

**NOXIOUS WEEDS
STUDY REPORT
DON PEDRO PROJECT
FERC NO. 2299**



Prepared for:
Turlock Irrigation District – Turlock, California
Modesto Irrigation District – Modesto, California

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Noxious Weeds Study Report

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List of Acronyms

ac.....	acres
ACEC.....	Area of Critical Environmental Concern
AF	acre-feet
ACOE.....	U.S. Army Corps of Engineers
ADA.....	Americans with Disabilities Act
ALJ.....	Administrative Law Judge
APE	Area of Potential Effect
ARMR.....	Archaeological Resource Management Report
BA.....	Biological Assessment
BDCP	Bay-Delta Conservation Plan
BLM.....	U.S. Department of the Interior, Bureau of Land Management
BLM-S	Bureau of Land Management – Sensitive Species
BMI.....	Benthic macroinvertebrates
BMP	Best Management Practices
BO.....	Biological Opinion
CalEPPC	California Exotic Pest Plant Council
CalSPA.....	California Sports Fisherman Association
CAS.....	California Academy of Sciences
CCC.....	Criterion Continuous Concentrations
CCIC	Central California Information Center
CCSF.....	City and County of San Francisco
CCVHJV	California Central Valley Habitat Joint Venture
CD.....	Compact Disc
CDBW.....	California Department of Boating and Waterways
CDEC.....	California Data Exchange Center
CDFA.....	California Department of Food and Agriculture
CDFG.....	California Department of Fish and Game (as of January 2013, Department of Fish and Wildlife)
CDMG.....	California Division of Mines and Geology
CDOF	California Department of Finance
CDPH.....	California Department of Public Health

CDPR	California Department of Parks and Recreation
CDSOD	California Division of Safety of Dams
CDWR.....	California Department of Water Resources
CE	California Endangered Species
CEII.....	Critical Energy Infrastructure Information
CEQA.....	California Environmental Quality Act
CESA	California Endangered Species Act
CFR.....	Code of Federal Regulations
cfs.....	cubic feet per second
CGS.....	California Geological Survey
CMAF	California Monitoring and Assessment Program
CMC.....	Criterion Maximum Concentrations
CNDDB.....	California Natural Diversity Database
CNPS.....	California Native Plant Society
CORP	California Outdoor Recreation Plan
CPUE	Catch Per Unit Effort
CRAM.....	California Rapid Assessment Method
CRLF.....	California Red-Legged Frog
CRRF	California Rivers Restoration Fund
CSAS.....	Central Sierra Audubon Society
CSBP.....	California Stream Bioassessment Procedure
CT	California Threatened Species
CTR.....	California Toxics Rule
CTS	California Tiger Salamander
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CWHR.....	California Wildlife Habitat Relationship
Districts	Turlock Irrigation District and Modesto Irrigation District
DLA	Draft License Application
DPRA.....	Don Pedro Recreation Agency
DPS	Distinct Population Segment
EA	Environmental Assessment

EC	Electrical Conductivity
EFH.....	Essential Fish Habitat
EIR	Environmental Impact Report
EIS.....	Environmental Impact Statement
EPA.....	U.S. Environmental Protection Agency
ESA.....	Federal Endangered Species Act
ESRCD.....	East Stanislaus Resource Conservation District
ESU	Evolutionary Significant Unit
EWUA.....	Effective Weighted Useable Area
FERC.....	Federal Energy Regulatory Commission
FFS.....	Foothills Fault System
FL	Fork length
FMU	Fire Management Unit
FOT	Friends of the Tuolumne
FPC	Federal Power Commission
ft/mi.....	feet per mile
FWCA.....	Fish and Wildlife Coordination Act
FYLF.....	Foothill Yellow-Legged Frog
g.....	grams
GIS	Geographic Information System
GLO	General Land Office
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HHWP.....	Hetch Hetchy Water and Power
HORB	Head of Old River Barrier
HPMP.....	Historic Properties Management Plan
ILP.....	Integrated Licensing Process
ISR	Initial Study Report
ITA.....	Indian Trust Assets
kV	kilovolt
m	meters
M&I.....	Municipal and Industrial

MCL	Maximum Contaminant Level
mg/kg	milligrams/kilogram
mg/L	milligrams per liter
mgd	million gallons per day
mi	miles
mi ²	square miles
MID.....	Modesto Irrigation District
MOU	Memorandum of Understanding
MSCS	Multi-Species Conservation Strategy
msl.....	mean sea level
MVA	Megavolt Ampere
MW	megawatt
MWh	megawatt hour
mya.....	million years ago
NAE	National Academy of Engineering
NAHC	Native American Heritage Commission
NAS.....	National Academy of Sciences
NAVD 88.....	North American Vertical Datum of 1988
NAWQA	National Water Quality Assessment
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
ng/g	nanograms per gram
NGOs	Non-Governmental Organizations
NHI	Natural Heritage Institute
NHPA.....	National Historic Preservation Act
NISC	National Invasive Species Council
NMFS.....	National Marine Fisheries Service
NOAA.....	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPS	U.S. Department of the Interior, National Park Service
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places

NRI.....	Nationwide Rivers Inventory
NTU	Nephelometric Turbidity Unit
NWI.....	National Wetland Inventory
NWIS	National Water Information System
NWR	National Wildlife Refuge
NGVD 29	National Geodetic Vertical Datum of 1929
O&M.....	operation and maintenance
OEHHA.....	Office of Environmental Health Hazard Assessment
ORV	Outstanding Remarkable Value
PAD.....	Pre-Application Document
PDO.....	Pacific Decadal Oscillation
PEIR.....	Program Environmental Impact Report
PGA.....	Peak Ground Acceleration
PHG.....	Public Health Goal
PM&E	Protection, Mitigation and Enhancement
PMF.....	Probable Maximum Flood
POAOR.....	Public Opinions and Attitudes in Outdoor Recreation
ppb.....	parts per billion
ppm	parts per million
PSP	Proposed Study Plan
QA.....	Quality Assurance
QC.....	Quality Control
RA	Recreation Area
RBP	Rapid Bioassessment Protocol
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
RM	River Mile
RMP	Resource Management Plan
RP.....	Relicensing Participant
RSP	Revised Study Plan
RST	Rotary Screw Trap
RWF	Resource-Specific Work Groups
RWG	Resource Work Group

RWQCB.....	Regional Water Quality Control Board
SC.....	State candidate for listing under CESA
SCD.....	State candidate for delisting under CESA
SCE	State candidate for listing as endangered under CESA
SCT	State candidate for listing as threatened under CESA
SD1	Scoping Document 1
SD2	Scoping Document 2
SE.....	State Endangered Species under the CESA
SFP	State Fully Protected Species under CESA
SFPUC	San Francisco Public Utilities Commission
SHPO	State Historic Preservation Office
SJRA	San Joaquin River Agreement
SJRGA	San Joaquin River Group Authority
SJTA.....	San Joaquin River Tributaries Authority
SPD	Study Plan Determination
SRA.....	State Recreation Area
SRMA	Special Recreation Management Area or Sierra Resource Management Area (as per use)
SRMP	Sierra Resource Management Plan
SRP	Special Run Pools
SSC	State species of special concern
ST.....	California Threatened Species under the CESA
STORET	Storage and Retrieval
SWAMP	Surface Water Ambient Monitoring Program
SWE	Snow-Water Equivalent
SWRCB.....	State Water Resources Control Board
TAC.....	Technical Advisory Committee
TAF	thousand acre-feet
TCP	Traditional Cultural Properties
TDS	Total Dissolved Solids
TID	Turlock Irrigation District
TMDL	Total Maximum Daily Load
TOC.....	Total Organic Carbon

TRT	Tuolumne River Trust
TRTAC	Tuolumne River Technical Advisory Committee
UC	University of California
USDA.....	U.S. Department of Agriculture
USDOC.....	U.S. Department of Commerce
USDOI	U.S. Department of the Interior
USFS	U.S. Department of Agriculture, Forest Service
USFWS	U.S. Department of the Interior, Fish and Wildlife Service
USGS	U.S. Department of the Interior, Geological Survey
USR.....	Updated Study Report
UTM.....	Universal Transverse Mercator
VAMP	Vernalis Adaptive Management Plan
VELB	Valley Elderberry Longhorn Beetle
VRM	Visual Resource Management
WPT	Western Pond Turtle
WSA.....	Wilderness Study Area
WSIP	Water System Improvement Program
WWTP	Wastewater Treatment Plant
WY	water year
µS/cm	microSeimens per centimeter

1.0 INTRODUCTION

1.1 General Description of the Don Pedro Project

Turlock Irrigation District (TID) and Modesto Irrigation District (MID) (collectively, the Districts) are the co-licensees of the 168-megawatt (MW) Don Pedro Project (Project) located on the Tuolumne River in western Tuolumne County in the Central Valley region of California. The Don Pedro Dam is located at river mile (RM) 54.8 and the Don Pedro Reservoir formed by the dam extends 24-miles upstream at the normal maximum water surface elevation of 830 ft above mean sea level (msl; NGVD 29). At elevation 830 ft, the reservoir stores over 2,000,000 acre-feet (AF) of water and has a surface area slightly less than 13,000 acres (ac). The watershed above Don Pedro Dam is approximately 1,533 square miles (mi²).

Both TID and MID are local public agencies authorized under the laws of the State of California to provide water supply for irrigation and municipal and industrial (M&I) uses and to provide retail electric service. The Project serves many purposes including providing water storage for the beneficial use of irrigation of over 200,000 ac of prime Central Valley farmland and for the use of M&I customers in the City of Modesto (population 210,000). Consistent with the requirements of the Raker Act passed by Congress in 1913 and agreements between the Districts and City and County of San Francisco (CCSF), the Project reservoir also includes a “water bank” of up to 570,000 AF of storage. CCSF may use the water bank to more efficiently manage the water supply from its Hetch Hetchy water system while meeting the senior water rights of the Districts. CCSF’s “water bank” within Don Pedro Reservoir provides significant benefits for its 2.6 million customers in the San Francisco Bay Area.

The Project also provides storage for flood management purposes in the Tuolumne and San Joaquin rivers in coordination with the U.S. Army Corps of Engineers (ACOE). Other important uses supported by the Project are recreation, protection of the anadromous fisheries in the lower Tuolumne River, and hydropower generation.

The Project Boundary extends from approximately one mile downstream of the dam to approximately RM 79 upstream of the dam. Upstream of the dam, the Project Boundary runs generally along the 855 ft contour interval which corresponds to the top of the Don Pedro Dam. The Project Boundary encompasses approximately 18,370 ac with 78 percent of the lands owned jointly by the Districts and the remaining 22 percent (approximately 4,000 ac) is owned by the United States and managed as a part of the U.S. Bureau of Land Management (BLM) Sierra Resource Management Area.

The primary Project facilities include the 580-foot-high Don Pedro Dam and Reservoir completed in 1971; a four-unit powerhouse situated at the base of the dam; related facilities including the Project spillway, outlet works, and switchyard; four dikes (Gasburg Creek Dike and Dikes A, B, and C); and three developed recreational facilities (Fleming Meadows, Blue Oaks, and Moccasin Point Recreation Areas). The location of the Project and its primary facilities is shown in Figure 1.1-1.

1.2 Relicensing Process

The current FERC license for the Project expires on April 30, 2016, and the Districts will apply for a new license no later than April 30, 2014. The Districts began the relicensing process by filing a Notice of Intent and Pre-Application Document (PAD) with FERC on February 10, 2011, following the regulations governing the Integrated Licensing Process (ILP). The Districts' PAD included descriptions of the Project facilities, operations, license requirements, and Project lands as well as a summary of the extensive existing information available on Project area resources. The PAD also included ten draft study plans describing a subset of the Districts' proposed relicensing studies. The Districts then convened a series of Resource Work Group meetings, engaging agencies and other relicensing participants in a collaborative study plan development process culminating in the Districts' Proposed Study Plan (PSP) and Revised Study Plan (RSP) filings to FERC on July 25, 2011 and November 22, 2011, respectively.

On December 22, 2011, FERC issued its Study Plan Determination (SPD) for the Project, approving, or approving with modifications, 34 studies proposed in the RSP that addressed Cultural and Historical Resources, Recreational Resources, Terrestrial Resources, and Water and Aquatic Resources. In addition, as required by the SPD, the Districts filed three new study plans (W&AR-18, W&AR-19, and W&AR-20) on February 28, 2012 and one modified study plan (W&AR-12) on April 6, 2012. Prior to filing these plans with FERC, the Districts consulted with relicensing participants on drafts of the plans. FERC approved or approved with modifications these four studies on July 25, 2012.

Following the SPD, a total of seven studies (and associated study elements) that were either not adopted in the SPD, or were adopted with modifications, formed the basis of Study Dispute proceedings. In accordance with the ILP, FERC convened a Dispute Resolution Panel on April 17, 2012 and the Panel issued its findings on May 4, 2012. On May 24, 2012, the Director of FERC issued his Formal Study Dispute Determination, with additional clarifications related to the Formal Study Dispute Determination issued on August 17, 2012.

This study report describes the objectives, methods, and results of the Noxious Weeds Study (TR-04) as implemented by the Districts in accordance with FERC's SPD and subsequent study modifications and clarifications. Documents relating to the Project relicensing are publicly available on the Districts' relicensing website at www.donpedro-relicensing.com.

1.3 Study Plan

The Districts' continued operation and maintenance (O&M) of the Project may result in the spread of noxious weeds. The spread may be the result of direct actions (e.g., result of ground disturbing activities such as construction), or cumulative actions (e.g., caused by a Project activity in association with a non-Project activity such as introduction of noxious weeds from a non-Project vector).

FERC's SPD approved with modifications the Districts' Noxious Weeds study plan as provided in the Districts' RSP filing dated November 22, 2011. In its SPD, FERC ordered that the Districts include in their study area lands up to 300 feet outside the Project Boundary within

high-use recreation areas or the BLM's Red Hills ACEC, and to document the full extent of each noxious weed occurrence, up to one quarter mile outside the Project Boundary.

The Districts carried out the Noxious Weeds study consistent with each of these directives.

2.0 STUDY GOALS AND OBJECTIVES

The goal of this study was to determine the presence and distribution of existing noxious weeds within the Project study area and determine whether continued Project O&M or recreational use of Project facilities have a measurable, adverse effect (i.e., the facilitation or spread of) on noxious weeds.

The objective of the study was to collect information adequate to meet the study goals.

3.0 STUDY AREA

As specified in the FERC-approved study plan, the study area consisted of lands within the Project Boundary that are subject to Project-related O&M or recreation activities, including high-use dispersed recreation areas. The study area is shown in Figure 3.0-1 and included the following specific areas:

- The Blue Oaks, Fleming Meadows, and Moccasin Point Recreation areas and related facilities, including the 3.5-mile Don Pedro Shoreline Trail;
- High-use dispersed recreation areas, as identified by District staff;
- Lands within the Project Boundary designated as part of the BLM's Red Hills Area of Critical Environmental Concern (ACEC);
- Don Pedro Dam, Powerhouse, and Switchyard, including related maintenance and storage facilities and the powerhouse access road;
- The Don Pedro Spillway channel and related access roads;
- The Gasburg Creek diversion dike and related access roads;
- Employee housing near Don Pedro Dam;
- Don Pedro Recreation Agency headquarters and visitor center;
- Dikes A, B, and C in the vicinity of Don Pedro Dam; and
- The Ward's Ferry take-out.

The study area also included the following habitats adjacent to the lands specified above:

- Out to 300 feet (ft) or the Project Boundary, whichever is greater, within the high-use dispersed recreation areas and facilities;
- Out to 300 ft from the high water mark of the Project reservoir, or the Project Boundary, whichever is greater, within BLM lands in the Red Hills ACEC; and
- For noxious weed occurrences found within the study area, the study area was expanded to the full extent of the occurrence, or to one quarter mile outside the Project Boundary, whichever was less.¹

Per the study plan, areas with unsafe terrain, as identified in the field, were not surveyed.² These areas included dangerously steep slopes, areas of thick poison oak (*Toxicodendron diversilobum*) and other areas that were unsafe for field crews to enter. This included some of the steep slopes below the dam; a steep slope, composed of thick chaparral at Moccasin Point Recreation Area; a piece of the Willow Creek arm, due to impenetrable chamise, steep slopes and poison oak; the very tip of the Shawmut Road area, due to steep slopes; the steepest sections of the Ward's Ferry area; steep slopes in the upper area of Woods Creek Arm and a section of steep slopes on the edge of the Ramos Creek area.

¹ For the purpose of this study, this area is referred to as the possible study extent.

² A small percentage (5 percent) of the study area was inaccessible due to unsafe terrain (approximately 200 acres).

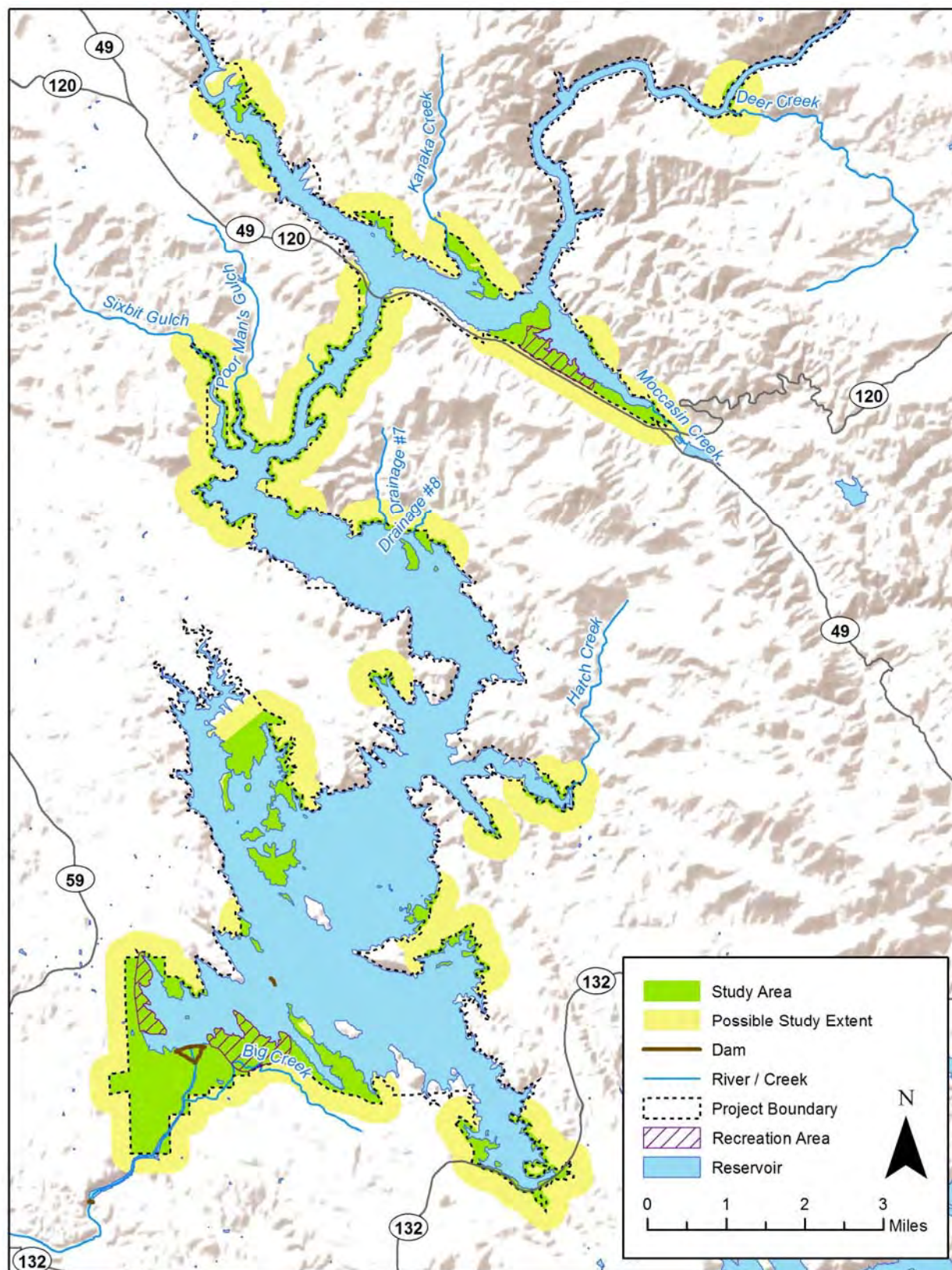


Figure 3.0-1. Noxious Weeds study area.

The Districts requested access to private lands within the areas beyond the Project Boundary, but within the possible study extent, in a letter sent to 303 landowners on February 12, 2012. Of these, 83 granted and 220 denied access to their land; private lands for which access was denied, or for which no response was received, were not surveyed.

4.0 METHODOLOGY

For the purpose of this study, noxious weeds were defined as plant species that are:

- listed as “noxious” under the Federal Plant Protection Act (FPPA);
- listed as “noxious” and with a pest rating of A, B or C by the California Department of Food and Agriculture (CDFA); or
- listed as a Target Species in the Districts’ Noxious Weed Survey Study Plan.

The study was conducted in four steps: 1) gather data and information to prepare for the field effort; 2) conduct surveys for the study area; 3) prepare data and quality assure/quality control data (QA/QC); and 4) consult with the Districts’ operations staff to identify Project O&M, or other Project-related activities, that typically occur in the area of noxious weed occurrences and have the potential to affect occurrences.

4.1 Gather Data and Prepare for Field Effort

To identify noxious weeds with the potential to occur in the study area, the Districts: 1) compiled a list of regionally known species from the Sierra-San Joaquin Noxious Weeds Alliance (2003); and 2) queried the CDFA for noxious weed listings at state and federal levels (CDFA 2012). Based on these sources, 27 noxious weeds were determined to have a reasonable potential to occur within the existing FERC Project Boundary and Project Vicinity (Table 4.1-1).

Table 4.1-1. Noxious weed species potentially occurring in the Don Pedro FERC Project Boundary, CDFA noxious weed rating, and GPS data collected.

Scientific Name	Common name	Status ¹	Data to be collected ²
<i>Acroptilon repens</i>	Russian knapweed	B	Full
<i>Aegilops triuncialis</i>	barbed goat grass	B	Qualitative
<i>Ailanthus altissima</i>	tree-of-heaven	C	Qualitative
<i>Arundo donax</i>	giant reed	B	Full
<i>Cardaria chalepensis</i>	lens-pod whitetop	B	Full
<i>Cardaria</i> spp.	Hoarycress	B	Full
<i>Carduus pycnocephalus</i>	Italian thistle	C	Qualitative
<i>Carthamus</i> spp.	distaff thistle	A, B	Full
<i>Centaurea calcitrapa</i>	purple starthistle	B	Full
<i>Centaurea diffusa</i>	diffuse knapweed	A	Full
<i>Centaurea iberica</i>	Iberian starthistle	A	Full
<i>Centaurea solstitialis</i>	yellow starthistle	C	Qualitative
<i>Centaurea stobe</i> ssp. <i>micranthos</i>	spotted knapweed	A	Full
<i>Chondrilla juncea</i>	rush skeletonweed	A	Full
<i>Cirsium arvense</i>	Canada thistle	B	Qualitative
<i>Cynodon dactylon</i>	bermudagrass	C	Qualitative
<i>Cytisus scoparius</i>	Scotch broom	A	Full
<i>Elymus caput-medusae</i>	medusahead	C	Qualitative
<i>Euphorbia oblongata</i>	oblong spurge	B	Full
<i>Hypericum perforatum</i>	Klamathweed	C	Qualitative

Scientific Name	Common name	Status ¹	Data to be collected ²
<i>Isatis tinctoria</i>	dyer's woad	B	Full
<i>Lepidium latifolium</i>	perennial pepperweed	B	Full
<i>Lythrum salicaria</i>	purple loosestrife	B	Full
<i>Salsola tragus</i>	Russian thistle	C	Qualitative
<i>Solanum elaeagnifolium</i>	white horsenettle	B	Full
<i>Tamarix</i> spp.	tamarisk	B	Full
<i>Tribulus terrestris</i>	puncturevine	C	Qualitative

Source: Sierra-San Joaquin Noxious Weeds Alliance 2003; CDFA 2010b.

¹ CDFA Noxious Weed Rating: A-rated weeds are highest priority for eradication in the State, followed by B- and then C-rated.

² Data to be collected:

Full = use GPS to delineate an occurrence polygon for any occurrence > 0.1 acre; an occurrence line delineated for any linear occurrence > 100' (e.g., along a road); smaller occurrences mapped by a single GPS point central to the occurrence.

Qualitative = distribution of species to be described generally but with specific reference to Project features. For discrete occurrences, collect a single GPS point taken near the center of the occurrence.

For description of other (non-GPS) data to be collected, see text.

4.2 Botanical Surveys

Botanical surveys were completed on approximately 3,870 acres (ac) between March 5 and June 29, 2012. Noxious weed surveys were conducted in conjunction with other relicensing studies including Special-status Plants (Study TR-01); ESA-listed Wildlife – Valley Elderberry Longhorn Beetle (Study TR-05); and ESA- and CESA-listed Plants (Study TR-02) (TID/MID 2013). Results of these surveys are discussed in their respective study reports. Surveys were carried out by qualified botanists on foot and by boat during the appropriate phenological period for accurate plant identification. Resurveys were conducted at areas and features on where potential noxious weed species were not at the correct phenology for proper identification, particularly in areas containing late blooming species.

Surveys were floristic in nature and generally followed CDFG's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009). Plants were identified using the *Jepson Manual of Higher Plants of California* (Baldwin *et al.* 2012), *A field guide to Pacific States wildflowers: Washington, Oregon, California, and adjacent areas* (Niehaus and Ripper 1976), *Trees and shrubs of California* (Stuart and Sawyer, 2001), *Wildflowers of the Sierra Nevada and the Central Valley* (Blackwell 1999), *Field Guide to the Sedges of the Pacific Northwest* (Wilson *et. al* 2008) and *Selected Plants of Northern California and Adjacent Nevada* (Oswald 2002). As detailed in the FERC-approved study plan, surveys were conducted using a random meander technique with additional focus in areas with a higher probability of supporting noxious weeds.

