

Study 7.6

# **CESA-LISTED AND FULLY PROTECTED WILDLIFE - CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS<sup>1</sup>**

October 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) and recreation has the potential to affect wildlife species that are listed as either threatened (CT) or endangered (CE) under the California Endangered Species Act (CESA) or listed as Fully Protected (CFP) by California Department of Fish and Game (CDFG).

Besides this study proposal, bald eagle, another CE species, is addressed in a separate study proposal: "CESA-Listed Wildlife - Bald Eagle."

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

YCWA believes that one agency has jurisdiction over CESA-listed wildlife in the geographic area included in this study proposal: 1) California Department of Fish and Game (CDFG).

### 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 Pre-Application Document, or PAD (YCWA 2010). 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.

### USFWS

USFWS's jurisdiction and goals and objectives are described by USFWS on pages 1 through 3 of USFWS's March 7, 2011 letter to FERC that provided USFWS's comments on YCWA's PAD. USFWS's jurisdiction, goals and objectives are not repeated here.

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<sup>1</sup> YCWA's included a CESA-Listed and Fully Protected Wildlife – California Wildlife Habitat Relationships Study (Study 4.1) in its August 2011 Revised Study Plan. FERC's September 30, 2011 Study Determination required modifications to the Special-Status Wildlife – California Wildlife Habitat Relationships study, which included the addition of species listed as Birds of Conservation Concern. One of those species, willow flycatcher, is listed as endangered under the California Endangered Species Act. Therefore, though not required by the Determination, YCWA has made the change regarding willow flycatcher in this study (Study 7.6, CESA-Listed and Fully Protected Wildlife – California Wildlife Habitat Relationships) rather than in Study 4.1. The modifications have been made in this study plan.

### **3.0 Study Goals and Objectives**

The goal of this study is to determine presence and distribution of CESA-listed and CFP wildlife species in the vicinity of the existing FERC Project Boundary,<sup>2</sup> and Project O&M activities that might affect these species.

The objective of the study is to query CDFG California Wildlife Habitat Relationships (CWHR) system to meet the study goals.

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

Existing and relevant information regarding known and potentially occurring CT, CE and CFP wildlife species in the vicinity of the Project is available from the California Natural Diversity Database (CNDDDB), CDFG, CWHR program and the United States Department of Agriculture, Forest Service Geological Information System (GIS) database. Forest Service data also include various biological evaluations addressing CE and CT wildlife. This information is useful in developing a target list of special-status species and identifying their habitat.

Based on the general vegetation patterns described in the Botanical Resources section of the Pre-Application Document (PAD), YCWA classified wildlife habitats in the Project Vicinity using the CWHR program (de Becker and Sweet 1988; CDFG 2005, 2009a). The CWHR model predicts wildlife use based on habitat type, age class, size class, canopy closure or cover, and occurrence of specific habitat elements that influence thermal cover, forage, prey availability, nesting, escape cover, and breeding. YCWA assessed upland vegetation with information from the Forest Service's CalVegetation (CalVeg) mapping system, which are publicly available data (USDA 2004a), and the Forest Service's Crosswalk (USFS 2004b) to identify habitats in the Project Vicinity. The Crosswalk converts CalVeg Alliances into the appropriate CWHR habitat type. Using the identified habitat types and CWHR, YCWA identified terrestrial vertebrate wildlife species potentially occurring within the Project Vicinity.<sup>3</sup>

The results of the CWHR analysis and current list of CT, CE and CFP wildlife indicate that there are ten wildlife species with potential to occur in the study area, including nine birds and one mammal (Table 4.0-1).

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<sup>2</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.

<sup>3</sup> YCWA's CESA-Listed and Fully Protected Wildlife – California Wildlife Habitat Relationships Study in its August 2011 Revised Study Plan did not include bird species listed as Birds of Conservation Concern under the Migratory Bird Treaty Act. However, FERC's September 30, 2011 Study Determination stated "we find that the list of special status wildlife species should be expanded to include BCC located in Bird Conservation Region 15 (Sierra Nevada), consistent with the memorandum of understanding between the Commission and FWS regarding conservation of migratory birds. Although some BCC are addressed in the study, the following BCC are not, and thus should be added to table 4.0-1: flammulated owl, calliope hummingbird, Lewis's woodpecker, Williamson's sapsucker, willow flycatcher, and Cassin's finch." The study plan has been modified to include willow flycatcher, a species listed as endangered under the CESA. The other species identified by FERC are addressed in YCWA's Special-Status Wildlife – California Wildlife Habitat Relationships Study (Study 4.1).

The Forest Service reports that great grey owl (*Strix nebulosa*) a CE species, has been observed and occupied nesting activity recorded within 1 mile upslope of the Project’s Log Cabin Diversion Dam.

