

Study 7.7

## **CESA-LISTED WILDLIFE – BALD EAGLE**

August 2011

### **1.0 Project Nexus**

Yuba County Water Agency's (YCWA or Licensee) continued operation and maintenance (O&M) of the Yuba River Development Project (Project) has a potential to effect bald eagle (*Haliaeetus leucocephalus*), a species listed as endangered under the California Endangered Species Act (CESA).

As part of this study, YCWA will also record incidental observations of other raptors including but not limited to osprey (*Pandion haliaetus*), American peregrine falcon (*Falco peregrines anatum*), and golden eagle (*Aquila chrysaetos*).

Habitat for California Endangered Species Act (CESA)-Listed wildlife species, including bald eagle, is addressed in YCWA's CESA-Listed Wildlife - California Wildlife Habitat Relationships (CWHR) Study Proposal.

### **2.0 Resource Management Goals of Agencies with Jurisdiction over the Resource to be Studied**

YCWA believes that three agencies have jurisdiction over bald eagle that could be potentially affected in the geographic area covered in this study proposal: 1) the United States Department of Agriculture, Forest Service (Forest Service) on National Forest System (NFS) land; 2) United States Department of Interior, Fish and Wildlife Service (USFWS); and 3) California Department of Fish and Game (CDFG). Each of these agencies and their jurisdiction, as understood by YCWA at this time, is discussed below.

#### Forest Service

The Forest Service's jurisdiction and applicable management goals are described by the Forest Service from page 59 to 76 in the Forest Service's March 2, 2011 letter to FERC providing the Forest Service's comments on YCWA's PAD. The Forest Service's jurisdiction and management goals are not repeated here.

#### USFWS

The bald eagle receives federal protection under the Bald Eagle and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS adopted the Pacific Bald Eagle Recovery Plan in 1986, which encompasses a seven-state area, including California. The following recovery goals were established to guide and measure population recovery: 1) a minimum of 800 breeding pairs, 2) average annual productivity of at least one young per active breeding pair, 3) breeding population goals met for at least 80% of management zones, and 4) no decline in major winter concentrations.

### CDFG

CDFG's jurisdiction is described by CDFG on page 1 of CDFG's March 2, 2011 letter to FERC providing CDFG's comments on YCWA's PAD. CDFG's goal, as described on page 2 of CDFG's letter is to preserve, protect, and as needed, to restore habitat necessary to support native fish, wildlife and plant species.

## **3.0 Study Goals and Objectives**

The goal of this study is to provide information concerning bald eagles associated with the Project reservoir, Project-affected stream reaches, and related Project recreation features or activities.

The objective of this study is to gather information, including: 1) identify and map the location of bald eagle nesting sites; 2) document the presence of bald eagles when surveys are performed; 3) identify important bald eagle roosting or hunting perches; and 4) compile incidental observations of other raptors observed while conducting the study.

## **4.0 Existing Information and Need for Additional Information**

Section 7.7 (Threatened, Endangered and Fully Protected Species) of YCWA's Pre-Application Document, or PAD (YCWA 2010) includes existing life history information for bald eagle. This information is summarized below.

Most bald eagle nesting territories in California are located in elevations ranging from 1,000 to 6,000 feet, but nesting can occur from near sea level to over 7,000 feet (Jurek 1988). Nest trees typically provide an unobstructed view of an associated water body and are often prominently located on the topography. The bald eagle often constructs up to five nests within a territory and alternates between them from year to year (USDA 2001). Bald eagles typically nest in live trees, some with dead tops, and build a large (~6 ft diameter), generally flat-topped and cone-shaped nest usually below the top of the tree with some cover above the nest (Call 1978).

Existing and relevant information regarding known and potentially occurring bald eagles in the Project Area<sup>1</sup> is available from California Department of Fish and Game's (CDFG) California Wildlife Habitat Relationships (CWHR) program and CDFG's California Natural Diversity Database (CNDDDB). A query of the CNDDDB revealed one occurrence of bald eagle within the Project Area. The occurrence was within the United States Geological Survey (USGS) Camptonville quadrangle. The complete results of the CNDDDB and CWHR queries can be found within Section 7.7 of the Preliminary Information Package. The Project has one reservoir (New Bullards Bar Reservoir) and two small diversion dam impoundments.

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<sup>1</sup> For the purposes of this document, the Project Area is defined as the area within the Federal Energy Regulatory Commission (FERC) existing Project Boundary and the land immediately surrounding the FERC Project Boundary (i.e., within about 0.25-mile of the FERC Project Boundary) and includes Project-affected reaches between facilities and downstream to the next major water controlling feature or structure.

During the January 13, 2010 meeting with relicensing participants, the Forest Service indicated that a draft Bald Eagle Management Plan had been developed and was applicable to portions of the Project, specifically New Bullards Bar Reservoir. YCWA requested a copy of the management plan, but has yet to receive it.