At each weed occurrence, the following information was recorded: activities observed in the vicinity of the population that have a potential to spread noxious weeds, estimated phenology, if occurrence was diffuse or concentrated, acreage class³ and descriptions of reproductive state of that weed occurrence. For those species where “full” data were indicated (see Table 4.1-1), GPS was used to delineate a polygon for any occurrence that was greater than 0.1 ac. GPS was used to delineate a line for any linear occurrence greater than 100 ft. Smaller occurrences were mapped by a single GPS point central to the occurrence. For those species where “qualitative”

³ There were four acreage classes for “qualitative” weeds: 0-0.1 acre, 0.1-0.25 acre, 0.25-4.0 acre, and > 4 acres.

data were indicated, a single GPS point was taken near the center of the occurrence.

QA/QC procedures included: daily QA/QC of field data sheets, spot-checks of transcription during data compilation, and comparison of Geographic Information System (GIS) maps with field notes and field maps to verify locations. Data were entered into a database and crosschecked by a second scientist to ensure data were properly recorded. GIS maps, depicting the occurrences, Project facilities and features, were generated to display field collected GPS information and used as a second method to verify that all noxious weed occurrence locations matched the information on the data sheets. Any data corrections were noted in the Project file.

Prior to field work, the Districts' staff was consulted in the development of maps of all areas potentially affected by Project O&M and Project-related recreation, including dispersed recreation. After all observed noxious weed occurrences were verified and mapped, Project operations staff was consulted to identify Project O&M, recreation and other Project-related activities that typically occur in the area of the noxious weed occurrences that have a potential to adversely affect the occurrences.

5.0 RESULTS

Of the 704 plant species⁴ found during floristic surveys, 12 noxious weed species were observed and mapped (Attachment A). Following their identification, life history information for each of the 12 species was also compiled.

5.1 Noxious Weed Occurrence Summary

The study team recorded 636 occurrences of 12 noxious weed species in the study area:

- Barbed goat grass (*Aegilops triuncialis*)
- Tree-of-heaven (*Ailanthus altissima*)
- Giant reed (*Arundo donax*)
- Italian thistle (*Carduus pycnocephalus*)
- Smooth distaff thistle (*Carthamus creticus*)
- Yellow starthistle (*Centaurea solstitialis*)
- Bermudagrass (*Cynodon dactylon*)
- Medusahead grass (*Elymus caput-medusae*)
- Klamathweed (*Hypericum perforatum*)
- Russian thistle (*Salsola tragus*)
- Tamarisk (*Tamarix* sp.)
- Puncturevine (*Tribulus terrestris*)

The most widespread weed identified was Italian thistle, which was ubiquitous throughout the study area.⁵ Bermudagrass was also common, occurring in a band around Don Pedro Reservoir just below high water mark, as well as an additional 76 occurrences. Other frequently located weeds included Medusahead grass with 317 occurrences and Klamathweed with 158 occurrences.

Of the total noxious weed occurrences, eight species were observed at 85 occurrences on public lands administered by the BLM. On BLM lands, there were four barbed goatgrass, three tree-of-heaven, one giant reed, six smooth distaff thistle, 17 yellow starthistle, 19 Bermudagrass, 24 Medusahead grass and 11 Klamathweed occurrences recorded. Barbed goatgrass, giant reed, and smooth distaff thistle are CDFA B-listed species, while Klamathweed, Medusahead grass, yellow starthistle, and tree-of-heaven are CDFA C-listed species (CDFA 2010b). Bermudagrass is considered a nuisance weed by the BLM.

⁴ A complete list of all 704 plant species found during floristic surveys performed in support of the Don Pedro Project relicensing is included in the Districts' Study Report TR-01, Special-Status Plants.

⁵ Individual occurrences of Italian thistle were not recorded because the species was ubiquitous throughout the study area.

5.2 Noxious Weed Descriptions

Twelve noxious weed species were located within the Project study area; barbed goatgrass, Tree-of-Heaven, giant reed, Italian thistle, smooth distaff thistle, yellow starthistle, Bermudagrass, Medusahead grass, Klamathweed, Russian thistle, tamarisk and puncturevine. None of the observed weeds are federally listed by FPPA, but barbed goatgrass, tree-of-heaven, giant reed, Italian thistle, smooth distaff thistle, yellow starthistle, Klamathweed, Medusahead grass, Russian thistle, tamarisk and puncturevine are CDFA state-listed. Four of these species, barbed goatgrass, giant reed, smooth distaff thistle and tamarisk, are CDFA B-listed. Noxious weeds occurred throughout a full range of habitat types within the study area. Specific descriptions of the locations and area of infestation are summarized in Sections 5.3-1 through 5.3-12. Attachment A indicates locations of noxious weed occurrences within the study area, and information regarding each of the noxious weed occurrences is summarized in Attachment C. Representative photos of noxious weed occurrences are located in Attachment B.

5.2.1 Barbed Goatgrass

Barbed goatgrass is a winter annual species introduced from Mediterranean Europe and western Asia. The species is known to form near monotypic stands of 50 percent cover or more (Cal-IPC 2004b) with fibrous roots that develop rapidly (CDFA 2012) and is widespread in the foothill grasslands of Central California. The species is often found in disturbed roadside environments but has been found within sites that have moisture available and throughout open grassy areas (Cal-IPC 2004b). Barbed goatgrass is dispersed by livestock, human activities, water and wind and reproduces by seed (CDFA 2012). The species is CDFA B-listed, meaning eradication, containment, control or other holding action of the species is at the discretion of the commissioner (CDFA 2010).

Five occurrences of barbed goatgrass were surveyed at three locations: four occurrences on public lands administered by the BLM (two at Sixbit Gulch and two at Poor Man's Gulch), and one occurrence on Districts' land above Recreation Bay. Over ten thousand stems were estimated to occur located in these occurrences, primarily in Sixbit and Poor Man's gulches. The estimated area of the combined occurrences is approximately 21.6 ac.

5.2.2 Tree-of-Heaven

Tree-of-heaven is a tree species introduced from China in the late 1700s (USDA 2012b). The species can have a negative allelopathic effect⁶ on other vegetation, giving it a competitive advantage in colonization. The tree is adapted to a wide range of habitat conditions and tolerant of both anthropogenic and natural disturbance, and is able to spread clonally via root suckers and generate large quantities of seeds. Additionally, tree-of-heaven is known to basal sprout when stems are cut (Cal-IPC 2003a). This species is CDFA C-listed, meaning no state action is required except to retard the speed of spreading (CDFA 2010).

Tree-of-Heaven was found at seven occurrences at three locations: one on Districts' land at Fleming Meadows Point, three on Districts' and private land at Shawmut Road and three on

⁶ Allelopathic effect refers to the beneficial or harmful effects of one plant on another plant.

lands administered by the BLM below Don Pedro Dam and the Powerhouse. Nearly 150 trees were counted at these occurrences. The estimated area of the combined occurrences was less than an acre.

5.2.3 Giant Reed

Giant reed is a large grass believed to have been introduced from Asia in the 1800s. It typically will colonize the banks of waterways and can root from the nodes of broken stems. The species can displace native riparian vegetation, shade out competing lower level plant species and increase water temperatures due to a reduction in shade provided by native trees that it outcompetes. The spread of the species can be locally slow because the species only reproduces asexually; however, in periods of flood events and mechanical damage, the overall spread is considered to be rapid (Cal-IPC 2003b). New infestations can develop downstream in undisturbed habitats from fragmentation of upstream populations. This species is CDFA B-listed, meaning eradication, containment, control, or other holding action is at the discretion of the commissioner (CDFA 2010).

Giant reed was found at one location on BLM land, at a turn along the Don Pedro Powerhouse Access Road. There were over five hundred plants growing in an area of approximately 0.1 ac.

5.2.4 Italian Thistle

Italian thistle is an annual (occasionally biennial) native to the Mediterranean region and is a widely distributed weed in the Sierra Nevada foothills. Occurrences can reach nearly 100% cover in some areas and inhibit the recruitment and survivorship of natives. Plants are considered to spread aggressively by seed, which can travel long distances by wind. Seeds can persist for 7-10 years and germinate under drought conditions (CDFA 2012). This species is CDFA C-listed, meaning no state action is required except to retard the speed of spreading (CDFA 2010).

Italian thistle is prevalent throughout the Project, particularly in annual grasslands and blue oak woodlands of Don Pedro reservoir. Italian thistle was found in denser patches in shady areas and wet drainages, but also grew in more diffuse occurrences in sunny grasslands and on exposed slopes. The only areas where Italian thistle was less common were the Red Hills ACEC and dense areas of chamise. Even there, Italian thistle grew in openings and disturbed areas. There were hundreds of thousands of plants covering many acres through the study area.

5.2.5 Smooth Distaff Thistle

Smooth distaff thistle is a winter annual species, introduced from the Mediterranean. The plant forms a slender, elongated taproot with many fibrous roots (CDFA 2012). The species is known to form dense stands, out-competing other species for moisture, light and nutrients (Cal-IPC 2005). The plant inhabits disturbed areas of open grasslands weakened by overgrazing, pastures and agricultural lands. Distaff thistle reproduces by seed. The vast majority of the seeds are dispersed passively near the parent plant, attach to animal fur, by water or will remain in the persistent seed heads (CDFA 2012). Each plant produces as many as 255 viable seeds with most

germinating within two years but can remain viable up to eight years (Cal-IPC 2005). This species is CDFA B-listed, meaning eradication, containment, control or other holding action of the species is at the discretion of the commissioner (CDFA 2010).

Smooth distaff thistle was found at fifteen locations: six occurrences on public lands administered by the BLM and nine occurrences on Districts' lands. Of these, six were on Kanaka Point, five were near or along Jacksonville Road, three were in Moccasin Point Recreation Area and one was on Woods Creek Arm. Approximately 1600 plants were counted over a combined area of nearly two acres.

5.2.6 Yellow Starthistle

Yellow starthistle is an annual, sometimes biennial, species that is highly competitive and will typically develop into very dense stands, displacing native vegetation in otherwise natural areas. The species was originally introduced from southern Europe into California around 1850. It has since infested extremely large areas within the state. This species is a prolific seed producer, producing seeds at levels of 10,000 per square meter, which remain viable in soil for three or more years. Seeds can be transported by human vectors, including the movement of contaminated hay and infested equipment or vehicle transport. Some seeds are dispersed by wind, or birds and mammals after ingestion (CDFA 2012). This species is CDFA C-listed, meaning no state action is required except to retard the speed of spreading (CDFA 2010).

Yellow starthistle was found at a total of thirty-eight occurrences; four near the Grizzly Road area, two at the Highway 49 bridge, five occurrences at multiple locations along Jacksonville Road, four within or near Kanaka Point, nineteen within or near Moccasin Point Recreation Area and single occurrences at Poor Man's Creek, Shawmut Road, Wood's Creek Arm and within the Moccasin Transmission line area. Seventeen of these occurrences were located on public lands administered by BLM, while the rest (21) were located on Districts' or private lands. Tens of thousands of individual plants were observed in these occurrences, which were estimated to cover over 20 acres.

5.2.7 Bermudagrass

Bermudagrass is a sod-forming, perennial species introduced from Africa. The species is known to form extensive networks of creeping rhizomes and stolons. The species can form dense ground covering mats which inhibit native vegetation and fragment habitat. Additionally, it is thought to have potent negative allelopathic effects on nearby vegetative communities (Cal-IPC 2004a). Bermudagrass favors disturbed sites, gardens, agronomic crops, orchards, turf, landscaped, and forested areas. It prefers moist soil types in irrigated areas, or areas that receive some warm seasonal moisture (CDFA 2012). The species can be spread through seed and vegetatively. Long distance dispersal may be achieved via contaminated hay, livestock feed, soil movement, and transport of mowing equipment and vehicles (Cal-IPC 2004a). This species is CDFA C-listed, meaning no state action is required except to retard the speed of spreading (CDFA 2010).

Bermudagrass was found growing in a thin band below the high water mark around Don Pedro Reservoir. The Districts also documented an additional seventy-six occurrences at other locations within the study area. The majority of these additional occurrences grew in disturbed areas within recreation sites and along roadways. Nineteen of these occurrences were located on public lands administered by BLM, while the rest (57) were located on Districts' or private lands. The 76 additional occurrences were estimated to contain over 50,000 plants (due to the rhizomal nature of this species, individuals are difficult to differentiate) on around 20 ac, but the bulk of this plant occurs under the high water mark.

5.2.8 Medusahead Grass

Medusahead grass, a noxious annual introduced from Europe, is a regular invader of rangeland communities, developing dense stands and displacing native vegetation and wildlife. Medusahead grass is unpalatable to livestock, except during the early growth stages. Senesced individuals form dense layers of litter that decompose slowly, creating fuel for wildfire and altering moisture characteristics in the soil. This species tends to colonize disturbed sites, including grassland, oak woodland, and agronomic fields. A prolific seed producer, seeds are dispersed locally via wind and water, and achieve long distance dispersal through movement of contaminated soil, clinging to the feet and fur of animals, and various human activities (CDFA 2012). This species is CDFA C-listed, meaning no state action is required except to retard the speed of spreading (CDFA 2010).

Medusahead grass was found at nineteen locations with a total of 317 occurrences. These occur mostly in large, diffuse patches within annual grasslands. Twenty-four of the occurrences were located on public lands administered by the BLM, while the rest (293) were on Districts' and private lands. Hundreds of thousands of plants were observed.

5.2.9 Klamathweed

Klamathweed, also known as St. Johnswort, is a perennial native to Europe that displaces native plants. Plants spread aggressively by rhizomatous growth and through seed dispersal, with seeds remaining viable for up to 10 years. Known long-distance vectors include vehicle tires and other heavy equipment, while wind, water and soil movement provide short-distance dispersal (CDFA 2012). This species is CDFA C-listed, meaning no state action is required except to retard the speed of spreading (CDFA 2010).

Klamathweed was found at thirteen locations with a total of 158 occurrences. Eleven of the occurrences were located on public lands administered by the BLM, while the rest (147) occupied Districts' or private lands. Over one- hundred thousand plants were observed.

5.2.10 Russian Thistle

Russian thistle is a summer annual species introduced from Eurasia. Adult plants break off at ground level under windy conditions allowing plants to disperse numerous seeds as they tumble. This species is strongly competitive in semiarid areas and persist in dryland cropping systems, overgrazed rangelands, roadsides and waste areas (CDFA 2012). Seedlings require loose soil

for successful establishment, often being the first to colonize disturbed sites. Although the species is believed to lack the ability to dominate native plant communities, it may influence the abundance of some native grass species and also compete with them for water and nutrients. This thistle species does, however, have a significant effect on the dispersal of wind-borne seeds of native plants (Cal-IPC 2004c). This species is CDFA C-listed, meaning no state action is required except to retard the speed of spreading (CDFA 2010).

Russian thistle was found at two locations: one occurrence on Districts' land in the DPRA staff housing area and one occurrence on Districts' land within the Blue Oaks Campground. The occurrences covered less than 0.1 ac and contained about 35 plants.

5.2.11 Tamarisk

Tamarisk, also known as saltcedar, is a multi-branched tree introduced from central Asia with small scale-like leaves that have salt glands (Cal-IPC 2012). Trees typically develop a deep, extensive root system and access deep soil groundwater and surface water. The roots extract salts from deep soil layers and excrete them from the leaves (Cal-IPC 2006). This salt is then deposited on the soil surface with the leaf litter, increasing the salinity of the upper soil profile and inhibiting the growth, survival and recruitment of native vegetation (Cal-IPC 2006). Tamarisk reproduces by seed and sometimes vegetatively from root sprouts and stem fragments. A tree can produce up to 500,000 seeds per year that disperse by wind and water. Roots also sprout adventitiously. Disturbed sites are particularly favorable for tamarisk establishment. It thrives on saline soils where most native, woody, riparian plants cannot survive (Cal-IPC 2012). This species is CDFA B-listed, meaning eradication, containment, control or other holding action of the species is at the discretion of the commissioner (CDFA 2010).

Tamarisk was found at one location. Ten plants were located on Districts' land adjacent to a restroom facility within the Moccasin Point Recreation Area, in an occurrence approximately 0.1 ac in size.

5.2.12 Puncturevine

Puncturevine is a summer annual that was once considered one of California's most troublesome weeds. The species is now controlled by the stem weevil (*Microlarinus lypriformis*) and the seed weevil (*Microlarinus lareynii*), both introduced in 1961 from Italy. Puncturevine produces burrs with spines robust enough to injure people and animals. The foliage is toxic to livestock, especially sheep, when consumed in large quantities. Puncturevine prefers disturbed habitat such as roadsides, railways, cultivated fields, waste areas, and walkways. Dispersal is achieved through seeds adhering to tires, shoes, and clothing of people and the fur, feathers, and feet of animals. Newly matured seeds are generally dormant, requiring a 6-12 month after ripening period to germinate. Buried seeds can retain viability for several years (CDFA 2012). This species is CDFA C-listed, meaning no state action is required except to retard the speed of spreading (CDFA 2010).

Three occurrences of puncturevine were found on Districts' lands within Fleming Meadows Recreation Area. All occurrences are found along the paved road to the marina and contained around 50 plants. The estimated area of the combined occurrences was approximately 0.02 ac.

5.3 Terrestrial Vegetation Types

The botanical communities within the study area included primarily upland vegetation alliances, with minimal areas of wetland, riparian, or littoral habitats. The Project study area was comprised of tree-dominated, shrub-dominated or grass-dominated communities. Vegetation classification types described below are based on CALVEG systems (USFS 2012a), as identified in the PAD, and reflect the habitats observed during field surveys.

The study area was dominated by three vegetation alliances: Blue Oak, Chamise, and Annual Grasses and Forbs. There were also large areas of Gray Pine, and smaller inclusions of Lower Montane Mixed Chaparral and Interior Live Oak.

The shoreline of Don Pedro Reservoir is predominantly Blue Oak, and Annual Grasses and Forbs. Willow Creek Arm, Hatch Creek Arm, and Don Pedro Bar are dominated by Chamise. The Tuolumne Arm and Wood's Creek Arm are composed of a mixture of alliances, including Lower Montane Mixed Chaparral, Chamise, Interior Live Oak, Gray Pine, Annual Grasses and Forbs and a few small areas of Riparian Mixed Hardwoods.

5.4 Project Operation and Maintenance and Recreation Activities

Consistent with the FERC-approved study plan, the study team consulted with Project operations staff to identify specific project O&M activities and recreation that typically occur in the study area and have the potential to affect, noxious weed occurrences. Information gathered from this consultation is summarized in Table 5.4-1.

Noxious weeds were found throughout the study area, so that the occurrences overlapped with most Project O&M activities, as well as recreation, grazing and road use. Some occurrences were specifically noted to be in areas potentially affected by Project O&M:

- Graded- tree-of-heaven (occurrence number 900⁷); yellow starthistle (occurrence numbers 230, 262, 1208); Bermudagrass (occurrence numbers 278, 280-1); and Medusahead grass (occurrence numbers 158-9 and 437).
- Mowed- Bermudagrass 582; Medusahead grass 374, 380, 552, 570-1, 575-8, 581, 583-4, 586-7, 590 and 599; and Klamathweed 228.
- Sprayed- Medusahead grass 1268-9.
- Within waste or storage area- distaff thistle 266; Bermudagrass 178, 192; and Medusahead grass 175 and 176.

⁷ Occurrence numbers are not sequential; details on each are provided in Attachments A and C.

- Below reservoir high-water mark- barbed goatgrass 669; tree-of-heaven 903; distaff thistle 109, 216, 285, 672; yellow starthistle 286; Medusahead grass 403, 412, 415-6, 423, 426, 496, 515, 533, 547, 950; and Klamathweed 497.

Additionally, grading and removal of flood debris occurred once near occurrences 109 and 672 of smooth distaff thistle at Kanaka Point.

Table 5.4-1. Project O&M, recreation, and non-Project uses in areas with noxious weed occurrences.

Location Description	Species (common name)	Occurrence Number	Activities with Potential to Affect Noxious Weeds		
			O&M	Recreation Use	Non-Project Use
Moccasin Point Recreation Area and surroundings	Yellow starthistle	26, 30, 34-35, 38-39, 51, 59, 62-64, 70, 96, 106, 112, 115, 117, 119, 123, 127, 262, 265, 1286	Campsites, structures and roadsides (up to 6-10 ft adjacent to roads and turnouts) are sprayed with herbicides annually (generally Roundup, Goaltender and Milestone) after first soaking rain in the fall.	Recreation is heaviest during high water years in the summer months. Campsites are full usually only on holidays and weekends. Walk-in use area is used heavily year-round to access the reservoir.	Hetch Hetchy facility and housing in area maintained by Hetch Hetchy.
	Bermudagrass	57, 65, 111, 114, 261, 264, 1287			
	Klamathweed	22, 27-29, 31, 33, 41, 56, 97-102, 105, 107-108, 113, 116, 118, 120, 124-126, 258, 260, 1289-1291	Campgrounds and associated roads are also mechanically mowed/weed-eaten. Districts conduct infrequent prescribed burns of vegetation directly in and around developed camping areas.	Grizzly Road area used heavily for day use off end of cul-de-sac.	Grizzly Road maintained by county.
	Smooth distaff thistle	266, 268-269			
	Medusahead grass	40, 61, 69, 95, 103-104, 122, 267, 1288			
	Tamarisk	259			
Hwy 49 bridge and surroundings	Yellow starthistle	205, 648	--	Heavy boat use year round but limited land use in area.	Roads and pullouts maintained by CalTrans.
Powerhouse/Dam access, DPRA Headquarters and surroundings	Bermudagrass	130-131, 145-147, 169-170, 517, 519, 622, 624-625, 635, 931	Districts use dirt roads to the dam a few times a year, and paved roads daily. Districts mechanically mow the roadsides (up to 2 feet adjacent to road) annually.	--	Boating off private property.
	Klamathweed	135-136, 148, 150, 908, 910-911, 913-914, 916-917			

Location Description	Species (common name)	Occurrence Number	Activities with Potential to Affect Noxious Weeds		
			O&M	Recreation Use	Non-Project Use
Powerhouse/Dam access, DPRA Headquarters and surroundings (con't)	Medusahead grass	132-134, 137-140, 149, 152-166, 171-174, 179-187, 518, 626, 628, 631, 634, 636, 640-643, 901, 905-906, 909, 912, 915, 918-921, 928-930, 932	Structures, roadsides and around staff housing area (up to 6-10 ft adjacent to roads and turnouts) are sprayed with herbicides annually (generally Roundup, Goaltender and Milestone) after first soaking rain in the fall. Permitted grazing on far side of spillway.	--	--
	Giant Reed	907			
	Tree-of-Heaven	900, 902-903			
Hatch Creek Area	Bermudagrass	209-211, 215	Recently installed fence at Marsh's Flat Rd. Districts conduct trash collection in area.	Sporadic day use recreation by fishermen from road. Home owners allowed to moor boats at shoreline with permit.	ATV use, non-permitted grazing.
	Klamathweed	213-214			
Moccasin transmission line area	Bermudagrass	276-281	--	Shoreline house boating and sporadic day use off the reservoir.	Hetch Hetchy maintains the transmission line and access roads in the area. Non-permitted grazing occurs in area.
	Medusahead grass	934, 936			
	Yellow starthistle	935			
Shawmut Road	Bermudagrass	252	--	This area is open for free day use. No camping. Fairly heavy use, particularly during summer months.	Road maintained by county.
	Medusahead grass	255			
	Yellow starthistle	246, 253-254			

Location Description	Species (common name)	Occurrence Number	Activities with Potential to Affect Noxious Weeds		
			O&M	Recreation Use	Non-Project Use
Blue Oaks Recreation Area, Sewage Treatment Ponds and surroundings	Bermudagrass	178, 191-192, 197, 300, 336, 345, 360, 371, 397-398, 413-414, 421, 601-602	Campsites, structures, Shoreline Trail and roadsides (up to 6-10 ft adjacent to roads and turnouts) are sprayed with herbicides annually (generally Roundup, Goaltender and Milestone) after first soaking rain in the fall. Campgrounds and associated roads are also mechanically mowed. Prescribed burns of vegetation directly in and around developed camping areas is a potential tool, but not used often.	Recreation is heaviest during the summer months. Campsites are usually full on holidays and weekends. Shoreline Trail is not highly used except in summer months.	Non-permitted grazing (recent fencing repairs may limit future grazing).
	Medusahead grass	175-177, 189-190, 193-196, 199-200, 323, 330-331, 333, 335, 341, 344, 355, 372-386, 388-396, 399-400, 402-412, 415-420, 422-424, 426-430, 600			
	Klamathweed	188, 198, 401			
	Russian thistle	425	Per California State Law, spray perimeter of the sewage ponds with pre-emergent (generally Roundup, Goaltender and Milestone). Also apply some aquatic herbicide to the ponds.	--	--

Location Description	Species (common name)	Occurrence Number	Activities with Potential to Affect Noxious Weeds		
			O&M	Recreation Use	Non-Project Use
49er Bay, Mine Island and surroundings	Bermudagrass	941-942	--	Heavy use for boat-in and houseboat camping during summer months, with most activity on or near the reservoir.	Non-permitted, heavy grazing.
	Medusahead grass	644-646, 651, 662, 664-666, 937-940, 943-960			Cabin in area and potential non-grazing within FERC boundary. Fences in local area, some well maintained.
Kanaka Point, Jacksonville Road, Harney Lane and surroundings	Yellow starthistle	91, 94, 218-219, 230, 234, 238, 242, 1208	Mow edge of access road to 6-10 feet off the side to limit fire hazard.	Popular, free area for day-use, particularly fishing. People hike in both directions from Kanaka Point parking area to access the reservoir.	Kanaka Point access road maintained by county but infrequently.
	Bermudagrass	92, 222-223, 231, 236-237, 243-245, 247	Area graded within Kanaka Point for one-time removal of debris left after flood; evidence of disturbance still remains.		
	Medusahead grass	1210	Burn woody debris below HWM at Harney Lane area; approx. 8 piles.	Sporadic day use from Harney Lane; park at turn-around and walk to reservoir.	Trash dumping off the end of the open access area within Kanaka Point area.
	Klamathweed	221, 224-228, 232-233, 235, 240-241, 1209, 1211			
Kanaka Point, Jacksonville Road, Harney Lane and surroundings (con't)	Smooth distaff thistle	109, 216, 229, 239, 248-251, 270, 671-672	Installed fence to prevent dumping at Harney Lane area.		Evidence of mining in Kanaka Point area.
Willow Creek Area	Klamathweed	680	--	Little activity in area besides fishermen on the reservoir. Some recreation from home owners in area walking from road to shoreline.	Non-permitted grazing.
Sixbit & Poor Man's Gulch	Yellow starthistle	962	--	Little activity in area besides fishermen on the reservoir.	Non-permitted grazing.
	Bermudagrass	667, 670		Some recreation from above, particularly horse riding.	
	Barbed goatgrass	668-669, 961, 963			

Location Description	Species (common name)	Occurrence Number	Activities with Potential to Affect Noxious Weeds		
			O&M	Recreation Use	Non-Project Use
Green Bay	Medusahead grass	648, 677-679	--	Heavy use for boat-in camping with some hiking in surrounding areas.	Non-permitted grazing.
Schoolhouse Area	Medusahead grass	201-204	--	Light use as boat-in and houseboat camping during summer months.	Non-permitted grazing.
Fleming Meadows Recreation Area and surroundings	Bermudagrass	76, 87, 551-552, 556, 565-566, 572, 579-580, 582, 585, 595, 1213, 1218-1219, 1248, 1261, 1281	Campsites, structures and roadsides (up to 6-10 ft adjacent to roads and turnouts) are sprayed with herbicides annually (generally Roundup, Goaltender and Milestone) after first soaking rain in the fall. Permitted grazing occurring.	Recreation is heaviest during the summer months. Campsites are usually full on holidays and weekends. Some boat-in recreation on the far side of Fleming Point.	--
	Tree-of-Heaven	11	Campgrounds and associated roads are also mechanically mowed/weed-eaten. Permitted grazing occurring.	Recreation is heaviest during the summer months. Campsites are usually full on holidays and weekends. Some boat-in recreation on the far side of Fleming Point.	--
	Klamathweed	44, 47, 74, 77, 82, 597-598, 1201-1202, 1263, 1273, 1276, 1285	Prescribed burns of vegetation directly in and around developed camping areas is a potential tool, but not used often. Permitted grazing occurring.		--
	Puncturevine	1205, 1267, 1280	Spray coffer dam with pre-emergent (generally Roundup or Surflin) and mechanically mow in row near dikes B & C.		

