

**DON PEDRO HYDROELECTRIC PROJECT
FERC NO. 2299**

FINAL LICENSE APPLICATION

EXHIBIT E – ENVIRONMENTAL REPORT

**APPENDIX E-2
DRAFT BALD EAGLE MANAGEMENT PLAN**



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List of Acronyms

ac	acres
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council for Historic Preservation
ACOE	U.S. Army Corps of Engineers
ADA	Americans with Disabilities Act (ADA/ABAAG)
AF	acre-feet
AGS	Annual Grasslands
ALJ	Administrative Law Judge
APE	Area of Potential Effect
APEA	Applicant-Prepared Environmental Assessment
ARMR	Archaeological Resource Management Report
AWQC	Ambient Water Quality Criteria
BA	Biological Assessment
BDCP	Bay-Delta Conservation Plan
BGEPA	Bald and Golden Eagle Protection Act
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
BOW	Blue Oak Woodland
°C	celsius
CalCOFI	California Cooperative Oceanic Fisheries Investigations
CalEPPC	California Exotic Pest Plant Council
CalSPA	California Sportfishing Protection Alliance
CAS	California Academy of Sciences
CBDA	California Bay-Delta Authority
CCC	Criterion Continuous Concentrations
CCIC	Central California Information Center
CCSF	City and County of San Francisco
CD	Compact Disc

CDBW.....	California Department of Boating and Waterways
CDEC.....	California Data Exchange Center
CESA	California Endangered Species Act
CDFA.....	California Department of Food and Agriculture
CDFG.....	California Department of Fish and Game (as of January 2013, CDFW)
CDFW	California 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
CEC.....	California Energy Commission
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
cm.....	centimeters
CMAP	California Monitoring and Assessment Program
CMC.....	Criterion Maximum Concentrations
CNDDB.....	California Natural Diversity Database
CNPS.....	California Native Plant Society
CORP	California Outdoor Recreation Plan
CPUC	California Public Utilities Commission
CPUE	Catch Per Unit Effort
CRAM.....	California Rapid Assessment Method
CRC.....	Chamise-Redshank Chaparral
CRLF.....	California Red-Legged Frog
CRRF	California Rivers Restoration Fund
CSAS.....	Central Sierra Audubon Society

CSBP.....	California Stream Bioassessment Procedure
CSU.....	California State University
CT	California Threatened Species
CTR.....	California Toxics Rule
CTS	California Tiger Salamander
CVP.....	Central Valley Project
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CWD	Chowchilla Water District
CWHR.....	California Wildlife Habitat Relationship
CZMA.....	Coastal Zone Management Act
DDT	dichlorodiphenyltrichloroethane
Districts	Turlock Irrigation District and Modesto Irrigation District
DLA	Draft License Application
DO.....	Dissolved Oxygen
DOI	Department of Interior
DPRA.....	Don Pedro Recreation Agency
DPS	Distinct Population Segment
DSE.....	Chief Dam Safety Engineer
EA	Environmental Assessment
EBMUD	East Bay Municipal Utilities District
EC	Electrical Conductivity
EFH.....	Essential Fish Habitat
EIR	Environmental Impact Report
EIS.....	Environmental Impact Statement
Elev or el	Elevation
ENSO	El Niño Southern Oscillation
EPA.....	U.S. Environmental Protection Agency
ESA.....	Federal Endangered Species Act
ESRCD.....	East Stanislaus Resource Conservation District
ESU	Evolutionary Significant Unit
EVC.....	Existing Visual Condition
EWUA.....	Effective Weighted Useable Area

°F.....	fahrenheit
FERC.....	Federal Energy Regulatory Commission
FFS	Foothills Fault System
FL.....	Fork length
FLA.....	Final License Application
FMP.....	Fishery Management Plan
FMU	Fire Management Unit
FOT	Friends of the Tuolumne
FPA	Federal Power Act
FPC	Federal Power Commission
FPPA.....	Federal Plant Protection Act
ft	feet
ft/mi.....	feet per mile
FWCA.....	Fish and Wildlife Coordination Act
FWUA.....	Friant Water Users Authority
FYLF.....	Foothill Yellow-Legged Frog
g.....	grams
GIS	Geographic Information System
GLO	General Land Office
GORP	Great Outdoor Recreation Pages
GPS	Global Positioning System
HCP.....	Habitat Conservation Plan
HSC.....	Habitat Suitability Criteria
HHWP.....	Hetch Hetchy Water and Power
HORB	Head of Old River Barrier
hp.....	horsepower
HPMP.....	Historic Properties Management Plan
IFIM	Instream Flow Incremental Methodology
ILP.....	Integrated Licensing Process
in	inches
ISR	Initial Study Report
ITA.....	Indian Trust Assets
IUCN.....	International Union for the Conservation of Nature

