meeting	*Paraphrase of comment in meeting:* Expressed concerns about a large number of vehicles driving and parking in Saddlebag Lake bottom when water levels are low. The access point observed is near the concessionaire water taxi. Where is this being addressed, is the concessionaire involved, and how does it affect SCE's operations?	Vehicle intrusion at Ellery and Saddlebag Lakes will be generally assessed as part of the REC-2 dispersed use assessment, though there may be crossover during LAND-1 discussions regarding Project roads and road condition. USFS concessionaire data, operations, and special use permits will also be reviewed and characterized as part of REC-1 and REC-2 studies. The nexus between water quality impacts from non-Project pullouts is discussed in the WQ-1 Study Plan.
28	MLC	5/27/2021 TWG Meeting	*Paraphrase of comment in meeting:* Mono County is pursuing a grant to improve the road and infrastructure up to Saddlebag Lake. This could be a problem if not done with inter-agency collaboration and SCE to help manage some of the issues we are studying here. The road is beyond repair, so they are considering paving it.	SCE will continue to monitor the proposed construction to determine whether improvements contemplated in TWG discussions or following field data collection may be incorporated into the effort. The proposed construction will also be monitored in case construction schedules conflict with proposed user surveys, as construction may result in

Comment Number	Entity	Date/Forum	Comment	SCE Response
				temporary closure of certain Inyo National Forest sites to the public.
29	USFS	1/14/2022 Comments on Initial Study Requests	4.5.8 Project Recreation Sites Recreational use of the penstock below Ellery Lake, needs to be included in the study. 52 climbing routes are accessed from the penstock - https://www.mountainproject.com/map/109223681/lee-vining-canyon-tioga-road	Informal recreational use around Ellery Lake and Rhinedollar Dam facilities will be assessed as part of the REC-2 Study. This use has been noted, and SCE will continue to consult with the Recreation and Land TWG to determine whether data (surveys or trail data) warrants collection under the REC-1 Study or whether a general characterization of the use is sufficient for later discussions.
30	USFS	1/14/2022 Comments on Initial Study Requests	5.8.5.5. Climbing Recreational use of the penstock below Ellery Lake, needs to be included in the study. 52 climbing routes accessed from the penstock - https://www.mountainproject.com/map/105798288/sierra-eastside	See response to Comment 29 above.
31	USFS	1/14/2022 Comments on Initial Study Requests	Table 6.1-1. Resource Issues, Data Gaps, and Potential Studies/Recreation Use The recreational use of the Penstock below Rhinedollar dam should be evaluated.	See response to Comment 29 above.
32	CDFW	1/14/2022 Comments on Initial Study Requests	CDFW Comment: CDFW is supportive of the recreation creel survey as described. CDFW would like to review the proposed survey dates/schedule prior to implementation.	SCE will continue to consult with the Recreation and Land TWG on proposed survey dates and schedule prior to implementation.
33	CDFW	1/14/2022 Comments on Initial Study Requests	Fisheries monitoring should be focused on documenting the need for stocking and evaluating angler use.	The AQ-1 and AQ-2 Studies will evaluate densities, age-class distributions, and condition of current fish populations in Project reservoirs and affected stream reaches. The REC-1 Study includes a creel survey to evaluate angler use and satisfaction. Additionally, the Licensee releases water that

Comment Number	Entity	Date/Forum	Comment	SCE Response
				enhances angling opportunities throughout the Project Area.
34	CDFW	1/14/2022 Comments on Initial Study Requests	Fisheries monitoring should be focused on documenting the need for stocking and evaluating angler use.	The AQ-1 and AQ-2 Studies will evaluate densities, age-class distributions, and condition of current fish populations in Project reservoirs and affected stream reaches. The REC-1 Study includes a creel survey to evaluate angler use and satisfaction. Additionally, the Licensee releases water that enhances angling opportunities throughout the Project Area.
35	CDFW	3/25/2022 Comments on Revised Study Proposal	Ellery and Tioga day use area should be included as Creel locations.	The Licensee intends to perform creel surveys at all day use areas associated with both Ellery Lake and Tioga Lake campgrounds. The USFS does not have any formal day use areas on the shoreline of either lake outside of these campgrounds.
36	CDFW	3/25/2022 Comments on Revised Study Proposal	Random sampling dates should be stratified into weekend/weekday/holiday blocks. The current proposed sampling effort is too low. A minimum of 10 days/month should be sampled, although this varies based on use.	SCE proposes to conduct creel surveys for approximately 30 percent of the creel survey period (98 days from Memorial Day through Labor Day weekend), which will essentially meet the request of at least 10 survey days per month. Survey days will be randomly generated but will include one representative day from each of the three major holiday weekends (Memorial Day, Independence Day, and Labor Day weekends) and the remainder of survey days will be split between weekdays and non-peak weekend days.
37	USFS	3/1/2023 TWG Meeting	*Paraphrase of comment in meeting:* Forest Service requested that Lower Lee Vining campground and Moraine campground are included in the REC-1 survey.	Based on meeting discussion, SCE understands the USFS concern was that campground visitors were being displaced from the upper campground areas. Data collected during Phase 1 of the REC-1 Study showed recreationists were happy with their choice of campgrounds and were not being displaced from the upper campground areas.

Comment Number	Entity	Date/Forum	Comment	SCE Response
38	USFS	3/1/2023 TWG Meeting	*Paraphrase of comment in meeting:* Forest Service requested that over-snow recreation be assessed in the Project Area.	SCE does not see a clear project nexus to these winter activities; however, over-snow recreation activities like snowmobiling and skiing were included on the survey.
39	USFS	3/15/2023 TWG Meeting	*Paraphrase of comment in meeting:* Forest Service asked specific questions about methodology and details of the REC-1 survey, such as how many survey dates there are, confirming wilderness area terminology, inclusion of snow activities, backpacking vs overnight hiking terminology, 1-9 vs 1-5 ranking scales, etc.	The USFS was part of the TWG that reviewed the draft survey, which was modified to address the comments of the TWG members as appropriate. Regarding these specific recommendations, SCE updated to the survey to address USFS comments.
40	State Water Resources Control Board	4/19/2023 TWG Meeting	*Paraphrase of comment in meeting:* Is there a contingency plan if any recreation facilities are damaged and end up closed or are inaccessible for the whole year?	The basic premise of the user survey is to capture a representative sample of the 2023 recreation season, so if there are closed facilities that is part of the year and it would still be representative. The survey will capture the data as the sites open. ***2024 update: The decision was made with the TWG to postpone the REC-1 surveys in 2023 due to the significant delay in opening the majority of sites.*
41	USFS	2/28/2024 TWG Meeting	*Paraphrase of comment in meeting:* Forest Service requested a trail counter be added on the west side of Saddlebag Lake Dam.	SCE agreed to add another trail counter at the suggested location.
42	USFS	2/28/2024 TWG Meeting	*Paraphrase of comment in meeting:* Forest Service noted that the 2024 snow year was almost average at the time of the meeting, so SCE should be prepared to shift survey dates later due to potential access issues/restrictions.	SCE agreed that the snow may impact access and agreed that we are prepared to shift the survey as needed and stay in consultation with USFS.
43	USFS	2/28/2024 TWG Meeting	*Paraphrase of comment in meeting:* Forest Service asked additional specific questions about methodology and details of the REC-1 survey.	The USFS was part of the TWG that reviewed the draft survey, which was modified to address the comments of the TWG members as appropriate. Regarding these specific recommendations, SCE updated to the survey to address USFS comments.

Comment Number	Entity	Date/Forum	Comment	SCE Response
44	USFS	5/14/2024 Tech Report Review Meeting	*Paraphrase of comment in meeting:* Forest Service asked if the number of available parking spaces were counted in the REC survey(s).	The number of available parking spaces were collected as part of the REC-2 Study.
45	USFS	11/22/2024 DLA Review Comments	The DLA states that there are no Project effects to recreation. SCE reaches this conclusion based upon its determination that no recreation facilities are associated with the Project, and because SCE has not proposed any recreation related measures. The Forest notes that the existing license includes requirements to manage the lake levels to address recreation and visual needs and that SCE provides funding to stock fish at its reservoirs for recreational enjoyment. Regarding the statement that no recreation facilities are associated with the Project, no official determination has been made regarding facility use and recreational needs for his project. The Inyo NF asserts that there is a clear nexus to several recreation facilities immediately adjacent to the Project boundary – including those that provide public facilities at the Project reservoirs. Furthermore, REC-1 has not been completed which will provide additional insight into the recreational use of the Project via the adjacent campgrounds, day use sites, and trails. Therefore, SCE cannot conclude that there are no potential recreation effects and issues associated with the Project and by extension there is no need for recreation PM&E measures.	There are no recreation facilities currently associated with the Project, and discussions are ongoing with the USFS and other agencies. The REC-1 Draft Technical Report will be filed with the Final License Application.

Caltrans = California Department of Transportation; CDFW = California Department of Fish and Wildlife; DLA = Draft License Application; FERC = Federal Energy Regulatory Commission; Forest Service = U.S. Forest Service; FS = U.S. Forest Service; Inyo NF = Inyo National Forest; MLC = Mono Lake Committee; NFS = National Forest System; PM&E = protection, mitigation, and enhancement; SCE = Southern California Edison; TWG = Technical Working Group; USFS = U.S. Forest Service

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APPENDIX A
PHASE 1 USER SURVEY FORM

[Describe the area and terminology (Lee Vining Canyon [Upper vs Lower], Inyo facilities, etc.). Include orientation map.]

1. What is the primary purpose of your trip to Lee Vining Canyon? (See map for reference)
    a. Passing through on my way to Yosemite National Park
    b. Passing through on my way to Eastern Sierras (Mono Lake, June Lake, Mammoth Lakes, Bishop, etc.)
    c. Recreate in the Upper Lee Vining Canyon (Saddlebag Lake, Lee Vining Creek, Tioga Lake, Glacier Creek, Ellery Lake, etc.)
    d. Recreate in the Lower Lee Vining Canyon (Campgrounds and Lee Vining Creek access below Poole Powerhouse)
2. Other than camping, which of the following developed, Inyo NF recreation sites and informal recreation areas do you plan to visit on this trip to the Lee Vining Canyon? (Select all that apply)

Upper Lee Vining Canyon		Lower Lee Vining Canyon	
☐	Saddlebag Lake Campground	☐	Fishing along Lee Vining Creek below Poole Powerhouse
☐	Saddlebag Lake Day Use Area	☐	Big Bend Campground
☐	Saddlebag Lake Trailhead (Saddlebag Lake Loop Trail)	☐	Aspen Grove Campground
☐	Sawmill Walk-In Campground	☐	Boulder Day Use Area
☐	Fishing along Lee Vining Creek below Saddlebag	☐	Moraine Campground
☐	Fishing along Glacier Creek below Tioga	☐	Lower Lee Vining Campground
☐	Carnegie Station Trailhead	☐	Cattleguard Campground
☐	Gardisky Lake Trailhead		
☐	Junction Campground		
☐	Bennettville Trailhead		
☐	Tioga Lake Overlook Info Site		
☐	Glacier Canyon Trailhead		
☐	Nunatak-Tioga Tarns Trailhead		
☐	Tioga Lake Campground		
☐	Nunatak Nature Trail	☐	Tioga Lodge
☐	Ellery Lake Campground	☐	N/A – I'm just here to camp
☐	Warren Fork Trailhead	☐	Other (Please specify)

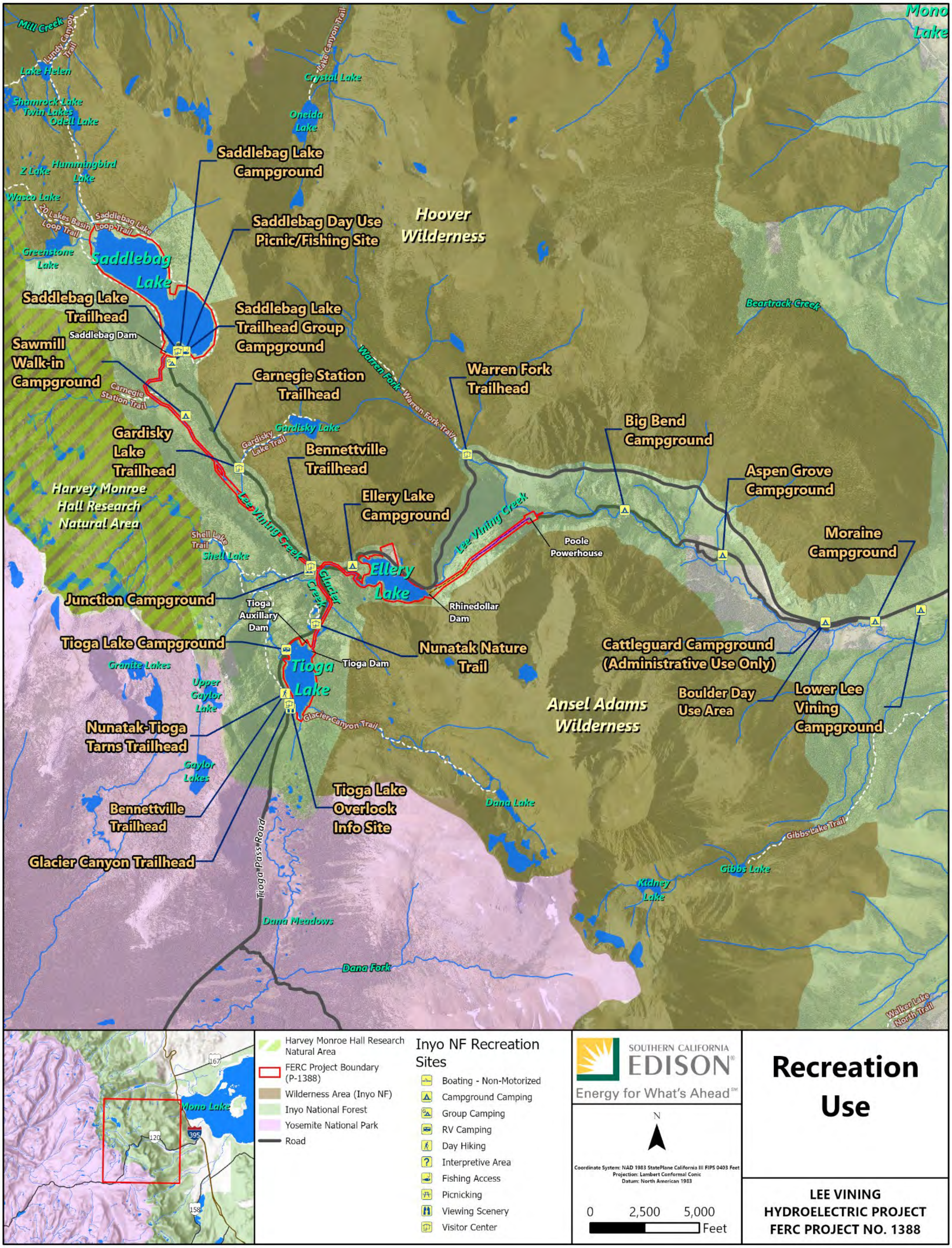
3. Which activities have you, or will you participate in during your visit? (Select all that apply)

Participating? (Select all that apply)	Activity	Primary (Select One)
☐	Camping (Developed Campground)	☐
☐	Fishing (creek)	☐
☐	Fishing (reservoir)	☐
☐	Hiking/Trail Use (Day Use)	☐
☐	Hiking/Trail Use/Overnight Camping (Wilderness)	☐
☐	Boating	☐
☐	Biking	☐
☐	Photography	☐
☐	Picnicking	☐
☐	Rock Climbing	☐
☐	Viewing Scenery	☐
☐	Scenic Driving	☐

4. Are you staying overnight in the Lee Vining Canyon?
   a. No
      i. Why not?
         1. Passing through and staying at Yosemite National Park
         2. Passing through and staying in the Eastern Sierras
         3. Local day trip
         4. No reservations/campsites available in Lee Vining Canyon
   b. Yes
      i. Where are you staying?

Upper Lee Vining Canyon		Lower Lee Vining Canyon	
☐	Saddlebag Lake Campground	☐	Big Bend Campground
☐	Sawmill Walk-In Campground	☐	Aspen Grove Campground
☐	Junction Campground	☐	Moraine Campground
☐	Tioga Lake Campground	☐	Lower Lee Vining Campground
☐	Ellery Lake Campground	☐	Cattleguard Campground
☐	Overnight Hiking (Wilderness) (Please indicate which trailhead you will be using)		

5. Please provide more information on why you chose to stay at this location.
    a. This was my preferred location
    b. I preferred to stay elsewhere but was unable
        i. Where did you prefer to stay?
            1. Fill in the black
        ii. Why were you unable to stay at your preferred location?
            1. Fill in the blank
6. Anything else you'd like to share about why you're in the area and what your plans are?



Saddlebag Lake Campground
Saddlebag Day Use Picnic/Fishing Site
Hoover Wilderness
Saddlebag Lake
Saddlebag Lake Trailhead
Saddlebag Dam
Saddlebag Lake Trailhead Group Campground
Sawmill Walk-in Campground
Carnegie Station Trailhead
Warren Fork Trailhead
Big Bend Campground
Gardisky Lake Trailhead
Bennettville Trailhead
Aspen Grove Campground
Harvey Monroe Hall Research Natural Area
Ellery Lake Campground
Moraine Campground
Poole Powerhouse
Ellery Lake
Rhinedollar Dam
Junction Campground
Tioga Auxillary Dam
Tioga Lake Campground
Tioga Dam
Nunatak Nature Trail
Cattleguard Campground (Administrative Use Only)
Tioga Lake
Ansel Adams Wilderness
Boulder Day Use Area
Lower Lee Vining Campground
Nunatak-Tioga Tarns Trailhead
Bennettville Trailhead
Tioga Lake Overlook Info Site
Glacier Canyon Trailhead
Mill Creek
Lundy Canyon Trail
Lake Canyon Trail
Mono Lake
Lake Helen
Crystal Lake
Shamrock Lake
Twin Lakes
Odell Lake
Oneida Lake
Z Lake
Hummingbird Lake
Wasco Lake
20 Lakes Basin Loop Trail
Saddlebag Lake Loop Trail
Greenstone Lake
Beartrack Creek
Warren Fork
Warren Fork Trail
Carnegie Station Trail
Gardisky Lake
Gardisky Lake Trail
Lee Vining Creek
Shell Lake Trail
Shell Lake
Glacier Creek
Granite Lakes
Upper Gaylor Lake
Gaylor Lakes
Glacier Canyon Trail
Dana Lake
Gibbs Lake Trail
Gibbs Lake
Kidney Lake
Tioga Pass Road
Dana Meadows
Dana Fork
Walker Lake North Trail
167
Mono Lake
120
395
158
Harvey Monroe Hall Research Natural Area
FERC Project Boundary (P-1388)
Wilderness Area (Inyo NF)
Inyo National Forest
Yosemite National Park
Road
Inyo NF Recreation Sites
Boating - Non-Motorized
Campground Camping
Group Camping
RV Camping
Day Hiking
Interpretive Area
Fishing Access
Picnicking
Viewing Scenery
Visitor Center
SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead
N
Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
0 2,500 5,000
Feet
Recreation Use
LEE VINING HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

APPENDIX B
PHASE 2 USER SURVEY FORM

General Recreation Survey

Clerk: ________________ **Site:**____________________ **Date:**__________ **Time:**_______**am/pm**

Weather: ☐ **Sunny** ☐ **Partly Cloudy** ☐ **Cloudy** ☐ **Light Rain** ☐ **Heavy Rain**

1. What is your home zip code? __________
2. Including yourself, how many people are in your party today? ________ *people in party*
3. Please provide the number of people in each age group within your party.

   ☐ Under 18 ☐ 18–24 ☐ 25–34 ☐ 35–44 ☐ 45–54 ☐ 55–64 ☐ 65+
4. Is this your first visit to the Lee Vining Canyon? ❑ Yes ❑ No
5. What day did you arrive at the Lee Vining Canyon? _________
6. At what time did you arrive at the Lee Vining Canyon? _______________ *am / pm*
7. How much time will you spend on your current trip?

   _________ *Number of hours ---------**OR**---------_________ Number of days (If 24 hours or more)*
8. If you plan to stay overnight, what type of overnight accommodations did or will you use on your trip *(Mark all that apply)*:

   ❑ Campground *Location:*_______________________
   ❑ Rented cabin/condo/home/motel/hotel *Location:*_______________________
   ❑ Your own home/property
   ❑ *Other* *Please Specify:*___________________

9. Please indicate which of the following recreational activities you are participating in on this trip (*Mark all that apply*):

   ❑ Bicycling ❑ Personal Watercraft Use ❑ Day Hiking ❑ Cross Country Skiing
   ❑ Camping ❑ Photography ❑ Overnight Backpacking ❑ Snowmobiling
   ❑ Rock Climbing ❑ Picnicking ❑ Viewing Scenery
   ❑ Fishing in Creek ❑ Relaxing ❑ Viewing Wildlife
   ❑ Fishing in Lake ❑ Scenic Driving ❑ OHV Use
   ❑ Other: ______________________________
10. Of the activities listed above, please indicate which is the **primary** activity of this trip (*Choose only one*):_________________
11. Are there types of recreational activities or facilities appropriate for the Lee Vining Canyon that are not currently provided?