Location Description	Species (common name)	Occurrence Number	Activities with Potential to Affect Noxious Weeds		
			O&M	Recreation Use	Non-Project Use
	Medusahead grass	45, 48, 72-73, 75, 78-80, 83-84, 88, 90, 539-540, 546-550, 553, 557-560, 564, 567-571, 575-578, 581, 583-584, 586-594, 596, 599, 1200, 1203, 1207, 1212, 1214-1217, 1219-1221, 1226-1228, 1230, 1237-1241, 1243-1245, 1249, 1251-1253, 1257-1259, 1262, 1264, 1268-1272, 1274-1275, 1277-1279, 1282, 1284	Permitted grazing from the road to the coffer dam as well as on the entirety of Fleming Point.		--
Ramos Creek Area	Medusahead grass	653	--	Sporadic day use by recreationists boating into the area.	Non-permitted grazing throughout area. Residential use and roads. Recreation and vegetation management by home owners in area.
	Klamathweed	652, 654-661			
Rogers Creek Arm	Bermudagrass	463, 470, 473, 525, 542	Occasional use of the old access road.	Heaviest day use area, particularly during the summer weekends and holidays. Walk-in access near the area of pullouts along the road.	Fencing and non-permitted grazing throughout area. Trash dumping off the side of the road. ATV use. County maintained road with heavy car use.
	Medusahead grass	437, 441-444, 455, 465-466, 468-469, 496, 509, 512, 515, 520-524, 526-530, 531-537, 541, 543-545			
	Klamathweed	431-436, 438-440, 445-458, 460-462, 464, 467, 471-472, 474-488, 490-495, 497-506, 510-511, 513-514, 538	Maintain fences as needed; pick up trash; maintain barrier to vehicle access.		

Location Description	Species (common name)	Occurrence Number	Activities with Potential to Affect Noxious Weeds		
			O&M	Recreation Use	Non-Project Use
Ward's Ferry Bridge	Klamathweed	257	Districts maintain restrooms exclusively for rafters.	Rafting take-out use from April to September. Heavy use area for recreationalists year-round.	Large amounts of trash dumping.
Woods Creek Arm	Medusahead grass	287	Occurrences below HWM.	Little activity in area besides fishermen on the reservoir.	--
	Smooth distaff thistle	285			
	Yellow starthistle	286			
Recreation Bay	Bermudagrass	282	--	Sporadic use by recreationists boating/camping in the area.	Non-permitted grazing. Hetch Hetchy maintains the transmission line and access roads in the area.
	Barbed goatgrass	283			
	Medusahead grass	284			
Gasburg Dike	Medusahead grass	167, 923, 925-926	Gate opened once per year to the channel.	--	--
	Klamathweed	168, 922, 924, 927	Road is driven approx. 6 times per year.	--	--
			Spray near dike with pre-emergent (generally Roundup or Surflin) and weed-eat post emergent.		
Don Pedro Bar	Medusahead grass	674, 676	Past revegetation project at the old gravel mine.	Heavy use for boat-in camping with some hiking in surrounding areas.	Non-permitted grazing.
	Klamathweed	673, 675, 681-682, 684	Districts use private road during recreation season to maintain restroom facility.		
	Bermudagrass	650, 683			

6.0 DISCUSSION AND FINDINGS

Noxious weed surveys were conducted over approximately 3,870 terrestrial acres from March 5, 2012 through June 29, 2012. Twelve noxious weed species were located at 636 occurrences. Of the 12 species, four were CDFA B-listed: barbed goatgrass, giant reed, smooth distaff thistle and tamarisk. CDFA B-listed weeds are usually subject to eradication on BLM lands and can be subject to eradication on all lands (CDFA 2010). Of the 22 occurrences of CDFA B-listed weeds, 11 of them occurred on BLM lands. This included four occurrences of barbed goatgrass in and two occurrences of distaff thistle directly adjacent to the Red Hills ACEC.

FERC's Scoping Document 2 identified the following issues potentially affecting noxious weeds:

- Potential effects of project operation, including recreation, water level fluctuations, ground-disturbing activities, and maintenance on the presence and spread of noxious weeds, including yellow star-thistle.
- Effects of vegetation clearing for project maintenance on wildlife and botanical resources, and the presence and spread of noxious weeds.

Don Pedro Project O&M includes normal operations within the currently licensed elevation range (up to 830 feet), as well as operation of three formal recreation areas (Moccasin Point, Blue Oaks, and Fleming Meadows), vegetation management within these recreation areas and Project facilities, and ongoing reservoir debris removal and disposal. Recreation activities occur along portions of the shoreline and include dispersed camping, fishing and hiking. Additionally, the Districts have granted four grazing permits on a limited area within the Project Boundary, on a total of 559 acres. The main potential contributors to the spread of noxious weeds in the study area are roads, recreational use and livestock grazing. Certain aspects of Project O&M may have an effect as well.

Nearly 100 occurrences of noxious weeds were documented along or in roads within the Project area. Vehicles carry noxious weed seeds and plant parts long distances, and roadsides provide disturbed habitat for weed colonization. One CDFA B-listed weed, distaff thistle, was located at two locations along roads; one location on Jacksonville Road and one on the Harney Road. The most common weeds along and on roads were Bermudagrass, Medusahead grass and Klamathweed. Roads in and along the Fleming Meadows and Moccasin Point Recreation Areas were particularly prone to noxious weed occurrences. The only two documented occurrences of puncturevine were found along roads in Fleming Meadows Recreation Area.

All areas of concentrated recreation were found to support noxious weed occurrences, with nearly 150 occurrences located in or around recreation areas. Recreationists cause disturbances, which can create areas for noxious weed colonization. Additionally, recreationists carry seeds and plant parts on their clothing, vehicles and other equipment. Seven of the fifteen occurrences of the CDFA B-listed weed, distaff thistle, were located in areas of heavy recreation use, such as Moccasin Point Recreation Area and Kanaka Point. Additionally, the one occurrence of the CDFA B-listed weed, tamarisk, was located in the Moccasin Point Recreation Area and appeared

to have been planted adjacent to a restroom facility. The majority of yellow starthistle occurrences were also located in areas subject to heavy recreation.

Numerous occurrences of noxious weeds located in areas subject to cattle grazing, including over 130 on lands included within the Districts' four grazing permits. Cattle spread weeds via transport on their hooves, hair or skin, and in their digestive tracts. Ground disturbance and overgrazing caused by cattle can also open areas to invasion by noxious weeds. The most common noxious weed found in grazed areas was Medusahead grass, along with many occurrences of Bermudagrass and Klamathweed. An occurrence of the CDFA B-listed weed, barbed goatgrass, was located on Recreation Bay in a grazed area not included within the Districts' four grazing permits.

Nineteen occurrences of noxious weeds were located below the high water mark of Don Pedro Reservoir, including four occurrences of distaff thistle. Because distaff thistle and other noxious weed seeds may be dispersed by water, these occurrences may present a risk of dispersal to adjacent or downstream lands. Propagules of barbed goatgrass, tree-of-heaven, giant reed, smooth distaff thistle, Bermudagrass, Medusahead grass, Klamathweed and tamarisk can similarly be transported by water.

A variety of Project O&M activities (e.g., grading, mowing, and vegetation management) were also found to occur within or near noxious weed occurrences. Ten occurrences were directly located in areas of grading; five were found in waste or storage areas, and nineteen were located in areas that were mowed. Each of these represents a potential that noxious weeds may be picked up by District's staff or equipment and spread to other areas. The genesis of these occurrences is undetermined.

During surveys, the study team hand-treated some noxious weed occurrences, including four occurrences of distaff thistle (248, 285, 671, 672) and one small patch of Medusahead grass (665). The study team also pulled several noxious weed occurrences within the Red Hills ACEC, including barbed goatgrass (occurrence 283) and yellow starthistle (occurrence 242 and 962).

Noxious weeds are common throughout the region and California. Across the western United States, noxious weeds have invaded and modified millions of acres of wild and agricultural lands (SSJNWA 2003). Non-Project activities and non-Project uses of Project lands play a significant role in the establishment and spread of noxious weeds in the study area, including adjacent land management activities and cattle grazing. Adjacent lands may also contain untreated source occurrences of noxious weeds: surveyors noted that non-Project lands adjacent to the study area frequently supported the same weed species recorded during this study.

7.0 STUDY VARIANCES AND MODIFICATIONS

The study was conducted consistent with the FERC-approved Noxious Weeds Study Plan (TR-04). No variances occurred.

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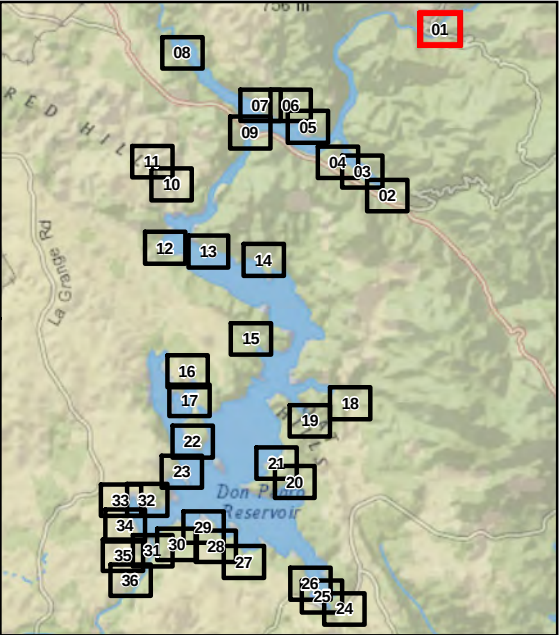
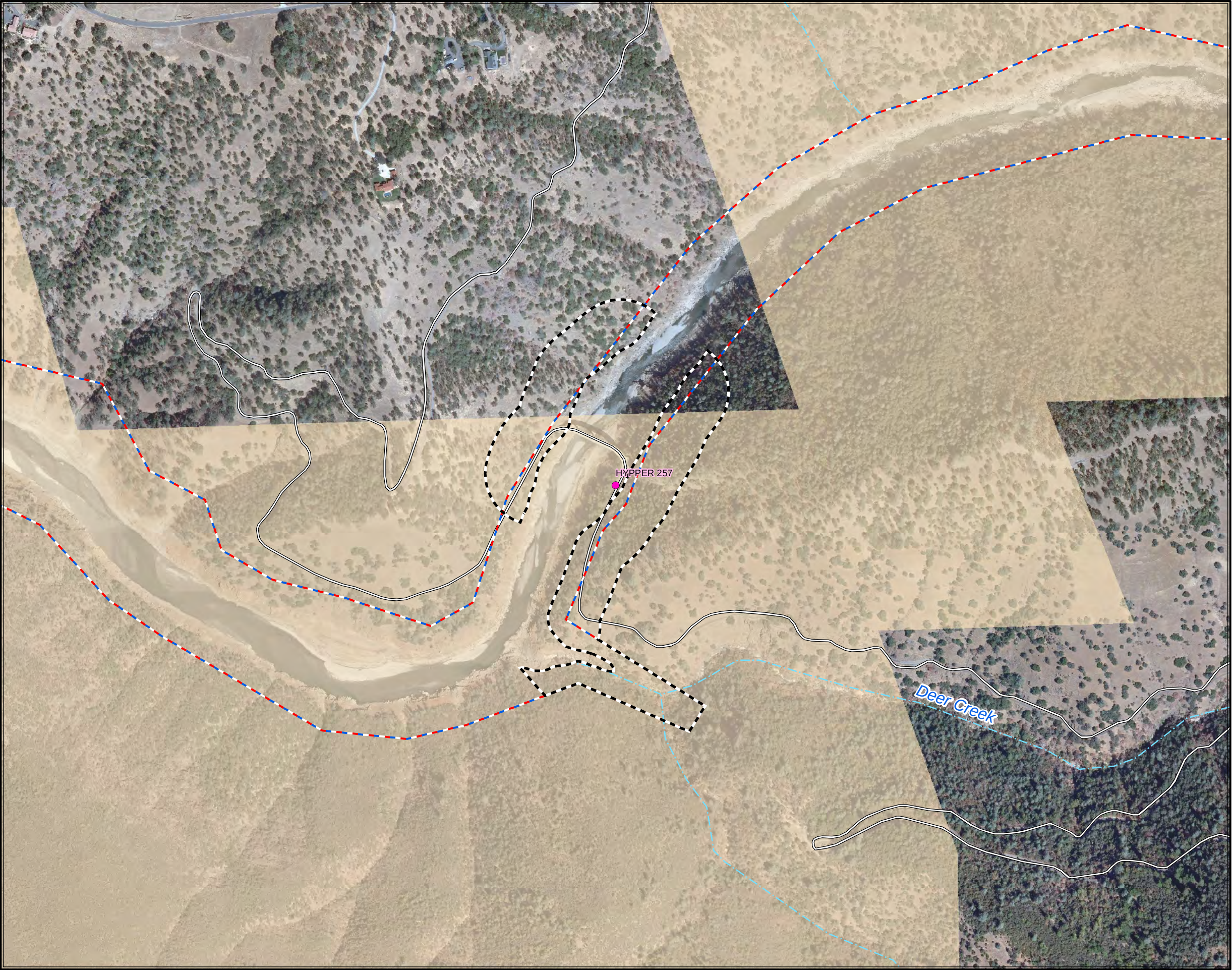
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STUDY REPORT TR-04
NOXIOUS WEEDS

ATTACHMENT A

NOXIOUS WEEDS OCCURRENCE FIGURES



Page 1 of 36

AEGTRI

AILALT

ARUDON

CARCRE

CENSOL

CYNDAC

ELYCAP

HYPPER

SALTRA

TAMSP

TRITER

Barbed goat grass
Aegilops triuncialis

Tree of heaven
Ailanthus altissima

Giant reed
Arundo donax

Distaff thistle
Carthamus cre

Yellow starthistle
Centaurea solstitialis

Bermudagrass
Cynodon dactylon

Medusahead
Elymus capit-medusae

Klamathweed
Hypericum perforatum

Russian thistle
Salsola tragus

Tamarix
Tamarix ssp.

Puncturevine
Tribulus terrestris

Botanical Study Area

FERC Project Boundary
(No. 2299)

Water Body

BLM Area of Critical
Environmental Concern
'Red Hills'

Federal Land Ownership

Bureau of Land Management

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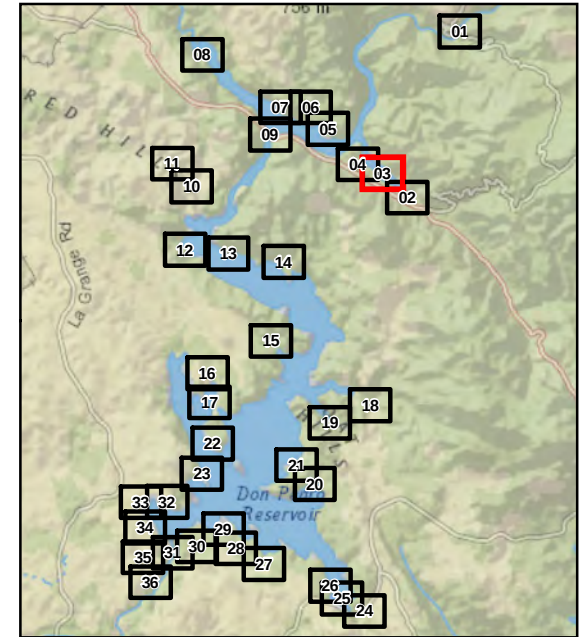
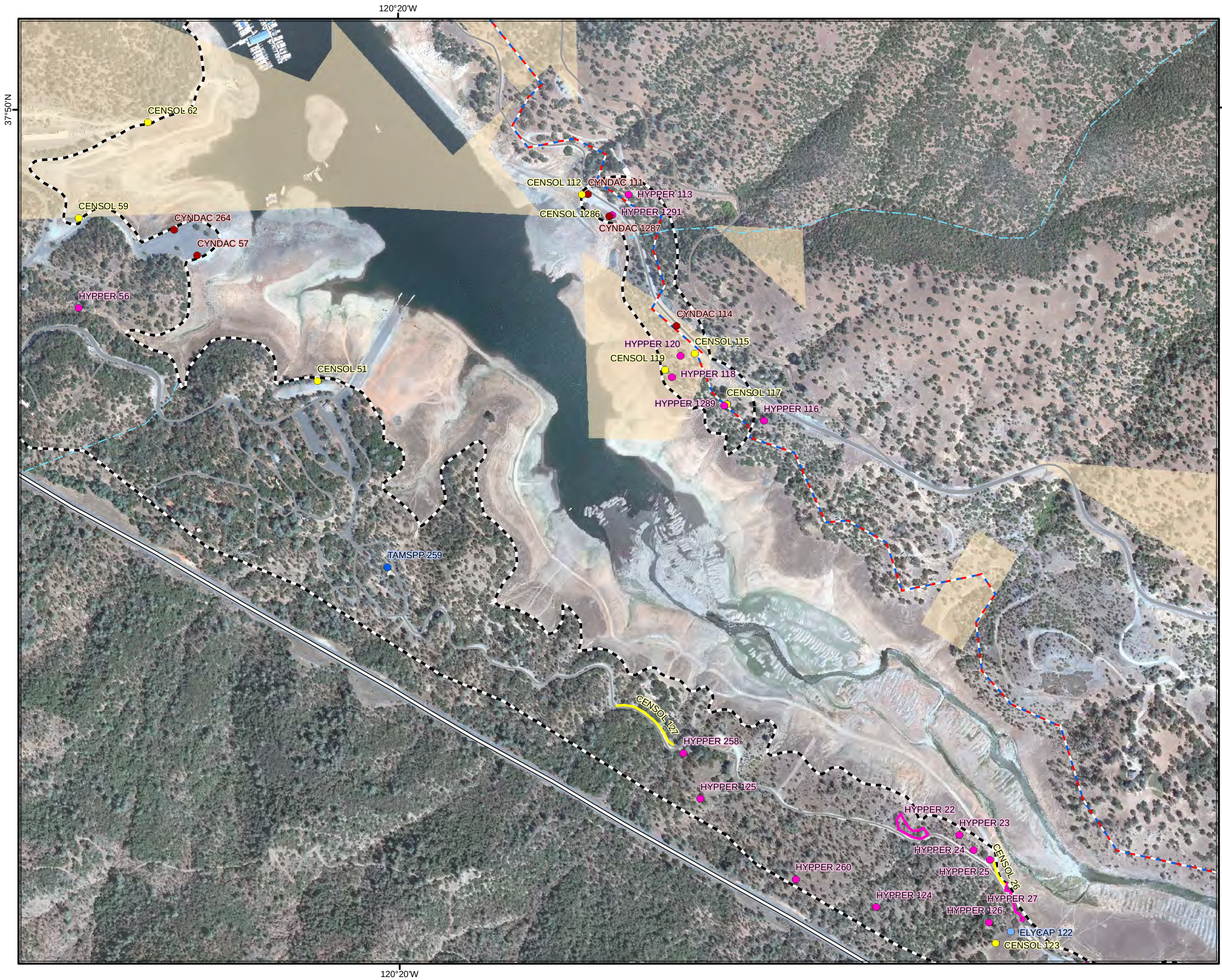
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Noxious Weeds

Don Pedro Project (FERC No.2299)

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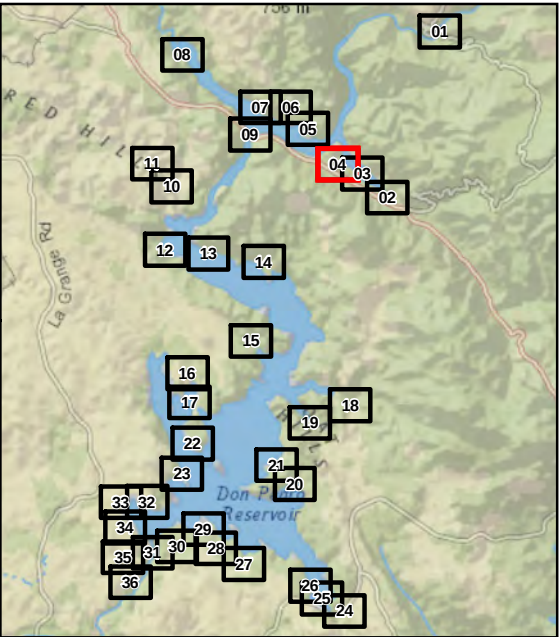
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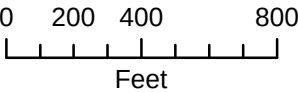