## **5.0 Study Methods and Analysis**

### **5.1 Study Area**

The study area encompasses all Project reservoirs and impoundments, and Project-affected river reaches plus an additional 1 mile buffer around the existing FERC Project Boundary. For the purpose of this study, this includes: 1) the Middle Yuba River from and including Our House Diversion Dam Impoundment to the confluence with the North Yuba River; 2) Oregon Creek from and including the Log Cabin Diversion Dam Impoundment to the confluence with the North Yuba River; 3) the North Yuba River from and including New Bullards Bar Dam Reservoir to the confluence with the Middle Yuba River; 4) the portion of the Yuba River from the confluence of the North and Middle Yuba rivers to the United States Army Corps of Engineer's (USACE) Englebright Reservoir; and 5) the Yuba River from USACE's Englebright Dam to USACE's Daguerre Point Dam.

If YCWA proposes an addition to the Project, the study area will be expanded if necessary to include areas potentially affected by the addition.

### **5.2 General Concepts and Procedures**

The following general concepts and practices apply to the study:

- Personal safety is the most important consideration of each fieldwork team.
- Licensee will make a good faith effort to obtain permission to access private property where needed well in advance of entering the property.
- Field crews may make minor variances to the FERC-approved study in the field to accommodate actual field conditions and unforeseen problems. When minor variances are made, Licensee's field crew will follow the protocols in the FERC-approved study.
- When Licensee becomes aware of major variances to the FERC-approved study, Licensee will issue an e-mail to the Relicensing Contact List describing the variance and reason for the variance. Licensee will contact by phone the Forest Service (if the variance is on National Forest System land), USFWS, SWRCB and CDFG to provide an opportunity for input regarding how to address the variance. Licensee will issue an e-mail to the Relicensing Contact List advising them of the resolution of the variance. Licensee will summarize in the final study report all variances and resolutions.
- Licensee's performance of the study does not presume that Licensee is responsible in whole or in part for measures that may arise from the study.

- Global Positioning System (GPS) data will be collected using either a Map Grade Trimble GPS (sub-meter data collection accuracy under ideal conditions), a Recreation Grade Garmin GPS unit (3 meter data collection accuracy under ideal conditions), or similar units. GPS data will be post-processed and exported from the GPS unit into Geographic Information System (GIS) compatible file format in an appropriate coordinate system using desktop software. The resulting GIS file will then be reviewed by both field staff and Licensee's relicensing GIS analyst. Metadata will be developed for deliverable GIS data sets. Upon request, GIS maps will be provided to agencies in a form, such as ESRI Shapefiles, GeoDatabases, or Coverage with appropriate metadata, that is useful for interactive data analysis and interpretation. Metadata will be Federal Geographic Data Committee (FGDC) compliant.<sup>2</sup>
- Licensee's field crews will record incidental observations of aquatic and wildlife species observed during the performance of this study. All incidental observations will be reported in the appropriate Licensee report (e.g., incidental observations of special-status fish recorded during fieldwork for the Special-Status Turtles – Western Pond Turtle Study will be reported in Licensee's Stream Fish Populations Study report). The purpose of this effort is not to conduct a focus study (i.e., no effort in addition the specific field tasks identified for the specific study) or to make all field crews experts in identifying all species, but only to opportunistically gather data during the performance of the study.
- Field crews will be trained on and provided with materials (e.g., Quat) for decontaminating their boots, waders, and other equipment between study sites. Major concerns are amphibian chytrid fungus, and invasive invertebrates (e.g., zebra mussel, *Dreissena polymorpha*). This is of primary importance when moving: 1) between tributaries and mainstem reaches; 2) moving between basins (e.g., Middle Yuba River, Yuba River, and North Yuba River); and 3) moving between isolated wetlands or ponds and river or stream environments.

## 5.3 Study Methods

The study methods will consist of the following five steps: 1) identify and map known nest sites; 2) winter surveys; 3) nest surveys; 4) perform quality assurance/quality control (QA/QC) review; and 5) prepare report. Each step is described below.

### 5.3.1 Step 1 – Identify and Map Known Nest Sites

YCWA will identify and map known occurrences of bald eagle sightings, nests, and roosts, and known occurrences of osprey sightings in the study area. The map will be based on existing CWHR data, CNDDDB data, discussions with Forest Service wildlife biologists, discussions with Project Operations Staff, and incidental sightings by field staff during fieldwork on the Project reservoir.

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<sup>2</sup> The Forest Service and CDFG each have requested that a copy of the GIS maps be provided to them when the maps are available.

### 5.3.2 Step 2 – Winter Surveys

YCWA will conduct wintering bald eagle surveys and winter night roost surveys according to the *Protocol for Evaluating Bald Eagle Habitat and Populations in California* (Jackman and Jenkins 2004). Survey methods include:

- Wintering Bird Surveys. One or two-day surveys will be conducted monthly along New Bullards Bar Reservoir from December through February (three surveys, at least two weeks apart) to capture peak wintering activity. The January survey will be conducted during the two-week nationwide, mid-winter bald eagle survey coordinated state-wide by CDFG and University of California, Santa Cruz, Predatory Bird Research Group, unless inclement weather prohibits safe surveys. The surveys will either be conducted from a helicopter or boat depending on weather conditions and accessibility.
- Winter Night Roost Surveys. Winter night roost surveys will be conducted monthly from December through February. Surveys will be conducted in the afternoon/early evening in areas where eagles were observed wintering in an effort to identify any night roosts. If roosts are located, the number of eagles will be recorded as they move from foraging to roosting habitat. These locations will be revisited the following morning, one-half hour before sunrise for at least two hours to count the number of eagles leaving the roost. If a stand is identified as a probable night roost, the area will be revisited during the day to search for any evidence of bald eagle use (e.g., feathers or castings) and the exact location will be recorded by GPS. The survey forms derived by Jackman and Jenkins (2004) will be used for both the wintering and night roost surveys.