    ❑Yes ❑ No ❑ N/A ***If yes, please list:***

    ____
12. Please help us understand capacity issues in the Lee Vining Canyon by answering the following questions *(circle one response for each item)*:

	Not at all crowded		Slightly crowded			Moderately crowded		Extremely crowded		
How crowded did you feel today?	1	2	3	4	5	6	7	8	9	N/A
Was it more or less crowded than you thought it would be?	1	2	3	4	5	6	7	8	9	N/A

13. Have you ever changed your use of the Lee Vining Canyon due to crowding? ❑ Yes ❑ No ❑ N/A
    If yes, how have you changed your use of this area? *Not*

    ❑ Visit the area during the off-season ❑ Visit earlier in the morning
    ❑ Visit the area during weekdays ❑ Visit a different part of the Lee Vining Area
    ❑ Visit the area on days to avoid holidays

14. We are interested in your opinion about the **number of existing recreation facilities** in the Lee Vining Canyon. (*Please indicate a response for **any** of the following facilities you have used during your visit)*

		Too High				About Right				Too Low	Don't Know
Publicly Available Recreation Sites	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Restrooms	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Parking	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Picnic or Day Use Areas	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Boat Launches	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Public Docks	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Hiking Trails	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Swim Areas	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Campsites	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Signage	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Fish Cleaning Stations	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A

15. We are interested in your opinion about the **condition of existing recreation facilities** in the Lee Vining Canyon. (*Please indicate a response for **any** of the following facilities you have used during your visit)*

		Too High				About Right				Too Low	Don't Know
Publicly Available Recreation Sites	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Restrooms	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Parking	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Picnic or Day Use Areas	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Boat Launches	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Public Docks	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Hiking Trails	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Swim Areas	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Campsites	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Signage	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Fish Cleaning Stations	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A

16. How would you rate the use fees associated with the campgrounds in the Lee Vining Canyon? *(Mark one for each item)*

	Too High				About Right				Too Low	Don't Know
Boat Rental	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Campground Fees	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A

17. What did you like **most** about your visit to the Lee Vining Canyon?

____

____

18. What did you like **least** about your visit to the Lee Vining Canyon?

____

____

19. Do you have any additional comments about public recreation opportunities and facilities in the Lee Vining Canyon? (*Please be as specific as possible*)

____

____

APPENDIX C
CREEL SURVEY FORM

Angler Survey Data Sheet

GENERAL INFO (will likely be the same for all interviews at the same survey location. Ok to put Ditto)

Date		General Weather Conditions	Sunny Overcast Cloudy Rain Heavy Rain Snow/sleet/hail Air Temp: _____________ ºF
Survey Location			
Arrival Time		Water quality/turbidity observations?	
Departure Time			

ANGLER INFO

Interview Time	
Party size	
Number of anglers in party	
ZIP code	
What time did you start fishing?	
How much longer will you fish?	
Target Species (primary)	
2nd Target Species (If applicable)	
How often (frequency) do you fish in the area?	*Examples* *Just passing through* *# times per year*
What other nearby locations do you fish?	
How do you define quality of fishing?	Fish Species/Size Catch Rate NaturalSetting Solitude Park Amenities Water Access Proximity *Any other potential variables*
How does fishing quality compare here to other nearby locations you've fished this trip? (If applicable)	
How does overall fishing quality here compare to past experiences here? (If applicable)	
Is angling the primary purpose of your visit?	

BIOLOGICAL DATA (Enter total number of harvested (H) and released (R) fish in each size class)

Species	<8 in.	8 in.	9 in.	10 in.	11 in.	12 in.	13 in.	14 in.	15 in.	16 in.	17 in.	18 in.	19+ in.
Rainbow trout													
Brook trout													
Brown trout													
Other													
Notes													

APPENDIX D
CALIBRATION COUNT FORM

Recreation Use Calibration Sheet - Lee Vining

Project: **Site:**

Observer: **Date:** **Time Start:** **Time End:**

Weekend or Weekday? **Start Count:** **End Count:**

Vehicle Description	Trailer T/F	Time In	Time Out	State Origin/ License Plate	Total # of People	Number of People Participating in Activity During Visit														
						Motor Boating	Non motor boating	Whitewater boating	Camp ing	Fishing	Picnic	Walk/Hike/Jo g	Hunt	Ride Horses	Ride Bikes	Sight See	Swim	Birding	Other Rec Use	Non Rec Use

Additional Field Notes:

APPENDIX E
SPOT COUNT FORM

Spot Count - Lee Vining

Date **Observer Initials** **Temp**

Weather Sunny Partly Cloudy Light Rain Heavy Rain (Note any weather changes during site visits)

Site Location	Time Hour/Min AM or PM	No. of Vehicles	Type/Number of Boat(s)*			No. of People Participating in												Total No. of People at Site	Comments/General Descritpion
			Individual Kayak	Commercial Boat	Other Watercraft	Biking	Camping	Fishing	Hiking/walking/ trail use	Whitewater boating/rafti ng	Boating (non-motorized)	Photography	Picnicking	Relaxing	Viewing Scenery	Viewing Wildlife	Other		

***as observed from water's edge approximately 50-100 feet upstream and downstream**

Contact Information:

Additional notes/comments:

APPENDIX F
QUALITATIVE SURVEY RESPONSES

What Respondents Liked the Most About Their Visit to the Upper Lee Vining Canyon (Q17)

Comment	Comment	Comment
Scenery	Go anywhere and view	Scenery & not too crowded
Beauty	Got lucky and got a site at Big Bend	Scenery Yosemite
Nature	Great camp host; it makes the difference	Scenery and fresh air
Views	Hike	Scenery and lack of crowds post Labor Day
Beautiful	Hiking opportunities	Scenery rock climbing
Landscape	Hiking trails	Scenery and fishing
Mountains	Hiking, view, calmness	Scenery stunning, trails well marked
Quiet	It's cared for	Scenery with the right amount of facilities to emphasize the nature
Solitude	It’s beautiful, road is well maintained	Scenery, elevation changes
The view	It’s pretty, not many people	Scenery, history, hiking, undeveloped
Hiking	Just arrived	Scenery; available to outdoors
It’s pretty	Kids could fish and catch	Scenery
The views	Lake	Seeing animals
View	Lakes	Setting & first come first serve
Weather	Lakes and scenery	Sights
Access to a lot of activities and trails	Lakes, everything	Snowy scenery
All the peaks to climb and on/off trail access	Less people than other areas, high lakes are pretty and accessible	So many options for outdoor activities
Area is beautiful, nice day out, not as many people	Liked the views and the amount of fish	So pretty, big rocks
Area	Magical, lake hikes	Solitude
Be in nature	Mountain views Sierra atmosphere	Solitude and good people around
Beautiful and nice facilities	Not applicable	Solitude, peace, ease of access
Beautiful hiking area	Natural beauty	Solitude; away from noise, pollution, traffic

Comment	Comment	Comment
Beautiful lakes	Neat tidy	Streams and creeks that feed into lake, scenery
Beautiful place great people need more campsites	Nice and quiet	Stunning country
Beautiful	Nice	The beauty
Beauty and quiet	No comment	The beauty and the lake
Being with friends and cooler temperatures	No people	The lake, camp host are good
Cleanliness and the camp host	Options	The mountains and scenery
Climbing	Outdoors	The scenery
Climbing hiking	Peaceful and beautiful	The scenery and the park services are putting responsibility of taking care of land and respecting it on the consumer
Consistency facility and peaceful & accessible	Pristine for location, happy how its set	The views and wildlife
Distance from city, access to lake, availability	Pretty	The view and free camping
Dog friendly; low traffic	Pretty lakes quiet	Trails
Environment	Pristine	Very clean restrooms and nice campsites
Everything is good	Proximity to mountains	View and campsite spacing
Fishing and scenery	Quaintness	View nature
Fishing is best at Tioga Lake	Quiet and solitude	Views
Fishing, no people	Quiet beauty	Views and clear air
Fishing is awesome	Quietness	Views and nature
Friendly stewards, first come serve camping is nice	Relaxing scenery	Views are the best
Location	Remote	Views great
Getting out of the heat	Remote and peaceful	Water features
Hiking good weather	Saddlebag	Weather

What Respondents Liked the Least About Their Visit to the Upper Lee Vining Canyon (Q18)

Comment	Comment	Comment
Nothing	Day users	Odd CG fees losing extra money because no change or cc option
NA	Dirt Roads	Other campers
Bugs	Distance	Overcrowded
None	Dogs not on leash	Overcrowding
Crowding	Dustiness	Overcrowding
Mosquitos	E bikes	Parking
Too many people	Expensive	People stopping in the road
Crowds	Far drive	Permits, overcrowding
Dogs	Fish cleaning stations	Poor road conditions to Saddlebag
Mosquito	Gas price	Reservation in Yosemite
People	Ghetto near the buildings	Road
Rain	Gravel road	Road conditions to Saddlebag
Too crowded	Hard to find camping	Road unpaved
Traffic	Have to go home	Roads closures
395 construction	Hike	Rocks
A lot of extra use trails made by people that should be blocked off to keep people on the trails	Lack of store, no cell	Rocks, information about Tioga gate closure
Accident in parking lot	Lack of toilet paper	Rude visitors
Air quality	Lack of water	Sharing parking
Bad fellow campers	Landscape	Smoky
Bathroom	Leaving	Sound of RV generators

Comment	Comment	Comment
Bathroom smell	Litter	Store is closed
Bathrooms are locked	Loud music	Stores don’t give cash back, more ATMs
Bathrooms need maintained	Mosquitos	The dam non-recreation infrastructure is an eyesore
Benches and tables in better care, no vehicles including host	More bear boxes	The noise, large parties
Blind turn when going onto Saddlebag Lake, signage needed	Mosquitos; bugs	The road to Saddlebag needs paved
Bug	Mud	The road
Busy season	N/A	The roads bad
Campgrounds get full	NPS reservation system for Yosemite entrance	Ther people
Campsite not open	NA	The roads
Can be hard to find campsites	No comment	Tioga lodge and Saddlebag lodge closed
Can be very overcrowded	No complaints	Too far from home
Can’t think of a thing	No internet	Too few campsites
Cold	No open campsites, need reservations	Too hot
Cost of campsite	Noisy party people	Unpaved road coming
Crowded	Not safe with private animals	Waiting in line and reservations to just drive through Tioga Pass Road
Crowded campsite	Nothing	Water faucet head is hard to use at group site and needs better drainage
Day trippers	Nothing you didn’t like	Wind

ATM = automated teller machine; CG = campground; N/A = not applicable; NA = not applicable; NPS = National Park Service; RV = recreational vehicle

Respondents Additional Comments (Q19)

Comment	Comment
A water source	Less scary bathrooms
A yummy restaurant	More campgrounds
Add a shuttle, keep campground fees lows, no more development	More campgrounds
Add historical info	More educational outreach jobs and for them to be more funded
Bear boxes need to be looked at	More fish stockings in the lakes
Bring back the water taxi	More showers
By dam crossing signage not clear	More signage for camper education
CG fees should be free for seniors and cheaper for others	More walk-in campgrounds but if you build them it'll get more crowded, more walk-in campgrounds
Camp hosts good, very helpful; been coming 30 years and happy with hosts	More water facilities
Campground website needs improvement	Not applicable
Climbed Mt. Conness	Need more advanced signage for restrooms while driving
Different lottery for park entrance	Need more maps at trailheads
Do more to lower environmental impact	Need to develop hot springs
Do not develop any more	No advertising
Do not like reservation, first come first serve much better, prices getting too high, camp host sites are best	No new campgrounds but need more campsites in existing campgrounds
Do trail work in meadowy areas for less impact	No reservations
Don't change a thing	Paved gravel road, landing canyon
Don't develop	Preserve with little development, little marketing
Don't like being tasked with additional dumping fees at campgrounds; more trails on the east side	Promotion better via imagery online

Comment	Comment
Drinking water availability	Recreation is inhibited when hydroelectric dams exist because of their impact on the environment; they deter visitors
Existing campgrounds need more campsites, don't add more campgrounds though	Reservation system not working properly and us abused
First come first served campgrounds are better than reservation required CGs	Reservations difficult
Gardisky trail needs more switch backs; very limited number of RV spots in the area for bigger rigs	Rocks on the street
Gen comment- survey respondent ran out of time for remaining questions	Saddlebag group campsite needs better signing
Get senior pass in-person if possible; improve Saddlebag signage at the split off for junction CG; more emphasis on wilderness experience and longer quiet hours (8-8)	Seems like the lakes are stocked much less with fish compared to 3-5 years ago
Good work; keep it this direction	Showers
Hiking trails are not well marked around Saddlebag Lake, too many use trails	Sign at Lee Vining for Yosemite reservations info
Improve roads and signage	Thanks for parks, we love the area
Increase parking	Time entry is bad; timing entry causes crowding
It should be free or less that SCE is using the facilities	Trail maps need updating, and wildflower updating
Keep campgrounds open longer	Wonderful
Keep it the way it is	Would like store open; all season water taxi!
LA should give the area back to the north	Would like to make reservations online

CG = campground; RV = recreational vehicle; SCE = Southern California Edison

Southern California Edison
Lee Vining Hydroelectric Project
(FERC Project No. 1388)

Existing Recreation Facilities Condition Assessment (REC-2) Final Technical Report

September 2024

SOUTHERN CALIFORNIA EDISON

Lee Vining Hydroelectric Project
(FERC Project No. 1388)

EXISTING RECREATION FACILITIES CONDITION ASSESSMENT (REC-2) FINAL TECHNICAL REPORT

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

September 2024

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LIST OF ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
FERC	Federal Energy Regulatory Commission
GIS	geographic information system
Project	Lee Vining Hydroelectric Project (FERC Project No. 1388)
SCE	Southern California Edison
TWG	Technical Working Group
USFS	U.S. Forest Service
DC	desired conditions
GOAL	goals
STD	standards
GDL	guidelines

1.0 INTRODUCTION

This Technical Report presents the data of Study REC-2 conducted in 2022 and 2023 within the Lee Vining Hydroelectric Project (Project). The *REC-2 Existing Recreation Facilities Condition Assessment Technical Study Plan* details Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

Study REC-2 evaluated the condition of and public accessibility to existing recreation facilities surrounding the Project. Under Title 18 Code of Federal Regulations Section 2.7, licensees whose projects include land and water resources with outdoor recreational potential have a responsibility to develop those resources in accordance with area needs. This includes the provision for adequate public access to such project facilities and waters. Additionally, it takes into consideration the needs of persons with disabilities in the design and construction of such facilities and access.

All recreation facilities in the REC-2 study area are currently owned and operated by the Inyo National Forest. The initial phase (first study season) of Study REC-1 *Recreation Use Assessment* evaluated which Inyo National Forest recreation facilities have a potential connection to the Project and thus warranted inclusion in the broader studies in the second study season of Study REC-2.

The dispersed use assessment of Study REC-2 was conducted in 2022; the facilities condition assessment of Study REC-2 was conducted in 2023.

2.0 STUDY GOALS AND OBJECTIVES

Study goals and objectives were determined during the February 25 and April 1, 2021, Recreation and Land Use Resources Technical Working Group (TWG) meetings.

- Identify existing dispersed or informal use areas, including documentation of existing conditions (2022 Study Season).
- Conduct a facility inventory and condition assessment at existing recreation facilities and associated parking areas, including an evaluation of signage and public safety features (2023 Study Season).
- Assess the carrying capacity and potential need for expansion, or alteration of existing recreation facilities (following data analysis of Study REC-1).
- Assess the condition and potential for universal accessibility, where feasible (2023 Study Season).
- Assess the consistency of current facilities with the Desired Conditions, Goals, Standards, and Guidelines described in the *Land Management Plan for the Inyo National Forest* (USFS, 2019) (2023 Study Season).

2.1. STUDY AREA

The REC-2 study area includes the sites listed in Table 2.1-1 and shown on Figure 2.1-1 below. The sites were selected in consultation with the Recreation and Land Use Resources TWG prior to field implementation. Facilities assessed for condition were also informed by dispersed use assessment 2022 results.

Table 2.1-1. Study Sites

Site ID	Site Name	Facilities Condition Assessment (2023)	Dispersed Use Assessment (2022) [a]
1	Saddlebag Lake Campground	☑	☑
2	Saddlebag Lake Day Use Area	☑	☑
3	Saddlebag Lake Trailhead	☑	☑
4	Sawmill Walk-In Campground	☑	No
5	Junction Campground	☑	No
6	Bennettville Trailhead	☑	No
7	Tioga Lake Overlook Info Site / Glacier Canyon Trailhead	☑	☑
8	Tioga Lake Campground	☑	☑
9	Ellery Lake Campground	☑	☑

[a] Dispersed use assessments were generally conducted around each of the Project reservoirs (Saddlebag, Ellery, and Tioga).

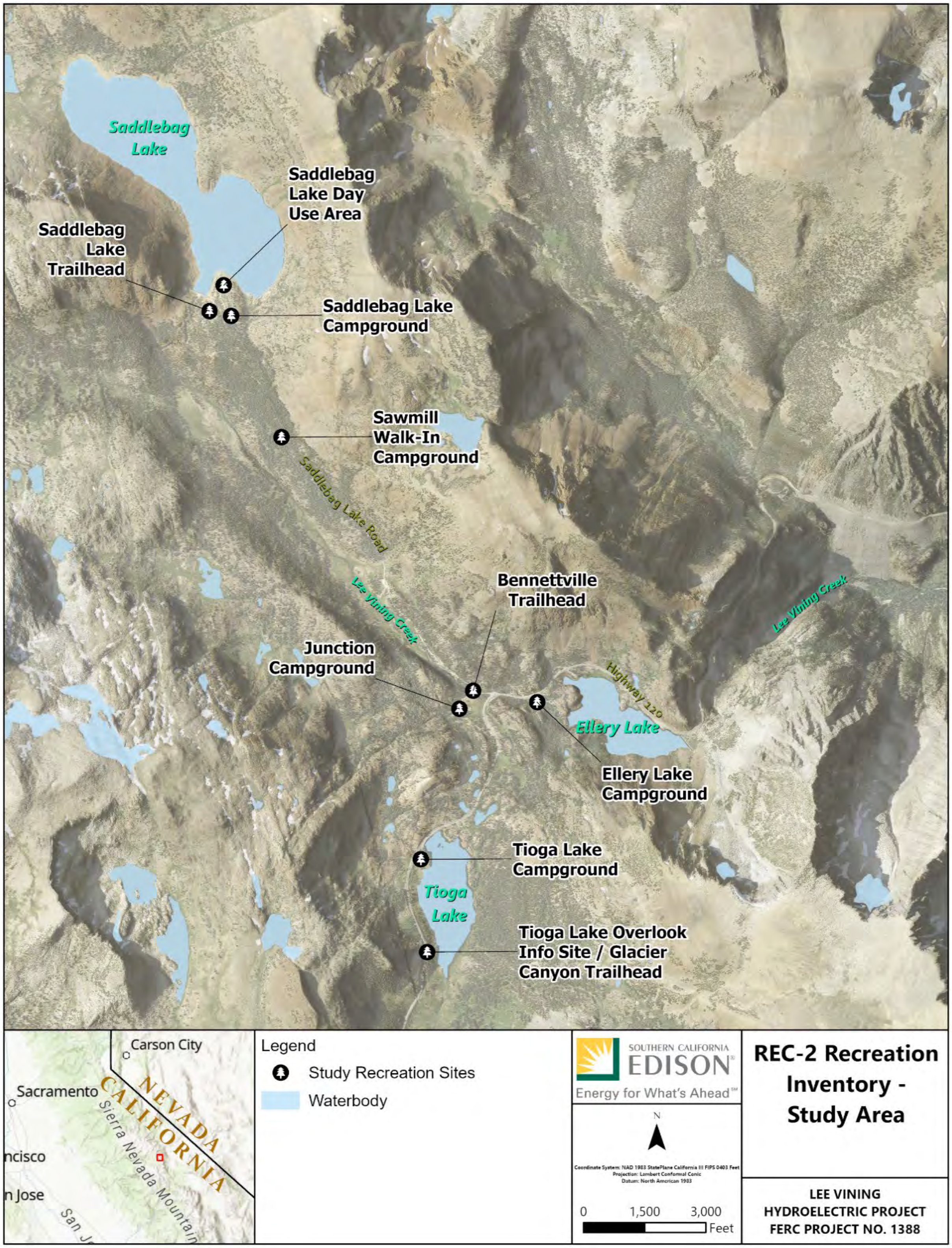

Figure 2.1-1. Facilities Condition Study Sites.

3.0 METHODS

Study implementation followed the methods described in the REC-2 Final Technical Study Plan (SCE, 2022); no modifications occurred during 2022 study implementation.

3.1. MODIFICATIONS TO METHODS

Study implementation in 2023 was originally planned for June but was delayed to August due to record-breaking snowfall in the winter of 2022 to 2023. The team waited for the road system to be plowed and snow to melt so all recreation facilities to survey were safely accessible. SCE consulted with U.S. Forest Service (USFS) in spring and summer 2023 to stay informed of on-site conditions and study scheduling.

During the site visit, it was noted that the Tioga Lake Overlook Info Site and Glacier Canyon Trailhead are co-located, so only one data form was collected for the site; these sites were originally proposed as two separate data forms.

3.2. ANALYSIS

3.2.1. DISPERSED USE

A dispersed use assessment was conducted within and adjacent to the FERC Project Boundary at each of the Project reservoirs (Saddlebag, Ellery, and Tioga) and the developed sites indicated in Table 2.1-1 above. This study consisted of an initial desktop exercise to scan aerial imagery for evidence of dispersed use or informal access areas such as social trails, brown out areas, or impromptu parking around the perimeter of each study area. These observations were digitized and attributed within a geographic information system (GIS) database and used in the field assessment to ground-truth those potential dispersed uses and to further assess for signs of user-created roads, trails, and/or campsites.