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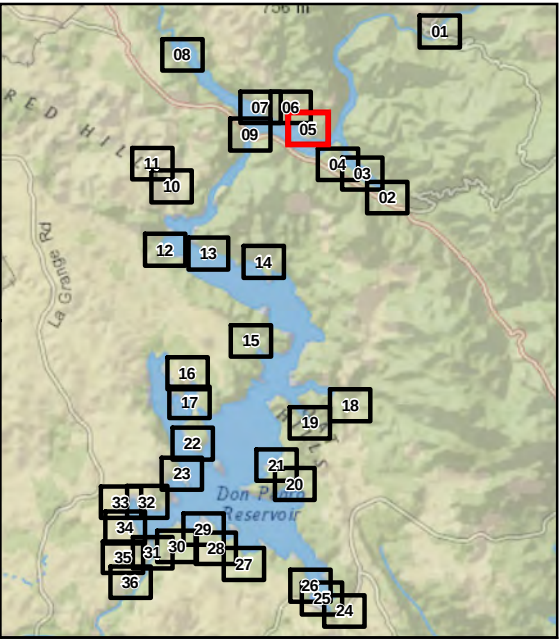
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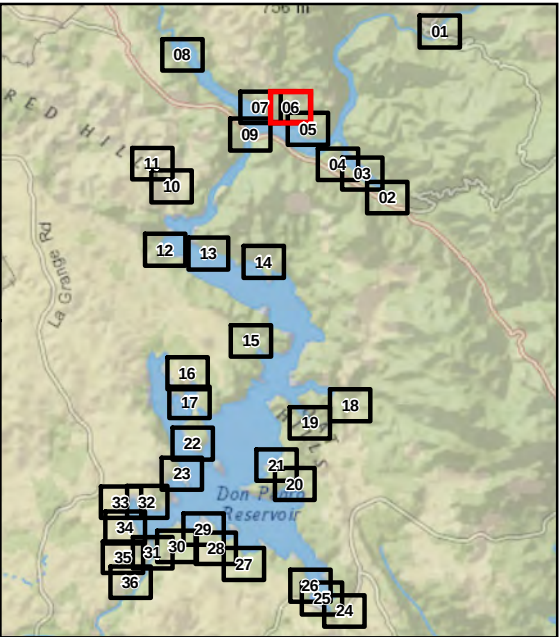
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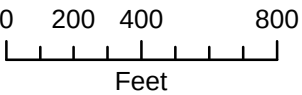
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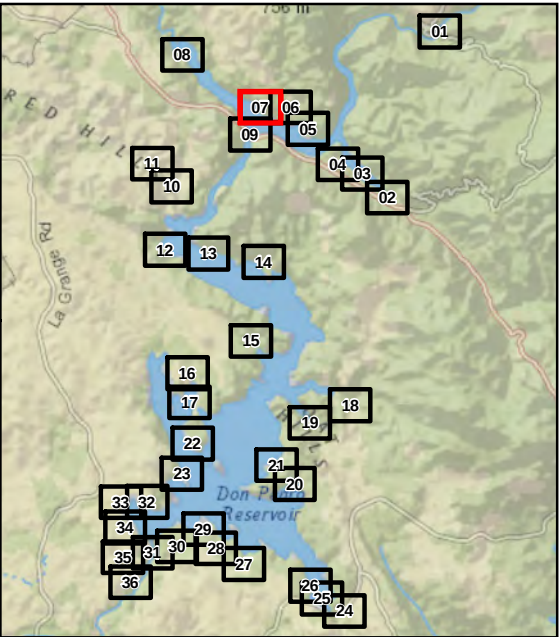
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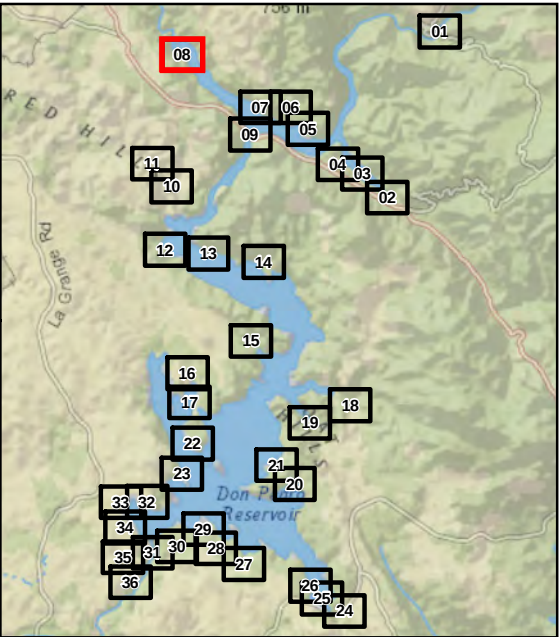
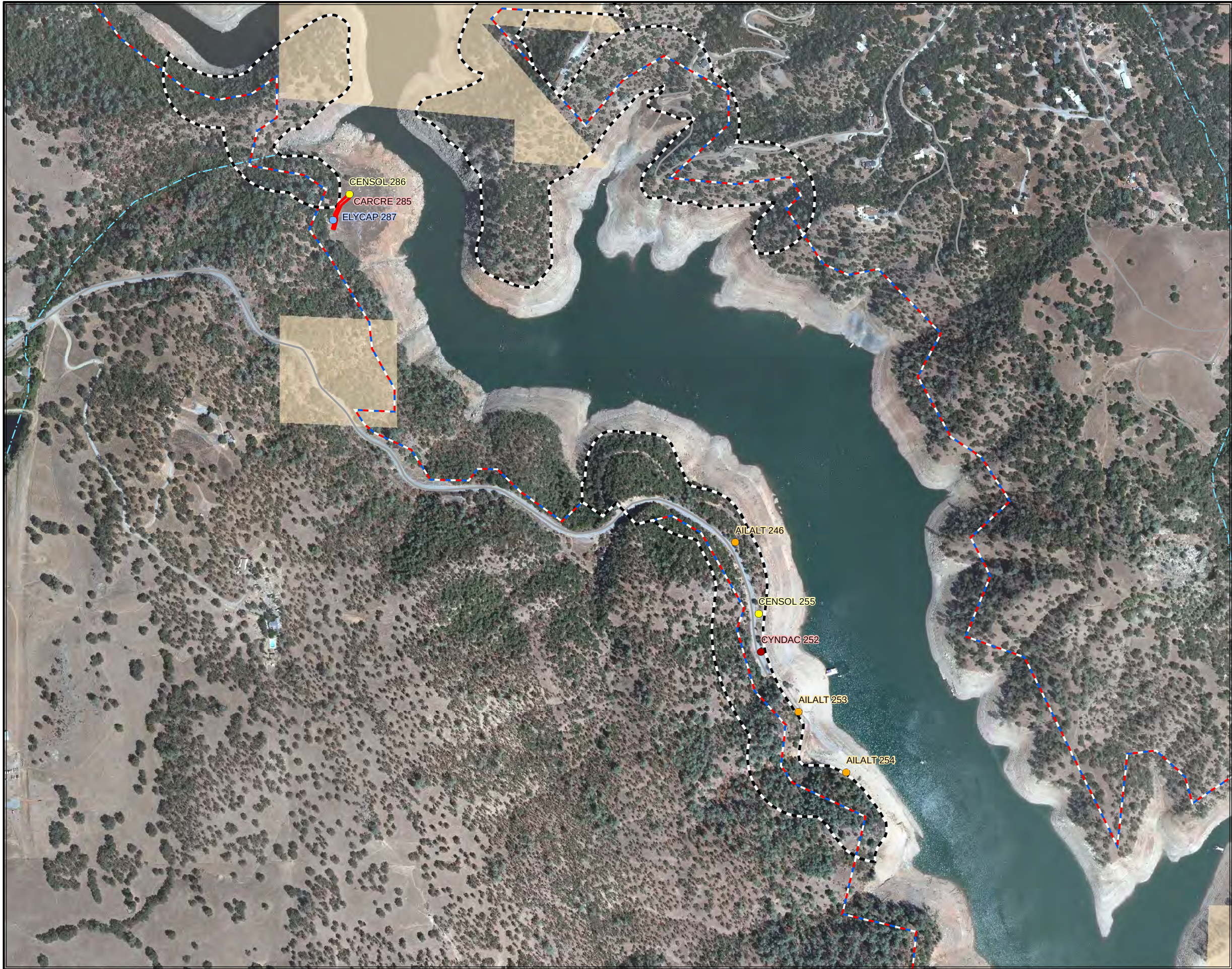
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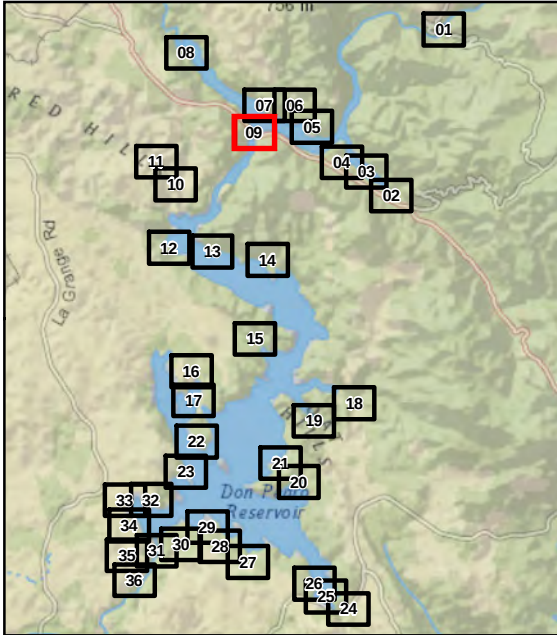
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Noxious Weeds

Don Pedro Project (FERC No.2299)

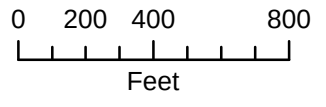
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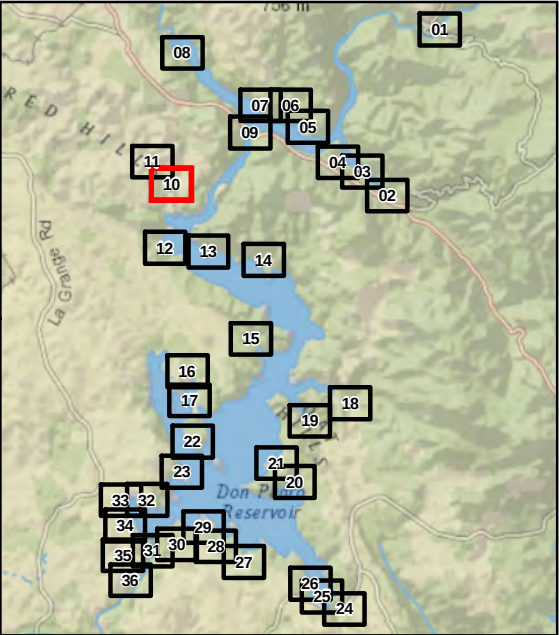
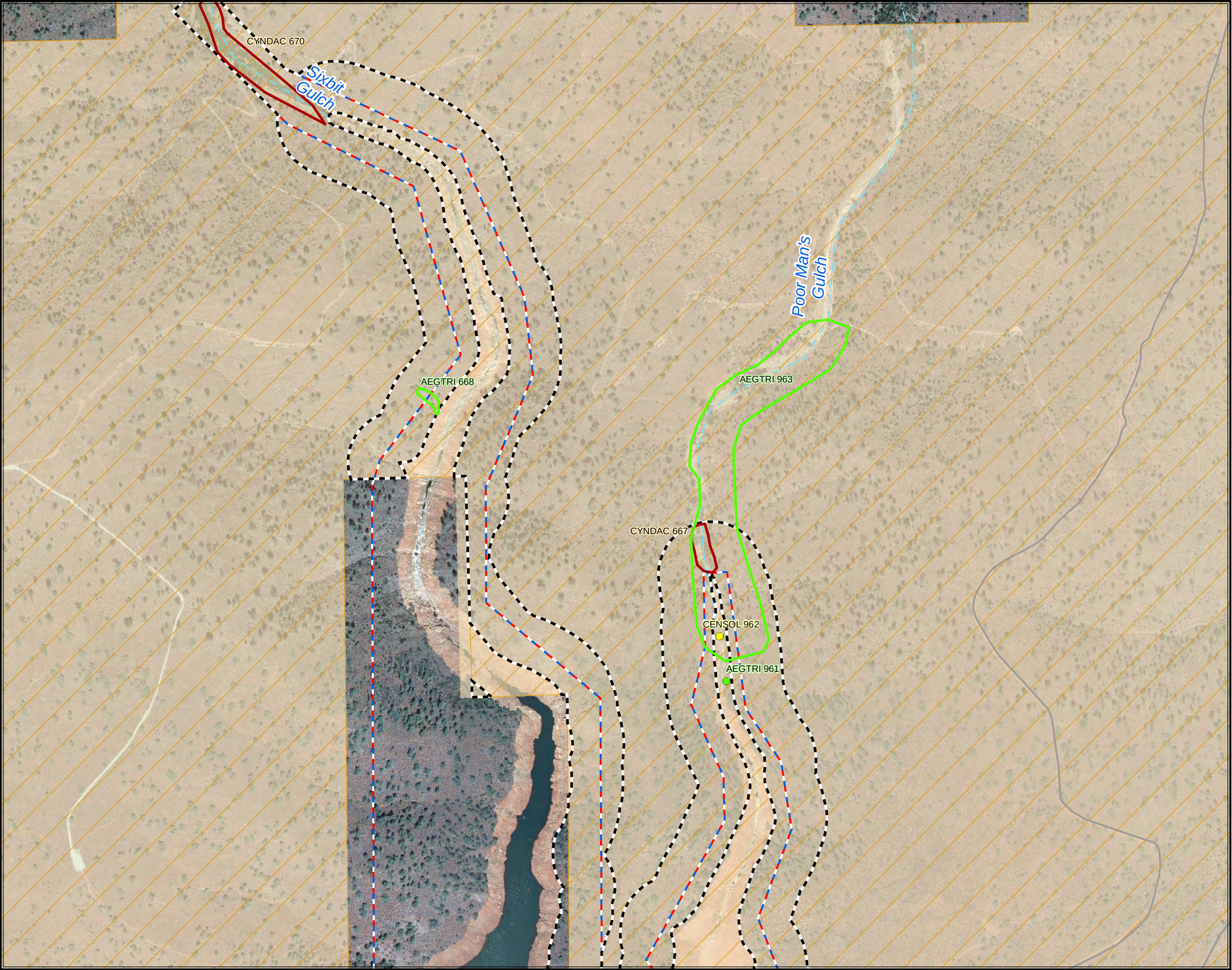
- Botanical Study Area
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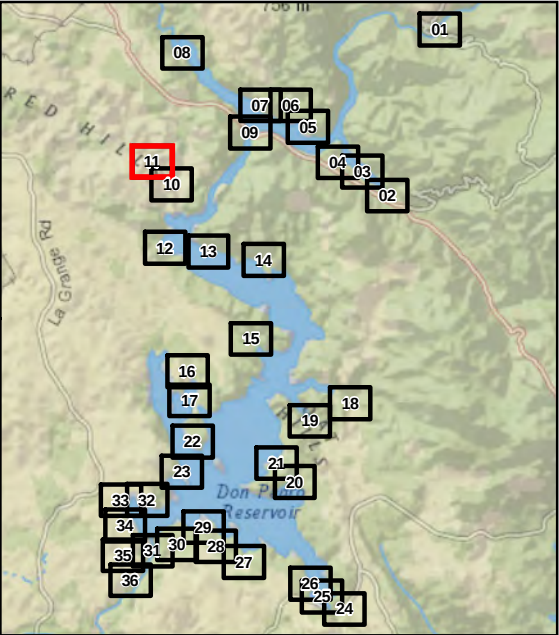
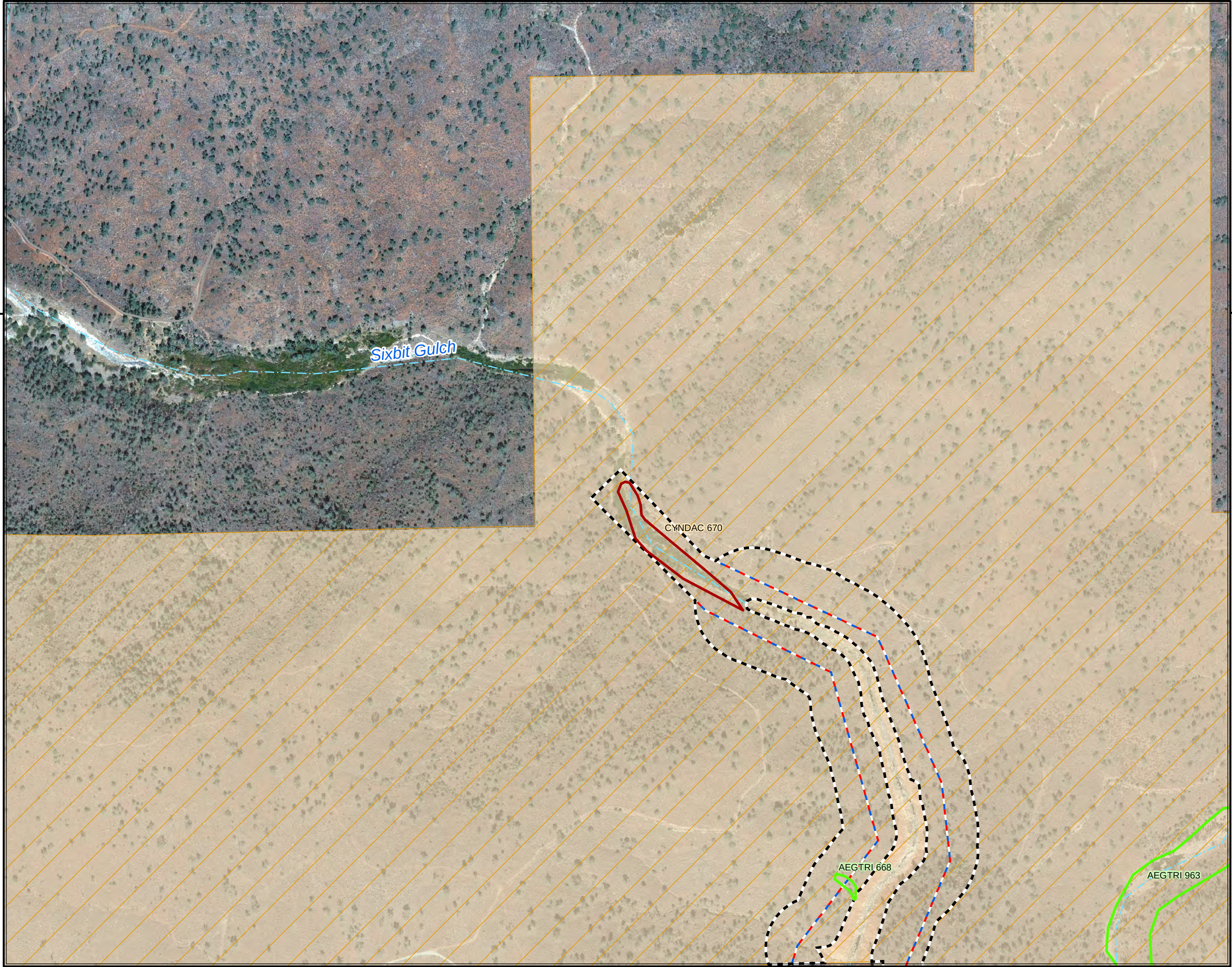
Feet

Noxious Weeds

Don Pedro Project (FERC No.2299)

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AEGTRI

AILALT

ARUDON

CARCRE

CENSOL

CYNDAC

ELYCAP

HYPPER

SALTRA

TAMSP

TRITER

Barbed goat grass
Aegilops triuncialis

Tree of heaven
Ailanthus altissima

Giant reed
Arundo donax

Distaff thistle
Carthamus cre

Yellow starthistle
Centaurea solstitialis

Bermudagrass
Cynodon dactylon

Medusahead
Elymus capit-medusae

Klamathweed
Hypericum perforatum

Russian thistle
Salsola tragus

Tamarix
Tamarix ssp.

Puncturevine
Tribulus terrestris

Botanical Study Area

FERC Project Boundary (No. 2299)

Water Body

BLM Area of Critical Environmental Concern 'Red Hills'

Federal Land Ownership

Bureau of Land Management

0200400800

Feet

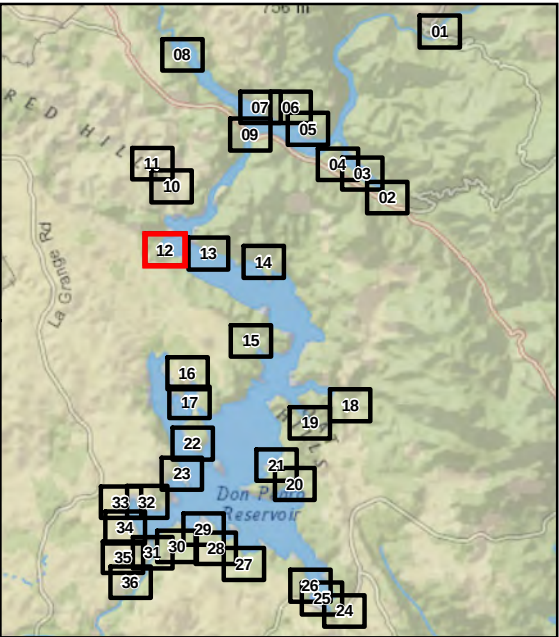
Noxious Weeds

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Botanical Study Area

FERC Project Boundary
(No. 2299)

Water Body

BLM Area of Critical
Environmental Concern
'Red Hills'

Federal Land Ownership

Bureau of Land Management

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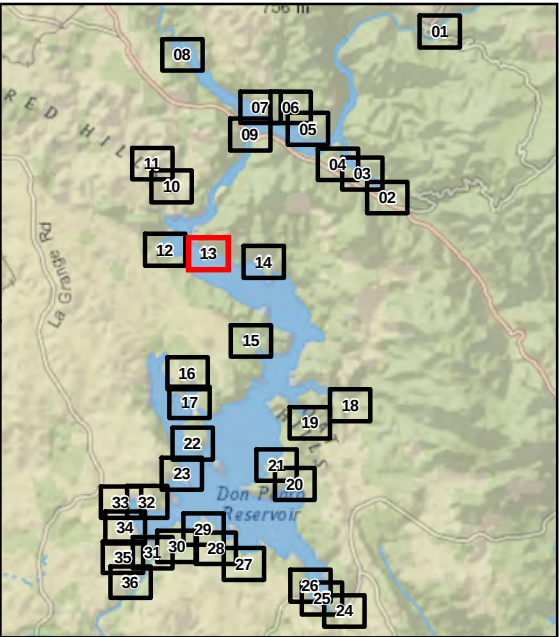
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AEGTRI		Barbed goat grass <i>Aegilops triuncialis</i>
AILALT		Tree of heaven <i>Ailanthus altissima</i>
ARUDON		Giant reed <i>Arundo donax</i>
CARCRE		Distaff thistle <i>Carthamnus cre</i>
CENSOL		Yellow starthistle <i>Centaurea solstitialis</i>
CYNDAC		Bermudagrass <i>Cynodon dactylon</i>
ELYCAP		Medusahead <i>Elymus capit-medusae</i>
HYPPER		Klamathweed <i>Hypericum perforatum</i>
SALTRA		Russian thistle <i>Salsola tragus</i>
TAMSP		Tamarix <i>Tamarix ssp.</i>
TRITER		Puncturevine <i>Tribulus terrestris</i>

Botanical Study Area
 FERC Project Boundary (No. 2299)
 Water Body
 BLM Area of Critical Environmental Concern
 Environmental Concern 'Red Hills'

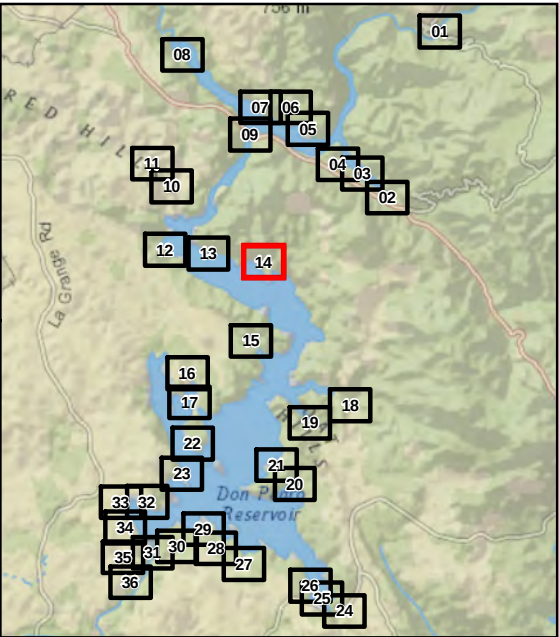
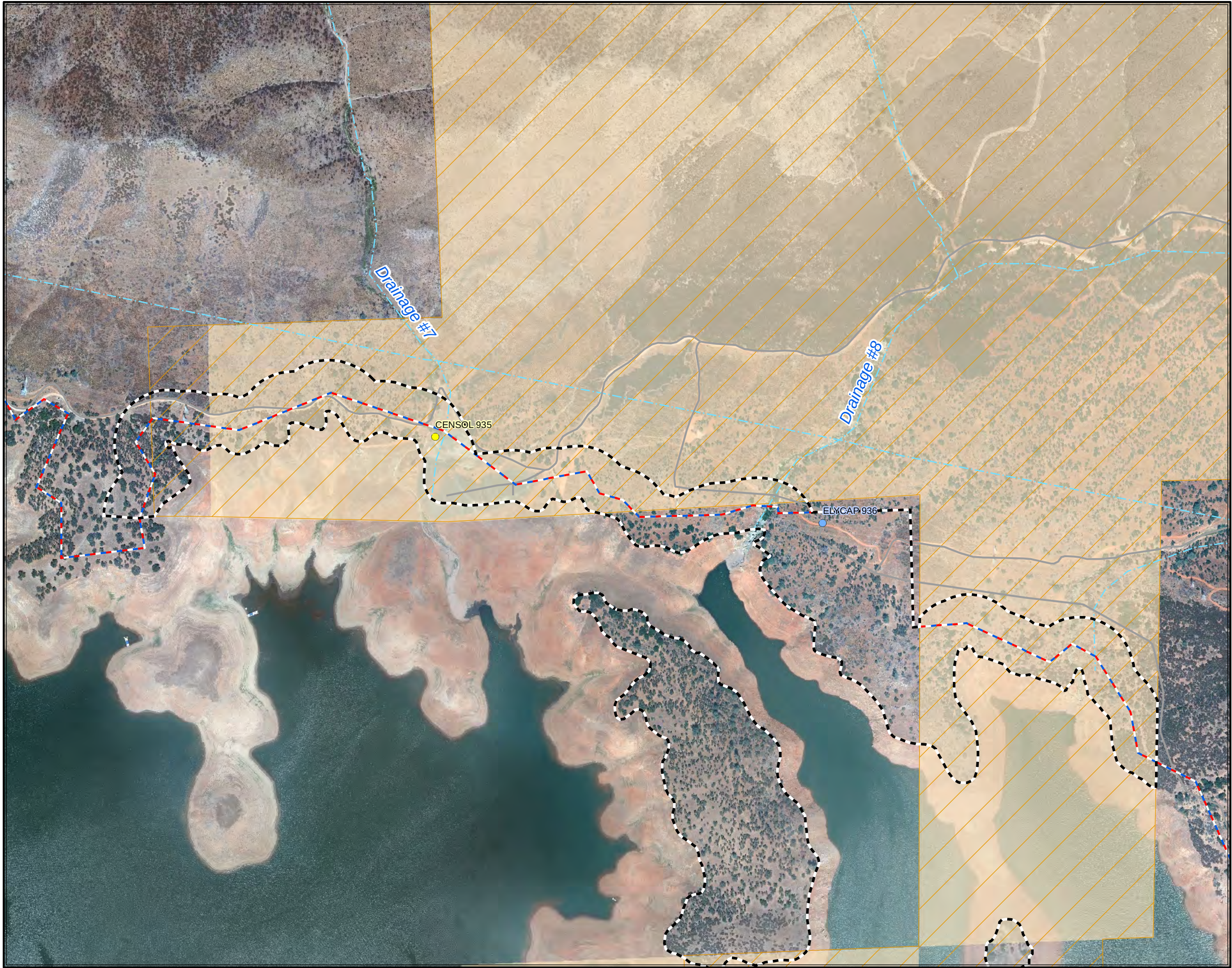
Federal Land Ownership
 Bureau of Land Management

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Noxious Weeds
Don Pedro Project (FERC No.2299)

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FERC Project Boundary
(No. 2299)

Water Body

BLM Area of Critical
Environmental Concern
'Red Hills'