KOPs	Key Observation Points
kV	kilovolt
kVA	kilovolt-amperes
kW	kilowatt
LWD	large woody debris
m	meters
mm	millimeter
M&I	Municipal and Industrial
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
mg/kg	milligrams/kilogram
mg/L	milligrams per liter
mgd	million gallons per day
MGR	Migration of Aquatic Organisms
MHW	Montane Hardwood
mi	miles
mi ²	square miles
MID	Modesto Irrigation District
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPN	Most Probable Number
MPR	market price referents
MSCS	Multi-Species Conservation Strategy
msl	mean sea level
MUN	municipal and domestic supply
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
NGVD29	National Geodetic Vertical Datum of 1929
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
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
O&M.....	operation and maintenance
OEHHA.....	Office of Environmental Health Hazard Assessment
OID	Oakdale Irrigation District
ORV	Outstanding Remarkable Value
OSHA.....	Occupational Safety and Health Administration
PA	Programmatic Agreement
PAD.....	Pre-Application Document
PDAW.....	Project Demand of Applied Water
PDO.....	Pacific Decadal Oscillation
PEIR.....	Program Environmental Impact Report
PGA.....	Peak Ground Acceleration
PG&E.....	Pacific Gas and Electric
PHABSIM.....	Physical Habitat Simulation System

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
PWA.....	Public Works Administration
QA.....	Quality Assurance
QC	Quality Control
RA.....	Recreation Area
RBP	Rapid Bioassessment Protocol
REC-1	water contact recreation
REC-2	water non-contact recreation
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
RM	River Mile
RMP	Resource Management Plan
RP.....	Relicensing Participant
rpm	Rotations per minute
RPS	Renewable Portfolio Standard
RSP	Revised Study Plan
RST	Rotary Screw Trap
RWG	Resource Work Group
RWQCB.....	Regional Water Quality Control Board
SC.....	State candidate for listing under CESA
SCADA	Supervisory Control and Data Acquisition
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
SEED.....	U.S. Bureau of Reclamation's Safety Evaluation of Existing Dams

SFP	State Fully Protected Species under CESA
SFPUC	San Francisco Public Utilities Commission
SHPO	State Historic Preservation Officer
SJRA	San Joaquin River Agreement
SJRGAA	San Joaquin River Group Authority
SJTA	San Joaquin River Tributaries Authority
SM.....	Standard Method
SMUD	Sacramento Municipal Utility District
SPAWN.....	spawning, reproduction and/or early development
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
SWP	State Water Project
SWRCB.....	State Water Resources Control Board
TAC.....	Technical Advisory Committee
TAF	thousand acre-feet
TCP	Traditional Cultural Properties
TCWC	Tuolumne County Water Company
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

USBR	U.S. Bureau of Reclamation
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
VES	visual encounter surveys
VRM	Visual Resource Management
VRO	Visual Resource Objective
WBWG	Western Bat Working Group
WECC	Western Electricity Coordinating Council
WPA.....	Works Progress Administration
WPT	Western Pond Turtle
WQCP	Water Quality Control Plan
WSA.....	Wilderness Study Area
WSIP	Water System Improvement Program
WSNMB	Western Sierra Nevada Metamorphic Belt
WUA	weighted usable area
WWTP	Wastewater Treatment Plant
WY	water year
yd ³	cubic yard
yr	year
µS/cm	microSeimens per centimeter
µg/L.....	micrograms per liter
µmhos.....	micromhos

PREFACE

The Don Pedro Project provides water storage for irrigation and municipal and industrial (M&I) use, flood control, hydroelectric generation, recreation, and natural resource protection (hereinafter, the “Don Pedro Project”). The study area used for the terrestrial resource studies conducted in support of the relicensing considered potential effects of all components, facilities, operations, and maintenance that make up the Don Pedro Project. The Don Pedro Project was originally conceived as a water supply project. The Don Pedro Project was constructed for the following primary purposes: (1) to provide water supply for the co-licensees, TID and MID (collectively, the Districts), for irrigation of over 200,000 acres (ac) of Central Valley farmland and for M&I use, (2) to provide flood control benefits along the Tuolumne and San Joaquin rivers, and (3) to provide a water banking arrangement for the benefit of the City and County of San Francisco (CCSF) and its 2.6 million Bay Area water customers. The original license was issued in 1966. In 1995, the Districts entered into an agreement with a number of parties which resulted in greater flows to the lower Tuolumne River for the protection of aquatic resources.

Hydroelectric generation is a secondary purpose of the Don Pedro Project. Hereinafter, the hydroelectric generation facilities and operations will be referred to as the “Don Pedro Hydroelectric Project”, or the “Project”. With this license application to FERC, the Districts are seeking a new license to continue generating hydroelectric power. Based on the information contained in this application, and other sources of information on the record, FERC will consider whether, and under what conditions, to issue a new license for the continued generation of hydropower at the Districts’ Don Pedro Project. The Districts are providing a complete description of the facilities and operation of the Don Pedro Project so the effects of the operation and maintenance of the Don Pedro hydroelectric facilities can be distinguished from the effects of the operation and maintenance activities of the overall Don Pedro Project’s flood control and water supply/consumptive use purposes.