Field surveys were conducted to ground-truth the areas identified in the desktop exercise from September 26 through September 28, 2022. Dispersed use was documented with photographs and integrated into a GIS database with relevant attributes (e.g., spatial location, number of fire rings, or length of roads or trails) to facilitate future analysis and ongoing assessment. Additional qualitative information was collected, including potential issues, possible accommodations, or potential for future recreation opportunities at the sites. Findings were used to inform locations for traffic/trail counters in REC-1 activities to be performed during the 2024 field season.

Dispersed use site photos are included in Appendix A.

3.2.2. FACILITIES CONDITION

An existing facilities inventory and condition assessment was conducted of the recreation sites listed in Table 2.1-1 above. The inventory and condition assessments were conducted August 9 through August 10, 2023. The study included an inventory and cursory condition assessment of the following within the REC-2 study area:

- General assessment of the condition[1] of facilities;
- Universal accessibility of facilities;
- Public safety measures;
- Signage and wayfinding; and
- Site-specific circulation roads, campsite spurs, and parking areas.

The facility inventory and condition assessment documented items in need of correction, repair, replacement, or similar action, noting facility condition. Inventories were documented with photographs and integrated into a GIS database with relevant attributes to facilitate future analysis and ongoing assessments. A blank inventory form showing which data were collected at each site is included as Appendix B. A complete field dataset can be made available to Stakeholders upon request. Facilities inventory and condition assessment site photos are included in Appendix C.

Figure 3.2-1 shows an overview of the Study REC-2 facilities inventory and condition assessment sites. Individual survey sites are shown on additional figures within Section 4.0, *Study Results*, in each site's respective subsection.

[1] Good condition: is functional and well maintained
Needs maintenance: is in need of attention (i.e., cleaning or painting is needed)
Needs replacement: is non-functional or has broken or missing components
Needs repair: has structural damage or is in an obvious state of disrepair

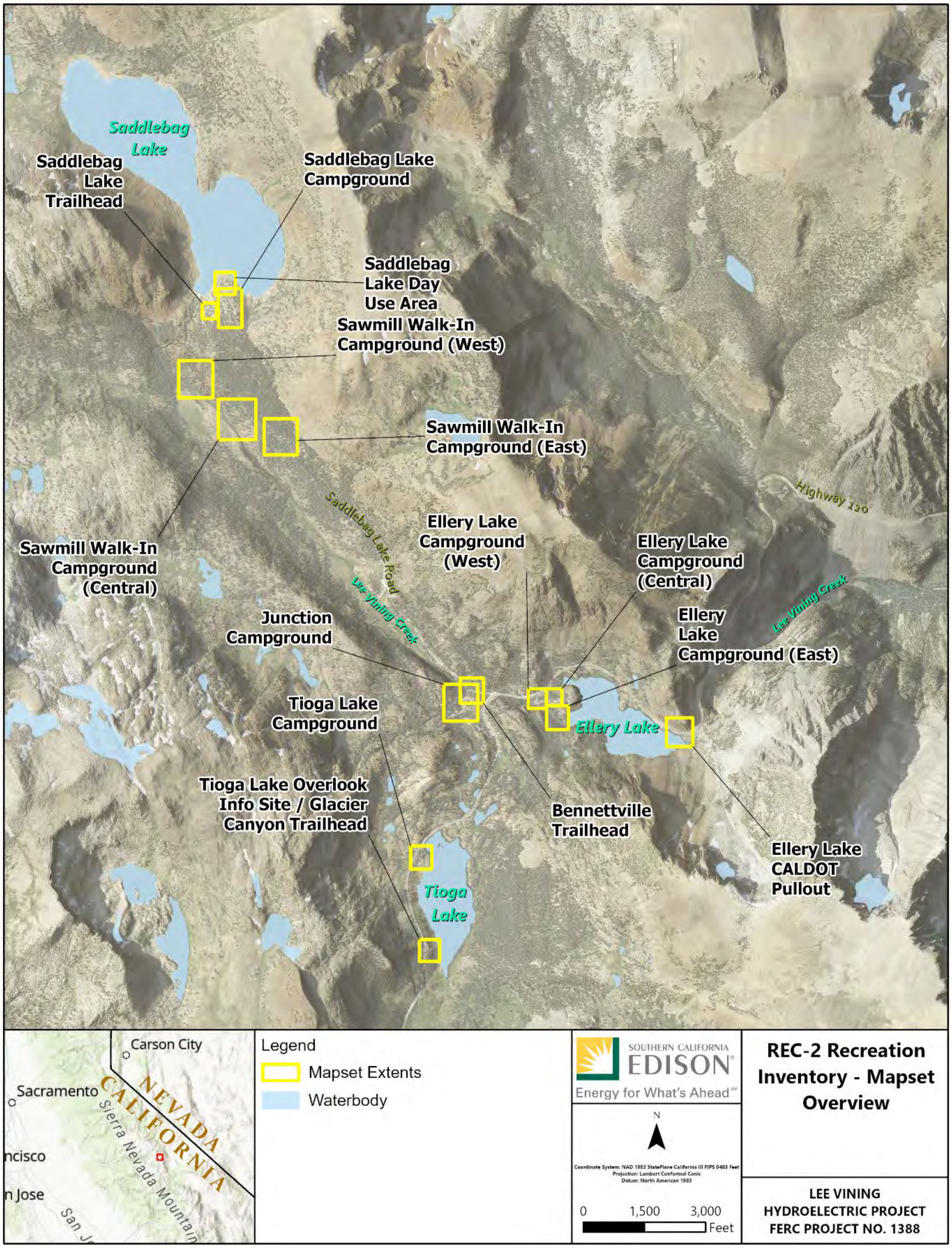

Figure 3.2-1. REC-2 Inventory Overview.

4.0 STUDY RESULTS

4.1. SADDLEBAG LAKE AREA

4.1.1. SITE OVERVIEW

Saddlebag Lake is at the north terminus of Saddlebag Lake Road at approximately 10,000 feet above sea level. Saddlebag Lake is in the headwaters of Lee Vining Creek. This area includes Saddlebag Lake Campground, Saddlebag Lake Day Use Area, and Saddlebag Lake Trailhead. Developed recreation amenities generally included campsites, a boat launch, restrooms, signage, picnic tables, trash receptacles, fire pits/rings, potable water, bear boxes, and a pedestrian trail, all of which are owned by the Inyo National Forest Service and operated by the Inyo National Forest Service or its concessionaires.

4.1.2. FACILITIES INVENTORY AND CONDITION ASSESSMENT

4.1.2.1. Roads and Parking

Saddlebag Lake Campground is unpaved with 20 parking spaces, one for each campsite. The access area was noted as needing maintenance, but the parking areas were in good condition.

The Saddlebag Lake Day Use Area, which includes the Saddlebag Lake Loop trailhead and boat launch area, is unpaved with 42 parking spaces and was noted as needing maintenance. There is an additional single-access road for the informal boat launch.

Saddlebag Lake Trailhead is unpaved with 63 parking spaces, which were noted to be in good condition; a group campsite at the trailhead includes 4 of those parking spaces.

4.1.2.2. Site Elements

Site elements, quantities, and their conditions at the Saddlebag Lake Area facilities are included in Table 4.1-1 and on Figure 4.1-1, Figure 4.1-2, and Figure 4.1-3.

Table 4.1-1. Saddlebag Lake Area Site Elements

Site Element	Parameter	Assessment
Saddlebag Lake Campground		
Bear Box	Quantity	20
	Type/ Material(s)	Metal, cabinet style
	Condition	Good: 16 Needs Maintenance: 2 Needs Replacement: 1 Needs Repair: 1
	Universal Accessibility	0

Site Element	Parameter	Assessment
Campsite	Quantity	20
	Type/Material(s)	Gravel/unpaved
	Condition	Good: 19 Needs Maintenance: 1
	Universal Accessibility	0
Firepit/Ring	Quantity	20
	Type/Material(s)	Metal ring with barbecue grate
	Condition	Good: 20
	Universal Accessibility	0
Pedestrian Trail	Quantity	1
	Type/Material(s)	Unpaved
	Condition	Good: 1
	Universal Accessibility	0
Picnic Table	Quantity	20
	Type/Material(s)	Wooden
	Condition	Good: 19 Needs Maintenance: 1
	Universal Accessibility	0
Potable Water	Quantity	3
	Type/Material(s)	Hand-pump, metal pipe
	Condition	Good: 2 Needs Maintenance: 1 (could not test; water was off)
	Universal Accessibility	0
Restroom [a]	Quantity	2
	Type/Material(s)	Permanent vault toilets, concrete masonry unit, unisex
	Condition	Good: 2
	Universal Accessibility	2
Trash Receptacle	Quantity	4
	Type/Material(s)	Metal, bear-proof, dumpster
	Condition	Good: 4
	Universal Accessibility	1

Site Element	Parameter	Assessment
Saddlebag Lake Day Use Area		
Boat Launch	Quantity	2
	Type/Material(s)	Gravel
	Condition	Good: 1 Needs Maintenance: 1
	Universal Accessibility	0
	Additional amenity	Horseshoe pit
Firepit / Ring	Quantity	1
	Type/Material(s)	Rock ring with grate
	Condition	Good: 1
	Universal Accessibility	0
Pedestrian Trail	Quantity	2
	Type/Material(s)	Unpaved
	Condition	Good: 1 Needs Repair: 1
	Universal Accessibility	0
Potable Water	Quantity	1
	Type/Material(s)	Hand-pump, metal pipe
	Condition	Needs Replacement: 1
	Universal Accessibility	0
Restroom	Quantity	1
	Type/Material(s)	Permanent vault toilets, concrete masonry unit, unisex
	Condition	Good: 1
	Universal Accessibility	1
Saddlebag Lake Trailhead		
Bear Box	Quantity	3
	Type/Material(s)	Metal, cabinet style
	Condition	Good: 2 Needs Repair: 1
	Universal Accessibility	0
Campsite	Quantity	1
	Type/Material(s)	Gravel/unpaved
	Condition	Good: 1
	Universal Accessibility	0

Site Element	Parameter	Assessment
Firepit / Ring	Quantity	2
	Type/Material(s)	1 Rock ring, 1 metal ring
	Condition	Good: 2
	Universal Accessibility	0
Picnic Table	Quantity	4
	Type/Material(s)	Wooden
	Condition	Good: 4
	Universal Accessibility	0
Potable Water	Quantity	1
	Type/Material(s)	Metal pipe, pump is missing
	Condition	Needs Replacement: 1
	Universal Accessibility	0
Restroom	Quantity	1
	Type/Material(s)	Permanent vault toilets, concrete masonry unit, unisex
	Condition	Good: 1
	Universal Accessibility	1
Trash Receptacle	Quantity	2
	Type/Material(s)	Metal, bear-proof, dumpster
	Condition	Good: 2
	Universal Accessibility	1

[a] The restroom facilities at Saddlebag Lake Campground were locked and closed during the site assessment due to the campground also being closed.

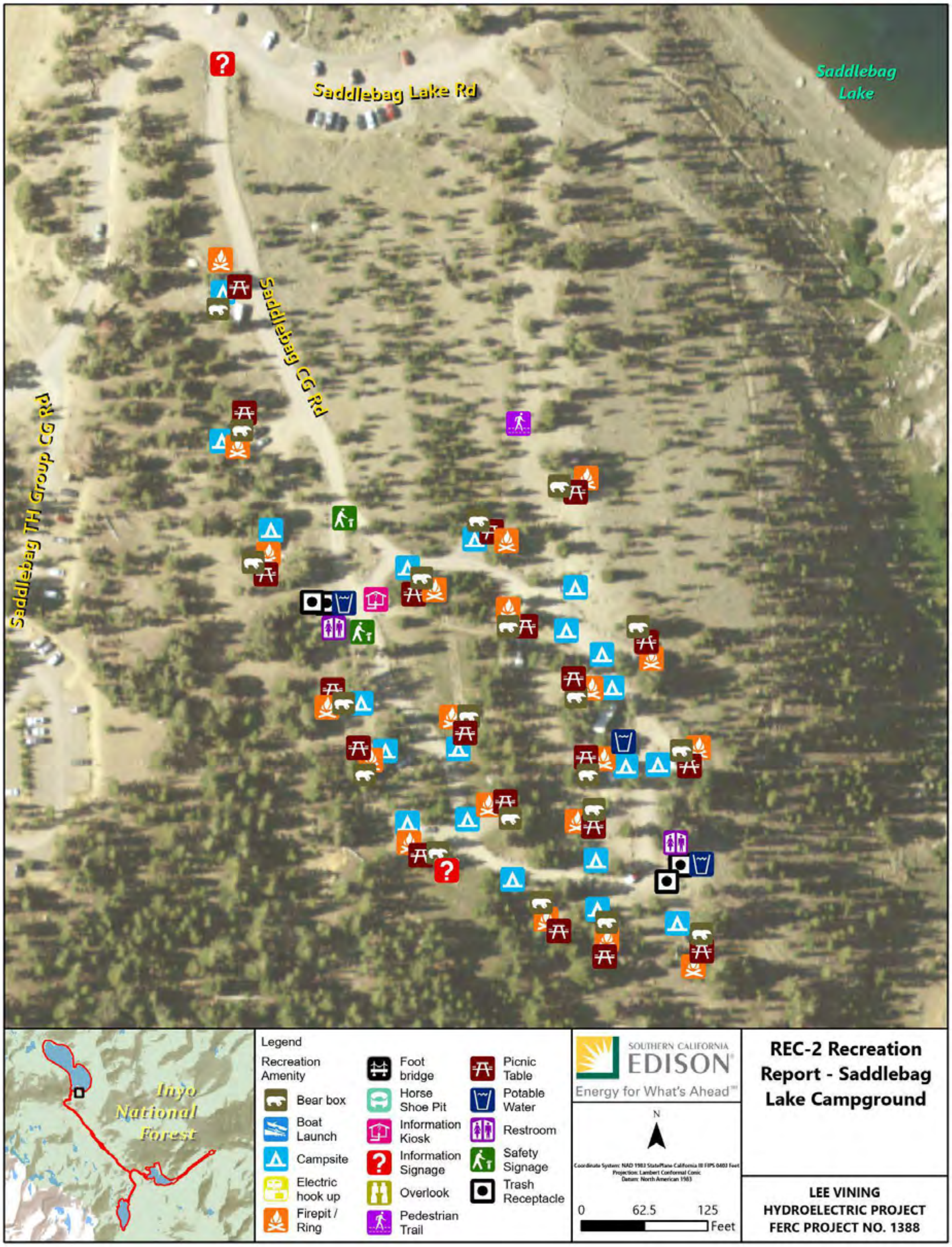

Figure 4.1-1. Site Elements at Saddlebag Lake Campground.

Figure 4.1-2. Site Elements at Saddlebag Lake Day Use Area.

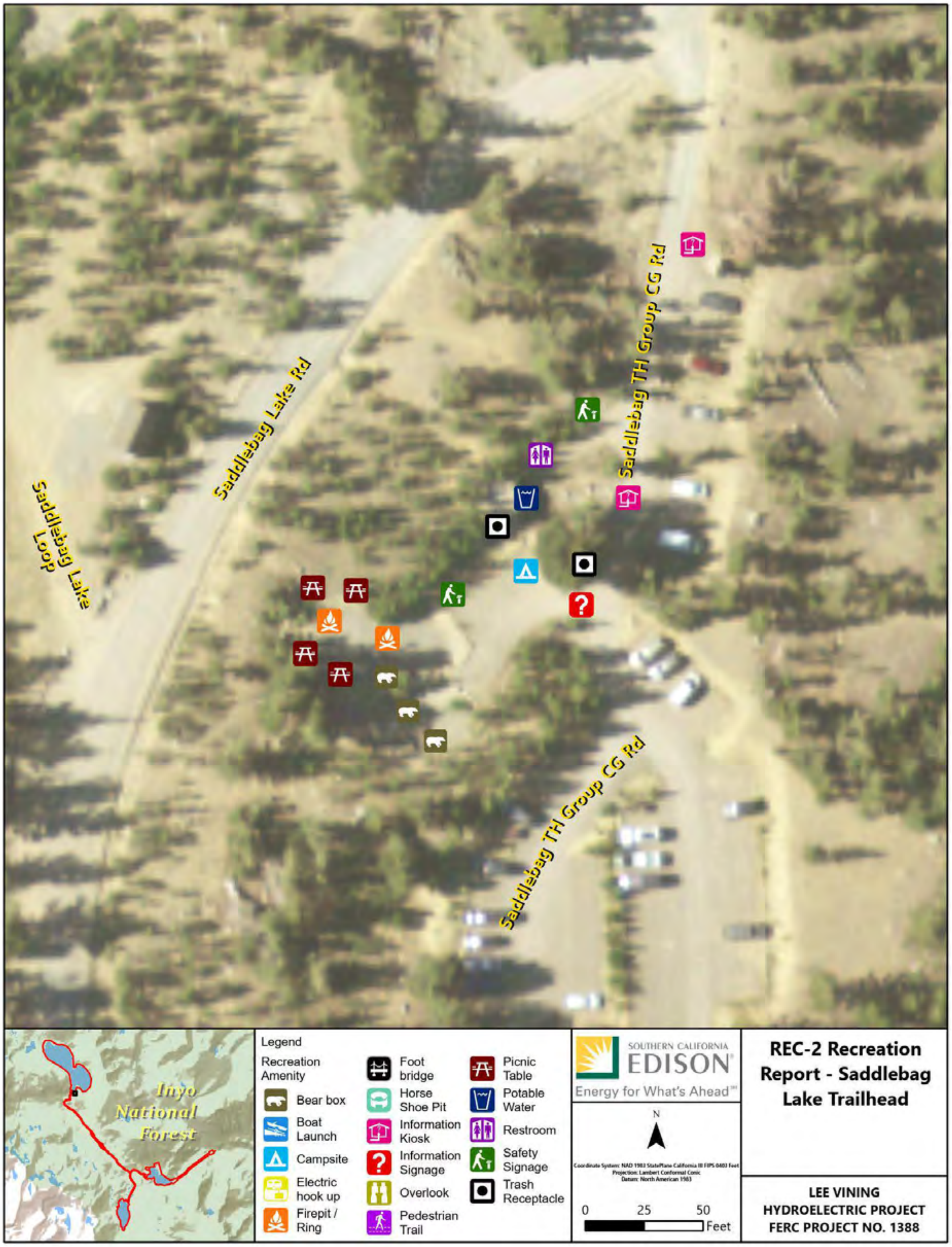

Figure 4.1-3. Site Elements at Saddlebag Lake Trailhead.

4.1.2.3. Signage and Wayfinding

Signage in the Saddlebag Lake Area included a total of 17 information kiosks, informational signs, and safety signs (Table 4.1-2). The majority of these signs were noted to be in good condition; however, one informational sign at the Saddlebag Lake Trailhead was noted to need replacement and five of the safety signs at the Saddlebag Lake Day Use Area were noted to need maintenance, replacement, or repair.

Table 4.1-2. Signage at Saddlebag Lake Recreation Area

Sign Type	Material		Quantity	Condition	Number of Universally Accessible Signs
	Posts	Sign			
Saddlebag Lake Campground					
Informational Kiosk [a]	Wood	Metal	1	Good: 1	0
Informational Signage	Metal, Wood	Metal	2	Good: 2	1
Safety Signage	Metal, Wood	Metal	2	Good: 2	2
Saddlebag Lake Day Use Area					
Informational Signage	Wood	Paper, Metal	1	Good: 1	1
Safety Signage	None (taped), Metal, Wood	Paper, Metal	6	Good: 1 Needs Maintenance: 1 Needs Replacement: 2 Needs Repair: 2	6
Saddlebag Lake Trailhead					
Informational Kiosk	Wood	Paper	2	Good: 1 Needs Replacement: 1	0
Informational Signage	Wood	Wood	1	Needs Repair: 1	1
Safety Signage	Wood	Metal	2	Good: 2	1

[a] Kiosk was covered with plastic during the site visit, and the campground was closed.

4.1.2.4. Universal Accessibility

The Americans with Disabilities Act (ADA) universal accessibility was assessed at each amenity at Saddlebag Lake Campground, Saddlebag Day Use Area, and Saddlebag Lake Trailhead (Table 4.1-1 and Table 4.1-2). Amenities were assessed as follows:

- All restrooms were ADA accessible.
- No designated ADA accessible parking spaces were observed.
- Pedestrian trails were not ADA accessible.

- None of the campsites were ADA accessible.
- Two of the six trash receptacles were ADA accessible.
- Twelve of the 17 signs/kiosks were ADA accessible.

4.1.2.5. Public Safety

No public safety concerns or issues were noted during the site visit.

4.1.2.6. Erosion

Noticeable erosion was observed at Saddlebag Lake Campground and Day Use Area. The erosion at the campground may have been due to the high water year and the campground staying closed for the season, leading to no maintenance for the 2023 season. Erosion observed at Saddlebag Day Use Area on access roads appeared to be the result of improper parking and an obstructed culvert. Trampled vegetation was observed at an informal fishing access trail at the Saddlebag Lake Day Use Area.

4.1.3. Dispersed Use Assessment

A number of social trails were identified around the perimeter of Saddlebag Lake.

Based on the initial desktop exercise to scan aerial imagery for evidence of dispersed use or informal access areas, 4,308 linear feet of trails were found in the Saddlebag Lake portion of the Project Area. Trails were also assessed in the field; 7,047.5 linear feet of trails were identified during the field assessment.

One dispersed use boating site was identified using aerial imagery and confirmed in the field. A spatial distribution of the dispersed use data is shown on Figure 4.1-4.