Federal Land Ownership

Bureau of Land Management

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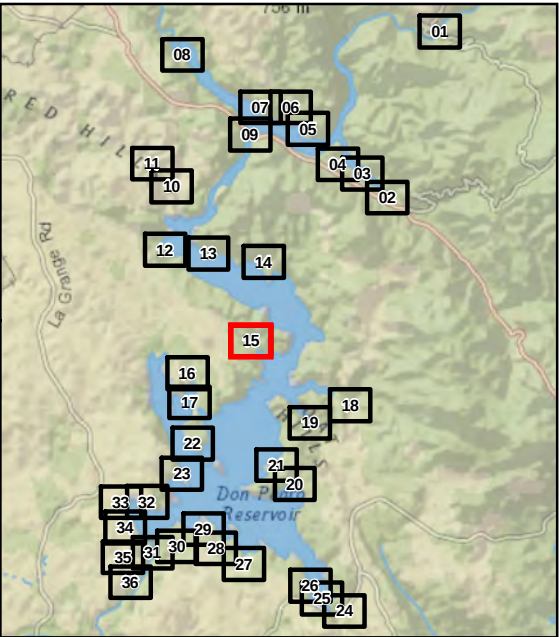
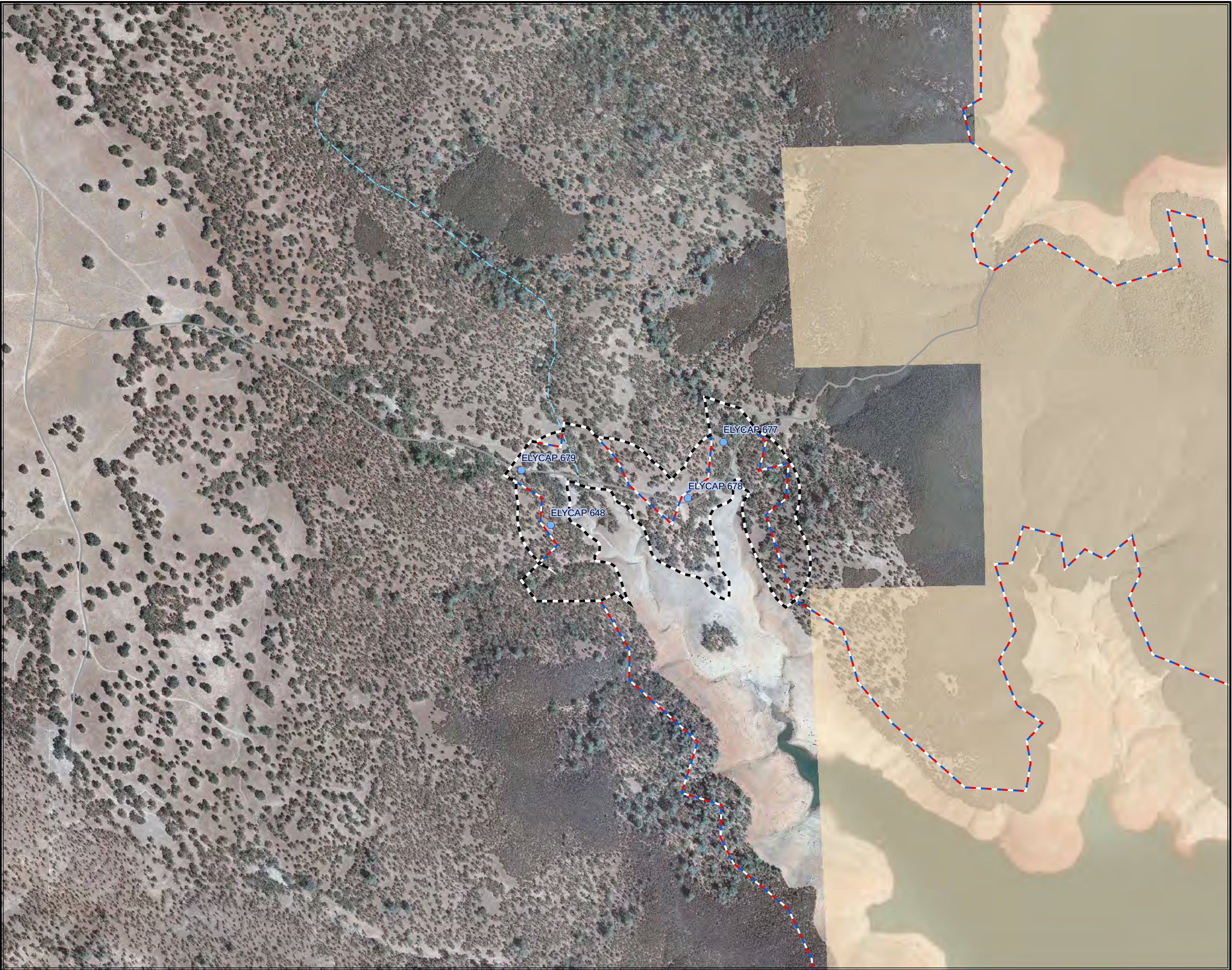
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FERC Project Boundary
(No. 2299)

Water Body

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Environmental Concern
'Red Hills'

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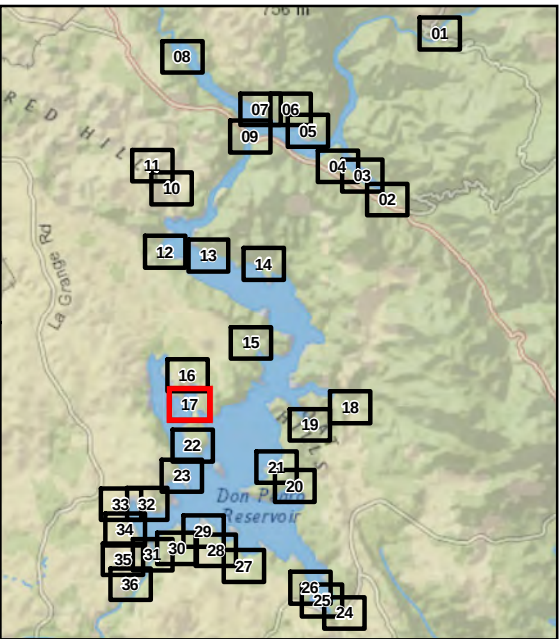
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Feet

Noxious Weeds

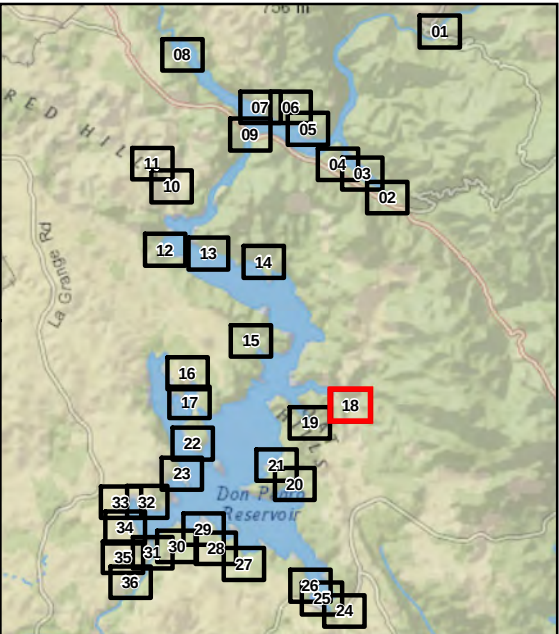
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120°20'W

120°20'W



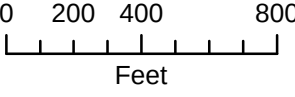
Page 18 of 36

- AEGTRI  Barbed goat grass
Aegilops triuncialis
- AILALT  Tree of heaven
Ailanthus altissima
- ARUDON  Giant reed
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-  FERC Project Boundary
(No. 2299)
-  Water Body

-  BLM Area of Critical
Environmental Concern
'Red Hills'

- Federal Land Ownership**
-  Bureau of Land Management

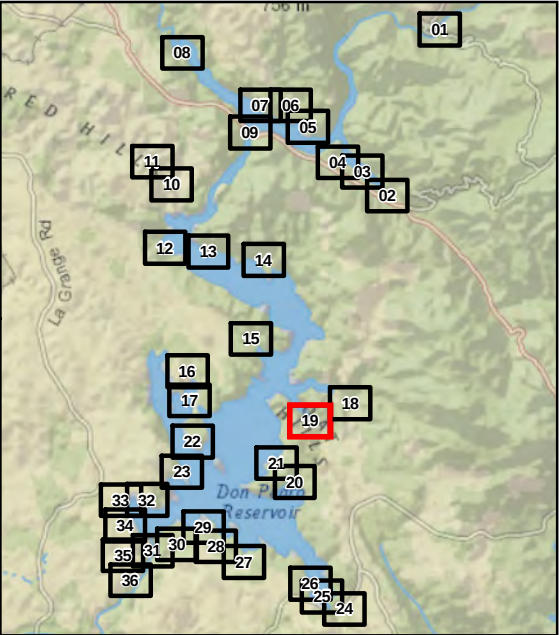
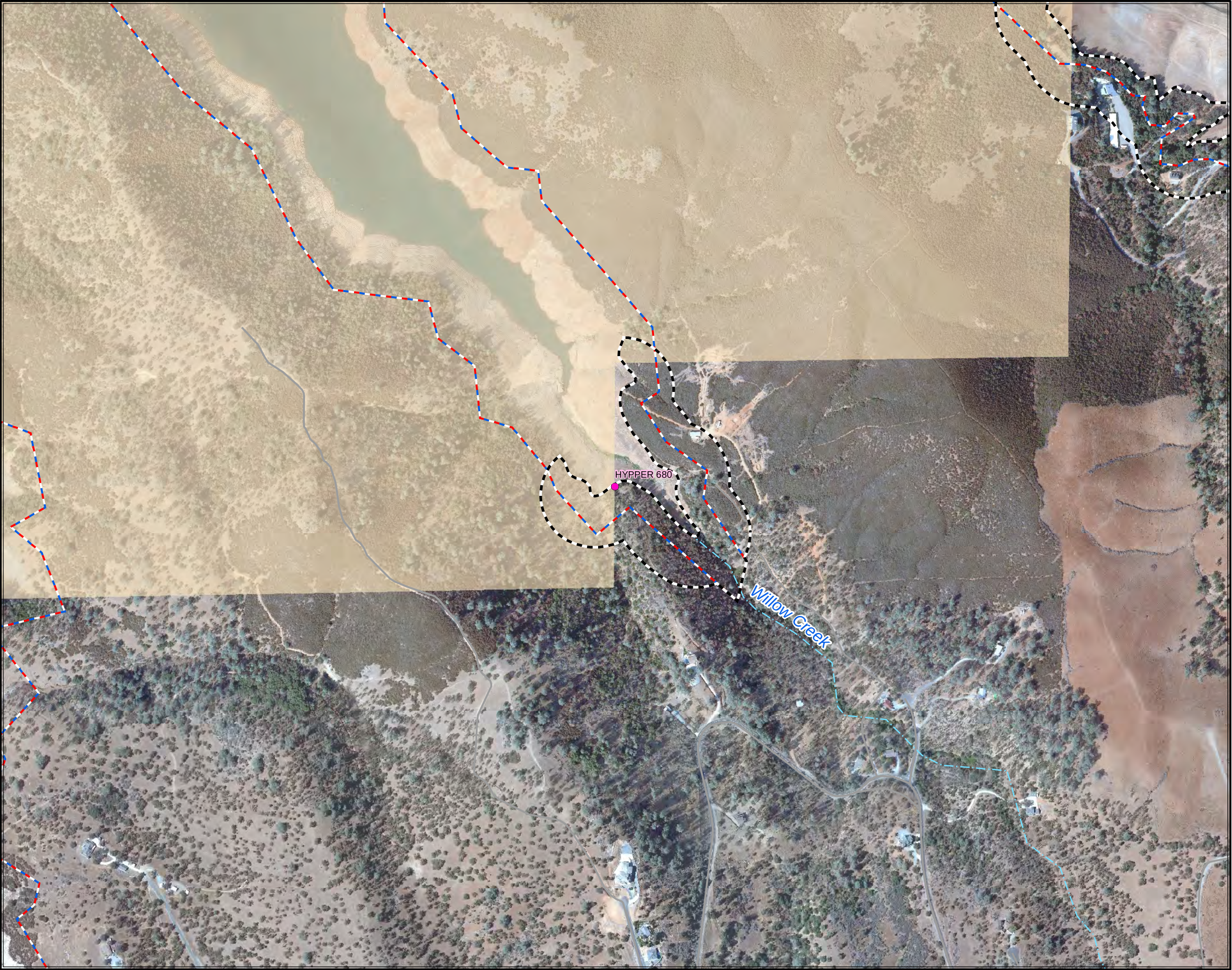


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'Red Hills'

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0200400800

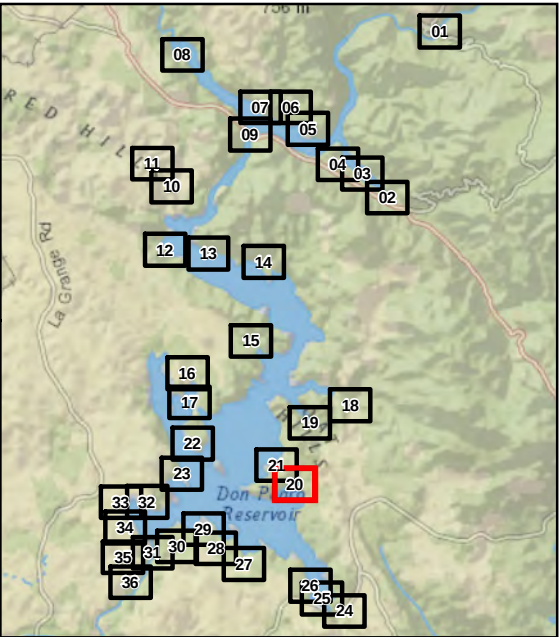
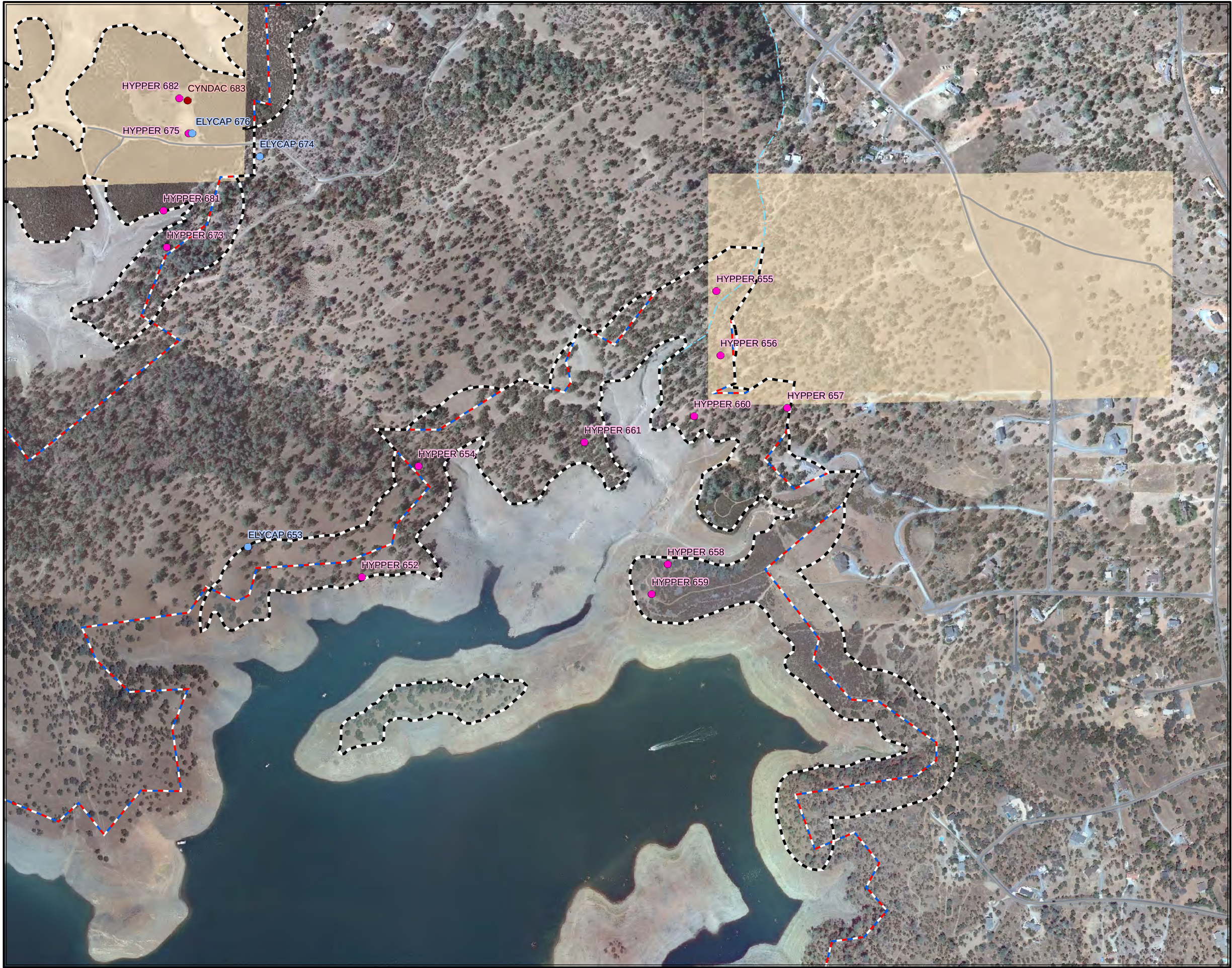
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Botanical Study Area

FERC Project Boundary (No. 2299)

Water Body

BLM Area of Critical Environmental Concern 'Red Hills'

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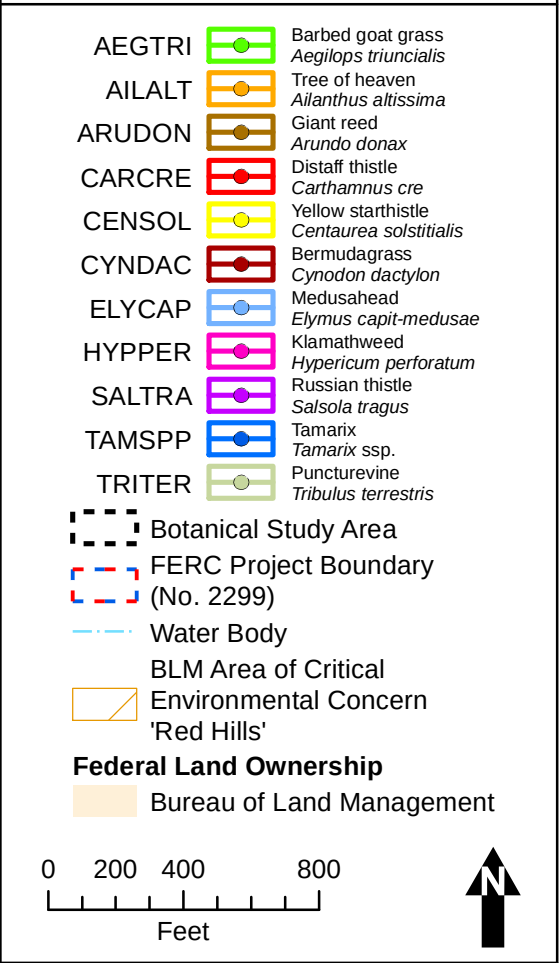
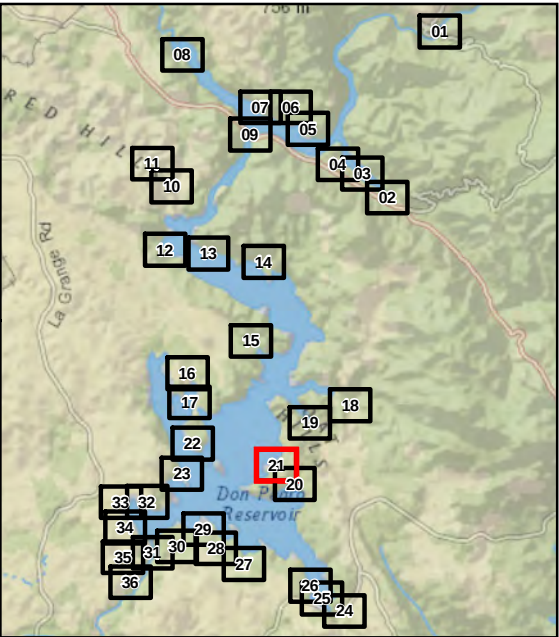
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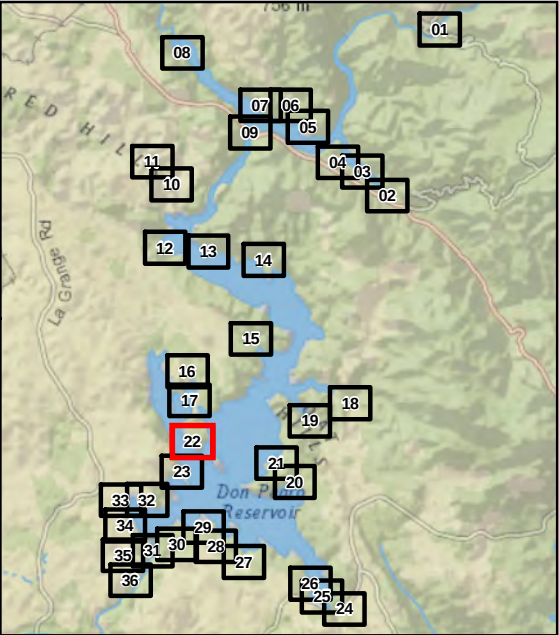
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BLM Area of Critical Environmental Concern 'Red Hills'

Federal Land Ownership

Bureau of Land Management

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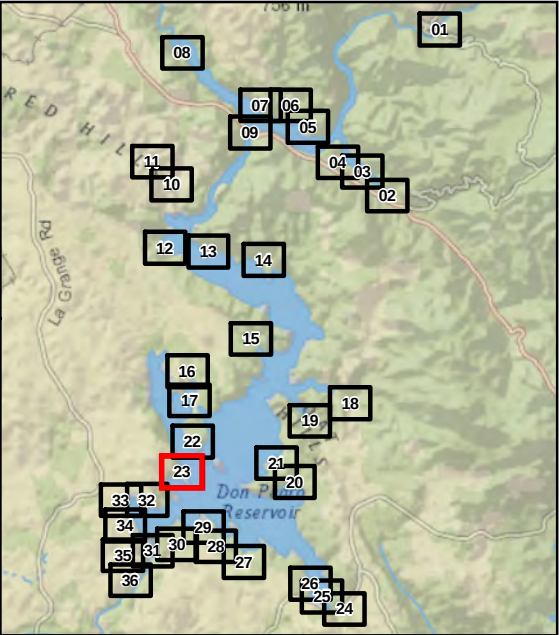
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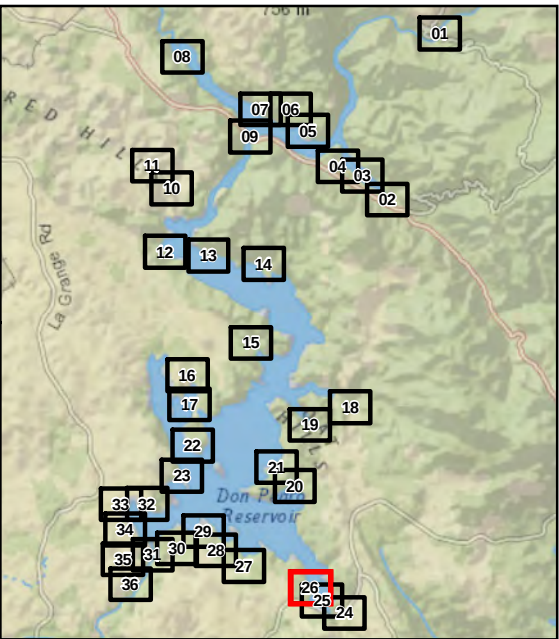
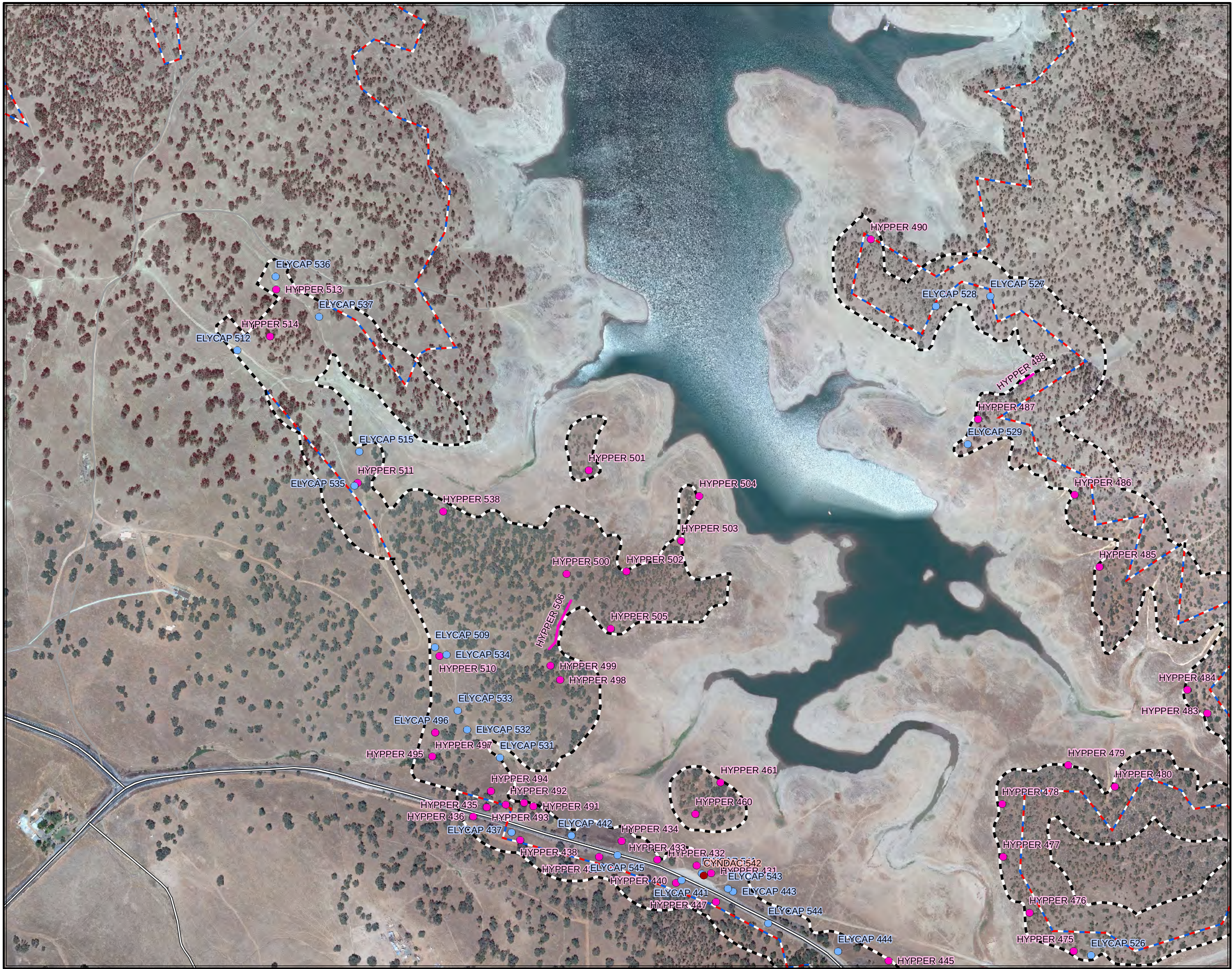
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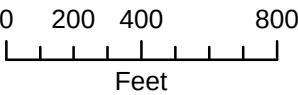
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|--------|--|---|
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'Red Hills' |