**Table 4.0-1. Wildlife species listed as threatened or endangered under the California Endangered Species Act or listed as Fully Protected by CDFG and are known to occur or with the potential to occur within the study area for the Yuba River Development Project.**

Common Name Scientific Name	Suitable Habitat Type <sup>a</sup>	Known Occurrence in Project Vicinity	State Status <sup>b</sup>	Status Reports, Recovery Plans Relevant to Project Vicinity
<b>BIRDS</b>				
Bank swallow <i>Riparia riparia</i>	Open and partly open habitats, frequently near flowing water. Nests in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast.	Four occurrences found on CNDDDB in Project Vicinity; three occurrences within Sutter quad and one within Yuba City quad (CDFG 2010).	CT	Status Report CDFG 2005 Conservation Plan RHJV 2004
California black rail <i>(Laterallus jamaicensis coturniculus)</i>	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	Thirty-two occurrences found on CNDDDB in Project Vicinity; Browns Valley 2, Oregon House 12, Smartville 19(CDFG 2010).	CT & CFP	Status Report CDFG 2005
Bald eagle <i>Haliaeetus leucocephalus</i>	Breeding habitat most commonly includes areas close to coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources. Preferentially roosts in conifers or other sheltered sites in winter in some areas.	Two occurrences found on CNDDDB in Project Vicinity: One in Camptonville quad, and one in Oregon House quad (CDFG 2010).	CE & CFP	Status Report CDFG 2005 Species Profile USFWS 2001 USFS 1988, 1990
Golden Eagle <i>Aquila chrysaetos</i>	Generally open country, in prairies, arctic and alpine tundra, open wooded country, and barren areas, especially in hilly or mountainous regions.	Potentially occurs within suitable habitat	CFP	None
American peregrine falcon <i>Falco peregrinus anatum</i>	Various open habitats from tundra, moorlands, steppe, and seacoasts, especially where there are suitable nesting cliffs, to mountains, open forested regions, and human population centers.	Potentially occurs within suitable habitat	CE & CFP	Status Report CDFG 2005 Species Profile USFWS 1999
Great grey owl <i>Strix nebulosa</i>	Found in or near meadows surrounded by forest with high density of large diameter snags and high canopy closure.	Forest Service reported occurrence within 1 mile of Log Cabin Diversion Dam (M. Tierney, pers. Comm., 2010)	CE	Status Report CDFG 2005
Greater sandhill crane <i>Grus canadensis tabida</i>	Breeds in open grasslands, marshes, marshy edges of lakes and ponds, and riverbanks. Roosts at night along river channels, on alluvial islands of braided rivers, or natural basin wetlands.	Potentially occurs within suitable habitat	CT & CFP	Status Report CDFG 2005 Pacific Flyway Management Plan 1997
Swainson’s hawk <i>(Buteo swainsoni)</i>	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs and agricultural or ranch.	Two occurrences found on CNDDDB in Project Vicinity: within Browns Valley and Yuba City quads (CDFG 2010).	CT	Status Report CDFG 2005
Willow flycatcher <i>Empidonax traillii</i>	Summer resident in wet meadow and montane riparian habitats between 2,000 and 8,000 ft.	Potentially occurs within suitable habitat	CE & BCC	Status Report CDFG 2005
Western yellow-billed cuckoo <i>(Coccyzus americanus occidentalis)</i>	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Two occurrences found on CNDDDB in Project Vicinity: Yuba City quads (CDFG 2010).	CE	Status Report CDFG 2005

**Table 4.0-1. (continued)**

Common Name Scientific Name	Suitable Habitat Type <sup>a</sup>	Known Occurrence in Project Vicinity	State Status <sup>b</sup>	Status Reports, Recovery Plans Relevant to Project Vicinity
<b>MAMMALS</b>				
Sierra Nevada red fox <i>Vulpes vulpes necator</i>	Various habitats in alpine and subalpine zones; preferred habitat apparently red fir and lodgepole pine forests and alpine fell-fields; may hunt in forest openings, meadows, and barren rocky areas.	One occurrence found on CNDDDB in Project Vicinity: Pike quad (CDFG 2010).	CT	Status Report CDFG 2005  CDFG 2009

<sup>a</sup> Nature Serve 2006

<sup>a</sup> Status Codes:

CE Endangered: State of California listed as endangered.

CT Threatened: State of California listed as threatened.

CFP California Fully Protected.

BCC = Birds of Conservation Concern (USFWS 2008)

## 5.0 Study Methods and Analysis

### 5.1 Study Area

The study area consists of the area within the existing FERC Project Boundary<sup>4</sup> and an area extending 0.25 mile from the boundary. This includes all Project facilities (e.g., powerhouses, dams, and conduits) as well as Project recreation sites (e.g., reservoirs and campgrounds).