Being able to differentiate the effects of the hydropower operations from the effects of the flood control and consumptive use purposes and needs of the Don Pedro Project will aid in defining the scope and substance of reasonable protection, mitigation, and enhancement (PM&E) alternatives to be considered in relicensing. As FERC states in Scoping Document 2 in a discussion related to alternative project operation scenarios: “...alternatives that address the consumptive use of water in the Tuolumne River through construction of new structures or methods designed to alter or reduce consumptive use of water are...alternative mitigation strategies that could not replace the Don Pedro *hydroelectric* project [emphasis added]. As such, these recommended alternatives do not satisfy the NEPA purpose and need for the proposed action and are not reasonable alternatives for the NEPA analysis.”

1.0 INTRODUCTION

Pursuant to Sections 5.17 and 5.18 of Title 18 of the Code of Federal Regulations, Turlock Irrigation District (TID) and Modesto Irrigation District (MID) (collectively, the Districts) filed an application for a new license for the Don Pedro Hydroelectric Project (Project) with the Federal Energy Regulatory Commission (FERC) in April 2014. The Districts developed the Bald Eagle Management Plan (Plan) to provide guidance for the protection of bald eagles

(*Haliaeetus leucocephalus*) that could be affected by, or with the potential to be affected by, activities within the Project Boundary. The Plan focuses on the protection of nesting bald eagles by focusing on the reduction of disturbances within or adjacent to occupied nests.

The Districts performed surveys in 2012 and 2013 to locate nesting bald eagles. The Plan is focused on known and newly established nesting territories within the Project Boundary with the potential to be affected by Don Pedro Project-related activities.

The goal of the Plan is to ensure that operations and maintenance (O&M) activities, as well as Don Pedro Project-related recreation activities, do not unduly disturb birds. This is accomplished by implementing the measures described herein, all of which are consistent with federal and State of California guidelines.

1.1 Background

The Districts are the co-licensees of the 168-megawatt (MW) Project located on the Tuolumne River in western Tuolumne County, in the Central Valley region of California. 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 feet (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).

The Project Boundary extends from RM 53.2, which is one mile below the Don Pedro powerhouse, upstream to RM 80.8 at a water surface elevation of 845 ft (31 FPC ¶ 510 [1964]). The Project Boundary encompasses approximately 18,370 ac with 74 percent of the lands owned jointly by the Districts and the remaining 26 percent (approximately 4,802 ac) owned by the United States and administered as a part of the U.S. Bureau of Land Management (BLM) Sierra Resource Management Area.

1.2 Relicensing Process

The original FERC license for the Project expires on April 30, 2016. 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. 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 Districts 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), 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.

Reports for each study describe the objectives, methods, and results as implemented by the Districts in accordance with FERC's SPD and subsequent study modifications and clarifications. The Bald Eagle Study Report (TR-10) contains information pertinent to this Bald Eagle Management Plan.

2.0 BALD EAGLE

On March 11, 1967 the southern bald eagle (*Haliaeetus leucocephalus leucocephalus*) was listed as Endangered under the Endangered Species Act (ESA) of 1966¹ due to a population decline caused by dichlorodiphenyltrichloroethane (DDT) (32 FR 4001). On February 14, 1978, the United States Department of the Interior, Fish and Wildlife Service (USFWS) ruled to delete the subspecific names for the southern and northern subspecies (*Haliaeetus leucocephalus alascanus*), which resulted in the designation of a single species *Haliaeetus leucocephalus* (43 FR 6230). The February 14, 1978 ruling also listed bald eagle as endangered in 43 of the 48 contiguous States. Bald eagle in the remaining five States (i.e., Washington, Oregon, Minnesota, Wisconsin, and Michigan) was listed as threatened (43 FR 6230). On July 12, 1995, all bald eagles listed as endangered in the 43 States were reclassified as threatened, while the status of threatened remained in effect for the five other States (60 FR 36000). On August 8, 2007, the USFWS ruled to delist the bald eagle (72 FR 37346). In the ruling, USFWS indicated that a reduction or elimination of threats such as DDT, as well as habitat protection led to an increase in breeding pairs from an estimated 487 in 1963 to approximately 9,789 in 2007 in the 48 contiguous States (72 FR 37346).

Since delisting, protection of bald eagle has continued under the Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat 755) as amended, and the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668c) as amended. The MBTA protects migratory birds and includes agreements between the United States, Great Britain (on behalf of Canada), Mexico, Japan and Soviet Union (now Russia) for the protection of such birds. In short, the MBTA, unless permitted by regulation, prohibits:

“...pursuit, hunt, capture, take, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation of carriage, or export at any time, or in any manner, any migratory bird, included in the terms of the convention...for the protection of migratory birds...or any part, nest, or egg of such bird.” (16 U.S.C. 703)

The BGEPA protects bald and golden eagles (*Aquila chrysaetos*), except under specific conditions, from take and includes their parts (feathers), nests or eggs.² Take is defined as “pursue, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” Furthermore, disturb is defined as:

¹ Endangered Species Preservation Act of 1966 was amended in 1969 by the Endangered Species Conservation Act of December 5, 1969 (P.L. 91-135, 83 Stat. 275), which was repealed by the Endangered Species Act of 1973 (16 U.S.C. 1531-1544).