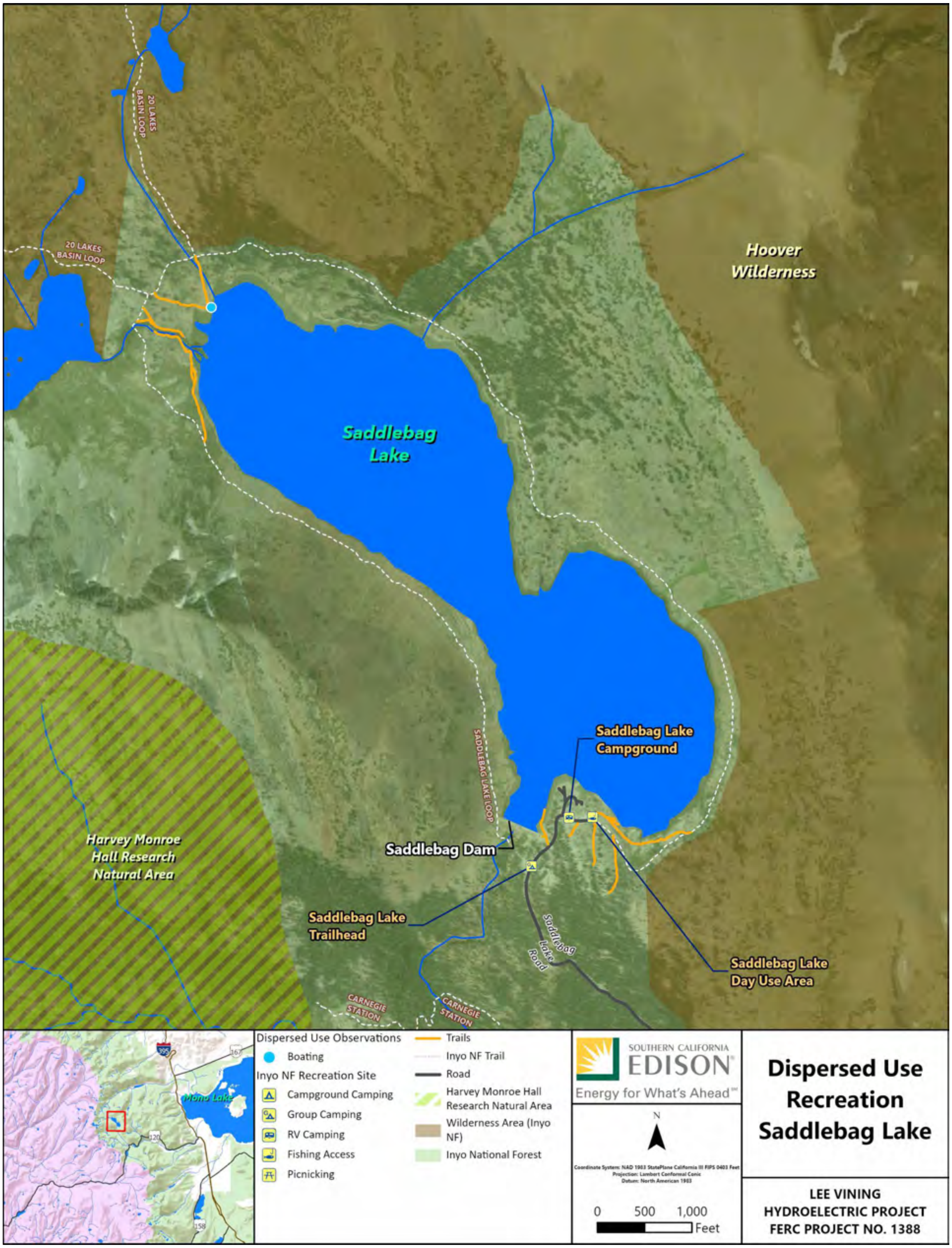

Figure 4.1-4. Dispersed Use Recreation at Saddlebag Lake.

4.2. TIOGA LAKE AREA

4.2.1. SITE OVERVIEW

Tioga Lake is south and east of State Route 120 (also called Tioga Pass Road) on Glacier Creek in Glacier Valley. The lake is approximately 9,650 feet above sea level. Tioga Lake is in the headwaters of Glacier Creek. This area includes Tioga Lake Campground, Tioga Lake Overlook, and Glacier Canyon Trailhead. Developed recreation amenities generally included the overlook, campsites, restrooms, signage, picnic tables, trash receptacles, firepits/rings, potable water, and bear boxes, all of which are owned by the Inyo National Forest Service and operated by the Inyo National Forest Service or its concessionaires.

4.2.2. FACILITIES INVENTORY AND CONDITION ASSESSMENT

4.2.2.1. Roads and Parking

Tioga Lake Campground access road and parking areas are paved with 15 parking spaces. The access and parking areas were noted to be in good condition.

The Tioga Lake Overlook and Glacier Canyon Trailhead parking area is paved with 30 parking spaces and were noted to be in good condition.

4.2.2.2. Site Elements

Site elements, quantities, and their conditions at the Tioga Lake Area facilities are included in Table 4.2-1 and on Figure 4.2-1 and Figure 4.2-2, below.

Table 4.2-1. Tioga Lake Area Site Elements

Site Element	Parameter	Assessment
		Tioga Lake Campground
Bear Box	Quantity	13
	Type/Material(s)	Metal, cabinet style
	Condition	Good: 11 Needs Maintenance: 2
	Universal Accessibility	0
Campsite	Quantity	13
	Type/Material(s)	Gravel/unpaved
	Condition	Good: 13
	Universal Accessibility	0
Firepit / Ring	Quantity	13
	Type/Material(s)	Metal ring with barbecue grate
	Condition	Good: 12

Site Element	Parameter	Assessment
		Needs Maintenance: 1
	Universal Accessibility	0
Picnic Table	Quantity	13
	Type/Material(s)	Wooden
	Condition	Good: 12 Needs Repair: 1
	Universal Accessibility	0
Potable Water	Quantity	1
	Type/Material(s)	Pipe, metal box with hand-crank
	Condition	Good: 1
	Universal Accessibility	1
Restroom	Quantity	1
	Type/Material(s)	Permanent vault toilets, concrete masonry unit, unisex
	Condition	Good: 1
	Universal Accessibility	1
Trash Receptacle	Quantity	2
	Type/Material(s)	Metal, bear-proof
	Condition	Good: 1 Needs Maintenance: 1
	Universal Accessibility	1
Tioga Lake Overlook and Glacier Canyon Trailhead		
Overlook	Quantity	1
	Type/Material(s)	Gravel/unpaved
	Condition	Good: 1
	Universal Accessibility	0
Picnic Table	Quantity	2
	Type/Material(s)	Wooden
	Condition	Needs Maintenance: 1 Needs Repair: 1
	Universal Accessibility	0
Pedestrian Trail	Quantity	1
	Type/Material(s)	Unpaved
	Condition	Needs Maintenance: 1
	Universal Accessibility	0

Site Element	**Parameter**	**Assessment**
Restroom	Quantity	1
	Type/Material(s)	Permanent vault toilets, concrete masonry unit, unisex
	Condition	Good: 1
	Universal Accessibility	1

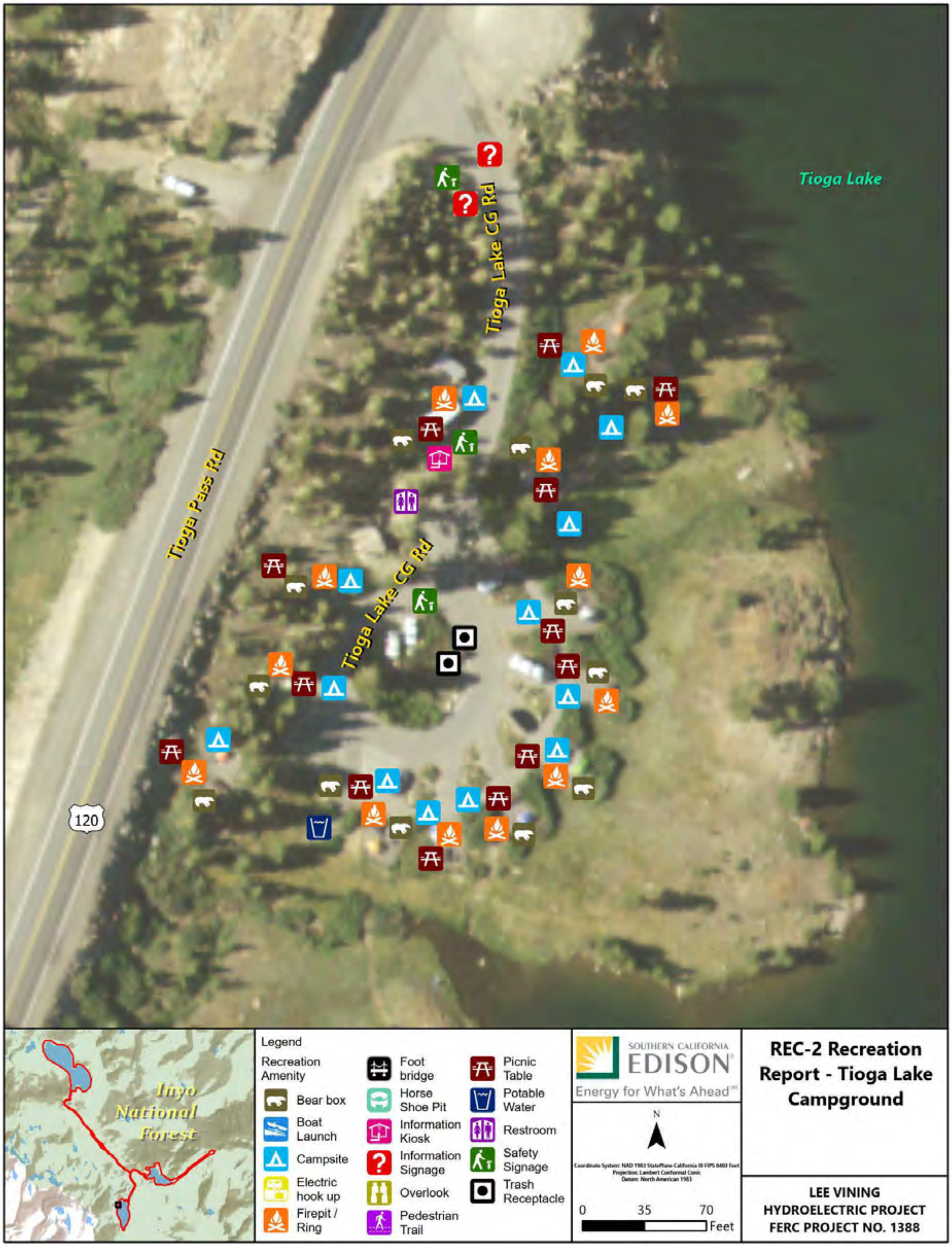

Figure 4.2-1. Site Elements at Tioga Lake Campground.

Figure 4.2-2. Site Elements at Tioga Lake Overlook / Glacier Canyon Trailhead.

4.2.2.3. Signage and Wayfinding

Signage in the Tioga Lake Area included a total of eight information kiosks, informational signs, and safety signs (Table 4.2-2). The majority of these signs were noted to be in good condition; however, one safety sign at the Tioga Lake Campground was noted to need maintenance, and one informational sign at the Tioga Lake Overlook Site was noted to need replacement due to weathering rendering it illegible.

Table 4.2-2. Signage at Tioga Lake Recreation Area

Sign Type	Material		Quantity	Condition	Number of Universally Accessible Signs
	Posts	Sign			
Tioga Lake Campground					
Informational Kiosk	Wood	Metal	1	Good: 1	0
Informational Signage	Wood	Wood	2	Good: 2	1
Safety Signage	Wood, Metal	Metal	3	Good: 2 Needs Maintenance: 1	1
Tioga Lake Overlook and Glacier Canyon Trailhead					
Informational Kiosk	Metal	Metal	1	Good: 1	1
Informational Signage	Metal, Wood	Metal	1	Needs Replacement: 1	1

4.2.2.4. Universal Accessibility

ADA universal accessibility was assessed at each amenity at Tioga Lake Campground, Tioga Lake Overlook, and Glacier Canyon Trailhead (Table 4.2-1 and Table 4.2-2). Amenities were assessed as follows:

- Restrooms where all ADA accessible.
- No designated ADA accessible parking spaces were observed.
- Pedestrian trails were not ADA accessible.
- The overlook was not ADA accessible.
- None of the campsites were ADA accessible.
- One of the two trash receptacles were ADA accessible.
- Four of the eight signs/kiosks were ADA accessible.

4.2.2.5. Public Safety

No public safety concerns or issues were noted during the site visit.

4.2.2.6. Erosion

Noticeable erosion with broken pavement was observed on the edge of an access road at Tioga Lake Campground potentially due to heavy run off from Tioga Pass Road from the high water year. Trampled vegetation was observed at a compacted trail to the overlook and campsites; and at other trails in the campground, overlook, and Glacier Canyon Trailhead.

4.2.3. Dispersed Use Assessment

A number of social trails and impromptu parking areas were identified around the perimeter of Tioga Lake.

Based on the initial desktop assessment, 1,817.3 linear feet of trails were found in the Tioga Lake portion of the Project Area. In the field, 9,923.6 linear feet of trails were identified.

One dispersed use boating site and two pullout sites were identified using aerial imagery; the one boating site was confirmed in the field, as well as five pullout sites, two campsites, and three fire pits.

A spatial distribution of the dispersed use data is shown on Figure 4.2-3.

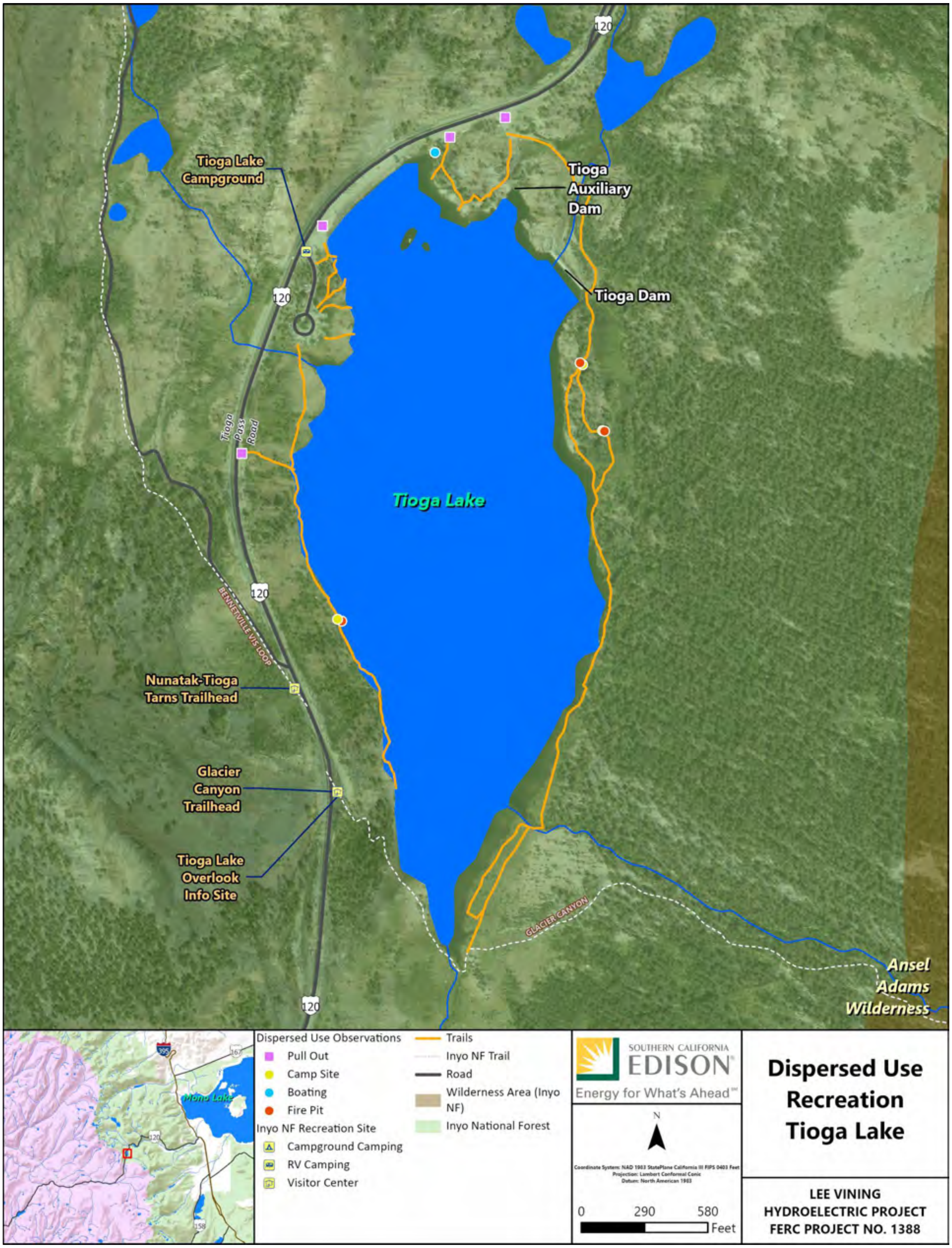

Figure 4.2-3. Dispersed Use Recreation at Tioga Lake.

4.3. Ellery Lake and Rhinedollar Dam Area

4.3.1. Site Overview

Ellery Lake and Rhinedollar Dam are south of State Route 120 (Tioga Pass Road) on Lee Vining Creek. Flows from Saddlebag Lake, Tioga Lake, Lee Vining Creek and Glacier Creek feed into Ellery Lake. The lake is approximately 9,500 feet above sea level. Developed recreation amenities at the Ellery Lake Campground generally included an overlook, campsites, an electrical hookup, restrooms, signage, picnic tables, trash receptacles, firepits/rings, potable water, and bear boxes, all of which are owned by the Inyo National Forest Service and operated by the Inyo National Forest Service or its concessionaires.

4.3.2. Facilities Inventory and Condition Assessment

4.3.2.1. Roads and Parking

Ellery Lake Campground access roads and parking areas are paved with 15 parking spaces. The access and parking areas were noted to be in good condition.

4.3.2.2. Site Elements

Site elements, quantities, and their conditions at the Ellery Lake Campground facilities are included in Table 4.3-1 and on Figure 4.3-1, Figure 4.3-2, and Figure 4.3-3.

Table 4.3-1. Ellery Lake Area Site Elements

Site Element	Parameter	Assessment
	Ellery Lake Campground	
Bear Box	Quantity	15
	Type/Material(s)	Metal, cabinet style
	Condition	Good: 7 Needs Maintenance: 6 Needs Replacement: 1 Needs Repair: 1
	Universal Accessibility	1
Campsite	Quantity	15
	Type/Material(s)	Gravel/unpaved
	Condition	Good: 15
	Universal Accessibility	1

Site Element	**Parameter**	**Assessment**
Electric Hookup	Quantity	1
	Type/Material(s)	Metal box
	Condition	Good: 1
	Universal Accessibility	0
Firepit / Ring	Quantity	15
	Type/Material(s)	Metal ring with barbecue grate
	Condition	Good: 13 Needs Maintenance: 1 Needs Repair: 1
	Universal Accessibility	5
Overlook	Quantity	1
	Type/Material(s)	Natural rocks
	Condition	Good: 1
	Universal Accessibility	0
Picnic Table	Quantity	15
	Type/Material(s)	Wooden
	Condition	Good: 10 Needs Maintenance: 5
	Universal Accessibility	2
Potable Water	Quantity	2
	Type/Material(s)	Metal pipe with hand pump
	Condition	Good: 2
	Universal Accessibility	0
Restroom	Quantity	2
	Type/Material(s)	Permanent vault toilets, concrete masonry unit, unisex
	Condition	Good: 2
	Universal Accessibility	2
Trash Receptacle	Quantity	3
	Type/Material(s)	Metal, bear-proof
	Condition	Good: 3
	Universal Accessibility	0

Figure 4.3-1. Site Elements at Ellery Lake Campground (West).

Figure 4.3-2. Site Elements at Ellery Lake Campground (Central).