### 5.3.3 Step 3 – Nest Surveys

YCWA will conduct nesting bald eagle surveys according to the *Bald Eagle Breeding Survey Instructions* (CDFG 1999) and *Protocol for Evaluating Bald Eagle Habitat and Populations in California* (Jackman and Jenkins 2004). Nesting territories will be checked at least three times during the nesting season (primarily February through July). Survey methods include:

- Determine Occupancy of Territories and Early Incubation. Territories will be checked in early March, as weather conditions allow, in areas that have historical data available. 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; and 5) identification of any new nests. Surveys will be performed from a helicopter, GPS coordinates will be recorded, and photographs taken for all nests observed.
- Confirm Occupancy of Territories and Presence of Eggs/Nestlings. Surveys will be conducted in late April or early May to determine whether the breeding pair surveyed 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. These surveys will be conducted in the same manner as the initial surveys.
- Determine Nest Success. Surveys will be conducted in mid June to determine how many nestlings are approaching fledgling age. These surveys will be conducted in the same

manner as the other nesting surveys. The CDFG California Bald Eagle Nesting Territory Survey Form will be utilized during all nesting surveys.

In addition, during the bald eagle surveys, YCWA will record any raptor sightings and nests observed, photograph the nest, and record the location using GPS. If reasonably possible, YCWA will make a determination as to whether the raptor nest is active or inactive during the survey year.

### **5.3.4 Step 4 – Quality Assurance/Quality Control Data**

YCWA will perform a QA/QC review of all data, including maps and sightings.

### **5.3.5 Step 5 – Prepare Report**

YCWA will prepare a report that includes the following sections: 1) Study Goals and Objectives; 2) Methods and Analysis; 3) Results; 4) Discussion; and 5) Description of Variances from the FERC-approved study proposal, if any. The study data will be compared to State-wide data collected by CDFG and University of California, Santa Cruz, Predatory Bird Research Group, during the same period.

For all special-status raptor observations, YCWA will complete the appropriate CNDDDB form and transmit the form to the CNDDDB. If the sighting is on National Forest System lands, YCWA will provide a copy of the CNDDDB form to the Forest Service at the same time as it is submitted to CNDDDB. YCWA will provide all bald eagle nesting territory survey data to CDFG.

## **6.0 Study-Specific Consultation**

This study includes one study-specific consultation:

- YCWA will consult with Plumas National Forest and Tahoe National Forest wildlife biologists and Project Operations Staff regarding the known occurrence of bald eagles and osprey and bald eagle nests in the study area.

## **7.0 Schedule**

YCWA anticipates the schedule to complete the study as follows assuming FERC issues its Study Determination by September 16, 2011 and the study is not disputed by a mandatory conditioning agency:

Planning (Step 1).....	November 2011
Field Work: Wintering Surveys (Step 2) .....	December 2011 – February 2012
Field Work: Nesting Surveys (Step 3).....	February – June 2012
QA/QC (Step 4) .....	February – June 2012
Data Report Preparation (Step 5) .....	July – September 2012

## **8.0 Consistency of Methodology with Generally Accepted Scientific Practices**

This study is consistent with the goals, objectives, and methods outlined for recent FERC hydroelectric relicensing efforts in California, and uses well established data from CDFG and other reputable sources for the analysis.

## **9.0 Level of Effort and Cost**

YCWA estimates the cost to complete this study in 2011 dollars is between \$31,500 and \$42,500.

## **10.0 References Cited**

- California Department of Fish and Game (CDFG). 2005. California Interagency Wildlife Task Group. California Wildlife Habitat Relationships Program. Version 8.1 personal computer program. Sacramento, CA.
- \_\_\_\_\_. 1999. Bald Eagle Breeding Survey Instructions. November 1999. Sacramento, CA.
- Call, M.W. 1978. Nesting habitats and survey techniques for common western raptors. U.S.E.I., Bureau of Land Management, Technical Note TN-316. 115 pp.
- Jackman, R.E. and J.M. Jenkins. 2004. Protocol for Evaluation Bald Eagle Habitat and Populations in California. Prepared for U.S. Fish and Wildlife Service. Sacramento, CA.
- Jurek, R. M. 1988. Five-year status report bald eagle. California Department of Fish and Game. Wildlife Management Division. State of California, Sacramento, California.
- Yuba County Water Agency (YCWA). 2010. Yuba River Development Project Relicensing Pre-Application Document. Yuba County Water Agency, Marysville, CA. <http://www.ycwa-relicensing.com>

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