² Bald Eagle Protection Act of 1940 was amended in 1978 (P.L. 95-616 (92 Stat. 3114) to include golden eagles.

“...to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding or sheltering behavior.” (16 U.S.C. 668-668c)

Violation of the BGEPA can result in criminal penalties that can result in a fine of \$100,000 for an individual (\$200,000 for organizations), imprisonment for one year, or both, for a first offense. Penalties increase for additional offenses, and a second offense is a felony.

Within California, the bald eagle was listed under that California Endangered Species Act (CESA) as Endangered on June 27, 1971. Protection under CESA mirrors the federal ESA. In 1971 the State of California also assigned the status of Fully Protected Birds to bald eagle (California Fish and Game Code §3511). Section 3511 of the California Fish and Game Code states:

“Except as provided in Section 2081.7 or 2835, fully protected birds or parts thereof may not be taken or possessed at any time. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected bird, and no permits or licenses heretofore issued shall have any force or effect for that purpose. However, the department may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species, and may authorize the live capture and relocation of those species pursuant to a permit for the protection of livestock.”

According to Section 86 in F.G.C:

“Take” means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

Additional protections for bald eagle in California exist under California Fish and Game Code §3503, 3503.5, and 3513, which make it unlawful to take, possess, or needlessly destroy birds’ nests or eggs; take possess, or destroy raptors and their eggs and nests; and take or possess any migratory nongame bird of pert thereof, designated in the MBTA, respectively.

2.1 Don Pedro Project Bald Eagle Surveys

The Districts performed bald eagle surveys in 2012 and 2013 with the goal of gathering information regarding bald eagles associated with the Don Pedro Reservoir and associated stream reaches, and Project recreation features or activities. As described in the study plan, the study area consisted of a 1,000-foot area around Don Pedro Reservoir and Project facilities, including those portions of the Tuolumne River that are within the Project Boundary.

A review of historical records from the BLM and California Natural Diversity Database for bald eagles in the study area showed seven previously documented nests. Table 2.1-1 provides the location, nest status as of the 2012 surveys, historical nesting success, and nest tree type. Figure 2.1-1 shows the locations of historical bald eagle nest sites on Don Pedro Reservoir.

Table 2.1-1. Historical bald eagle nests on Don Pedro Reservoir.

Location	UTM-N	UTM-E	Status of Nest in 2012 ¹	Historical Nesting Successes	Nest Tree
Rogers Creek Arm (Penole Peak)	4174998	733076	Nest Absent	--	--
South Bay (Blank Peak)	4175463	731891	Occupied, Not Successful	2002, 2007, 2009	Gray pine (<i>Pinus sabiniana</i>)
Woods Creek Arm	4196433	726850	Not Occupied, unrepaired	2006, 2007	Undetermined snag
Mine Island	4179132	729011	Nest No Longer Exists	--	--
Big Creek Arm	4181780	728062	Not Occupied, unrepaired	--	Gray pine
Jenkins Hill	4177769	730742	Not Occupied, unrepaired	--	Gray pine
Tuolumne River Arm	4195642	734932	Not Occupied, unrepaired	--	Gray pine

¹ Not Occupied - no nesting activity and no adults in a nesting territory.

Unrepaired – remnant of nest still visible, but no repairs have been made and the nest appears dilapidated.

Nest Absent – No nest visible at indicated site.