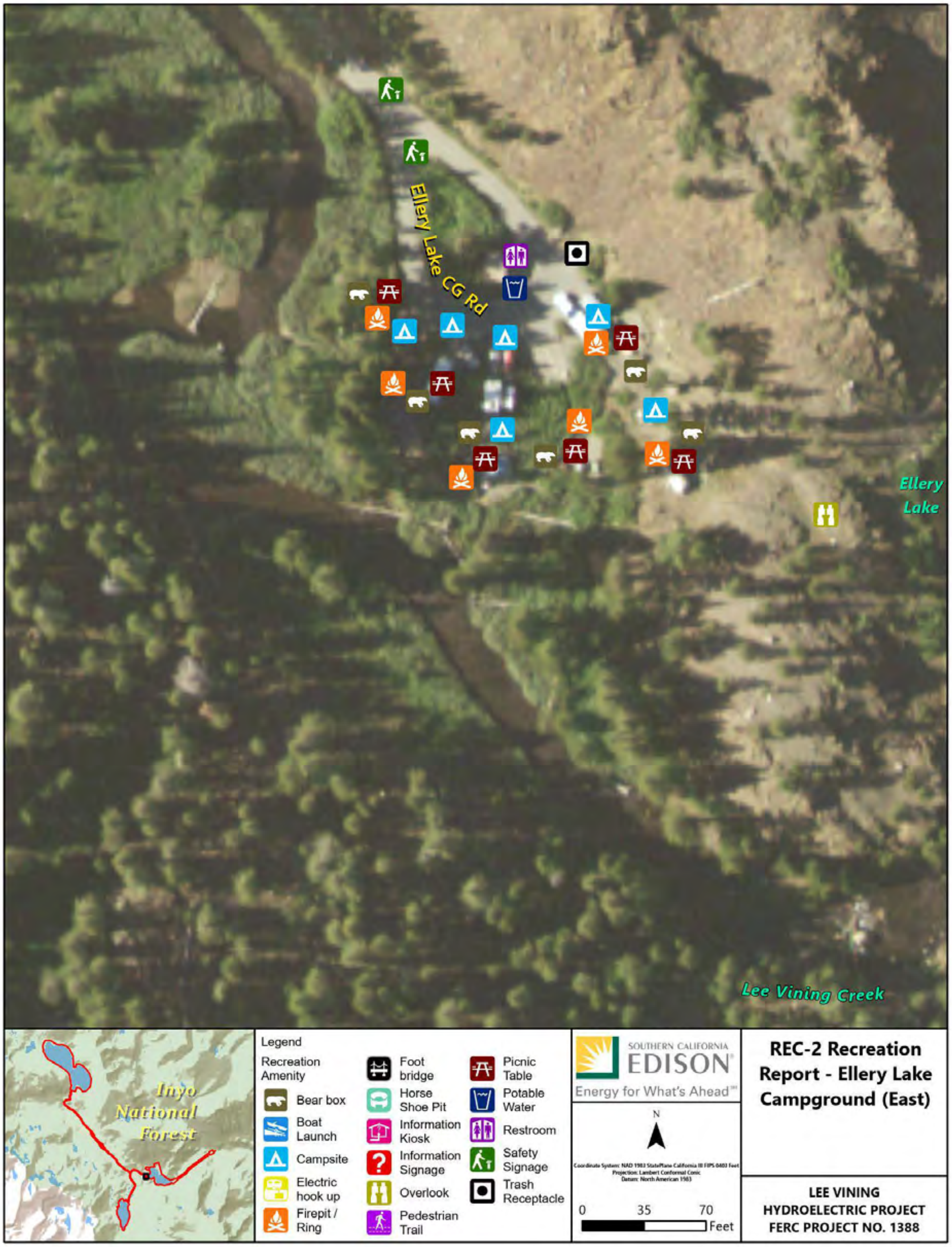

Figure 4.3-3. Site Elements at Ellery Lake Campground (East).

4.3.2.3. Signage and Wayfinding

Signage in the Ellery Lake Campground included a total of nine information kiosks, informational signs, and safety signs (Table 4.3-2). The majority of these signs were noted to be in good condition; however, one safety sign was noted to need replacement due to weathering, rendering it illegible to the public, and one safety sign was noted to need repair.

Table 4.3-2. Signage at Ellery Lake Campground

Sign Type	Material		Quantity	Condition	Number of Universally Accessible Signs
	Posts	Sign			
Informational Kiosk	Wood	Metal, Wood	1	Good: 1	1
Informational Signage	Wood, Metal	Wood, Metal	2	Good: 2	0
Safety Signage	Wood	Wood, Metal	6	Good: 4 Needs Replacement: 1 Needs Repair: 1	3

4.3.2.4. Universal Accessibility

ADA universal accessibility was assessed at each amenity at Ellery Lake Campground (Table 4.3-1 and Table 4.3-2). Amenities were assessed as follows:

- Restrooms were all ADA accessible.
- One ADA accessible parking space and campsite was observed; however, this campsite is only reserved for persons with disabilities until 3 p.m.
- The overlook was not ADA accessible.
- None of the trash receptacles were ADA accessible.
- Four of the nine signs/kiosks were ADA accessible.

4.3.2.5. Public Safety

No public safety concerns or issues were noted during the site visit.

4.3.2.6. Erosion

Road erosion was observed near the restroom facilities at Ellery Lake Campground. Trampled vegetation was observed at the compacted trail to the lake.

4.3.3. Dispersed Use Assessment

A number of social trails and impromptu parking areas were identified around the perimeter of Ellery Lake and Rhinedollar Dam.

Based on the initial desktop exercise, 6,140.5 linear feet of trails were found in the Ellery Lake portion of the Project Area and 3,607.1 linear feet of trails by the Rhinedollar Dam portion of the Project Area. In the field; 8,930.1 linear feet of trails were identified at Ellery Lake and 3,607.1 linear feet were identified at Rhinedollar Dam.

Four dispersed use pullouts and two trailheads were identified using aerial imagery; in the field, seven pullout sites, two trailheads, and three fire pits were observed.

A spatial distribution of the dispersed use data is shown on Figure 4.3-4.

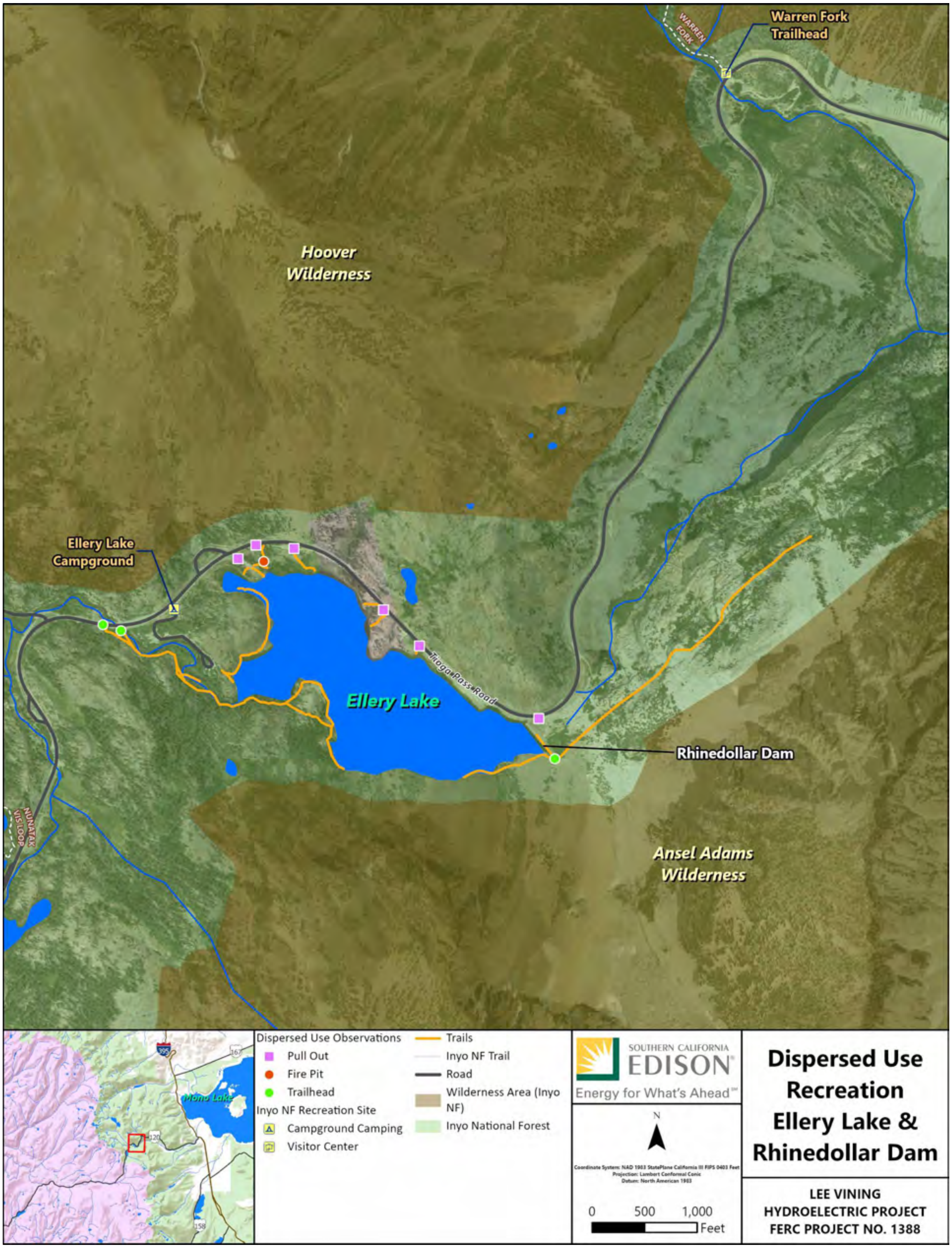

Figure 4.3-4. Dispersed Use Recreation at Ellery Lake and Rhinedollar Dam.

4.4. SITES BETWEEN SADDLEBAG AND ELLERY LAKES

4.4.1. SITE OVERVIEW

Three additional recreation sites located below Saddlebag Lake but above Ellery Lake and Tioga Lake were included in the Facility Inventory and Condition Assessment: Bennettville Trailhead, Junction Campground, and Sawmill Walk-In Campground. These three sites are all located along Lee Vining Creek and are within or adjacent to the FERC Project Boundary (Figure 2.1-1). Sawmill Walk-In Campground is approximately 3,000 feet downstream of Saddlebag Lake. Bennettville Trailhead and Junction Campground are approximately 2,500 feet upstream of Ellery Lake.

4.4.1.1. Roads and Parking

Bennettville Trailhead access road and parking area are paved with six parking spaces. The access area and parking area were noted to be in good condition.

Junction Campground access roads are paved with 14 unpaved parking spaces. The access area and parking areas were both noted to be in good condition. Accessible parking is available near the restroom facility.

Sawmill Walk-In Campground access road and parking area are paved with 14 paved parking spaces. The access area was noted to be in good condition; however, the parking spaces were in need of maintenance.

4.4.1.2. Site Elements

Site elements, quantities, and their conditions at sites between Saddlebag Lake and Ellery Lake are included in Table 4.4-1 and on Figure 4.4-1, Figure 4.4-2, Figure 4.4-3, Figure 4.4-4, and Figure 4.4-5.

The restroom facilities at Sawmill Walk-In Campground were locked and closed during the site assessment due to the campground also being closed.

Table 4.4-1. Sites Between Saddlebag and Ellery Lake Elements

Site Element	Parameter	Assessment
Bennettville Trailhead		
Pedestrian Trail	Quantity	1
	Type/Material(s)	Gravel/unpaved
	Condition	Good: 1
	Universal Accessibility	0

Site Element	Parameter	Assessment
Trash Receptacle	Quantity	2
	Type/Material(s)	Metal, bear-proof
	Condition	Good: 2
	Universal Accessibility	0
Junction Campground		
Bear Box	Quantity	14
	Type/Material(s)	Metal, cabinet style
	Condition	Good: 13 Needs Repair: 1
	Universal Accessibility	2
Campsite	Quantity	14
	Type/Material(s)	Gravel/unpaved
	Condition	Good: 14
	Universal Accessibility	1
Firepit / Ring	Quantity	14
	Type/Material(s)	Metal ring with barbecue grate
	Condition	Good: 14
	Universal Accessibility	2
Foot Bridge	Quantity	1
	Type/Material(s)	Wooden
	Condition	Good: 1
	Universal Accessibility	1
Picnic Table	Quantity	14
	Type/Material(s)	Wooden
	Condition	Good: 14
	Universal Accessibility	1
Restroom	Quantity	2
	Type/Material(s)	Permanent vault toilets, concrete masonry unit, unisex
	Condition	Good: 2
	Universal Accessibility	2

Site Element	Parameter	Assessment
Sawmill Walk-In Campground		
Bear Box	Quantity	11
	Type/Material(s)	Metal, cabinet style
	Condition	Good: 9 Needs Maintenance: 1 Needs Replacement: 1
	Universal Accessibility	0
Campsite	Quantity	11
	Type/Material(s)	Gravel/unpaved
	Condition	Good: 10 Needs Maintenance: 1
	Universal Accessibility	0
Firepit / Ring	Quantity	11
	Type/Material(s)	Metal ring with barbecue grate
	Condition	Good: 9 Needs Maintenance: 2
	Universal Accessibility	0
Picnic Table	Quantity	11
	Type/Material(s)	Wooden
	Condition	Good: 9 Needs Maintenance: 1 Needs Repair: 1
	Universal Accessibility	0
Restroom [a]	Quantity	2
	Type/Material(s)	Permanent vault toilets, concrete masonry unit, unisex
	Condition	Good: 2
	Universal Accessibility	2
Trash Receptacle	Quantity	3
	Type/Material(s)	Metal, bear-proof
	Condition	Good: 2 Needs Maintenance: 1
	Universal Accessibility	0

[a] The restroom facilities at the campground were locked and closed during the site assessment due to the campground also being closed.

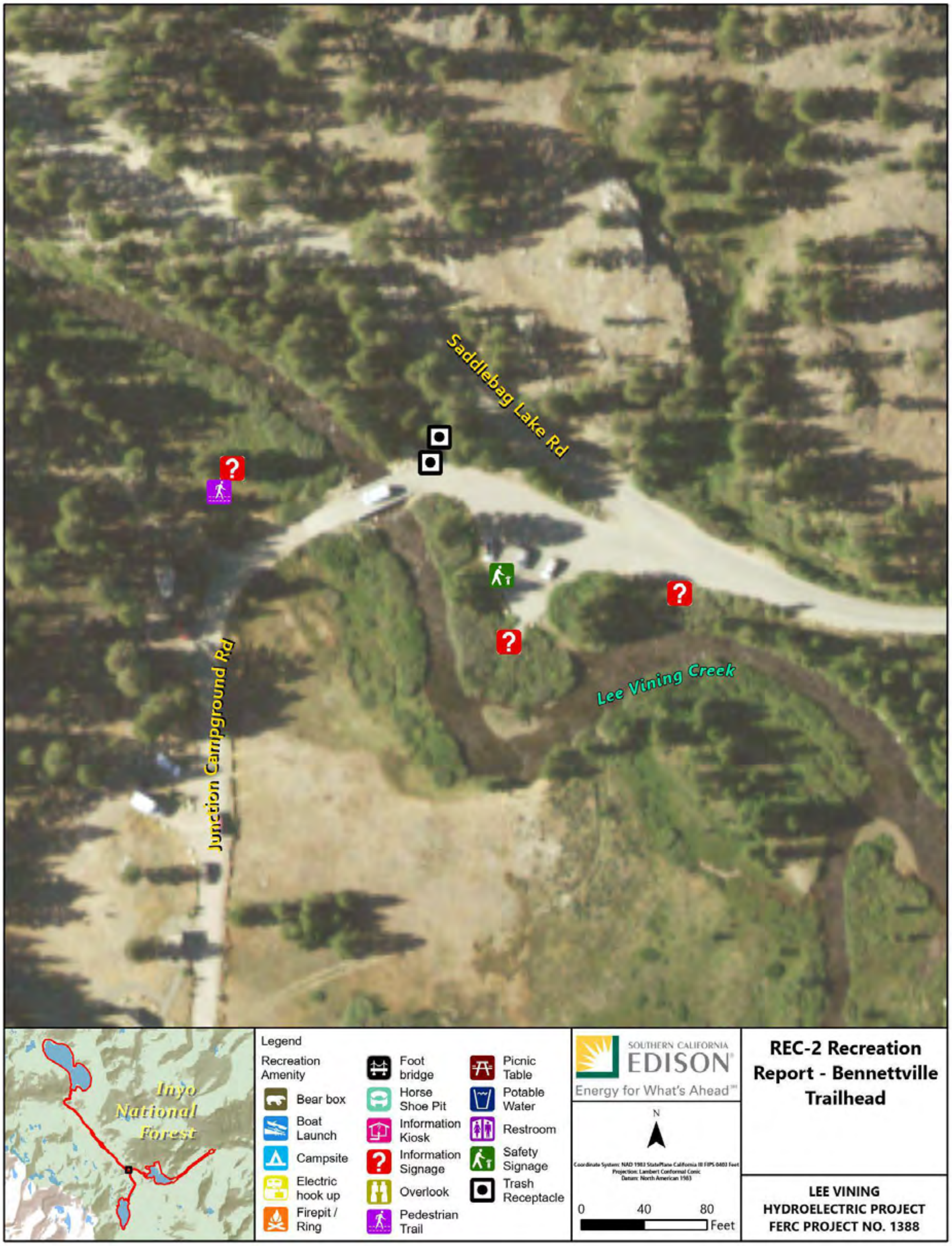

Figure 4.4-1. Bennettville Trailhead Site Elements.

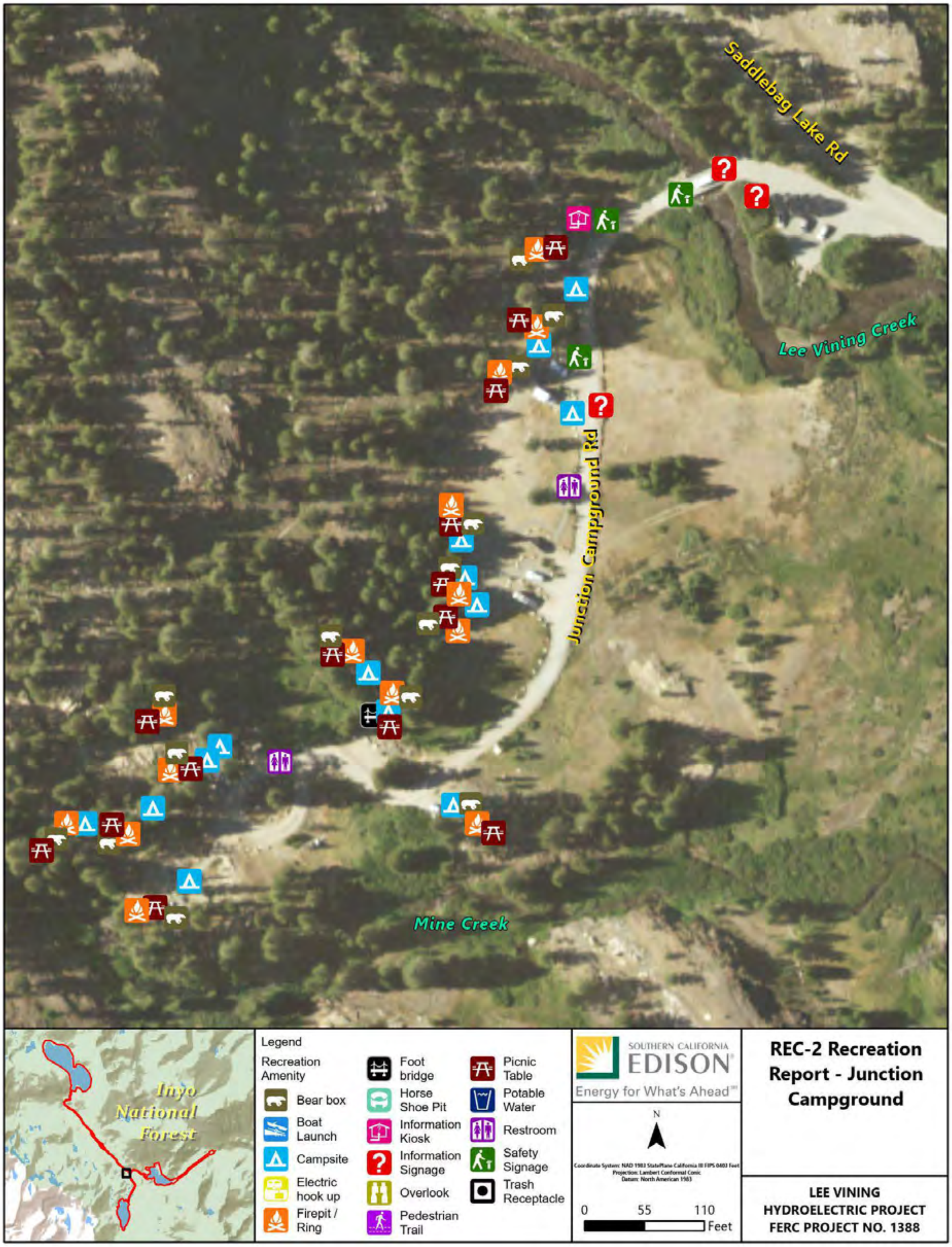

Figure 4.4-2. Junction Campground Site Elements.