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

<sup>4</sup> The existing FERC Project Boundary is the area that YCWA uses for normal Project operations and maintenance, and is shown on Exhibits J, K, and G of the current license.

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. 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>5</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 be identical to those discussed in the study proposal entitled “Special-status Wildlife – CWHR,” but will address CE, CT and CFP wildlife species instead of special-status wildlife species. The study methods consist of the four steps described below.

### 5.3.1 Step 1 – Create Maps that Include Vegetation Communities, Wildlife Habitats and Project Facilities

YCWA will produce maps at a scale of 1:24,000 that include CWHR habitat types, known protected wildlife habitats (e.g., great grey owl Protected Activity Centers [PACs]) and project

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<sup>5</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.

facilities. In addition, CNDDDB and USFS species occurrence data for target species will be included.

### **5.3.2 Step 2 – Compile Project O&M Activities**

YCWA will compile a list of Project operations and maintenance activities by facility. In each instance, Project Operations Staff will be consulted to describe the nature and frequency of Project O&M.

### **5.3.3 Step 3 – Analysis of Habitat and Project O&M**

YCWA will use the maps identified in Step 1 to identify areas within the study area in which CT, CE and CFP wildlife habitat and Project O&M overlap.

### **5.3.4 Step 4 – Prepare Report**

YCWA will prepare a report that includes the following sections: 1) Study Goals and Objectives; 2) Methods and Analysis; 3) Discussion; 4) Conclusions; and 5) Description of Variances from the FERC-approved study proposal, if any.

## **6.0 Study-Specific Consultation**

This study does not require any study-specific consultation.

## **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 – December 2011  
Analysis (Step 2)..... January – July 2012  
Report Preparation (Step 3) ..... August – September 2012

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

The study methods discussed above are consistent with the study methods followed in several other relicensings. The methods presented in this study plan also are consistent with those used in recent relicensings in California.

## 9.0 Level of Effort and Cost

YCWA estimates the cost to complete this study in 2011 dollars is between \$13,500 and \$18,500.<sup>6</sup>

## 10.0 References Cited

- California Department of Fish and Game (CDFG). 2005. The Status of Rare, Threatened, and Endangered Animals and Plants of California 2000-2004.
- \_\_\_\_\_. California Interagency Wildlife Task Group. 2008. CWHR Version 8.2 personal computer program. Sacramento, CA.
- \_\_\_\_\_. 2010. Biogeographic Data Branch. California Natural Diversity Database. Version 3.1.0.
- DeBecker, S. and A. Sweet. 1988. Crosswalk between WHR and California vegetation classifications. Pages 21-39 in: K.E. Mayer, and W.F. Laudenslayer, eds. 1988. A Guide to Wildlife Habitats of California. State of California, The Resources Agency, Department of Forestry and Fire Protection, Sacramento, California.
- NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available Online: <http://www.natureserve.org/explorer>.
- Riparian Habitat Joint Venture (RHJV). 2004. The riparian bird conservation plan: a strategy for reversing the decline of riparian associated birds in California. California Partners in Flight. [http://www.prbo.org/calpif/pdfs/riparian\\_v-2.pdf](http://www.prbo.org/calpif/pdfs/riparian_v-2.pdf).
- United States Department of Agriculture, Forest Service, Remote Sensing Lab, Ecosystem Planning. 2004a. Vegetation Classification: CALVEG Zones and Alliances-Vegetation Descriptions. Sacramento, CA. Available online: <http://www.fs.fed.us/r5/rsl/projects/classification/zone-map.shtml>.
- \_\_\_\_\_. Pacific Southwest Region (USFS). 2004b. Calveg/CWHR Xwalk. <http://www.fs.fed.us/r5/rsl/projects/classification/cwhr-cv-xwalk.html>.
- \_\_\_\_\_. 1988. Plumas National Forest Land and Resource Management Plan, USDA Forest Service, Pacific Southwest Region, San Francisco, CA.
- \_\_\_\_\_. 1990. Tahoe National Forest Land and Resource Management Plan. USDA Forest Service, Pacific Southwest Region, San Francisco, CA.
- United States Department of Interior, Fish and Wildlife Service (USFWS). 2001. Sacramento Fish and Wildlife Office Species Account: Bald eagle (*Haliaeetus leucocephalus*). Available online: <http://www.fws.gov/sacramento>.

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<sup>6</sup> YCWA's CESA-Listed and Fully Protected Wildlife – California Wildlife Habitat Relationships Study included in its August 2011 Revised Study Plan had an estimate cost range of between \$13,500 and \$18,300. With the modifications required by FERC in its September 30, 2011 Study Determination, the estimated cost range remains between \$13,500 and \$18,300.

Yuba County Water Agency  
Yuba River Development Project  
FERC Project No. 2246

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>.