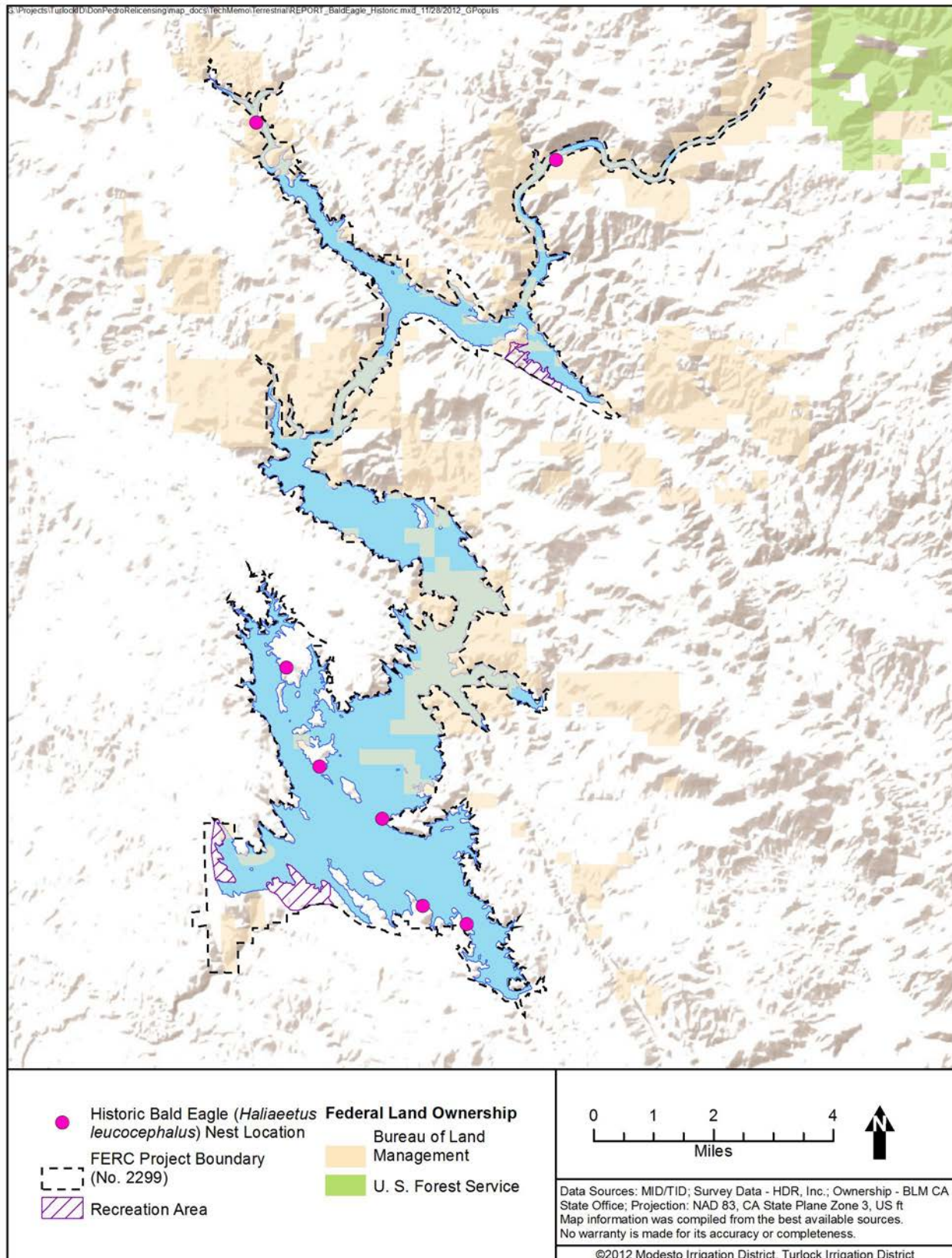


Figure 2.1-1. Historical bald eagle nests on Don Pedro Reservoir.

2.1.1 2012 and 2013 Bald Eagle Nesting Survey

During the 2012 initial nesting survey (March 19 and 20, 2012) the survey team located nine bald eagle nests. Of those, five had been previously documented by the BLM, and four are considered to be new or previously undocumented by the BLM. The five previously documented nests were located: (1) on the northern flank of Blank Peak near the entrance to the Rodgers Creek Arm; (2) on the western flank of Jenkins Hill at the southern entrance to Middle Bay; (3) on the eastern shoreline of the Big Creek Arm; (4) near the confluence of Slate Creek and Woods Creek in the Woods Creek Arm; and (5) near the inflow of Rough and Ready Creek to the Tuolumne River Arm. The four new or previously undocumented nests were located: (1) near the northeast corner of Mine Island; (2) on the northern flank of an unnamed peak in the southwestern corner of the Upper Bay; (3) in the upper reach of the Woods Creek Arm; and (4) near the middle reach of the Woods Creek Arm. Furthermore, the survey team was unable to locate two of the seven historical nests reported by the BLM. It is suspected that the two “missing” nests were destroyed prior to the 2012 nesting surveys and not reconstructed. These two nests were located: (1) approximately one mi southeast of Blank Peak in the Rodgers Creek Arm; and (2) along the southern shoreline of Mine Island.

Of the nine nests documented during the initial nesting survey, three were found to be occupied by a single adult tending to eggs. These three nests were located: (1) on the northern flank of Blank Peak; (2) near the northeast corner of Mine Island; and (3) near the upper reach of the Woods Creek Arm. The remaining six nests were unoccupied.

During the second nesting survey on May 8 and 9, 2012 the survey team found that the Mine Island nest and the Woods Creek Arm nest continued to be occupied by at least one adult and contained nestlings. It is unknown if the observed nestlings later fledged from either nest so these two nests were considered to be Occupied, Success Unknown.

With respect to the Blank Peak nest, the survey team found it to be absent of adults and without nestlings. This nest was classified as Occupied, Not Successful. The remaining six nests continued to be unoccupied.