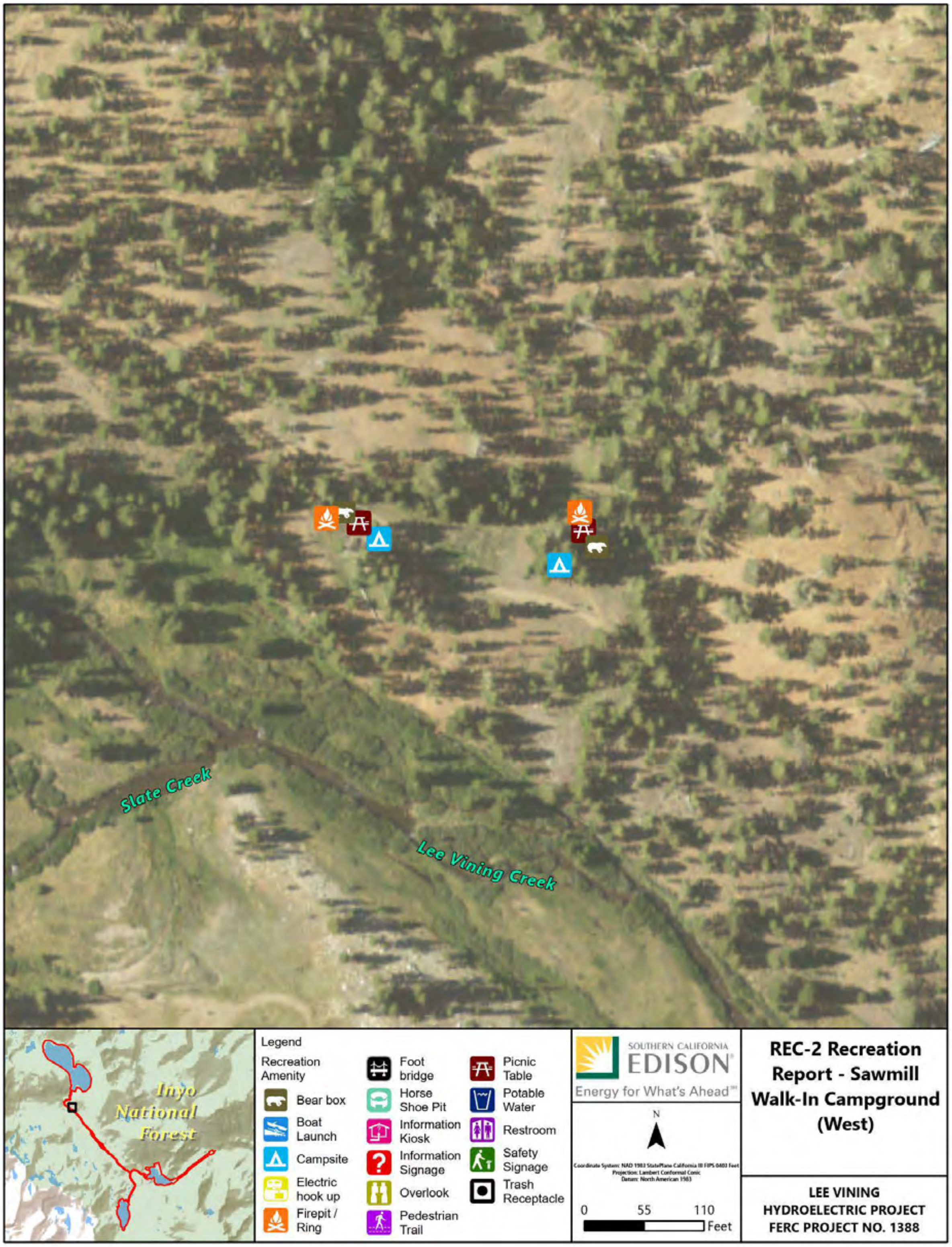

Figure 4.4-3. Sawmill Walk-In Campground (West) Site Elements.

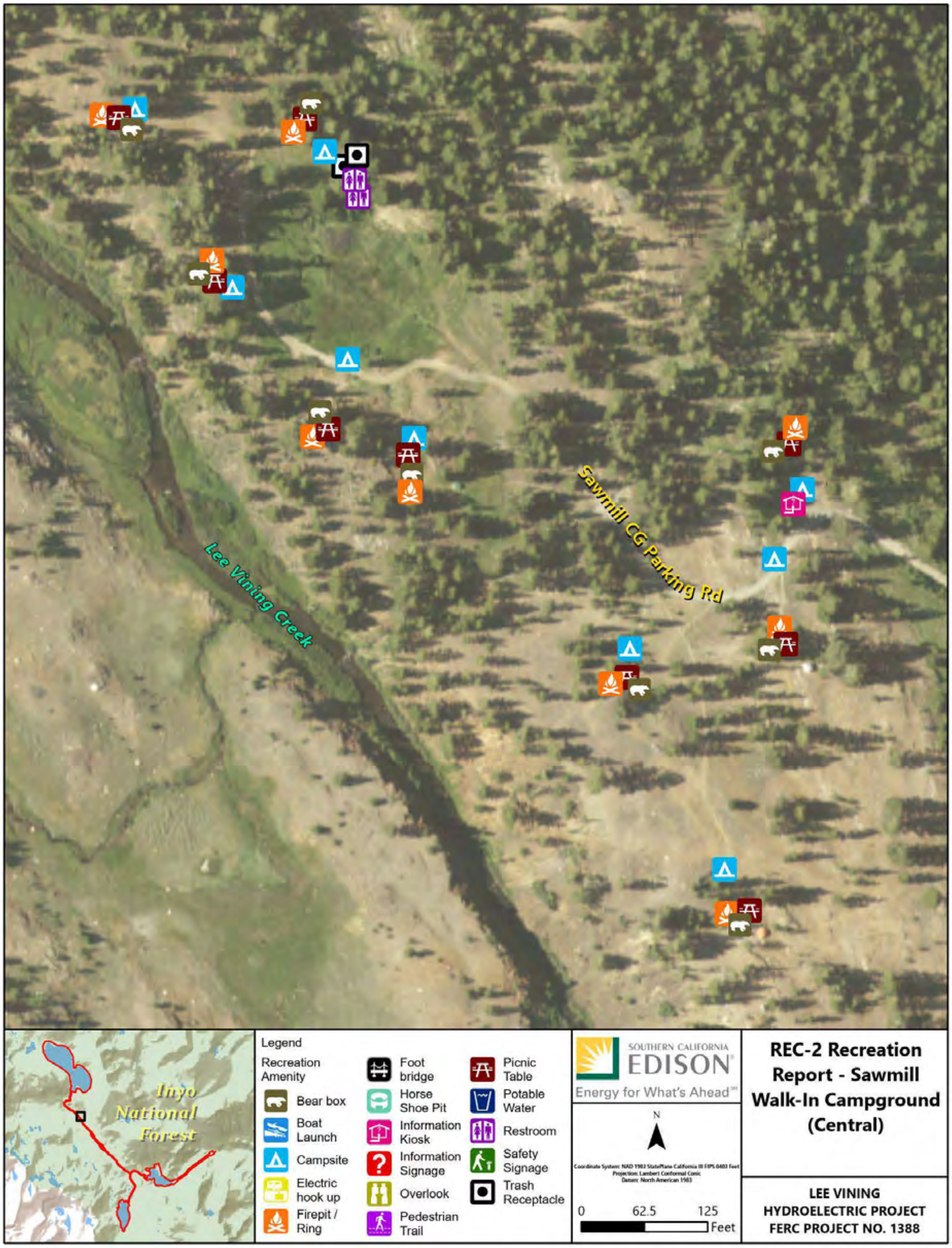

Figure 4.4-4. Sawmill Walk-In Campground (Central) Site Elements.

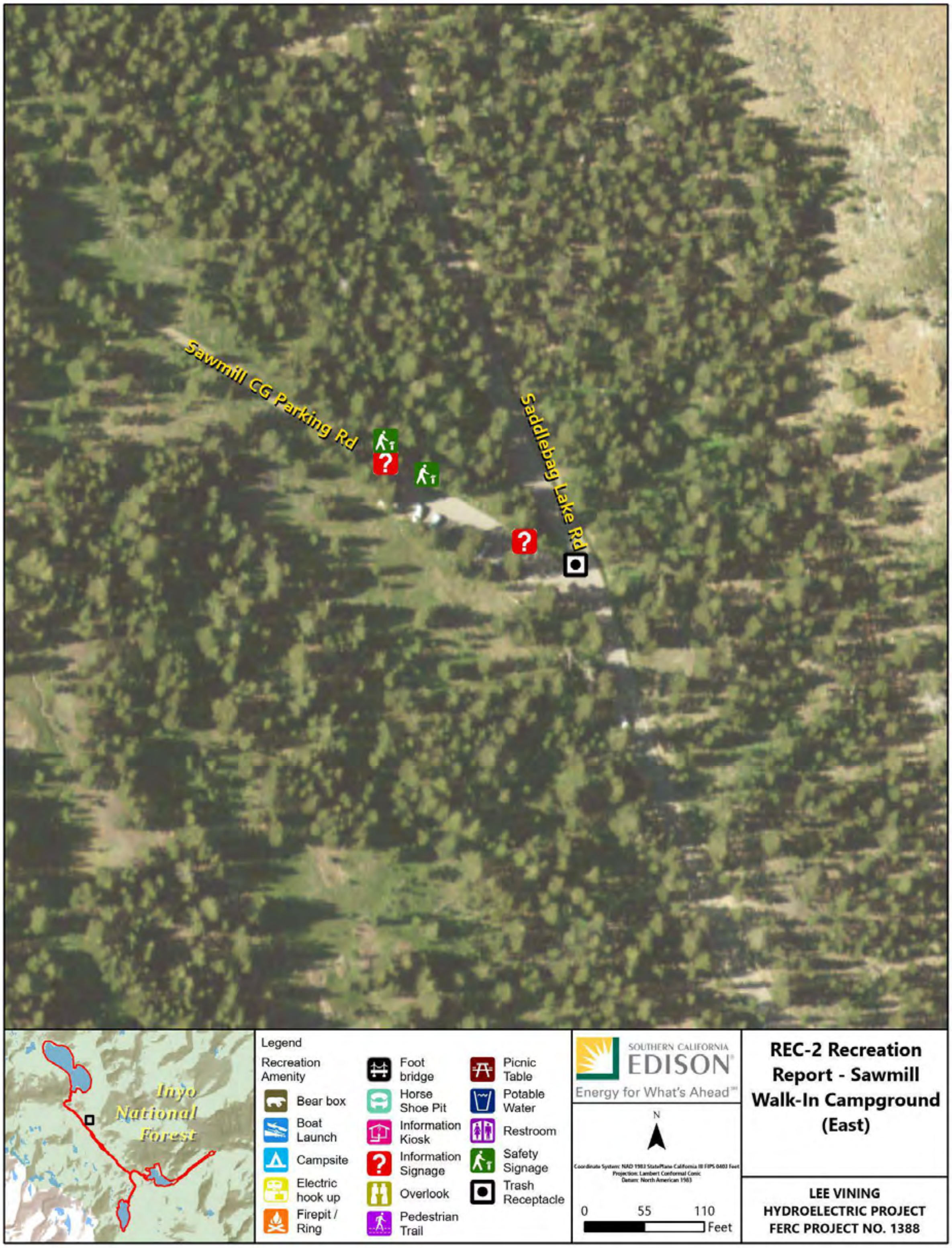

Figure 4.4-5. Sawmill Walk-In Campground (East) Site Elements.

4.4.1.3. Signage and Wayfinding

Signage at Bennettville Trailhead, Junction Campground, and Sawmill Walk-In Campground included a total of 16 information kiosks, informational signs, and safety signs (Table 4.4-2). The majority of these signs were noted to be in good condition; however, one informational sign at Junction Campground and one informational sign at Sawmill Walk-In Campground were noted to need maintenance.

Table 4.4-2. Signage at Sites Between Saddlebag and Ellery Lakes

Sign Type	Material		Quantity	Condition	Number of Universally Accessible Signs
	Posts	Sign			
Bennettville Trailhead					
Informational Signage	Wood, Stone	Paper, Wood, Metal	3	Good: 3	0
Safety Signage	Wood	Metal	1	Good: 1	0
Junction Campground					
Informational Kiosk	Wood	Paper, Wood, Metal	1	Good: 1	0
Informational Signage	Wood	Metal, Wood	3	Good: 2 Needs Maintenance: 1	1
Safety Signage	Wood, Metal	Metal	3	Good: 3	1
Sawmill Walk-In Campground					
Informational Kiosk [a]	Wood	Metal, Wood	1	Good: 1	0
Informational Signage	Wood	Metal, Wood	2	Good: 1 Needs Maintenance: 1	1
Safety Signage	Metal, Wood	Metal	2	Good: 2	1

[a] Kiosk was covered up with plastic during the site visit, and the campground was closed.

4.4.1.4. Universal Accessibility

ADA universal accessibility was assessed at each amenity at Bennettville Trailhead, Junction Campground, and Sawmill Walk-In Campground (Table 4.4-1 and Table 4.4-2). Amenities were assessed as follows:

- Restrooms were all ADA accessible.
- One ADA accessible parking space observed at the Junction Campground restroom.
- Pedestrian trails were not ADA accessible.
- One of the 25 campsites was ADA accessible.

- None of the trash receptacles were ADA accessible.
- Four of the 16 signs/kiosks were ADA accessible.

4.4.1.5. Public Safety

No public safety concerns or issues were noted during the site visit.

4.4.1.6. Erosion

Trampled vegetation was observed at Bennettville Trailhead and Junction Campground. The road to Junction Campground is damaged with road erosion and potholes. Sawmill Walk-In Campground had trail erosion and a damaged tree, which was growing over a trail.

5.0 CONSISTENCY WITH THE INYO NATIONAL FOREST LAND MANAGEMENT PLAN

The *Land Management Plan for the Inyo National Forest* (USFS, 2019) was developed to provide direction and adaptive management for the resources in the Project Area. The following Inyo National Forest-wide (REC-FW) desired conditions (DC), goals (GOAL), standards (STD), and guidelines (GDL) were found to be relevant to and consistent with this study:

- REC-FW-DC 01: The diverse landscapes of the Inyo National Forest offer a variety of recreation settings for a broad range of year-round, nature-based recreation opportunities. Management focuses on settings that enhance the national forest recreation program niche.
- REC-FW-DC 02: The condition, function, and accessibility of recreation facilities accommodate diverse cultures with appropriate activities available to the public.
- REC-FW-DC 05: Visitors can connect with nature, culture, and history through a range of sustainable outdoor recreation opportunities.
- REC-FW-DC 11: The Inyo National Forest provides a range of year-round developed and dispersed recreation settings that offer a variety of motorized and nonmotorized opportunities and recreation experiences.
- REC-FW-DC 12: Trails used in summer provide access to destinations, provide for opportunities that connect to a larger trail system, provide linkages from local communities to the national forest, and are compatible with other resources.
- REC-FW-GDL 02: Create infrastructure that mimics the natural textures and colors of the surrounding landscape to be consistent with the recreation setting.

Additionally, the sites were found to align with the following Area-Specific desired conditions (DC), goals (GOAL), standards (STD), and guidelines (GDL):

- MA-DRA-DC 01: The developed area footprint within destination recreation areas is visually appealing and well maintained.
- MA-DRA-DC 02: A natural appearing landscape is retained outside the development footprint.
- MA-DRA-DC 03: Most recreation facilities are highly developed and in close proximity to each other.
- MA-DRA-DC 04: Developed sites meet national quality standards.
- MA-DRA-DC 05: Forest roads and trails provide users relatively easy access to destinations.
- MA-DRA-DC 06: The setting provides amenities and sustainable infrastructure to support a wide variety of recreational activities in close proximity to each other.
- MA-DRA-DC 07: Available infrastructure and amenities are consistent with user capacity.
- MA-DRA-DC 08: Interpretation and education activities provide learning opportunities to visitors about the natural and cultural environment and responsible visitor behavior.
- MA-DRA-DC 09: Traffic and parking does not negatively impact visitor experience.
- MA-GRA-DC 02: Scenic integrity is generally moderate to high. Where developed facilities are present, they are aesthetically incorporated into the landscape. Scenic integrity is maintained at or enhanced from current conditions.
- MA-GRA-DC 03: Places for people seeking natural scenery and solitude are available in some areas. In other areas, motorized and nonmotorized recreation opportunities are easily accessed by roads, and visitors can expect encounters with others.
- MA-GRA-DC 04: Developed recreation sites provide opportunities on the more roaded natural, semi-primitive motorized, and semi-primitive nonmotorized opportunity spectrum with moderately modified natural settings.
- MA-GRA-DC 05: A mosaic of vegetation conditions is often present, with some areas showing the effects of past management activities, and other areas appearing predominantly natural.

6.0 CONSULTATION SUMMARY

In preparation to file the Pre-Application Document and Notice of Intent filed in August 2021, SCE hosted Recreation and Land Use Resources TWG meetings on January 28, February 25, April 1, and May 27, 2021. These TWG meetings resulted in study requests from Stakeholders to address questions regarding existing recreation facilities. Notes and materials from these meetings are available on SCE's Project website (www.sce.com/leevining).

SCE filed draft Study Plans with the Pre-Application Document and Notice of Intent on August 12, 2021, to address issues discussed with the TWGs. The Stakeholder comment period for these filings ended on January 18, 2022. SCE reviewed all comments received and drafted Revised Technical Study Plans, which were distributed to the TWGs on February 18, 2022, for another 30-day review period. Stakeholder comments received on the Revised Technical Study Plans were reviewed and incorporated as appropriate in the Final Technical Study Plans, which were filed with FERC on April 25, 2022 (SCE, 2022). Comments received for Study REC-2 are included in Table 6-1 below. The dispersed use portion of Study REC-2 was conducted in September 2022.

SCE hosted Recreation and Land Use Resources TWG Meetings on March 1, March 15, and April 19, 2023, to discuss implementation of the Recreation Study Plans. Throughout spring and summer 2023, SCE continued to consult with USFS and California Department of Fish and Wildlife regarding the heavy snowfall which caused a multitude of delays, closures, flooding, and damage in the area. The facilities condition assessment portion of Study REC-2 was conducted in August 2023.

Draft Technical Reports were distributed to TWGs on April 16, 2024, for a 60-day comment period. On May 14, 2024, SCE held a public meeting at the Lee Vining Community Center to discuss the draft reports and study findings to date. On June 12, 2024, at the end of the comment period, comments were received from USFS, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, State Water Resources Control Board, and Mono Lake Committee; however, no comments received were related to Study REC-2.

Table 6-1. Consultation Summary—Response to Comments

Comment Number	Entity	Date/Forum	Comment	SCE Response
1	USFS	3/1/2023 TWG Meeting	*Paraphrase of comment in meeting:* Include Lower Lee Vining and Moraine Campgrounds in REC-2. This is a similar issue to one we faced with Bishop Creek relicensing, there may become a need for additional overnight facilities in upper canyon, but we may not be able to expand them because of topographical constraints. We might not need to do a facilities assessment, but it would be worthwhile to determine if expansion is needed at those lower sites. The USFS position is that there is a need for additional recreational capacity in the canyon. Sites in the lower canyon may be the only area that we can provide that in this Project Vicinity.	SCE recognizes that there is significant use in the vicinity, but SCE does not think that including those additional sites is necessary. SCE's position is that assessing the condition based on an unknown outcome is not worthwhile; if there was a known capacity issue in the upper canyon and SCE had to do offsets at other locations, then SCE could do some assessments to determine how to make that work. SCE does not think these recreation sites are Project-induced.

SCE = Southern California Edison; TWG = Technical Working Group; USFS = U.S. Forest Service

7.0 REFERENCES

SCE (Southern California Edison). 2022. *Final Technical Study Plans*. Lee Vining Hydroelectric Project, FERC Project No. 1388. April 25, 2022.

USFS (U.S. Forest Service). 2019. *Land Management Plan for the Inyo National Forest. Fresno, Inyo, Madera, Mono, and Tulare Counties, California; Esmeralda and Mineral Counties, Nevada*. R5-MB-323a. Pacific Southwest Region. September. Accessed: November 2022. Retrieved from: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd664404.pdf.