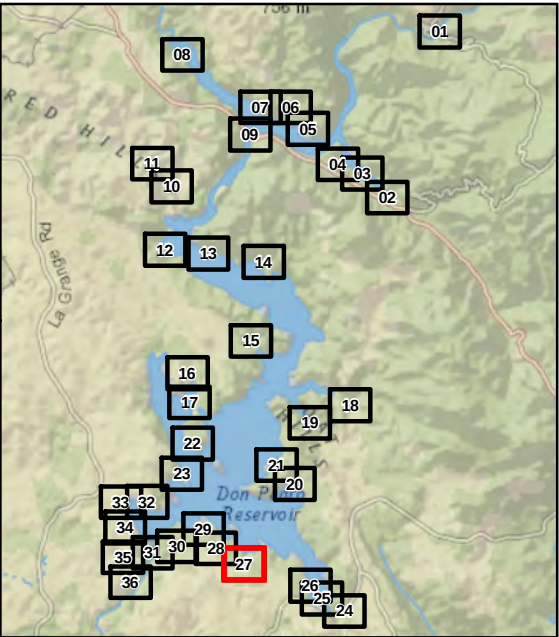
- Federal Land Ownership**
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| | Bureau of Land Management |
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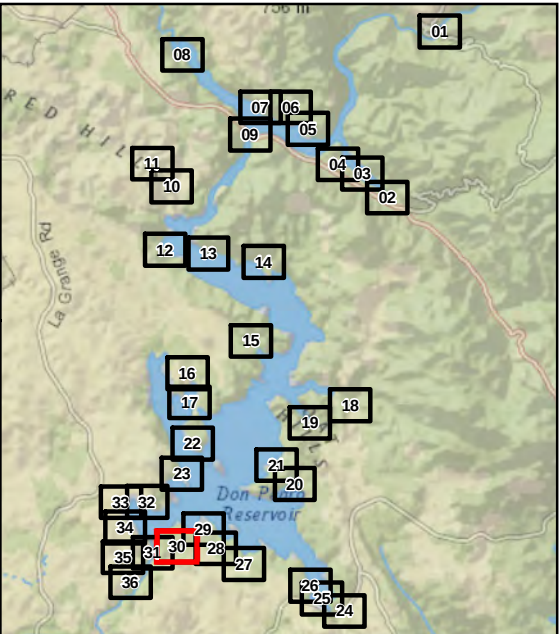
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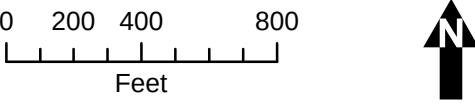
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| TRITER | | Puncturevine
<i>Tribulus terrestris</i> |

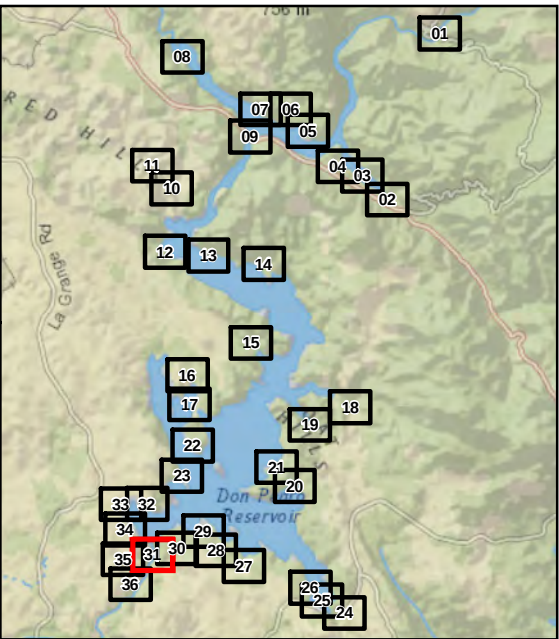
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| | Botanical Study Area |
| | FERC Project Boundary
(No. 2299) |
| | Water Body |
| | BLM Area of Critical
Environmental Concern
'Red Hills' |
| Federal Land Ownership | |
| | Bureau of Land Management |



Noxious Weeds

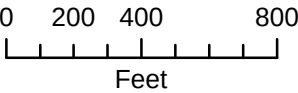
Don Pedro Project (FERC No.2299)

Map information was compiled from the best available sources. No Warranty is made for its accuracy or completeness.
Data Sources: Hydrography - USGS NHD; Roads - ESRI 9.3 Data (Teleatlas); Ownership, PLSS - CA BLM; FERC Boundary, Reservoir Bathymetry & Project Facilities - MID/TID. Data is CA SPCS, zone III, ft. Contour interval is 50 ft (NAVD 88).



- | | | |
|--------|--|---|
| AEGTRI | | Barbed goat grass
<i>Aegilops triuncialis</i> |
| AILALT | | Tree of heaven
<i>Ailanthus altissima</i> |
| ARUDON | | Giant reed
<i>Arundo donax</i> |
| CARCRE | | Distaff thistle
<i>Carthamnus cre</i> |
| CENSOL | | Yellow starthistle
<i>Centaurea solstitialis</i> |
| CYNDAC | | Bermudagrass
<i>Cynodon dactylon</i> |
| ELYCAP | | Medusahead
<i>Elymus capit-medusae</i> |
| HYPPER | | Klamathweed
<i>Hypericum perforatum</i> |
| SALTRA | | Russian thistle
<i>Salsola tragus</i> |
| TAMSP | | Tamarix
<i>Tamarix ssp.</i> |
| TRITER | | Puncturevine
<i>Tribulus terrestris</i> |

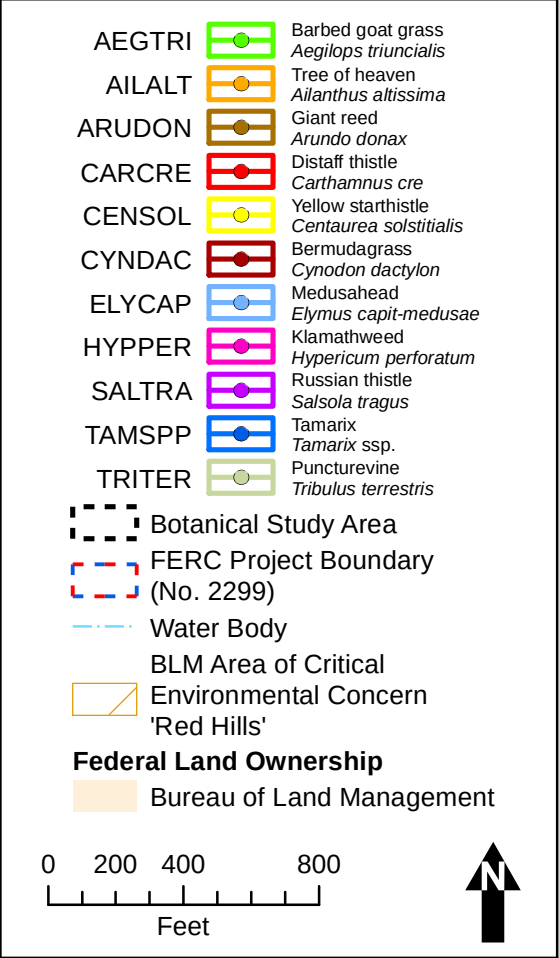
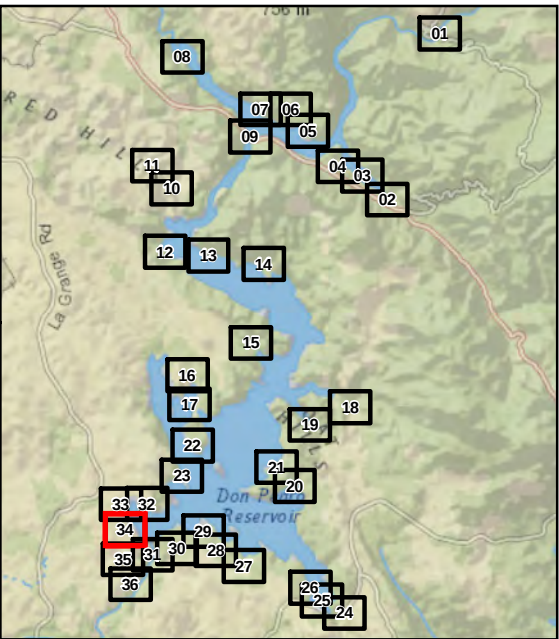
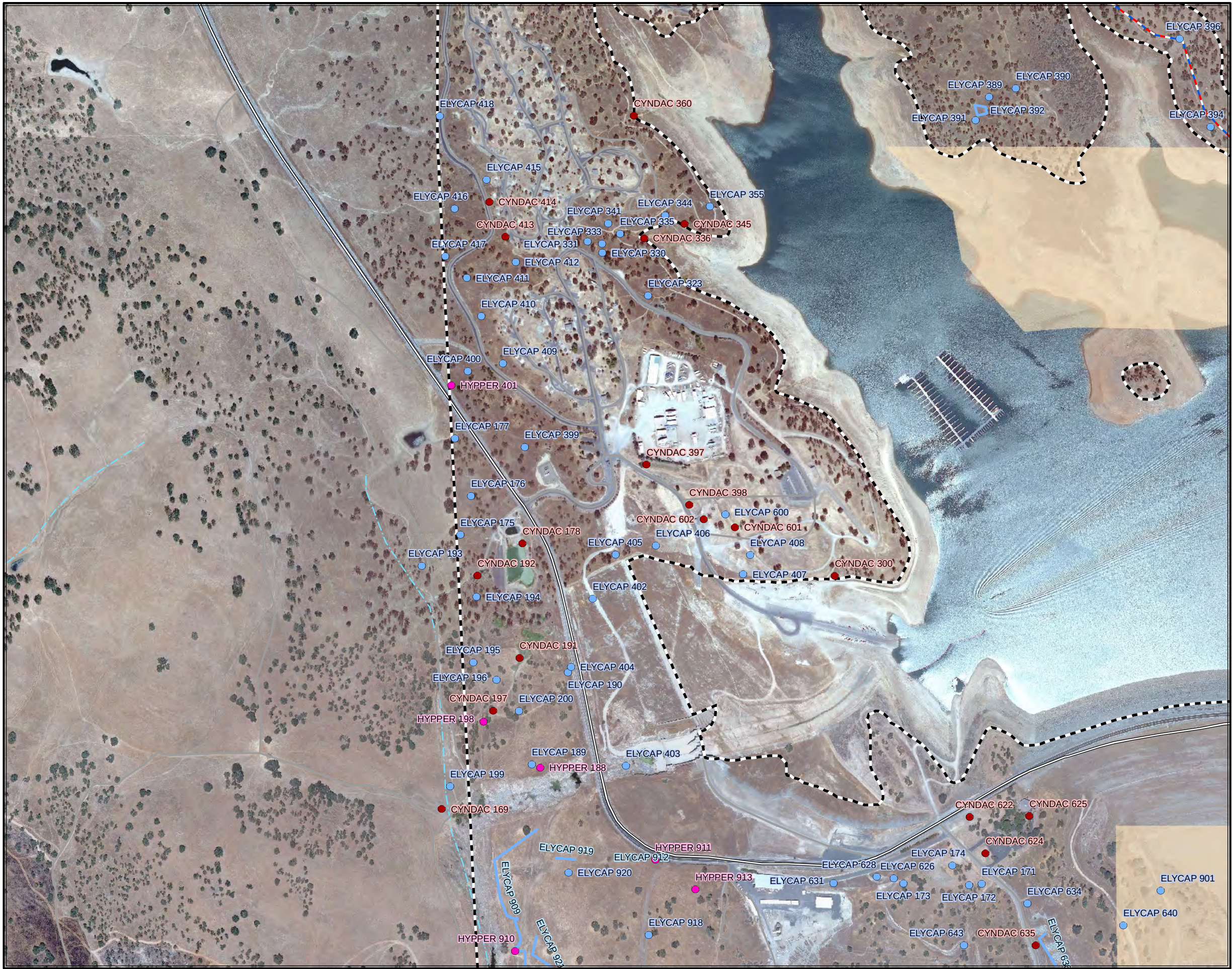
- Botanical Study Area
- FERC Project Boundary (No. 2299)
- Water Body
- BLM Area of Critical Environmental Concern 'Red Hills'
- Federal Land Ownership**
 - Bureau of Land Management

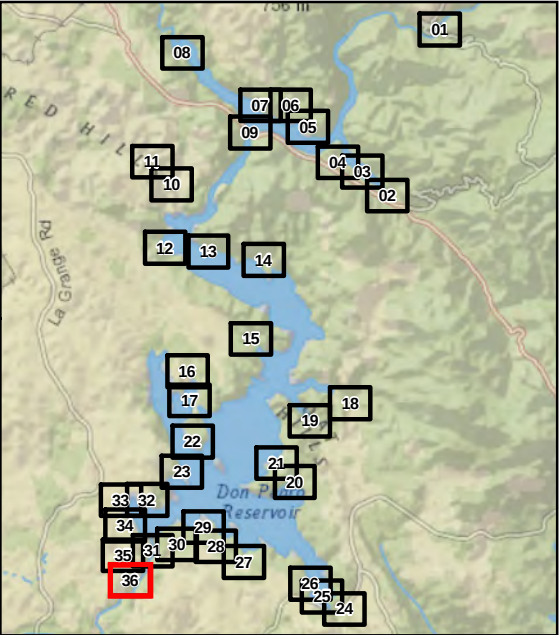
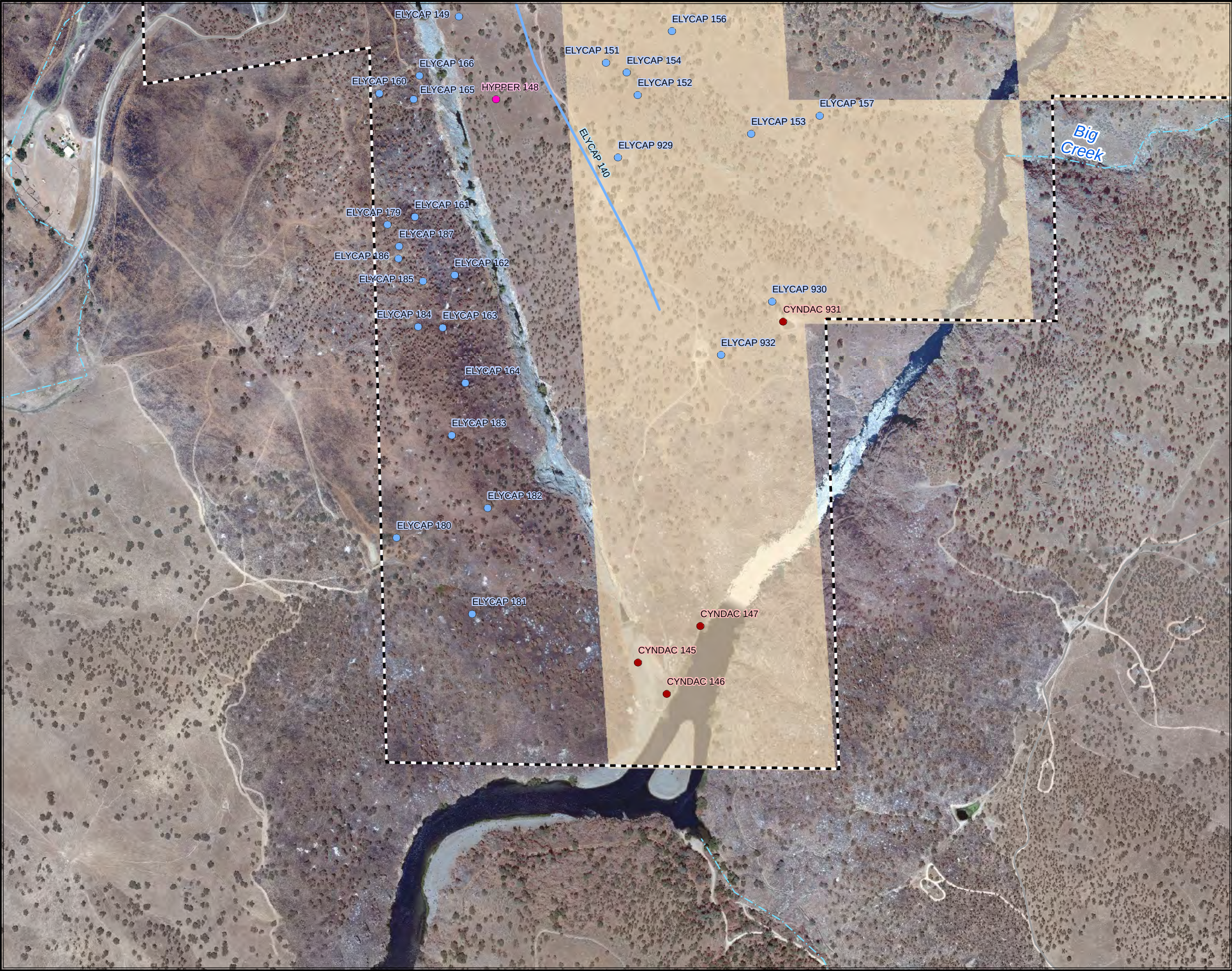


Noxious Weeds

Don Pedro Project (FERC No.2299)

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AEGTRI

AILALT

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Arundo donax

Distaff thistle
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Yellow starthistle
Centaurea solstitialis

Bermudagrass
Cynodon dactylon

Medusahead
Elymus capit-medusae

Klamathweed
Hypericum perforatum

Russian thistle
Salsola tragus

Tamarix
Tamarix ssp.

Puncturevine
Tribulus terrestris

Botanical Study Area

FERC Project Boundary
(No. 2299)

Water Body

BLM Area of Critical
Environmental Concern
'Red Hills'

Federal Land Ownership

Bureau of Land Management

0200400800

Feet

N

Noxious Weeds

Don Pedro Project (FERC No.2299)

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Data is CA SPCS, zone III, ft. Contour interval is 50 ft (NAVD 88).

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**STUDY REPORT TR-04
NOXIOUS WEEDS**

ATTACHMENT B

REPRESENTATIVE NOXIOUS WEED PHOTOS

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Figure 1. Barbed goatgrass occurrence 963 at Poor Man's Creek.



Figure 2. Tree-of-Heaven occurrence 011 on Fleming Point near Fleming Meadows Recreation Area.



Figure 3. Giant reed occurrence 907 below DPRA Headquarter near Don Pedro Powerhouse.



Figure 4. Smooth distaff thistle occurrence 672 at Kanaka Point.



Figure 5. Yellow starthistle occurrence 219 at Kanaka Point.



Figure 6. Puncturevine occurrence 1205 within Fleming Meadows Recreation Area.



Figure 7. Bermuda grass occurrence 300 within Blue Oaks Recreation area.



Figure 8. Bermuda grass occurrence 300 within Blue Oaks Recreation Area.



Figure 9. Medusahead grass occurrence 323 within Blue Oaks Recreation Area.



Figure 10. Medusahead grass occurrence 396 in Blue Oaks Recreation Area.



Figure 11. Klamathweed occurrence 917 near DPRA Headquarters' utility yard.



Figure 12. Russian thistle occurrence 425 within Blue Oaks Recreation Area.

STUDY REPORT TR-04
NOXIOUS WEEDS

ATTACHMENT C

NOXIOUS WEEDS TABLE

Table 1. Occurrences of noxious weeds within the Don Pedro Project study area.

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
Barbed goatgrass						
283	Recreation Bay	TID/MID	100% Flowering	0.0006	Concentrated	Small occurrence just inside of project boundary near stock pond; pulled and removed from site at time of survey; Non-permitted grazing occurs in area
668	Sixbit Gulch	BLM	80% Flowering, 20% Vegetative	0.17	Diffuse	Small occurrence; Layne's ragwort (<i>Packera layneae</i>) also found at location; no disturbances seen at site
669	Sixbit Gulch	BLM and Private	80% Flowering, 20% Vegetative	6.86	Diffuse	Occurrence found along creek to top; follows high water mark (HWM) above and below
961	Poor Man's Gulch	BLM	100% Fruiting	0.00002	Concentrated	Small occurrence between rocks and HWM; no disturbances seen at site
963	Poor Man's Gulch	BLM	100% Fruiting	14.6	Diffuse	Very large occurrence mostly along creek but also extends into hillsides; cattle/horse trail seen at site
Tree-of-Heaven						
11	Fleming Point - old homestead	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within permitted, heavily grazed introduced annual grassland
246	Shawmut Rd.	Private	100% Vegetative	I	Diffuse	Occurrence immediately adjacent to Shawmut Rd. within 100 ft of HWM
253	Shawmut Rd.	TID/MID	100% Vegetative	I	Diffuse	Small occurrence on roadcut and bank above

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
254	Shawmut Rd.	TID/MID	100% Vegetative	I	Diffuse	Occurrence found along HWM extending into slope above
900	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Occurrence found on steep slope above graded parking lot
902	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	One tree found at immediate edge of access road
903	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Small occurrence along riverbank; occasionally inundated due to water releases at powerhouse
Giant reed						
907	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	0.11	Concentrated	Large, well established occurrence at turn of access road
Smooth distaff thistle						
109	Kanaka Point	TID/MID	100% Vegetative	0.71	Diffuse	Occurrence found on disturbed grassy hillslope extending approx. 20 ft above and below HWM
216	Kanaka Point	BLM	100% Vegetative	0.002	Concentrated	Occurrence found within disturbed grassy hillslopes extending 20ft above and below HWM and along foot trail; yellow starthistle (<i>Centaurea solstitialis</i>) also found at location
229	Kanaka Point	TID/MID	100% Fruiting	0.0006	Concentrated	Occurrence located approx. 300' from Jacksonville Rd. and gate; all from previous season
239	Kanaka Point	TID/MID	100% Vegetative	0.057	Concentrated	Small occurrence; many more stems found from previous season than current season

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
248	Jacksonville Rd.	TID/MID	100% Vegetative	0.002	Diffuse	Very small occurrence including stems from previous season; pulled and removed from site at time of survey
249	Jacksonville Rd.	TID/MID	100% Vegetative	0.002	Concentrated	Very small occurrence; all from previous season
250	Jacksonville Rd.	BLM and TID/MID and Private	100% Vegetative	0.67	Concentrated	Occurrence extends into buffer area and is widely scattered on slope; all from previous season
251	Jacksonville Rd.	BLM	100% Vegetative	0.1	Concentrated	Occurrence found along fence; all from previous year
266	Moccasin Point Recreation Area	BLM	75% Flowering, 25% Vegetative	0.19	Diffuse	Occurrence found in waste area on top of and around dirt piles; yellow starthistle also found at location
268	Moccasin Point Recreation Area	BLM	100% Vegetative	0.013	Diffuse	Occurrence found along Jacksonville Rd; yellow starthistle also found at location
269	Moccasin Point Recreation Area	BLM	100% Vegetative	0.056	Diffuse	Small occurrence found along Jacksonville Rd; yellow starthistle also found at location
270	Jacksonville Rd.	TID/MID	100% Vegetative	0.019	Diffuse	Small occurrence; all from previous year
285	Woods Creek Arm	TID/MID	100% Vegetative	0.095	Diffuse	Occurrence extends in narrow band at and above HWM; pulled and removed from site at time of survey; Medusahead grass (<i>Elymus caput-medusae</i>) and yellow starthistle also found at location

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
671	Kanaka Point	TID/MID	100% Vegetative	0.009	Concentrated	Small occurrence along edge of study area; pulled and removed at time of survey
672	Kanaka Point	TID/MID	100% Vegetative	0.042	Concentrated	Small occurrence found along HWM; pulled and removed at time of at time of survey
Yellow starthistle						
26	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence scattered throughout old roadbed
30	Moccasin Point Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence concentrated in open disturbed area from HWM up to access road
34	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found along dry, rocky streambed; extends down to HWM
35	Moccasin Point Recreation Area	BLM	100% Vegetative	I	Concentrated	Occurrence found in disturbed opening adjacent to access road
38	Moccasin Point Recreation Area	BLM	100% Vegetative	I	Concentrated	Occurrence found in large, disturbed opening adjacent to road
39	Moccasin Point Recreation Area	BLM	100% Vegetative	I	Concentrated	Occurrence found in large, disturbed area above Moccasin Creek
51	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in fill cutslope of boat ramp access road
59	Moccasin Point Recreation Area	BLM	100% Vegetative	II	Diffuse	Mid-sized occurrence found around parking lot & adjacent gravel pit
62	Moccasin Point Recreation Area	BLM	100% Vegetative	II	Diffuse	Occurrence found along marina access road

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
63	Moccasin Point Recreation Area	BLM	100% Vegetative	IV	Concentrated	Occurrence located at large gravel pit between Jacksonville Rd & marina access
64	Moccasin Point Recreation Area	BLM	100% Vegetative	IV	Concentrated	Occurrence located within an open, disturbed area west of Jacksonville Rd at junction of Hwy 49
70	Moccasin Point Recreation Area	Private	100% Vegetative	III	Concentrated	Occurrence located within an open, disturbed area west of Jacksonville Rd at junction of Hwy 49
91	Kanaka Point	TID/MID	100% Vegetative	III	Concentrated	Occurrence located at HWM within large disturbed area at Kanaka point parking lot
94	Kanaka Point	BLM	100% Vegetative	I	Diffuse	Occurrence found within open, rocky area on serpentine soil
96	Moccasin Point Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence found in disturbed opening below Hwy 49
106	Moccasin Point Recreation Area	BLM	100% Vegetative	I	Concentrated	Occurrence found in abandoned concrete foundation
112	Grizzly Rd. Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence is adjacent to Grizzly Rd parking area
115	Grizzly Rd. Area	BLM	100% Vegetative	I	Concentrated	Occurrence found at Grizzly Peak right-of-way (ROW)
117	Grizzly Rd. Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in disturbed opening approx 20 ft above old road
119	Grizzly Rd. Area	BLM	100% Vegetative	I	Concentrated	Occurrence found at HWM in roadbed of access road
123	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found on open, disturbed hillslope above access road