During the first 2013 visit (May 8 and 9), two occupied and eight unoccupied bald eagle nests were found. The occupied nests were the Woods Creek Arm Nest No. 1 and Mine Island Nest, both of which were also occupied in 2012. At the Woods Creek Arm Nest No. 1 an adult female was observed in the nest along with a single nestling estimated to be eight weeks old. The adult male bald eagle associated with the Woods Creek Arm Nest No. 1 was absent during the initial visit. At the Mine Island Nest an adult female was present in the nest along with two nestlings that were estimated to be six to seven weeks old. An adult male bald eagle was perched in a gray pine (*Pinus sabiniana*) 150 feet south of the Mine Island Nest. Shortly after surveyor arrival, the male flew from his perch and began pursuing a juvenile bald eagle north of Mine Island.

During the second 2013 visit (June 17 and 18), both adults from the Woods Creek Arm Nest No. 1 were perched together in a gray pine immediately adjacent to the nest. The single nestling observed during the initial visit was not observed. At the Mine Island Nest, both parents were

perched together in a gray pine 300 feet north of the nest, and two nestlings were perched on the edge of the nest.

Table 2.1-2 summarizes 2012 and 2013 observations of bald eagle nests, including location, success and nest tree. Figure 2.1-2 shows the location of each nest found during the 2012 and 2013 surveys.

Table 2.1-2. Results of the 2012 bald eagle nesting surveys.

Nest	UTM-N	UTM-E	2012 Survey Results ^{1,3}	2013 Survey Results ¹	Notes
Woods Creek Arm Nest No. 1	4195157	727484	OSU	OS	Single nestling, given approximate age during first visit, likely fledged prior to second visit.
Woods Creek Arm Nest No. 2	4196433	726850	NO	NO	Nest was in disrepair during 2012 surveys and was not present in 2013.
Woods Creek Arm Nest No. 3	4193446	729257	NO	NO	Occupied by osprey in 2013.
Upper Bay Nest	4184371	731272	NO	NO	Nest tree fell prior to second visit in 2013.
Big Creek Arm Nest	4181780	728062	NO	NO	No repairs made since 2012 survey.
Mine Island Nest	4179687	729276	OSU	OS	Two fledged.
Jenkins Hill Nest	4177769	730742	NO	NO	No repairs made since 2012 survey.
South Bay Nest No. 1 (Blank Peak)	4175463	731891	ONS	NO	No repairs made since 2012 survey.
South Bay Nest No. 2 ²	4174790	733215	--	NO	New nest, not occupied.
Tuolumne River Arm	4195642	731894	NO	NO	No repairs made since 2012 survey.

¹ OSU = Occupied Success Unknown

NO = Not Occupied

ONS = Occupied Not Successful

OS = Occupied Successful

² South Bay Nest No. 2 was not present during 2012 surveys, but was reported by BLM as a historic nest.

³ 2012 survey results obtained from Turlock Irrigation District and Modesto Irrigation District 2013.