APPENDIX A
DISPERSED USE PHOTOS

Photo 1. Saddlebag Lake dispersed use trail

Photo 2. Saddlebag Lake dispersed use boating area

Photo 3. Saddlebag Lake dispersed use trail

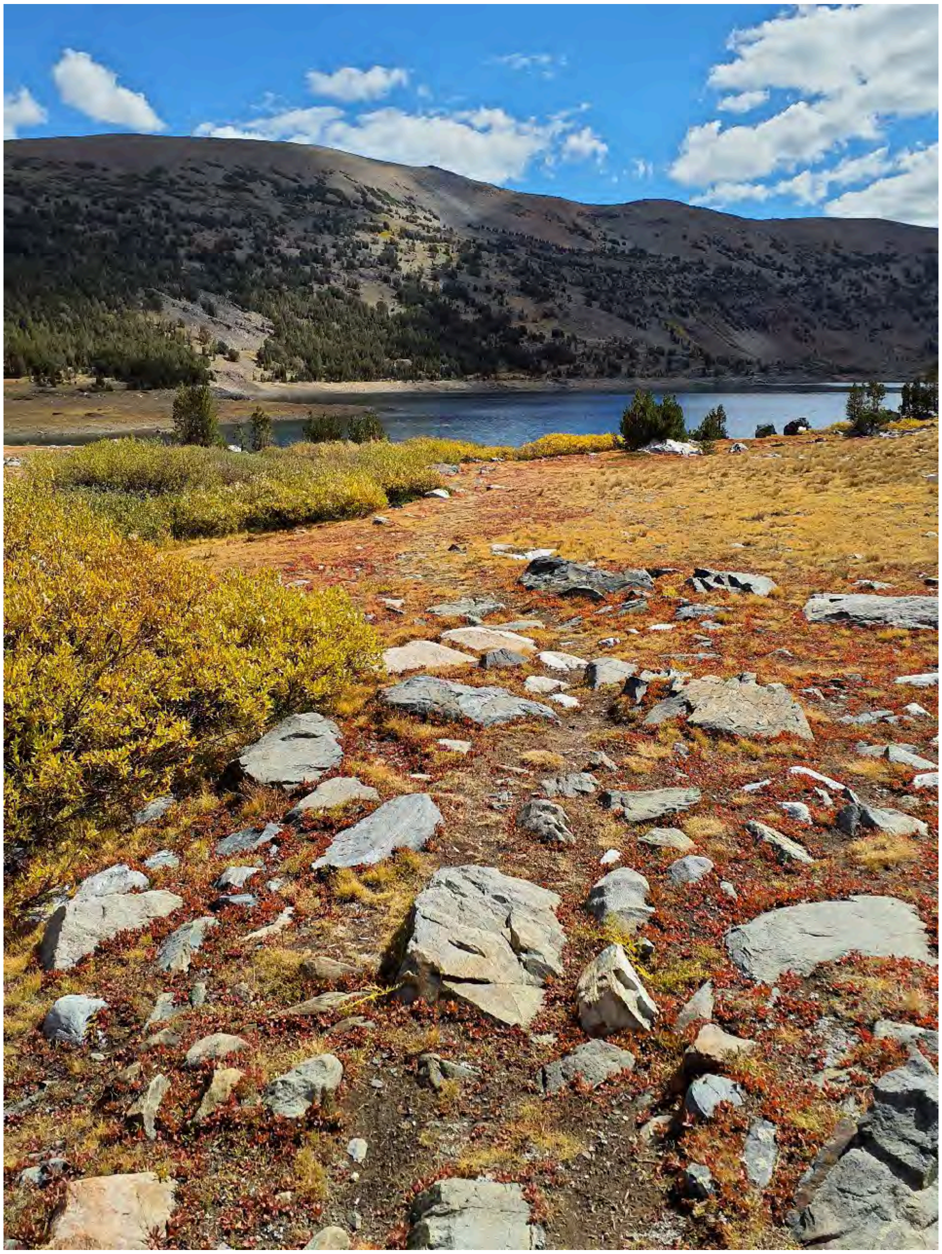

Photo 4. Saddlebag Lake dispersed use trail

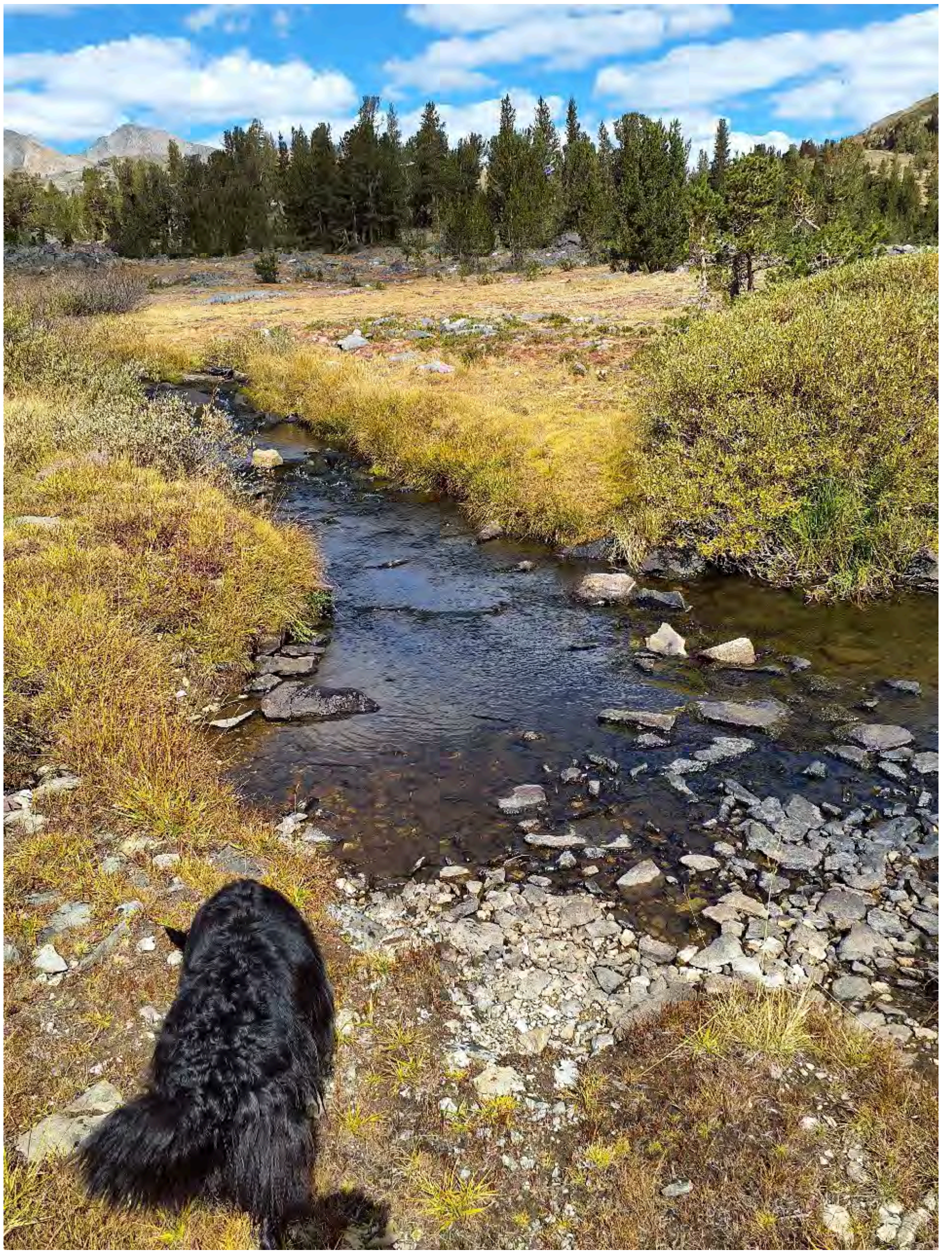

Photo 5. Saddlebag Lake dispersed use trail

Photo 6. Tioga Lake dispersed use boating area

Photo 7. Tioga Lake dispersed use trail

Photo 8. Tioga Lake dispersed use trail

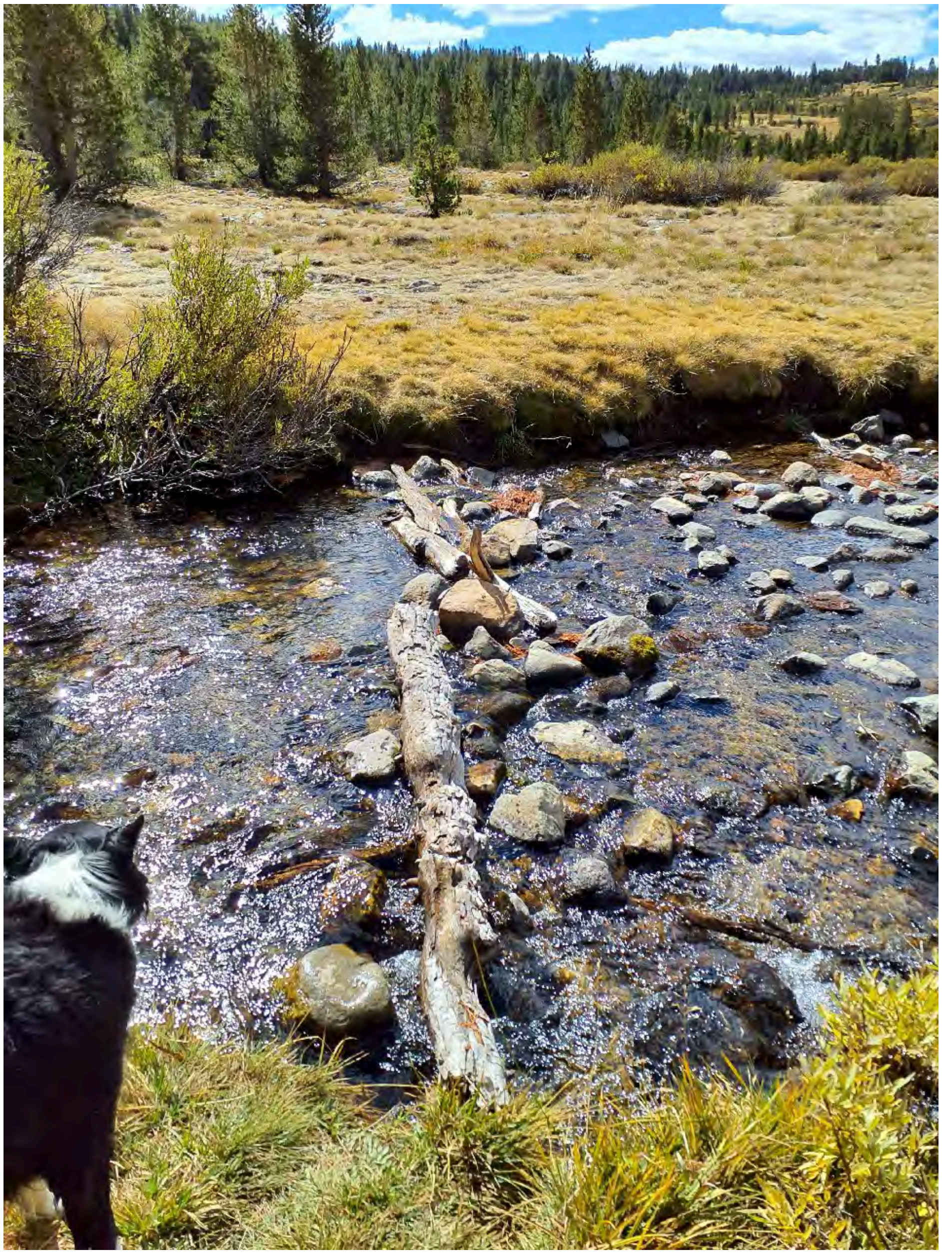

Photo 9. Tioga Lake dispersed use trail

Photo 10. Tioga Lake dispersed use pull out

Photo 11. Tioga Lake dispersed use pull out

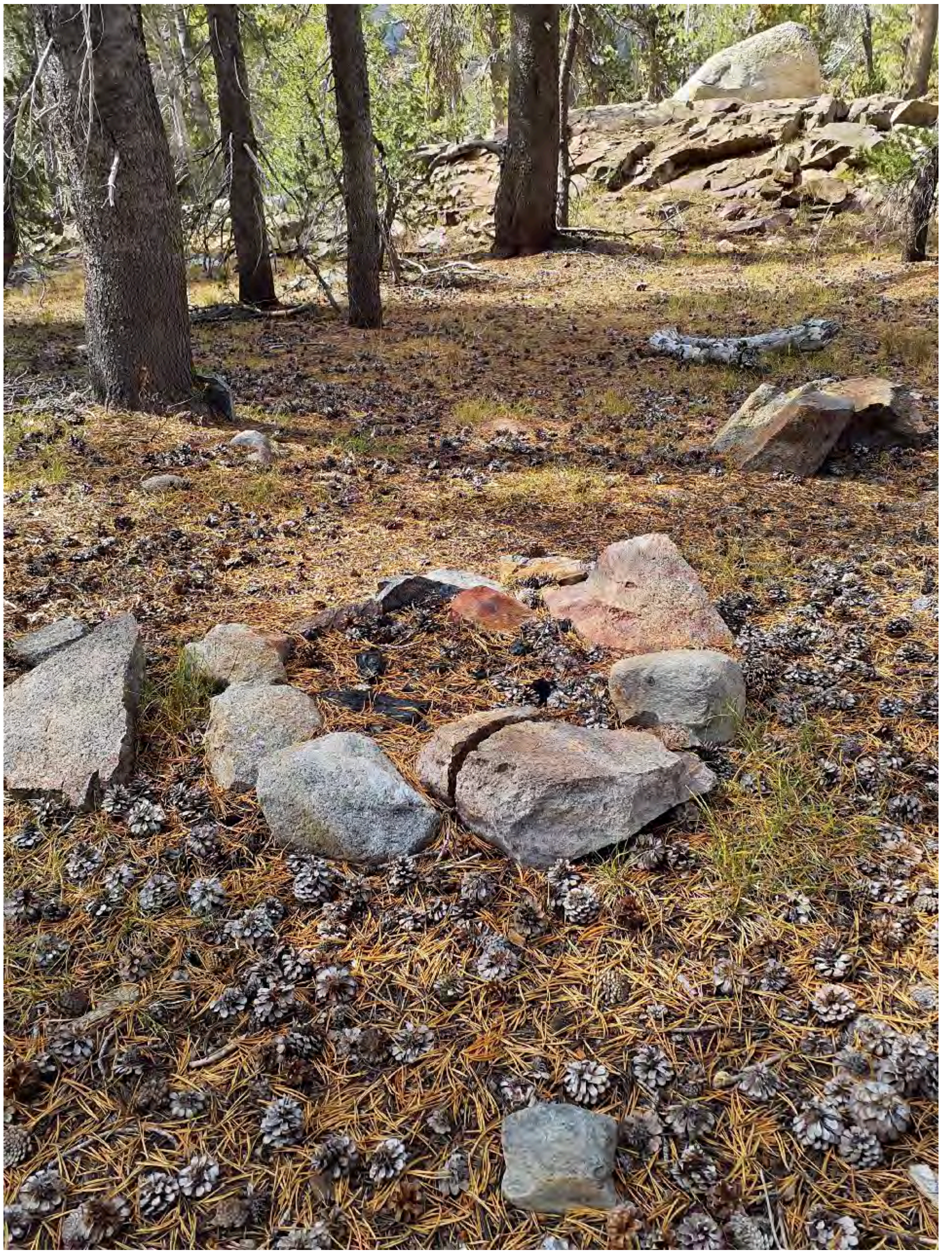

Photo 12. Tioga Lake dispersed use fire pit

Photo 13. Tioga Lake dispersed use camp site

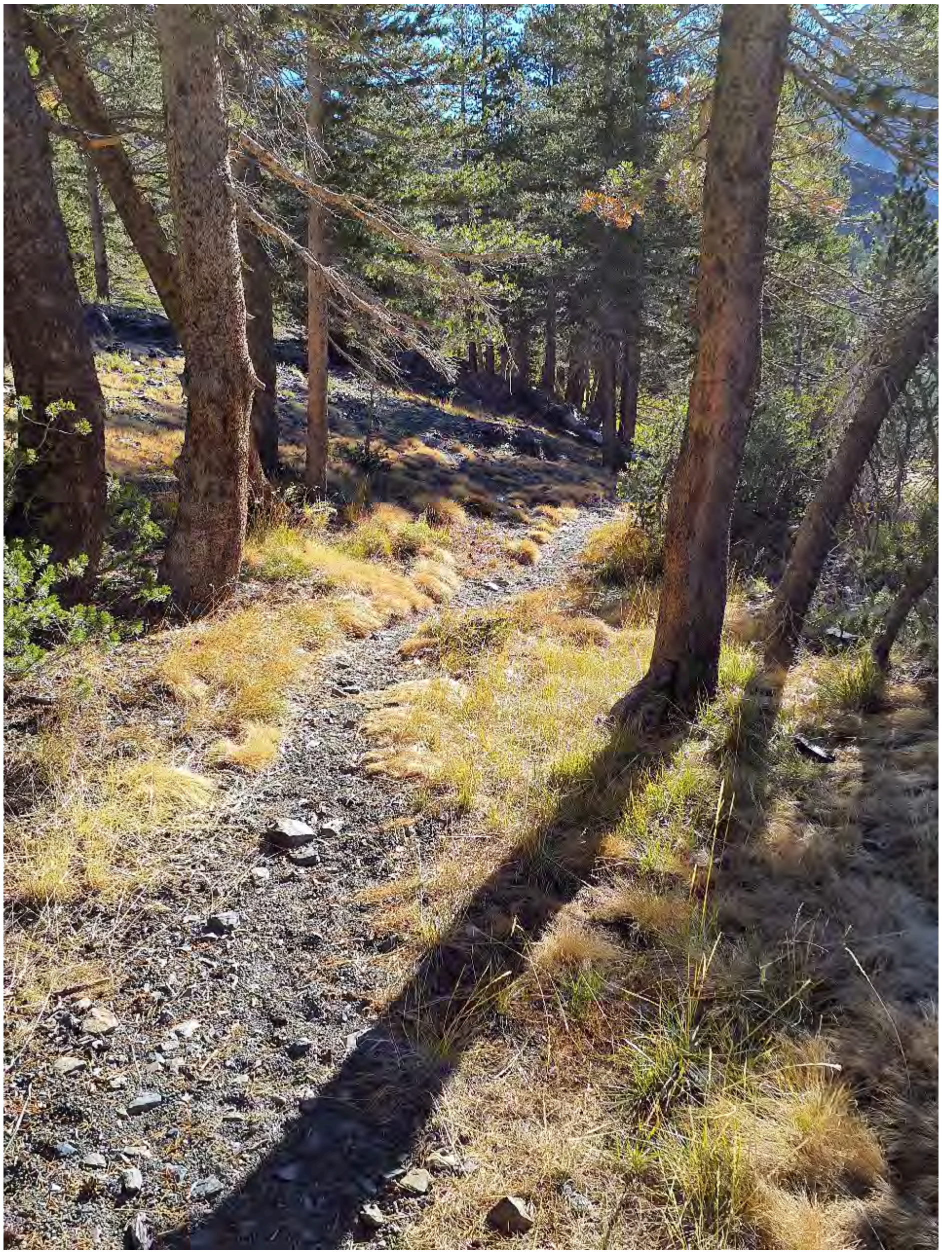

Photo 14. Ellery Lake dispersed use trail

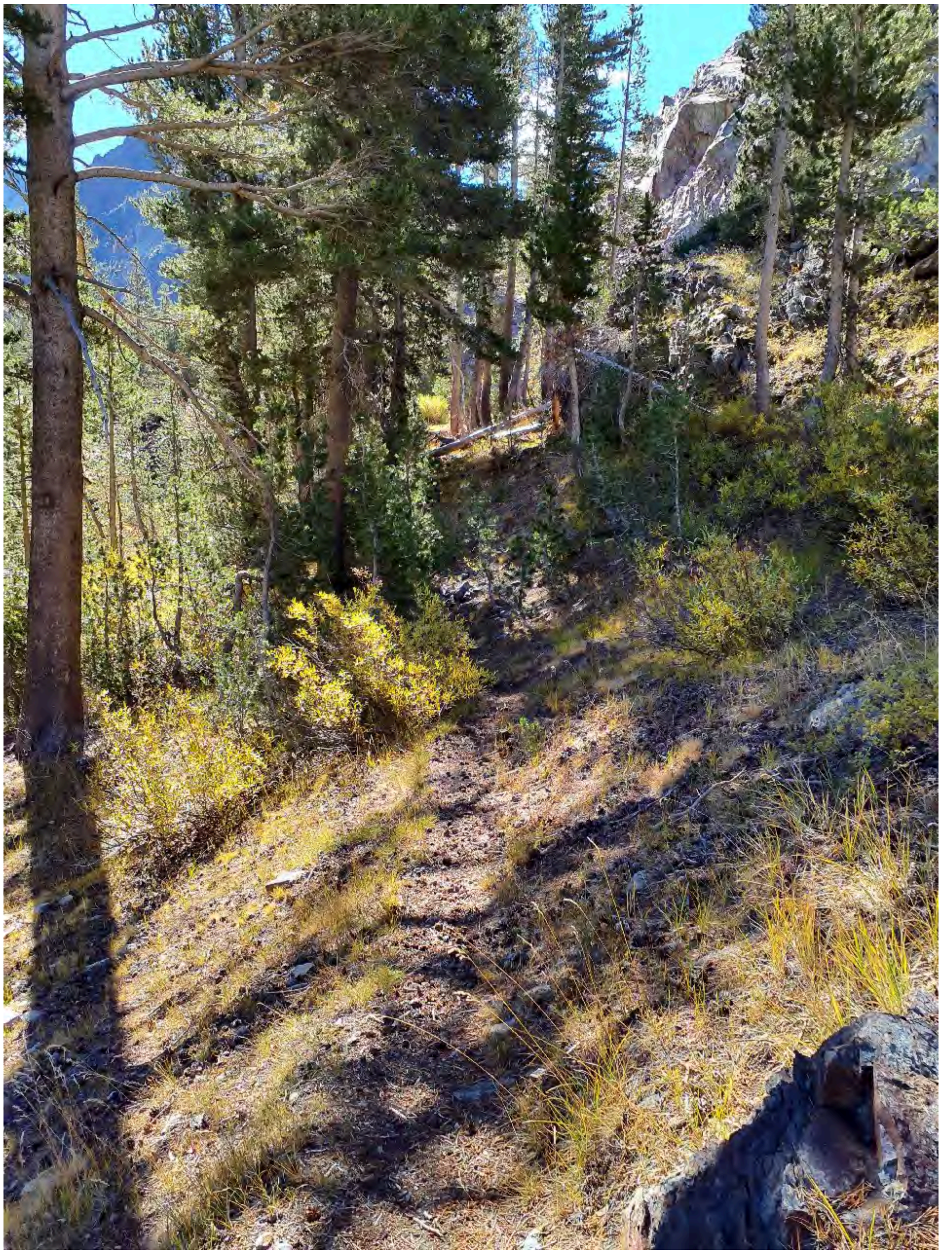

Photo 15. Ellery Lake dispersed use trail

Photo 16. Ellery Lake dispersed use trail

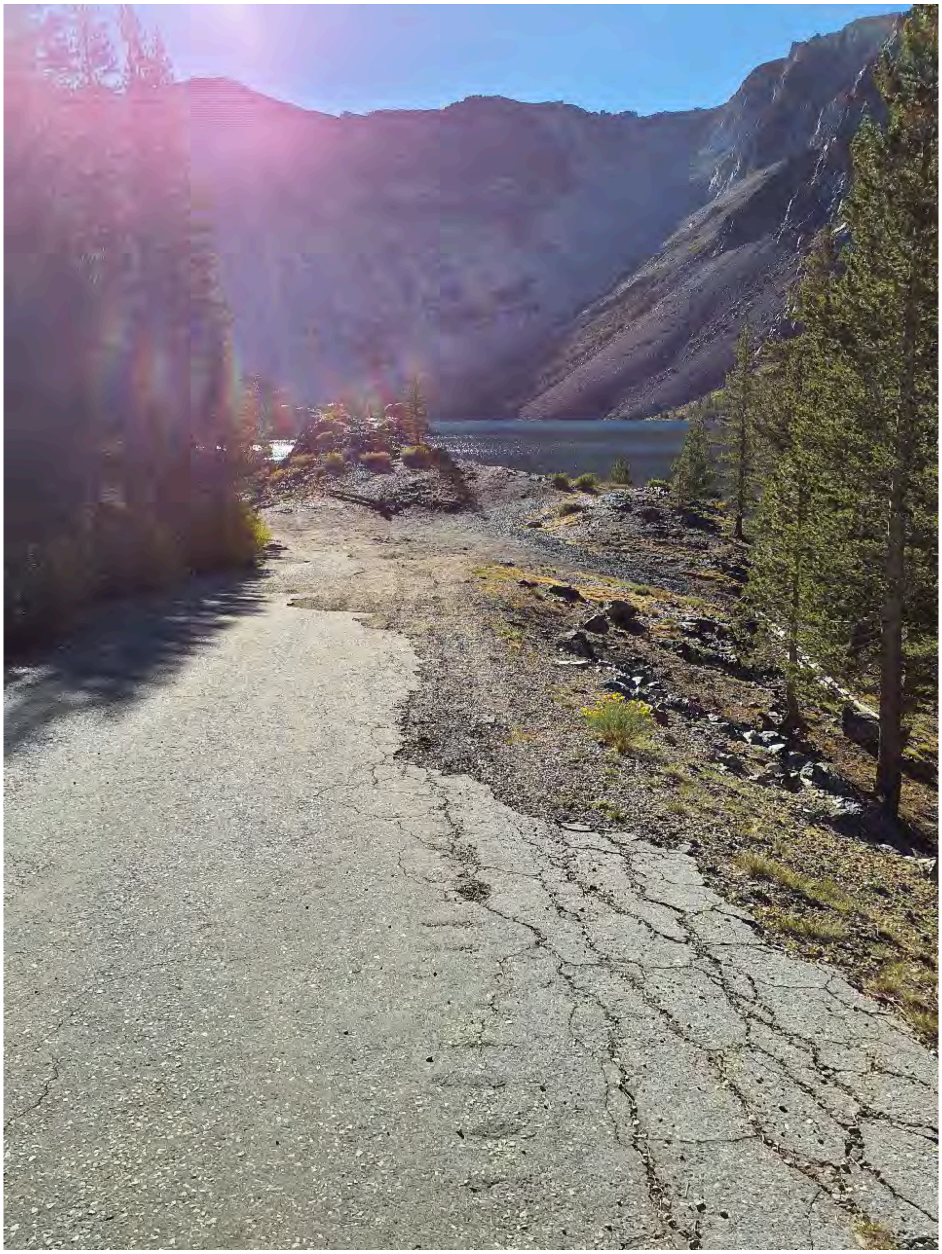

Photo 17. Ellery Lake dispersed use pull out

Photo 18. Ellery Lake dispersed use pull out

Photo 19. Ellery Lake dispersed use pull out

APPENDIX B
RECREATION INVENTORY DATA FORM

LEE VINING PROJECT
RECREATION SITE INVENTORY FORM

Observed by:____Date/Time: ________________________

Site Name:____ GPS Coordinates:____________________

Facility Type:

☐ Campground ☐ Day Use Area ☐ Picnic Area
☐ Trailhead ☐ Boat Launching Area ☐ Informal Site

Road Access: Condition Description (N-replace, R-repair, M-maintain, G-good)
:____

☐ Paved access # lanes ______
☐ Unpaved access # lanes ______

Parking Lots: Condition Description (N-replace, R-repair, M-maintain, G-good):
____

Type	# Paved	# Estimated Gravel	Space Delineation
Universal Access Spaces	_____	_____	☐ Painted ☐ Curbs ☐ Signage
Regular Spaces	_____	_____	☐ Painted ☐ Curbs ☐ Signage
Vehicle & Trailer Spaces	_____	_____	☐ Painted ☐ Curbs ☐ Signage

---

Operations:

☐ Staffed ☐ Unstaffed ☐ Seasonal (From ____________To_______________)
☐ Fee: (Site $_____; Parking $_____) ☐ Year Round

Operating Hours______________ Owner/Manager________________
Project Facility: ______________ Within FERC Project Boundary?______________

Day Use Site Amenities (total # of all amenities per site; provide additional specifications on next page):

#	Type	Condition (N-replace, R-repair, M-maintain, G-good)	Universal Access
______	Picnic Shelter	________________________	__________________
______	Overlook	________________________	__________________
______	Picnic Tables	________________________	__________________
______	Pedestrian Trail	________________________	__________________
______	Boating Prep Area	________________________	__________________
______	Trash Receptacles	________________________	__________________
______	Grills	______________________	__________________
______	Fishing Pier/Platform	______________________	__________________
______	Firepit/Ring	______________________	__________________
______	Fishing Prep Area	______________________	__________________
______	Safety Signage	______________________	__________________
______	Restrooms	______________________	__________________
______	Information Kiosk	______________________	__________________
______	Informational Signage	_____________________	__________________
______	Benches	______________________	__________________
______	Dumping Station	______________________	__________________
______	Potable Water	______________________	__________________
______	Playground	______________________	__________________

Other (specify)____

____

Boat Launch Facilities: Condition Description (N-replace, R-repair, M-maintain, G-good):

____

☐ Hard surface ☐ Unimproved (informal) ☐ Gravel ☐ Carry In

☐Universal Access ☐ Boat Prep Area _____ # of Lanes

Courtesy/Fishing Docks: Condition Description (N-replace, R-repair, M-maintain, G-good):

____

☐ Courtesy Dock ☐ Fishing Dock Dimensions:_______________ ☐ Universal Access

☐ Courtesy Dock ☐ Fishing Dock Dimensions:_______________ ☐ Universal Access

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Trails (within the recreation area): Condition Description (N-replace, R-repair, M-maintain, G-good):

____

Type:__________________ Length (ft):_________ Condition: ______________ ☐ Universal Access

Type:__________________ Length (ft):_________ Condition: ______________ ☐ Universal Access

Type:__________________ Length (ft):_________ Condition: ______________ ☐ Universal Access

Interpretive/Site Information: Condition Description (N-replace, R-repair, M-maintain, G-good):
____

____ No. of Displays
☐ Boating Safety ☐ Invasive Species ☐ Fishing Regulations ☐ Fish Type
☐ Regional Events ☐ Other (specify)___________________________________

Signage: Condition Description (N-replace, R-repair, M-maintain, G-good):
____

☐ Part 8 ☐ Directional ☐ Informational ☐ Other

Sanitation Facilities: Condition Description (N-replace, R-repair, M-maintain, G-good):
____

	# Flush	(# UA*)	# Portable	(# ADA)	Showers	(#UA)
Unisex	_____	(_____)	_____	(_____)	_____	(_____)
Women	_____	(_____)	_____	(_____)	_____	(_____)
Men	_____	(_____)	_____	(_____)	_____	(_____)

**UA = Universal Access*

Campground/Campsite: Condition Description (N-replace, R-repair, M-maintain, G-good):
____

	Tent-improved	**Tent-Primitive**	**Group Sites**	**Camps/Cabins**	**RV Sites**
# of sites					
On-site parking					
Waterfront					
Universal Access					

Observed Vegetation and Erosion Impacts:
_____ Cut trees for fires
_____ Trampled vegetation
_____ Mowed areas
_____ Trees damaged by people
_____ Trees damaged by environment
_____ Areas of noticeable erosion

Description of Observations/Evidence of Vegetation Impacts: ______________________________________
____

Description of Observations/Evidence of Erosion: ____
____

Evidence of use at site: ____
(C) Compaction, (E) Erosion, (G) Garbage, (GD) Ground disturbance, (HW) Human waste, (UI) Unauthorized improvements, (V) Vandalism, (VR) Vegetation removal, (O) Other (Specify)

Evidence of Overcrowding: ____
(A) Anecdotal information, (FA) facility/amenity @ capacity, (I) improper parking, (S) Signage, (SD) Site degradation, (U) Unauthorized sites, (W) Waiting lines, (O) Other (Specify)

Notes (including general condition, any restrictions/alerts, such as boating use, invasive species, etc.):

Photo number from _____ to _____

Sketch of Site and Facilities:

APPENDIX C
FACILITIES CONDITION ASSESSMENT PHOTOS

Photo 1. Saddlebag Lake Campground, Signage

Photo 2. Saddlebag Lake Campground, Signage

Photo 3. Saddlebag Lake Campground, Campsite

Photo 4. Saddlebag Lake Campground, Picnic Table

Photo 5. Saddlebag Lake Campground, Trash Receptacle

Photo 6. Saddlebag Lake Campground, Trash Receptacle

Photo 7. Saddlebag Lake Campground, Restroom

Photo 8. Saddlebag Lake Campground, Potable Water Pump

Photo 9. Saddlebag Lake Campground, Erosion

Photo 10. Saddlebag Lake Day Use Area, Walking Trail

Photo 11. Saddlebag Lake Day Use Area, Boat Launch

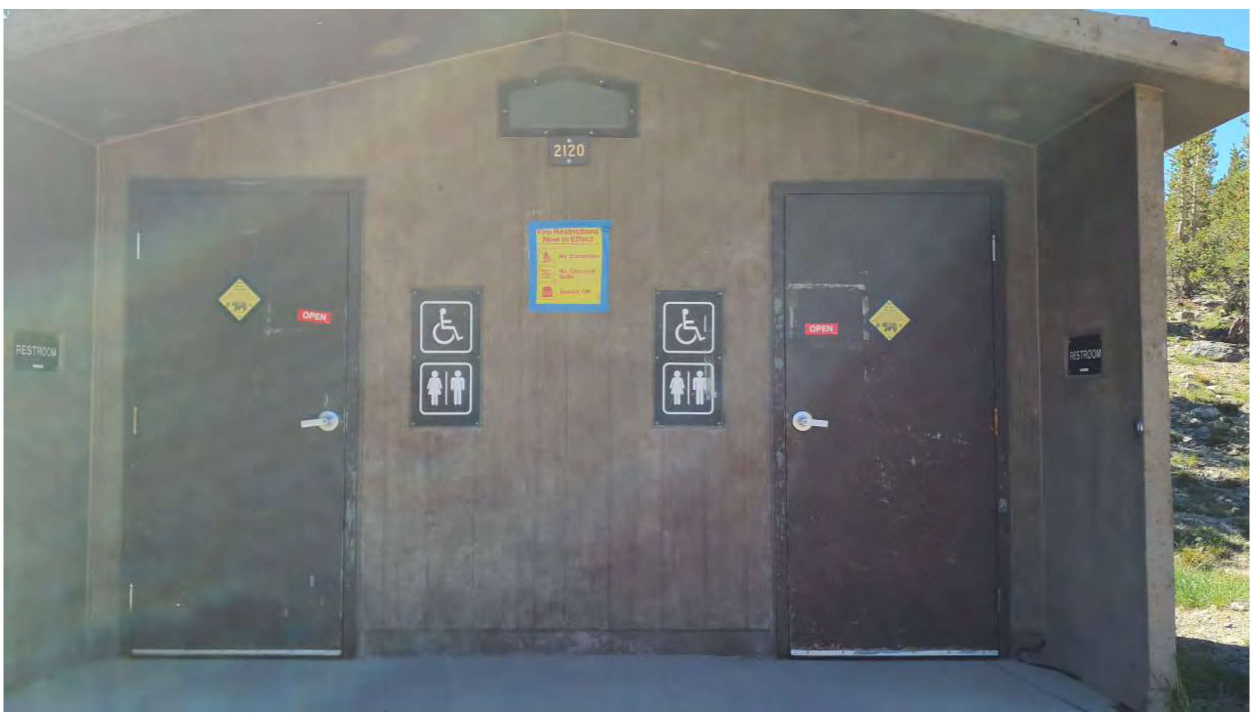

Photo 12. Saddlebag Lake Day Use Area, Restroom

Photo 13. Saddlebag Lake Day Use Area, Firepit

Photo 14. Saddlebag Lake Day Use Area, Horseshoe Pit

Photo 15. Saddlebag Lake Day Use Area, Potable Water Pump

Photo 16. Saddlebag Lake Day Use Area, Signage

Photo 17. Saddlebag Lake Day Use Area, Signage

Photo 18. Saddlebag Lake Day Use Area, Trampled Vegetation

Photo 19. Saddlebag Lake Day Use Area, Erosion

Photo 20. Saddlebag Lake Trailhead, Signage

Photo 21. Saddlebag Lake Trailhead, Signage

Photo 22. Saddlebag Lake Trailhead, Signage

Photo 23. Saddlebag Lake Trailhead, Potable Water Pump

Photo 24. Saddlebag Lake Trailhead, Restroom

Photo 25. Saddlebag Lake Trailhead, Trash Receptacle

Photo 26. Saddlebag Lake Trailhead, Trash Receptacle

Photo 27. Saddlebag Lake Trailhead, Picnic Table

Photo 28. Saddlebag Lake Trailhead, Bear Box

Photo 29. Saddlebag Lake Trailhead, Firepit

Photo 30. Tioga Lake Campground, Campsite

Photo 31. Tioga Lake Campground, Signage

Photo 32. Tioga Lake Campground, Potable Water Pump

Photo 33. Tioga Lake Campground, Trash Receptacle

Photo 34. Tioga Lake Campground, Restroom

Photo 35. Tioga Lake Campground, Trampled Vegetation

Photo 36. Tioga Lake Campground, Erosion

Photo 37. Tioga Lake Overlook, Overlook

Photo 38. Tioga Lake Overlook, Picnic Table

Photo 39. Tioga Lake Overlook, Restroom

Photo 40. Tioga Lake Overlook, Signage

Photo 41. Tioga Lake Overlook, Signage

Photo 42. Tioga Lake Overlook, Trampled Vegetation

Photo 43. Ellery Lake Campground, Signage

Photo 44. Ellery Lake Campground, Campsite

Photo 45. Ellery Lake Campground, Overlook

Photo 46. Ellery Lake Campground, Trash Receptacle

Photo 47. Ellery Lake Campground, Erosion

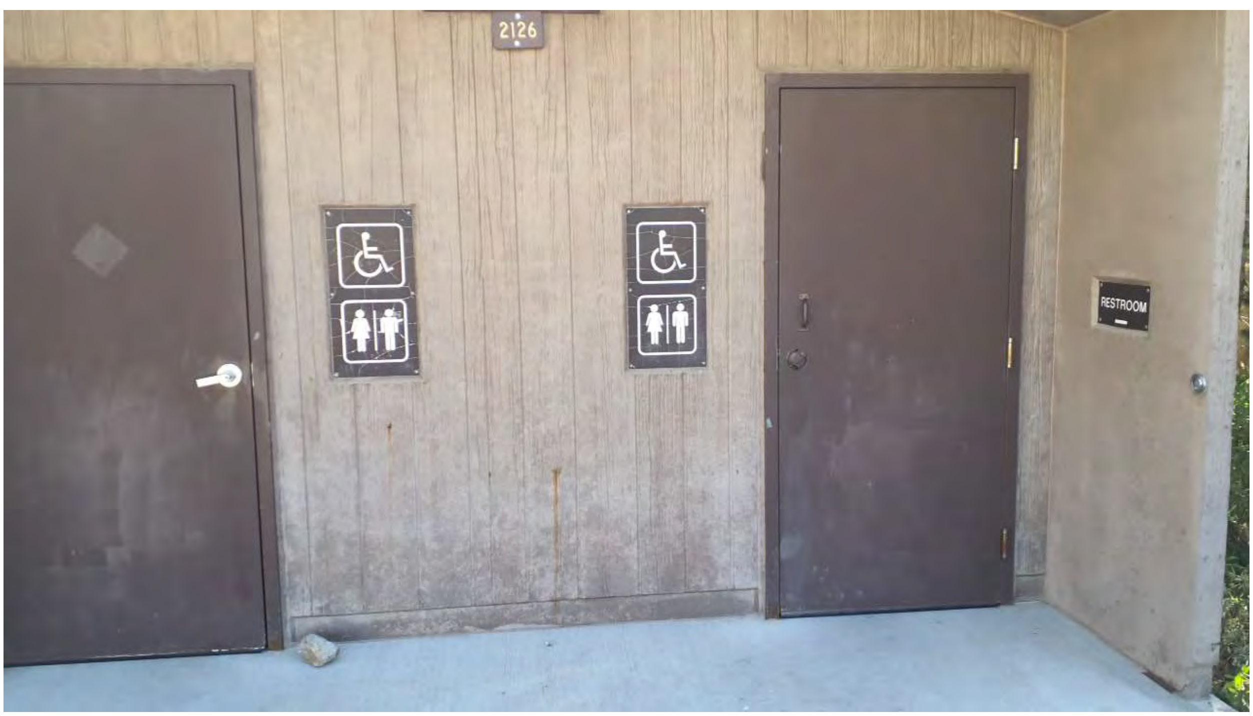

Photo 48. Ellery Lake Campground, Restroom

Photo 49. Ellery Lake Campground, Trampled Vegetation

Photo 50. Ellery Lake Campground, Electrical Hookup

Photo 51. Ellery Lake Campground, Potable Water Pump

Photo 52. Bennettville Trailhead, Signage

Photo 53. Bennettville Trailhead, Signage

Photo 54. Bennettville Trailhead, Trash Receptacle

Photo 55. Bennettville Trailhead, Trampled Vegetation

Photo 56. Junction Campground, Signage

Photo 57. Junction Campground, Campsite

Photo 58. Junction Campground, Restroom

Photo 59. Junction Campground, Signage

Photo 60. Junction Campground, Firepit

Photo 61. Junction Campground, Signage

Photo 62. Junction Campground, Accessible Campsite

Photo 63. Junction Campground, Erosion

Photo 64. Junction Campground, Footbridge

Photo 65. Junction Campground, Tree over trail

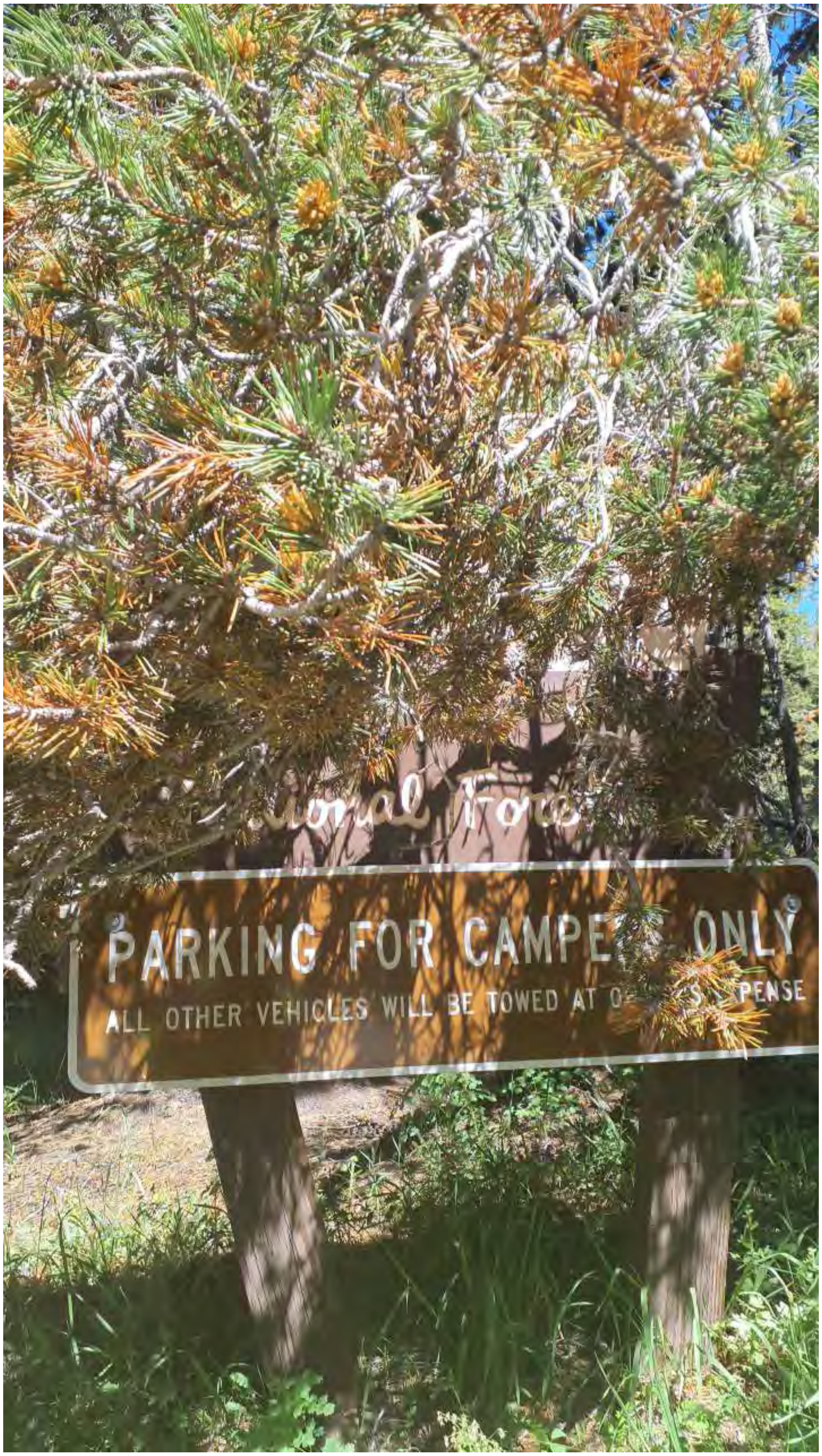

Photo 66. Sawmill Walk-In Campground, Signage

Photo 67. Sawmill Walk-In Campground, Signage

Photo 68. Sawmill Walk-In Campground, Vegetation over trail

Photo 69. Sawmill Walk-In Campground, Campsite

Photo 70. Sawmill Walk-In Campground, Trash Receptacle

Photo 71. Sawmill Walk-In Campground, Trash Receptacle

Photo 72. Sawmill Walk-In Campground, Restroom

Photo 73. Sawmill Walk-In Campground, Picnic Table

Photo 74. Sawmill Walk-In Campground, Erosion