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
127	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found at Moccasin Recreation Area access ROW
230	Jacksonville Rd.	TID/MID	50% Vegetative, 50% Fruiting	II	Diffuse	Occurrence covers steep embankment below Jacksonville Rd
205	Highway 49 Bridge	TID/MID and Private	100% Vegetative	I	Diffuse	Occurrence located on slope beneath old road
218	Jacksonville Rd.	BLM	100% Vegetative	II	Diffuse	Occurrence found on slope
219	Kanaka Point	TID/MID	100% Vegetative	II	Diffuse	Occurrence scattered throughout area
234	Jacksonville Rd.	BLM	100% Vegetative	II	Diffuse	Occurrence located along Jacksonville Rd ROW
238	Jacksonville Rd.	TID/MID	100% Vegetative	II	Diffuse	Large occurrence on hillside below road
242	Jacksonville Rd.	TID/MID	100% Vegetative	I	Concentrated	Small occurrence pulled and removed at time of survey
255	Shawmut Rd.	TID/MID	100% Vegetative	II	Concentrated	Occurrence found downslope of road
262	Moccasin Point Recreation Area	Private	100% Vegetative	II	Diffuse	Occurrence extends along edge of disturbed graded area
265	Moccasin Point Recreation Area	BLM	100% Vegetative	II	Diffuse	Small occurrence located on raised bed above borrow area
286	Woods Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Large occurrence extending approx. 30 ft above and below of HWM; Smooth distaff thistle and Medusahead grass found at site
648	Highway 49 Bridge	Private	100% Vegetative	II	Concentrated	Occurrence located near roadside; yellow starthistle also found at site
935	Moccasin Transmission line area	BLM	100% Flowering	I	Diffuse	Occurrence located within disturbed area extending from aqueduct to above HWM

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
962	Poor Man's Creek	BLM	100% Vegetative	I	Concentrated	Small occurrence along creek side; pulled and removed at time of survey
1208	Kanaka Creek Area	BLM	100% Vegetative	I	Concentrated	Small occurrence located on steep south facing slope
1286	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located on lower roadcut of Grizzly Rd
Bermudagrass						
57	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found along edge of marina parking lot
65	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found along Jacksonville Rd. roadcut
76	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located at HWM on disturbed grassy slope
87	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Scattered occurrence found along Bonds Flat Rd ROW
92	Kanaka Point	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within large disturbed area at HWM
111	Grizzly Rd. Area	Private	100% Vegetative	I	Concentrated	Occurrence is adjacent to Grizzly Rd parking area
114	Grizzly Rd. Area	BLM	100% Vegetative	I	Concentrated	Occurrence located at Grizzly Peak ROW
130	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	III	Diffuse	Occurrence found on slope within non-permitted, heavily grazed area; area is also summer irrigated
131	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in non-permitted, heavily grazed in area adjacent to Big Creek

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
145	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	II	Diffuse	Occurrence located on gravel bar at mouth of spillway channel; Non-permitted grazing occurs; within area of inundation when releases occur from spillway
146	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Small occurrence located on gravel bar at mouth of spillway channel; Non-permitted grazing occurs; within area of inundation when releases occur from spillway
147	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	II	Diffuse	Occurrence found on terrace base; Non-permitted grazing occurs
169	Don Pedro Powerhouse Access Road	BLM	50% Vegetative, 50% Flowering	I	Concentrated	Occurrence found adjacent to spillway within non-permitted grazed area
170	Don Pedro Powerhouse Access Road	TID/MID	50% Vegetative, 50% Flowering	I	Concentrated	Occurrence located on bank below dirt maintenance road; Non-permitted grazing occurs
178	Blue Oaks Recreation Area Sewage Ponds	TID/MID	50% Vegetative, 50% Flowering	I	Concentrated	Occurrence found in ring around waste-water treatment pond.
191	Blue Oaks Recreation Area Sewage Ponds	TID/MID	70% Vegetative, 30% Flowering	I	Concentrated	Occurrence found within permitted grazed area
192	Blue Oaks Recreation Area Sewage Ponds	TID/MID	100% Vegetative	I	Concentrated	Occurrence located below waste treatment pond
197	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Very small occurrence located within draw

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
209	Hatch Creek Arm	Private	98% Vegetative, 2% Flowering	II	Diffuse	Occurrence found at north-east end of road in cracks of asphalt
210	Hatch Creek Arm	TID/MID	98% Vegetative, 2% Flowering	I	Diffuse	Small occurrence found at roadside
211	Hatch Creek Arm	TID/MID	98% Vegetative, 2% Flowering	I	Diffuse	Scattered occurrence within 25 yards of HWM
215	Hatch Creek Arm	TID/MID	98% Vegetative, 2% Flowering	>II	Diffuse	Occurrence scattered and patchy; found along entire road edge and roadway cracks extending down to Hatch Creek
222	Kanaka Point	BLM	100% Vegetative	I	Diffuse	Occurrence scattered along Kanaka Point access road
223	Kanaka Point	BLM and TID/MID	100% Vegetative	I	Diffuse	Occurrence scattered along Kanaka Point access road
231	Jacksonville Rd.	TID/MID	100% Vegetative	I	Diffuse	Small occurrence scattered in roadway cracks
236	Jacksonville Rd.	TID/MID	100% Vegetative	I	Diffuse	Small occurrence located along Jacksonville Rd
237	Jacksonville Rd.	TID/MID	100% Vegetative	I	Diffuse	Occurrence found in clusters on each side of road
243	Jacksonville Rd.	TID/MID	100% Vegetative	I	Concentrated	Single plant found along Jacksonville Rd
244	Jacksonville Rd.	BLM	100% Vegetative	I	Concentrated	Patchy occurrence found at Kanaka Point access and Jacksonville Rd
245	Jacksonville Rd.	BLM	100% Vegetative	I	Concentrated	Small occurrence located along Jacksonville Rd
247	Jacksonville Rd	BLM	100% Vegetative	I	Concentrated	Scattered occurrence located along dirt road
252	Shawmut Rd.	TID/MID	90% Vegetative, 10% Fruiting	I	Diffuse	Occurrence found along road curb and in cracks

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
261	Moccasin Point Recreation Area	BLM	80% Vegetative, 20% Flowering	I	Diffuse	Small occurrence found in roadway cracks of paved road
264	Moccasin Point Recreation Area	TID/MID	50% Vegetative, 50% Flowering	I	Concentrated	Small occurrence found adjacent to parking lot
276	Moccasin Transmission line area	TID/MID	100% Flowering	I: 5x15	Diffuse	Patchy occurrence found on old access rd
277	Moccasin Transmission line area	BLM	100% Flowering	I: 35x20	Diffuse	Small occurrence found along creek
278	Moccasin Transmission line area	BLM	100% Flowering	I: 45x10	Diffuse	Occurrence located on graded road under transmission line
279	Moccasin Transmission line area	BLM	100% Flowering	I	Diffuse	Occurrence sparsely scattered along loop road
280	Moccasin Transmission line area	BLM	100% Flowering	I: ~120	Diffuse	Occurrence located on graded road approx. 100 yards from siphon pipe
281	Moccasin Transmission line area	Private	100% Flowering	I: 5x10	Diffuse	Occurrence located at edge of road within graded area under transmission line
282	Recreation Bay	Private	50% Flowering, 50% Fruiting	I	Diffuse	Occurrence scattered along small stream from stock pond to HWM; Non-permitted grazing occurs in area
300	Blue Oaks Recreation Area	TID/MID	75% Vegetative, 25% Flowering	III	Diffuse	Occurrence found at HWM and extends along road outside of study area; within area of inundation
336	Blue Oaks Recreation Area	TID/MID	100% Vegetative	IV	Diffuse	Occurrence forms an extensive ring at margin of HWM and extends below.

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
345	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Concentrated	Occurrence forms an extensive ring at margin of HWM and extends below.
360	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence forms approx. 10 ft wide strip above HWM; extends below HWM
371	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Large, dense occurrence contiguous with bike/hike path
397	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found within wetland area; poor drainage along road
398	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence along both edges of road extending west into low graded area; extends up from HWM
413	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found below HWM
414	Blue Oaks Recreation Area	TID/MID	95% Vegetative, 5% Flowering	I	Concentrated	Small occurrence located at edge of pavement
421	Blue Oaks Recreation Area	TID/MID	80% Vegetative, 20% Flowering	I	Concentrated	Occurrence located on gravel at west edge of paved road
463	Rogers Creek Arm	TID/MID	100% Vegetative	III	Concentrated	Mid-sized occurrence in inundation zone around creek
470	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Occurrence found growing in cracks along side of roadway
473	Rogers Creek Arm	TID/MID	100% Flowering	II	Diffuse	Occurrence found on both sides of creek
517	Big Creek	TID/MID	50% Vegetative, 50% Flowering	II	Diffuse	Occurrence located both sides of road; surrounding ponds and at power box

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
519	DPRA Staff Housing	TID/MID	100% Flowering	I	Concentrated	Occurrence located at edge of highly disturbed turn-around area
525	Rogers Creek Arm	Private	100% Flowering	I	Concentrated	Small occurrence along disturbed road edge; due to auto pullout
542	Rogers Creek Arm	Private	100% Flowering	I	Concentrated	Small occurrence along outer edge of parking area
551	Fleming Meadows Recreation Area	TID/MID	90% Vegetative, 10% Flowering	I	Concentrated	Small occurrence along roadway
552	Fleming Meadows Recreation Area	TID/MID	10% Vegetative, 90% Flowering	I	Diffuse	Occurrence located within highly disturbed parking lot/lawn edge
556	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Occurrence located within stream channel
565	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Diffuse	Small occurrence within area of previously irrigated pasture
566	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Diffuse	Small occurrence located among rocks at stream edge
572	Fleming Meadows Recreation Area	TID/MID	50% Flowering, 50% Fruiting	I	Concentrated	Small occurrence located within ditch at edge of parking lot
579	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Diffuse	Occurrence located along edge of sandy area around lake
580	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence runs along edge of paved road
582	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Small occurrence located within area that was mowed
585	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Diffuse	Small occurrence located in a strip along road edge

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
595	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Small occurrence at edge of asphalt
601	Blue Oaks Recreation Area	TID/MID	90% Vegetative, 10% Flowering	I	Concentrated	Small occurrence at road edge
602	Blue Oaks Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence scattered along road and throughout entire area
622	DPRA Headquarters	TID/MID	100% Vegetative	I	Concentrated	Small occurrence in DPRA HQ lawn area
624	DPRA Headquarters	TID/MID	100% Vegetative	I	Concentrated	Small occurrence in DPRA HQ parking area
625	DPRA Headquarters	TID/MID	100% Vegetative	I	Concentrated	Small occurrence near DPRA HQ building & foot path
635	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Single clump along access roadway
650	Don Pedro Bar	TID/MID	50% Vegetative, 50% Flowering	>10ac.	Concentrated	Very concentrated occurrence near HWM
667	Poor Man's Creek	BLM	50% Vegetative, 50% Flowering	II	Diffuse	Occurrence located within riparian area from HWM up to boundary of study area along length of creek
670	Sixbit Gulch	BLM	90% Vegetative, 10% Flowering	II	Diffuse	Occurrence located within riparian area above HWM along length of creek
683	Don Pedro Bar	BLM	80% Vegetative, 20% Flowering	I	Diffuse	Occurrence is scattered within fenced mining 'rehab' site; does not continue outside of boundary
931	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Occurrence located next to stock pond; Non-permitted grazing occurs

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
941	49er Bay	TID/MID	90% Vegetative, 10% Flowering	I	Concentrated	Occurrence located in middle of drainage; cattle trail through occurrence; Non-permitted grazing occurs
942	49er Bay	Private	90% Vegetative, 10% Flowering	I	Concentrated	Small occurrence located within rocky area of drainage; Non-permitted grazing occurs
1213	Fleming Meadows Point - Old Homestead	TID/MID	50% Flowering, 50% Fruiting	I	Concentrated	Single plant found in road; Permitted grazing occurs
1218	Fleming Meadows Point - Old Homestead	TID/MID	100% Flowering	I	Diffuse	Small occurrence found on road; Permitted grazing occurs
1229	Fleming Meadows Point - Old Homestead	TID/MID	100% Flowering	I	Diffuse	Small occurrence along roadway; Permitted grazing occurs; Medusahead grass also found at location
1248	Fleming Meadows Point - Old Homestead	TID/MID	50% Flowering, 50% Fruiting	I	Diffuse	Small occurrence found at probable "wallow" spot for cattle; Permitted grazing occurs
1261	Fleming Meadows Point - Old Homestead	Private	50% Vegetative, 50% Flowering	II	Diffuse	Occurrence found within stream channel; estimated heavy cattle use in wetland area; Permitted grazing occurs
1281	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Small occurrence found along edge of paved road; extends into cracks in asphalt
1287	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found along lower roadcut on Grizzly Rd
Medusahead grass						
40	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence along roadway

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
45	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Scattered occurrence on disturbed, permitted grazed slope
48	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within Bond Flat Rd ROW
61	Moccasin Point Recreation Area	BLM	100% Vegetative	I	Concentrated	Occurrence found on roadfill near Moccasin Point Marina
69	Moccasin Point Recreation Area	Private	100% Vegetative	I	Concentrated	Occurrence located along disturbed roadside of Hwy 49
72	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence located within disturbed area at HWM
73	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located adjacent to ephemeral drainage
75	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within Fleming Meadows campground at HWM
78	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found next to Bonds Flat Road on roadfill
79	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within permitted, heavily grazed pasture lands
80	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within permitted heavily grazed pasture lands
83	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	IV	Concentrated	Occurrence found within disturbed area of permitted heavily grazed pasture lands & in Bonds Flat Rd ROW
84	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within Bonds Flat Rd ROW

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
90	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within Bonds Flat Rd ROW
95	Moccasin Point Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence found within disturbed opening below Hwy 49
103	Moccasin Point Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence located within disturbed, grassy slope
104	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found next to rock tailing piles
122	Moccasin Point Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence located on open, disturbed slope above access road
132	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in permitted heavily grazed area; extends outside fence
133	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence located adjacent to roadway and access road to sewage treatment pond
134	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Diffuse	Occurrence located adjacent to road
137	Don Pedro Powerhouse Access Road	Private	100% Vegetative	I	Concentrated	Large occurrence located within permitted grazed area above creek on south facing slope
138	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence found along out-of-service dirt road
139	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Occurrence found along out-of-service dirt road
140	Don Pedro Powerhouse Access Road	BLM and TID/MID	100% Vegetative	I	Concentrated	Very small occurrence located partially within permitted grazed area near dirt and continues into non-permitted grazed area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
149	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence found within non-permitted grazed area of slope adjacent to spillway
151	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
152	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
153	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Patchy occurrence on slope within non-permitted grazed area
154	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Patchy occurrence on slope within non-permitted grazed area
155	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Small occurrence located within non-permitted grazed area
156	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Occurrence located at top of ridge within non-permitted grazed area
157	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Occurrence located at top of ridge within non-permitted grazed area
158	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence found on disturbed, old graded road bed
159	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence found on disturbed, old graded road bed
160	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence located within permitted grazed area
161	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
162	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area
163	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area
164	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area
165	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area
166	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area
167	Gasburg Dike	TID/MID	100% Vegetative	I	Concentrated	Occurrence found near dirt road that crosses spillway; Medusahead grass also found at location
171	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence; permitted horse grazing evident
172	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence; permitted horse grazing evident
173	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence approx. 90ft from Bonds Flat Rd; permitted horse grazing evident
174	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence; permitted horse grazing evident
175	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence NW of sewage treatment pond; no disturbances seen at site
176	Blue Oaks Recreation Area	TID/MID	80% Vegetative, 20% Flowering	I	Concentrated	Small occurrence N of sewage treatment pond; no disturbances seen at site

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
177	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located adjacent to Project boundary and extends into buffer zone
179	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area
180	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Concentrated occurrence found within permitted grazed area
181	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found within permitted grazed area
182	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Large occurrence located within permitted grazed area, scattered along east facing slope
183	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Diffuse	Large occurrence located within permitted grazed area, at bottom of swath of NE facing slope
184	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within permitted grazed area, at bottom of swath
185	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence located within permitted grazed area on NE facing slope
186	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence located within permitted grazed area in draw
187	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area
189	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
190	Blue Oaks Recreation Area	TID/MID	100% Vegetative	II	Concentrated	Small occurrence located within permitted grazed area
193	Blue Oaks Recreation Area	Private	100% Vegetative	III	Diffuse	Occurrence found within non-permitted grazed area and extends approx. 100ft beyond Project boundary
194	Blue Oaks Recreation Area Sewage Ponds	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found within permitted grazed area
195	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Patchy occurrence in dirt of roadbed
196	Blue Oaks Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence located within permitted grazed area
199	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence extends into buffer zone
200	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small patch within the recreation area
201	Schoolhouse Area	TID/MID	100% Vegetative	I	Concentrated	Isolated occurrence at HWM
202	Schoolhouse Area	TID/MID	100% Vegetative	I	Concentrated	Isolated occurrence found at topographic draw
203	Schoolhouse Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found in patch on ridge top
204	Schoolhouse Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found in slight depression on ridgeline
267	Moccasin Point Recreation Area	BLM	100% Vegetative	I	Diffuse	Occurrence located within disturbed area at the base of dirt pile
284	Recreation Bay	Private	100% Flowering	I	Concentrated	Occurrence located in non-permitted grazed area at edge of private access road

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
287	Woods Creek Arm	TID/MID	100% Flowering	I	Diffuse	Small occurrence near fallen tree; Smooth distaff thistle and yellow starthistle also found at site
323	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within small area adjacent to maintenance road; unauthorized foot/bike trail
330	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within disturbed grassland
331	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within disturbed grassland
333	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence located within large area of blue oak (<i>Quercus douglasii</i>) savannah/annual introduced grassland
335	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within swale below trail in blue oak savannah/annual introduced grassland
341	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found as swath adjacent to eroded gully
344	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in small area from trail edge to lake margin
355	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within blue oak savannah/annual introduced grassland
372	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence running along foot/bike trail
373	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence running along both sides of foot/bike trail
374	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence extends along both sides of trail below mowed campground edge

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
375	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Concentrated	Large occurrence found below mowed camp area
376	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Concentrated	Occurrence found within recreation area
377	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Concentrated	Occurrence covers entire slope in low swale
378	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence; no disturbances seen at site
379	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Concentrated	Large occurrence found within open grassland area
380	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within mowed area adjacent to roadway and campsites
381	Blue Oaks Recreation Area	BLM	100% Vegetative	I	Concentrated	Patchy occurrence; plants lodged around boulders in ephemeral drainage
382	Blue Oaks Recreation Area	BLM	100% Vegetative	I	Concentrated	Small occurrence on west-facing slope
383	Blue Oaks Recreation Area	BLM	100% Vegetative	III	Concentrated	Large occurrence extending into area to the east beyond "NO ENTRY" sign
384	Blue Oaks Recreation Area	BLM	100% Vegetative	I	Concentrated	Small occurrence located on west facing slope; no disturbances seen at site
385	Blue Oaks Recreation Area	BLM	100% Vegetative	I	Concentrated	Large occurrence; no disturbances seen at site
386	Blue Oaks Recreation Area	TID/MID and private	100% Vegetative	I	Concentrated	Occurrence extends upslope in low swale and beyond "NO ENTRY" sign
388	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Large occurrence; no disturbances seen at site
389	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence; no disturbances seen at site
390	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence; no disturbances seen at site

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
391	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence; no disturbances seen at site
392	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence extending toward SE; no disturbances seen at site
393	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in swale on east slope; no disturbances seen at site
394	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located near old road cut below trail
395	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located approx. 20ft below trail; no disturbances seen at site
396	Blue Oaks Recreation Area	Private	100% Vegetative	I	Concentrated	Small occurrence beyond project fenceline extending into project area
399	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Concentrated	Small occurrence in swale on both sides of ephemeral drainage
400	Blue Oaks Recreation Area	TID/MID	100% Vegetative	II	Concentrated	Large occurrence in drainage swale, roadway and highway edge extending into buffer zone
402	Blue Oaks Recreation Area	TID/MID	100% Vegetative	IV	Concentrated	Large occurrence found in highly disturbed dam overflow area next to roadway and extending to dam apron
403	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Small occurrence located within scour area of main spillway
404	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located at top of cut slope extending over
405	Blue Oaks Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence found within disturbed area extending beyond fenceline

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
406	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found within highly disturbed area adjacent to "borrow area"
407	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located at edge of parking lot
408	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence located in swath between parking lots
409	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence runs along outer campground access road
410	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found within disturbed area running along outer campground access road
411	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Very small occurrence within the recreation area
412	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Concentrated	Occurrence found within swath in draw draining to culvert
415	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found within low drainage area adjacent to road and campsite
416	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence found within low swale in two converging drainages extending west into "NO ENTRY" buffer zone
417	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Small occurrence running along fence extending southward beyond fence into "NO ENTRY" buffer zone
418	Blue Oaks Recreation Area	TID/MID	100% Vegetative	IV	Diffuse	Very large occurrence located between fenceline roadway extending west into "NO ENTRY" buffer zone

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
419	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within disturbed burn pile area extending into "NO ENTRY" buffer zone westward
420	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found near evidence of old trail and roadway
422	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Small occurrence wrapping around restroom facility
423	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence adjacent to campsite in low swale
424	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located on slope below paved road
426	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence found on slope between two campground roads; severe drainage erosion from infested areas to west
427	Blue Oaks Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Large occurrence found off roadway bordering a drainage channel
428	Blue Oaks Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence found on old roadway
429	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence located near restroom facility
430	Blue Oaks Recreation Area	TID/MID	100% Vegetative	III	Diffuse	Occurrence encircled on 3 sides by road; bordered by extensive infested area to west
437	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Small occurrence located on steep, north-facing roadcut extending into "NO ENTRY" buffer zone where likely abundant
441	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Occurrence immediately adjacent to highway

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
442	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Occurrence located in swath on roadfill slope adjacent to highway
443	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Occurrence located on fill slope adjacent to highway
444	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Occurrence found at road edge
455	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Small occurrence found within open grassland area
465	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Occurrence at edge of creek
466	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence on berm next to roadway
468	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Occurrence runs along creek
469	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within open annual grasslands
496	Rogers Creek Arm	TID/MID	100% Vegetative	II	Concentrated	Large occurrence in moderate swale in open grasslands
509	Rogers Creek Arm	TID/MID	100% Vegetative	II	Diffuse	Large occurrence found within low valley floor extending beyond project boundary; recent vehicle activity noted
512	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Large occurrence found within open grasslands
515	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Large occurrence found within slight swale in open grassland
518	Big Creek	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found on axis of contour
520	Rogers Creek Arm	TID/MID	100% Flowering	III	Diffuse	Large, scattered occurrence found within open, non-permitted grazed grassland
521	Rogers Creek Arm	TID/MID	100% Flowering	II	Diffuse	Occurrence scattered on both sides of stream course

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
522	Rogers Creek Arm	Private	100% Flowering	I	Diffuse	Small occurrence found along road edge extending upslope on cut bank
523	Rogers Creek Arm	Private	100% Flowering	I	Diffuse	Occurrence found along roadway and edge of turnout
524	Rogers Creek Arm	Private	100% Flowering	I	Diffuse	Small occurrence located on terraced area adjacent to road bisected by drainage ditch
526	Rogers Creek Arm	TID/MID	100% Flowering	I	Concentrated	Small occurrence found within open grassland area
527	Rogers Creek Arm	TID/MID	100% Flowering	I	Concentrated	Small occurrence found on open slope; no disturbances seen at site
528	Rogers Creek Arm	TID/MID	100% Flowering	I	Concentrated	Small occurrence; no disturbances seen at site
529	Rogers Creek Arm	TID/MID	100% Flowering	I	Concentrated	Small occurrence; no disturbances seen at site
530	Rogers Creek Arm	Private	100% Flowering	I	Diffuse	Small occurrence located within open grassland; no disturbances seen at site
531	Rogers Creek Arm	TID/MID	100% Flowering	I	Diffuse	Small occurrence located within non-permitted grazed area near stock gate
532	Rogers Creek Arm	TID/MID	100% Flowering	I	Diffuse	Small occurrence located within non-permitted grazed area
533	Rogers Creek Arm	TID/MID	100% Flowering	I	Diffuse	Occurrence found within slight swale
534	Rogers Creek Arm	TID/MID	100% Flowering	III	Diffuse	Very large occurrence extending throughout most of valley
535	Rogers Creek Arm	TID/MID	100% Flowering	I	Diffuse	Small occurrence found along roadway