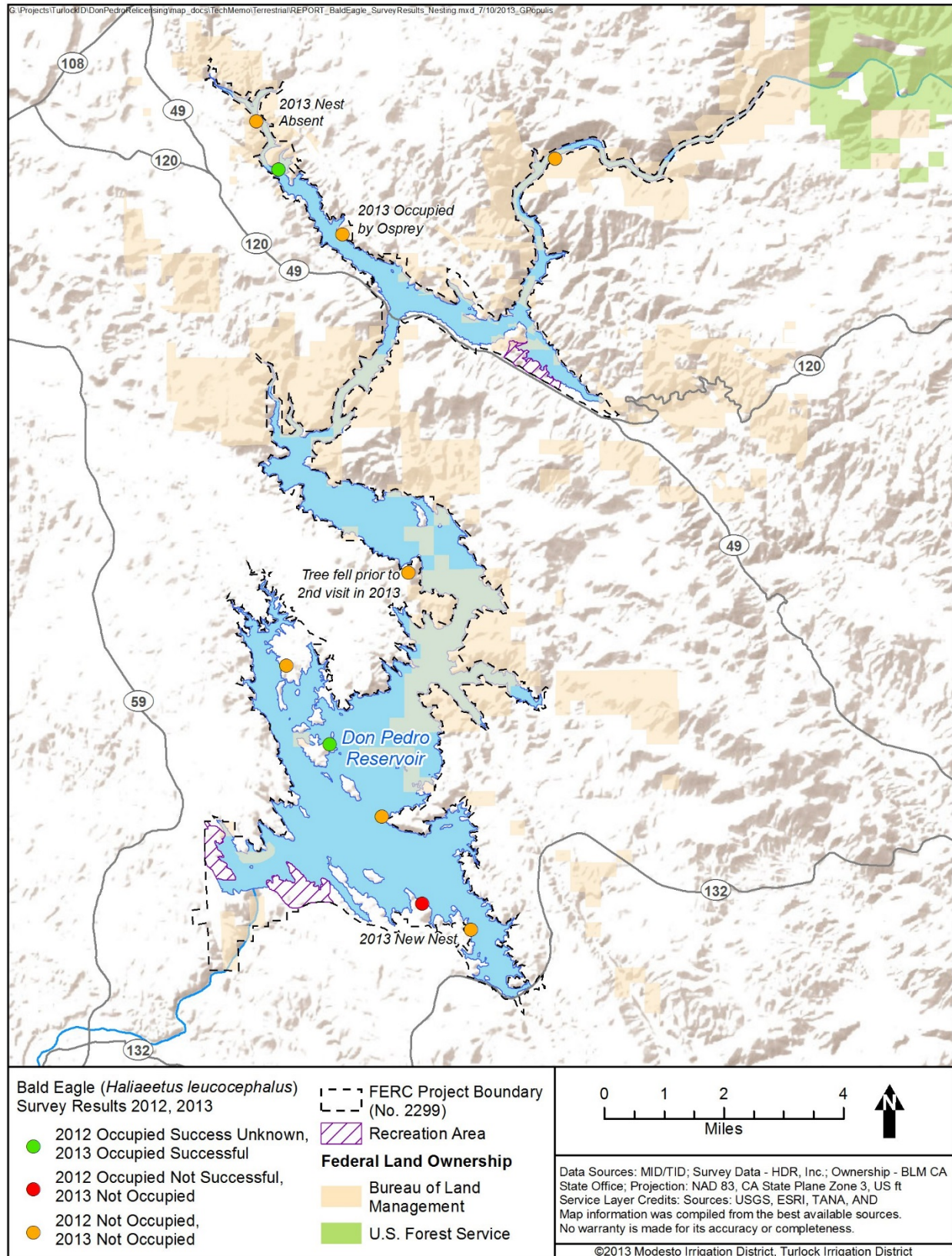


Figure 2.1-2. Results and incidental sightings of the 2012 and 2013 bald eagle nesting surveys.

3.0 MANAGEMENT FOR BALD EAGLE

The goal of this plan is to prevent O&M and recreation activities at the Don Pedro Project from disturbing bald eagles nesting at Don Pedro Reservoir. This plan provides guidance to the Districts for the periodic monitoring of existing nests, identification of new nests, as well as implementing measures to protect them. Historical information and the Districts' 2012 and 2013 nesting surveys suggest a baseline of two occupied nesting territories at Don Pedro Reservoir, specifically Woods Creek Arm and Mine Island.

3.1 Protection of Bald Eagles

3.1.1 Nest surveys

Bald eagle nest surveys will begin the first full calendar year after license issuance, and will be performed by qualified biologists. Surveys will be repeated once every two years for the first five years following license issuance. This will allow the Districts to monitor the effectiveness of protection measures (described below), at active nesting territories. After the fifth year, survey frequency will be reduced to once every five years. Surveys will be performed in accordance with the *Bald Eagle Breeding Survey Instructions* (CDFG 1999) and the *Protocol for Evaluating Bald Eagle Habitat and Populations in California* (Jackman and Jenkins 2004). Each bald eagle nesting survey consists of three visits to Don Pedro Reservoir between early March and mid-June of the same year. All data collected during nesting surveys will be recorded on the California Department of Fish and Wildlife (CDFW) California Bald Eagle Nesting Territory Survey Form (Attachment A). This data will serve as the basis for development of the survey reports described in Section 5.0. Each visit is described below:

- Visit 1: Determine Occupancy of Territories, Identify New Nests, and Early Incubation. Occupancy of known territories (e.g., Mine Island) and a search for new nests will be performed in early March, as weather conditions allow. Data collected at each site will consist of: (1) presence of adults; (2) courtship behavior; (3) evidence of nest repair or construction; (4) incubation; (5) observation of old nests. Surveys will be performed from a boat. GPS coordinates will be recorded, and photographs will be taken for all nests observed.
- Visit 2: Confirm Occupancy of Territories and Nests, and Presence of Eggs/Nestlings. Visit 2 will be conducted in late April or early May to determine whether the breeding pair(s) observed in March is still tending the nest (e.g., incubating eggs or tending nestlings). The number of eggs/nestlings, bird behavior, and any other relevant observations will be recorded. Visit 2 surveys will be conducted from a boat.
- Visit 3: Determine Nest Success. Visit 3 will be conducted in mid-June to determine how many nestlings are approaching fledgling age. Visit 3 surveys will be conducted from a boat.

3.1.2 Bald Eagle Protection Measures

The Districts will make reasonable efforts to protect bald eagles that have the potential to be affected by O&M activities, including the reduction of disturbances to nesting birds. The Districts' or Don Pedro Recreation Agency's (DPRA) activities associated with maintaining Don

Pedro Project safety; normal water supply operations and maintenance, flood protection, and hydropower maintenance; with life-threatening or imminent loss of facilities; and emergency situations are exempt from the restrictions imposed by the Limited Operating Period (LOP) described below.

3.1.2.1 Establishment of Buffers

Upon completion of the first nest survey (first visit will occur in March of the first full calendar year following license issuance), and for all active nests identified after the initial nest survey, the Districts will establish a buffer around all occupied bald eagle nests. Buoys and signs will be used to delineate the buffer, which will encompass all land and water that fall within an approximate 660 ft radius of an occupied nest or logical topographical boundary.³

Beginning January 1 through August 31 of each year thereafter, the Districts will institute a LOP around all known active bald eagle nests for O&M activities and recreation activities (e.g., boating, camping, hiking) within the buffer areas (described above), unless such restrictions materially affect the normal water supply, flood control, or hydropower operations at the Don Pedro Project. As needed, the Districts will work with the BLM and the DPRA to implement appropriate administrative closures on BLM lands and Districts' lands, respectively.

Nest buffers may be removed, adjusted, or new buffers established if subsequent nesting surveys demonstrate that a nesting territory is no longer occupied or new nests are identified. Additionally, any information provided to the Districts by CDFW, BLM, or USFWS regarding previously unidentified or existing nests will be used to inform the establishment of, or adjustment to, nest buffers. Removal of nest buffers will be done in consultation with the appropriate agency (depending on jurisdiction), and may include CDFW, BLM, or USFWS.

3.1.2.2 Annual Employee Training

Annual training will be provided to DPRA O&M personnel regarding the protection of bald eagles. Training will focus on this Plan and will include:

- protection afforded bald eagle,
- location of nest buffers and duration of LOPs; and their application to daily and seasonal O&M activities, and
- identification and reporting of new bald eagle nests.

³ The Districts selected the largest buffer defined for six of the eight activity categories (A, B, C, D, E, and F) presented in the USFWS 2007, National Bald Eagle Management Guidelines. The activities covered under those six categories are the most applicable to O&M and recreation activities that could occur within the Project Boundary. The remaining two categories, G and H, are specific to aircraft use, explosives and other loud intermittent noises, and are not anticipated by the Districts.

3.1.2.3 Protection of Nests

Under no circumstances shall a known bald eagle nest be removed without consultation and approval of CDFW, BLM and USFWS. Any tree removal shall be in compliance with Fish and Game Code § 3503 and BGEPA.

3.1.2.4 Use of Rodenticides

The DPRA has used targeted rodenticides in recreation areas in the past; however, no uses have occurred since the 2009-2010 season. However, if the need to use rodenticides within the Project Boundary arises, the Districts and DPRA will do so in accordance with federal and State law, and prior to application will consult with the CDFW, BLM, and USFWS on the type and location of use.

4.0 COMMUNICATION AND REPORTING

The Districts will provide CDFW, BLM and USFWS, and file with FERC, reports of its bald eagle surveys by December 31 of the year the surveys were conducted. The reports will be tabular in format and will include the coordinates for each nest observed (active and inactive) and nest success. The report will be accompanied by a map that includes the reservoir, all Don Pedro Project facilities including recreation areas, symbology depicting each nest observed and a line feature delineating each nest buffer.

5.0 LITERATURE CITED

- California Department of Fish and Game (CDFG). 1999. Bald eagle breeding survey instructions. November 1999. Sacramento, CA.
- Jackman, R.E., and J.M. Jenkins. 2004. Protocol for evaluating bald eagle habitat and populations in California. Prepared for U.S. Fish and Wildlife Service. Sacramento, CA.
- United States Fish and Wildlife Service (USFWS). 2007. National bald eagle management guidelines. Available online:
<http://www.fws.gov/midwest/Eagle/guidelines/NationalBaldEagleManagementGuidelines.pdf>.

DRAFT BALD EAGLE MANAGEMENT PLAN

ATTACHMENT A

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)
CALIFORNIA BALD EAGLE NESTING TERRITORY SURVEY FORM**

DON PEDRO HYDROELECTRIC PROJECT (FERC No. 2299)
BALD EAGLE NESTING SURVEY DATA SHEET

Date: _____ **Visit** ____ **of 3** **Pg** ____ **of** ____

Reservoir: _____

Observers: _____ **Map No.:** _____

Time Start: _____ **Time End:** _____

Weather (circle one): Clear / Partly Cloudy / Overcast / Rain / Snow

Wind (circle one): Calm / Slight Breeze / Breezy / Windy

Temperature (°C): _____

QA/QC:

- **Data Entered by:** _____ **on** _____
- **Checked by:** _____ **on** _____

Observation	1	2	3	4	5	6	7	8
General Location								
UTM E								
UTM N								
Distance from H ₂ O(m)								
Habitat								
Nest Tree Species								
Active? (Y/N)								
Adult(s) Present? (Y/N)								
Juvenile(s) Present in nest? (Y/N)								

Observation	9	10	11	12	13	14	15	16
General Location								
UTM E								
UTM N								
Distance from H ₂ O(m)								
Habitat								
Nest Tree Species								
Active? (Y/N)								
Individual(s) Present? (Y/N)								
Juvenile(s) Present in nest? (Y/N)								

COMMENTS:

Bald Eagle Nesting Data Sheet Page ____ of ____ Date: _____ Location: _____