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
536	Rogers Creek Arm	Private	100% Flowering	I	Diffuse	Two small occurrences approx 50 ft apart
537	Rogers Creek Arm	Private	100% Flowering	II	Diffuse	Large occurrence found along ephemeral stream and surrounding slopes
539	Fleming Meadows Point - Old Homestead	TID/MID	100% Flowering	II	Diffuse	Patchy occurrence located within permitted grazed area
540	Fleming Meadows Point - Old Homestead	TID/MID	100% Flowering	II	Diffuse	Patchy occurrence within permitted grazed area
541	Rogers Creek Arm	Private	100% Flowering	I	Concentrated	Occurrence located within roadfill material at edge of parking area
543	Rogers Creek Arm	Private	100% Flowering	I	Diffuse	Occurrence found along road slope continuing toward roadfill
544	Rogers Creek Arm	Private	100% Flowering	I	Concentrated	Small occurrence at the intersection of access roads
545	Rogers Creek Arm	Private	50% Flowering, 50% Fruiting	I	Diffuse	Occurrence found along road edge
546	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Occurrence found along roadway edge
547	Fleming Meadows Recreation Area	TID/MID	50% Flowering, 50% Fruiting	IV	Diffuse	Very large occurrence found within wetland area
548	Fleming Meadows Recreation Area	TID/MID	50% Flowering, 50% Fruiting	I	Diffuse	Occurrence runs along road edge
549	Fleming Meadows Recreation Area	TID/MID	80% Flowering, 20% Fruiting	I	Diffuse	Occurrence follows road on both sides
550	Fleming Meadows Recreation Area	TID/MID	50% Flowering, 50% Fruiting	I	Diffuse	Occurrence located within the recreation area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
553	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Concentrated	Occurrence located within mowed picnic area
557	Fleming Meadows Recreation Area	TID/MID	40% Flowering, 60% Fruiting	III	Diffuse	Large occurrence within formerly irrigated pasture on slope
558	Fleming Meadows Recreation Area	TID/MID	60% Flowering, 40% Fruiting	I	Diffuse	Patchy occurrence on hillslope
559	Fleming Meadows Recreation Area	TID/MID	60% Flowering, 40% Fruiting	I	Diffuse	Small occurrence on hillslope
560	Fleming Meadows Recreation Area	TID/MID	90% Flowering, 10% Fruiting	I	Diffuse	Large, patchy occurrence found within formerly irrigated pasture
564	Fleming Meadows Recreation Area	TID/MID	10% Flowering, 90% Fruiting	I	Diffuse	Occurrence located near stream
567	Fleming Meadows Recreation Area	TID/MID	10% Flowering, 90% Fruiting	I	Concentrated	Small occurrence within formerly irrigated pasture
568	Fleming Meadows Recreation Area	TID/MID	50% Flowering, 50% Fruiting	I	Concentrated	Small occurrence within formerly irrigated pasture on hillslope
569	Fleming Meadows Recreation Area	TID/MID	20% Flowering, 80% Fruiting	III	Diffuse	Very large occurrence within recreation area
570	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Occurrence surrounded by road in mowed area
571	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Concentrated	Occurrence forms linear swath along edge of parking area extending into mowed area beyond
575	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Occurrence located within mowed campground area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
576	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Occurrence located within mowed campground area
577	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Occurrence located within mowed picnic area
578	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Small occurrence located within mowed campground area
581	Fleming Meadows Recreation Area	TID/MID	10% Flowering, 90% Fruiting	I	Diffuse	Irregular shaped occurrence located within mowed campground area
583	Fleming Meadows Recreation Area	TID/MID	50% Flowering, 50% Fruiting	I	Diffuse	Small occurrence located within mowed area
584	Fleming Meadows Recreation Area	TID/MID	50% Flowering, 50% Fruiting	I	Diffuse	Small occurrence located within mowed area
586	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Occurrence located along roadway in mowed area
587	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Small occurrence located within mowed area
588	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Diffuse	Occurrence located within campsite tent pad
589	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Small occurrence; no disturbances seen at site
590	Fleming Meadows Recreation Area	TID/MID	50% Flowering, 50% Fruiting	I	Diffuse	Patchy occurrence located within a partly mowed draw
591	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Occurrence located in dense introduced grasses; no disturbances seen at site

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
592	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Small occurrence; no disturbances seen at site
593	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Small occurrence located within draw below HWM
594	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Concentrated	Occurrence found at edge of roadway turn-around
596	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Concentrated	Occurrence found within highway ROW
599	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Concentrated	Occurrence found within area that had been partly mowed
600	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found along side of roadway
626	DPRA Headquarters	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found near horse pasture gate with vehicle traffic and permitted horse grazing
628	DPRA Headquarters	TID/MID	100% Vegetative	I	Diffuse	Scattered occurrence near area with obvious vehicle traffic between maintenance yard and DPRA headquarters
631	DPRA Headquarters	TID/MID	100% Vegetative	I	Diffuse	Scattered occurrence in small area near maintenance yard
634	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	III	Diffuse	Long, thin occurrence mostly near road and fenceline
636	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence near large pile of boulders
640	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	II	Diffuse	Occurrence scattered along roadway
641	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Diffuse	Scattered occurrence near roadway and pooling water

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
642	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	III	Diffuse	Large occurrence running along roadway
643	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence in the middle of old road bed
644	Mine Island	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located near ridge top of non-permitted grazed island
645	Mine Island	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located near ridge top of non-permitted grazed island
646	49er Bay	Private	100% Vegetative	III	Concentrated	Occurrence located on non-permitted grazed hillslope
648	Green Bay	TID/MID	100% Flowering	>10ac.	Concentrated	Very large occurrence located within non-permitted heavily grazed area
651	49er Bay	TID/MID	100% Vegetative	>10ac.	Concentrated	Very large occurrence within non-permitted heavily grazed area
653	Ramos Creek Area	Private	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
662	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence on non-permitted grazed hillslopes
664	49er Bay	TID/MID	100% Flowering	II	Diffuse	Large, patchy occurrence scattered throughout non-permitted grazed hillslopes
665	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence in non-permitted grazed area; pulled and removed at time of survey
666	49er Bay	TID/MID	100% Flowering	I	Diffuse	Large, patchy occurrence scattered throughout non-permitted grazed hillslopes

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
674	Don Pedro Bar	Private	100% Flowering	I	Diffuse	Patchy occurrence throughout non-permitted grazed hillslope
676	Don Pedro Bar	BLM	100% Flowering	I	Concentrated	Small occurrence near fenced area
677	Green Bay	TID/MID	100% Flowering	II	Concentrated	Large occurrence with a cattle trail cutting through toward shore; non-permitted grazing cattle within 50 yards of HWM
678	Green Bay	Private	100% Flowering	I	Concentrated	Occurrence within 50 yards of HWM
679	Green Bay	TID/MID	50% Vegetative, 50% Flowering	I	Concentrated	Occurrence located just above HWM continuing along drainage on both sides; cattle impactation all over area
901	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Diffuse	Occurrence located within midline of access road
905	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Diffuse	Occurrence at side of access road to powerhouse
906	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Diffuse	Small occurrence along access road to powerhouse
909	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	III	Diffuse	Occurrence in discontinuous swath between road and fenceline extending along spillway channel edge and scattered upslope
912	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence along Bonds Flat Rd
915	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Patchy occurrence found within introduced annual grasslands; area just located outside of permitted grazing area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
918	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence at edge of old graded road; area sporadic permitted grazing
919	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence follows slight swale upslope
920	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence found within introduced annual grasslands; sporadic permitted grazing
921	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence follows slight swale upslope
923	Gasburg Dike	TID/MID	100% Vegetative	I	Concentrated	Occurrence extends down topographic swale within permitted grazed lands
925	Gasburg Dike	TID/MID	100% Vegetative	III	Diffuse	Occurrence extends down swale within permitted grazed lands
926	Gasburg Dike	TID/MID	100% Vegetative	III	Diffuse	Small occurrence on slopes above dike within permitted grazed lands
928	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Diffuse	Patchy occurrence found within introduced annual grasslands
929	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Occurrence located within heavy thatch in draw
930	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Patchy occurrence located on both sides of ephemeral draw above pond
932	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Occurrence located within ephemeral draw
934	Moccasin Transmission line area	TID/MID	100% Flowering	I	Diffuse	Occurrence located along old roadway above HWM and scattered toward NE and south upslope
936	Moccasin Transmission line area	TID/MID	100% Flowering	III	Concentrated	Large, patchy occurrence near transmission line and access road

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
937	49er Bay	TID/MID	100% Flowering	III	Diffuse	Scattered occurrence throughout non-permitted grazed drainage and hillsides
938	49er Bay	TID/MID	100% Flowering	I	Diffuse	Scattered occurrence within non-permitted grazed, narrow drainage
939	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence on non-permitted grazed hillside
940	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence on non-permitted grazed hillside
943	49er Bay	TID/MID	100% Flowering	III	Diffuse	Occurrence located near non-permitted grazed fenceline extending into "NO ENTRY" private property
944	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence found within non-permitted grazed area
945	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence in discrete patch near fallen log in non-permitted grazed area
946	49er Bay	TID/MID	100% Flowering	I	Diffuse	Patchy occurrence within depression near creek in non-permitted grazed area
947	49er Bay	TID/MID	100% Flowering	I	Diffuse	Small, patchy occurrence located within non-permitted grazed area
948	49er Bay	TID/MID	100% Flowering	II	Diffuse	Patchy occurrence throughout drainage within non-permitted grazed area
949	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence located near fenceline within non-permitted grazed area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
950	49er Bay	TID/MID	100% Flowering	III	Diffuse	Large, scattered occurrence found in drainage and adjacent hillslope
951	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence located at bottom of non-permitted grazed hillside
952	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence found on saddle of non-permitted grazed hillslope
953	49er Bay	TID/MID	100% Flowering	I	Diffuse	Patchy occurrence on top of non-permitted grazed hillslope
954	49er Bay	TID/MID	100% Flowering	I	Concentrated	Small occurrence found on saddle of non-permitted grazed hillslope
955	49er Bay	Private	100% Fruiting	III	Diffuse	Scattered occurrence within non-permitted grazed area extending beyond fenceline
956	49er Bay	Private	100% Fruiting	I	Concentrated	Small occurrence near cabin within fenced area; non-permitted grazing prolific throughout area
957	49er Bay	Private	100% Fruiting	II	Diffuse	Large occurrence scattered throughout depression between roadway and fenceline
958	49er Bay	TID/MID	100% Fruiting	II	Diffuse	Small occurrence just below cabin within fenced area; non-permitted grazing prolific throughout area
959	49er Bay	TID/MID	100% Fruiting	II	Diffuse	Occurrence follows drainage over hillside near non-permitted cattle corral extending into fenced area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
960	49er Bay	Private	100% Fruiting	II	Diffuse	Large occurrence located outside of non-permitted cattle corral near ranch house
1200	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Concentrated	Occurrence location had been mechanically mowed
1203	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Concentrated	Occurrence found in highway ROW
1207	Fleming Meadows Recreation Area	TID/MID	10% Flowering, 90% Fruiting	IV	Diffuse	Very large occurrence found from fenceline upslope 2/3 to ridgeline
1210	Kanaka Creek Area	TID/MID	100% Fruiting	I	Concentrated	Small occurrence within
1212	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Small occurrence located near peninsula end of point; Permitted grazing occurs
1214	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Occurrence found in dirt access road and turn-around area; Permitted grazing occurs
1215	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Small occurrence west of dirt access road; Permitted grazing occurs
1216	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Small occurrence east of dirt access road; Permitted grazing occurs
1217	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Occurrence found in middle of dirt access road; Permitted grazing occurs
1219	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Occurrence found along dirt access road; Permitted grazing occurs
1220	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Small occurrence found on a swale north of dirt access road; Permitted grazing occurs

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
1221	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Occurrence runs along dirt access road; Permitted grazing occurs
1226	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Small, scattered occurrence found on slope; Permitted grazing occurs
1227	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Small occurrence at edge and on dirt access road; Permitted grazing occurs
1228	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Occurrence found in and along dirt access road; Permitted grazing occurs
1230	Fleming Meadows Point - Old Homestead	TID/MID	100% Flowering	I	Diffuse	Patchy occurrence running along dirt access road; Permitted grazing occurs
1237	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Small occurrence near open grassland; Permitted grazing occurs
1238	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	IV	Diffuse	Very large occurrence found within open grassland area; Permitted grazing occurs
1239	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	II	Diffuse	Occurrence triangular shaped near fenceline; Permitted grazing occurs
1240	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	II	Diffuse	Large occurrence extending to shoreline; Permitted grazing occurs
1241	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Occurrence found downslope of Bonds Flat Rd; Permitted grazing occurs
1243	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Occurrence found on east side of dirt access road; Permitted grazing occurs

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
1244	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Small occurrence found within open grassland area; Permitted grazing occurs
1245	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Large occurrence adjacent to well used cattle trail; Permitted grazing occurs
1249	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Large occurrence found at cattle "wallow" area; Bermudagrass also found at site; Permitted grazing occurs
1251	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Small occurrence found in 2 patches; Permitted grazing occurs
1252	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Small occurrence located near edge of roadway; Permitted grazing occurs
1253	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Small occurrence located near crossing of dirt access roads; Permitted grazing occurs
1257	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	II	Diffuse	Large, scattered occurrence found throughout area; Permitted grazing occurs
1258	Fleming Meadows Point - Old Homestead	TID/MID	99% Fruiting, 1% Flowering	I	Diffuse	Small occurrence within blue oaks/ introduced annual grasslands; Permitted grazing occurs
1259	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Patchy occurrence found within blue oaks/ introduced annual grasslands; Permitted grazing occurs

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
1262	Fleming Meadows Point - Old Homestead	Private	100% Fruiting	I	Diffuse	Small occurrence near fenceline; Permitted grazing occurs
1264	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	IV	Diffuse	Very large occurrence adjacent to highway extending well into buffer zone; Permitted grazing occurs
1268	Fleming Meadows Point - Old Homestead	TID/MID	100% Flowering	I	Diffuse	Small occurrence in border area of parking lot; survived herbicide spray
1269	Fleming Meadows Point - Old Homestead	TID/MID	100% Flowering	I	Concentrated	Small occurrence in border area of parking lot; survived herbicide spray
1270	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Occurrence runs along edge of dirt road and parking lot
1271	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Occurrence located in middle of dirt road; Permitted grazing occurs
1272	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Occurrence located along roadway edge; Permitted grazing occurs
1274	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	III	Diffuse	Large occurrence running entire length. of road widening near the highway; Permitted grazing occurs
1275	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Small occurrence found within grazed lands; Permitted grazing occurs
1277	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Occurrence found on both side of fence extending into buffer zone and highway ROW; Permitted grazing occurs

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
1278	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Small occurrence found within grazed lands; Permitted grazing occurs
1279	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Large occurrence found within grazed lands; Permitted grazing occurs
1282	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Concentrated	Single plant found on permitted grazed lands
1284	Fleming Meadows Point - Old Homestead	TID/MID	100% Fruiting	I	Diffuse	Small occurrence found within permitted grazed lands
1285	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within Bonds Flat Rd ROW
1288	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located on disturbed, grassy hillside
Klamathweed						
22	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located on disturbed ground in roadcut
27	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence widely scattered along entire roadside
28	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence located at HWM around brush piles
29	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence widely scattered below access road above HWM
31	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located at edge of disturbed opening
33	Moccasin Point Recreation Area	BLM	100% Vegetative	I	Concentrated	Occurrence found in roadfill below access road

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
41	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found between roadside; below and above HWM
44	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small, patchy occurrence found on permitted, heavily grazed pasture
47	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	IV	Diffuse	Occurrence found in Bonds Flat Rd ROW
56	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located next to ephemeral drainage
74	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence located within campground at HWM
77	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	III	Concentrated	Occurrence found between Bonds Flat Rd and access road on disturbed ground
82	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence found along Bonds Flat Rd
97	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found in disturbed opening below Hwy 49
98	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found in disturbed opening below Hwy 49
99	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found along edge of woodland/ grassy hillslope
100	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found within open hillslope
101	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found within open hillslope

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
102	Moccasin Point Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence found on both sides of small riparian area
105	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found approx. 20ft beyond boundary fence
107	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found under oak/pine overstory
108	Moccasin Point Recreation Area	TID/MID	100% Vegetative	II	Diffuse	Occurrence within open, disturbed hillslope
113	Grizzly Rd. Area	Private	100% Vegetative	I	Diffuse	Occurrence found under oak trees in openings
116	Grizzly Rd. Area	Private	100% Vegetative	I	Concentrated	Occurrence found approx. 40ft below Grizzly Rd on hillslope
118	Grizzly Rd. Area	BLM	100% Vegetative	I	Diffuse	Occurrence found on roadbed of old access road at HWM
120	Grizzly Rd. Area	BLM	100% Vegetative	I	Diffuse	open grassy hillslope 40 ft above HWM
124	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in ephemeral drainage approx. 50ft beyond boundary fence
125	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found on disturbed slope
126	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found on disturbed slope east of ephemeral drainage
135	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	III	Diffuse	Small occurrence near access road
136	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence found adjacent to dam face

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
148	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small, patchy occurrence located adjacent to spillway; permitted grazing evident
150	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area
168	Gasburg Dike	TID/MID	100% Vegetative	I	Concentrated	Small occurrence near dirt access road to cross spillway; Medusahead grass found nearby
188	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence is small patch located in ungrazed area
198	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located within permitted grazed area approx. 10ft from project boundary
213	Hatch Creek Arm	TID/MID	98% Vegetative	I	Diffuse	Small occurrence located along edge of buckbrush (<i>Ceanothus cuneatus</i>) stand
214	Hatch Creek Arm	TID/MID	98% Vegetative	I	Diffuse	Small occurrence at edge of HWM
221	Jacksonville Rd.	TID/MID	100% Vegetative	II	Diffuse	Small occurrence extending upslope from HWM
224	Jacksonville Rd.	TID/MID	60% Vegetative, 40% Fruiting	I	Concentrated	Small occurrence clustered between roadway and foot trail
225	Jacksonville Rd.	TID/MID	70% Vegetative, 30% Fruiting	I	Diffuse	Small occurrence found along ephemeral drainage within 100ft of Jacksonville Rd
226	Jacksonville Rd.	TID/MID	50% Vegetative, 50% Fruiting	I	Concentrated	Small occurrence found near illegal mining activities near old Jacksonville Rd
227	Jacksonville Rd.	TID/MID	50% Vegetative, 50% Fruiting	I	Diffuse	Patchy occurrence found in open grassy area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
228	Jacksonville Rd.	TID/MID	50% Vegetative, 50% Fruiting	II	Diffuse	Small occurrence found in mowed area along Jacksonville Rd.
232	Jacksonville Rd.	TID/MID	100% Vegetative	II	Diffuse	Occurrence found on both sides of fenceline
233	Jacksonville Rd.	BLM	100% Vegetative	I	Diffuse	Small occurrence located along Jacksonville Rd
235	Jacksonville Rd.	TID/MID	100% Vegetative	I	Diffuse	Occurrence found on both sides of roadway and inside fenceline; approx. 500 plants also found upslope
240	Jacksonville Rd.	TID/MID	100% Vegetative	I	Diffuse	Patchy occurrence located on old roadbed; erosion rivulet on road allowing transfer of seeds downslope
241	Jacksonville Rd.	TID/MID	100% Vegetative	I	Concentrated	Small, patchy occurrence
257	Wards Ferry Bridge	BLM	100% Vegetative	I	Concentrated	Occurrence located down steep slope off road on both sides; also includes a small patch by restroom facility
258	Moccasin Point Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found near foot path
260	Moccasin Point Recreation Area	Private	50% Vegetative, 50% Fruiting	I	Concentrated	Small occurrence found within introduced annual grasslands
401	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in low area along highway
431	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence at roadway edge
432	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence at roadway edge
433	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence on roadfill pile

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
434	Rogers Creek Arm	Private	100% Vegetative	III	Concentrated	Large, dense occurrence found on roadfill pile, downslope and among boulders at base of slope
435	Rogers Creek Arm	Private	100% Vegetative	II	Diffuse	Large occurrence on both sides of ephemeral drainage
436	Rogers Creek Arm	Private	100% Vegetative	I		Occurrence follows along roadway and extending outside of study area
438	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Occurrence located along cut-bank at fenceline below obvious cattle trail
439	Rogers Creek Arm	Private	100% Vegetative	II	Diffuse	Large occurrence adjacent to Highway
440	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence approx. 50ft from Highway
445	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence located on slope just above HWM within grassland
446	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Patchy occurrence on hillslope of highway
447	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence located on slope near telephone/ power line
448	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence found within clearing
449	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Occurrence found along roadway edge
450	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Occurrence located at base of rockfill for roadway
451	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located at base of rockfill for roadway
452	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small, triangular shaped occurrence
453	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence located below roadfill slope

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
454	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Small occurrence found within open grassland area
456	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence located in area below roadway
457	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Small occurrence located in area below roadway
458	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence found within open grassland area
460	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Occurrence found on small island
461	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Occurrence located on small island just above HWM
462	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Small occurrence found within open grassland area
464	Rogers Creek Arm	Private	100% Vegetative	III	Diffuse	Occurrence runs along creek
467	Rogers Creek Arm	Private	100% Vegetative	III	Diffuse	Occurrence runs along creek extending up hillslopes and outside of project boundary
471	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Occurrence located adjacent to roadway
472	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Occurrence found in swathe between fence and roadway
474	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found within open grassland area
475	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found at edge of lake at HWM
476	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Occurrence found within open grassland area
477	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Occurrence found within open grassland area
478	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within open grassland area
479	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence located along HWM

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
480	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Occurrence found in thin band along HWM
481	Rogers Creek Arm	Private	100% Vegetative	I	Diffuse	Small occurrence located within non-permitted grazed area
482	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Occurrence found along lakeshore edge
483	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found along lakeshore edge
484	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found along lakeshore edge
485	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found along lakeshore edge
486	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found along lakeshore edge
487	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found along lakeshore edge
488	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found within open grassland area
490	Rogers Creek Arm	Private	100% Vegetative	I	Concentrated	Occurrence found upslope from HWM
491	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found within open grassland area
492	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found within open grassland area
493	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small, patchy occurrence found from fenceline downslope
494	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small, patchy occurrence located downslope and in drainage
495	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small, sparsely distributed occurrence along stream channel

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
497	Rogers Creek Arm	TID/MID	100% Vegetative	II	Diffuse	Small occurrence found within moderate swale in open grassland; Medusahead grass also found at location
498	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence; no disturbances seen at site
499	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found on hillslope
500	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found on hillslope
501	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence found between two fences
502	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found along shoreline above HWM
503	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Occurrence found along axis of ridge of isthmus, just above HWM
504	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found at edge of lake
505	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found along shoreline above HWM
506	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found from edge of shoreline upslope
510	Rogers Creek Arm	TID/MID	100% Vegetative	I	Diffuse	Patchy occurrence found within introduced annual grasslands
511	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found within open grassland area
513	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found within open grassland area
514	Rogers Creek Arm	TID/MID	100% Vegetative	I	Concentrated	Small occurrence found on upper slope
538	Rogers Creek Arm	TID/MID	100% Flowering	I	Concentrated	Small occurrence found within open grassland area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
597	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Occurrence found in highway ROW
598	Fleming Meadows Recreation Area	TID/MID	100% Flowering	II	Concentrated	Small occurrence found in highway ROW
652	Ramos Creek Area	Private	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
654	Ramos Creek Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
655	Ramos Creek Area	BLM	100% Vegetative	I	Diffuse	Small occurrence within non-permitted grazed area
656	Ramos Creek Area	BLM	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
657	Ramos Creek Area	Private	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
658	Ramos Creek Area	TID/MID	100% Vegetative	I	Diffuse	Small occurrence within non-permitted grazed area
659	Ramos Creek Area	TID/MID	100% Vegetative	I	Diffuse	Small occurrence within non-permitted grazed area
660	Ramos Creek Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
661	Ramos Creek Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence within non-permitted grazed area
673	Don Pedro Bar	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence located on non-permitted grazed hillside
675	Don Pedro Bar	BLM	100% Flowering	III	Diffuse	Small occurrence extending into fenced off area

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
680	Willow Creek Arm	TID/MID	100% Flowering	I	Concentrated	Single plant located immediately at HWM
681	Don Pedro Bar	TID/MID	25% Flowering	I	Concentrated	Small occurrence at edge of chemise (<i>Adenostoma fasciculatum</i>) and HWM; cattle seen in vicinity
682	Don Pedro Bar	BLM	100% Flowering	I	Diffuse	Plants scattered within fenced mining 'rehab' site; some plants are scattered outside of boundary as well
684	Don Pedro Bar	Private	100% Flowering	I	Concentrated	Small occurrence in grassy opening on slope
908	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in three distinct colonies within permitted grazed area
910	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Isolated colony within introduced annual grasslands
911	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Scattered occurrence from main road edge into pasture area
913	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Isolated colony growing within a cluster of buckbrush
914	Don Pedro Powerhouse Access Road	BLM	100% Vegetative	I	Concentrated	Small occurrence along scraped bed including an additional occurrence approx. 20 yards away
916	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Small occurrence within introduced annual grasslands
917	Don Pedro Powerhouse Access Road	TID/MID	100% Vegetative	I	Concentrated	Patchy occurrence within introduced annual grasslands
922	Gasburg Dike	TID/MID	100% Vegetative	I	Concentrated	Two small occurrences along ephemeral drainage

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
924	Gasburg Dike	TID/MID	100% Vegetative	III	Diffuse	Diffuse occurrence associated with area below the small dam and extends along scattered blue oak trees
927	Gasburg Dike	TID/MID	100% Vegetative	I	Concentrated	Isolated colony growing near blue oaks trees
1201	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Occurrence found along highway right-of-way (ROW)
1202	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Occurrence found along highway ROW
1209	Kanaka Creek Area	TID/MID	100% Vegetative	I	Concentrated	Small occurrence in woodland area
1211	Kanaka Creek Area	TID/MID	100% Flowering	I	Concentrated	Small occurrence within opening of woodland area
1263	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Diffuse	Small occurrence from fenceline of highway ROW; extends outside of study area
1273	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Diffuse	Small occurrence found middle of dirt road
1276	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Small occurrence found below roadway
1285	Fleming Meadows Recreation Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found in Bonds Flat Rd ROW
1289	Grizzly Rd. Area	TID/MID	100% Vegetative	I	Diffuse	Occurrence found approx. 20ft above old road in disturbed opening
1290	Moccasin Point Recreation Area	BLM	100% Vegetative	I	Concentrated	Occurrence found along dry, rocky streambed; extends down to HWM

Occurrence Number	Site Name and Description	Ownership	Phenology	Approximate Area (acre) or Acreage Class	Weed Cover	Occurrence Description
1291	Grizzly Rd. Area	TID/MID	100% Vegetative	I	Concentrated	Occurrence found within open, disturbed hillslope above access road
Russian thistle						
129	DPRA Staff Housing	TID/MID	100% Vegetative	I	Diffuse	No live plants seen but evidence of plants from the past
425	Blue Oaks Recreation Area	TID/MID	100% Vegetative	I	Concentrated	No live plants seen but evidence of plants from the past
Tamarisk						
259	Moccasin Point Recreation Area	TID/MID	50% Vegetative, 50% Fruiting	0.01	Concentrated	Single plant next to restroom facility
Puncturevine						
1205	Fleming Meadows Recreation Area	TID/MID	100% Flowering	I	Concentrated	Small occurrence along paved road
1267	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Small occurrence along both sides of road and in drainage areas
1280	Fleming Meadows Recreation Area	TID/MID	100% Fruiting	I	Diffuse	Small occurrence along paved road