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## TERR 9 BALD EAGLE AND OSPREY

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### 1.0 EXECUTIVE SUMMARY

In 2003, the number of snags within approximately ½ mile of the known bald eagle nests at Shaver Lake and Lake Edison were counted. There were 11 snags counted by the Shaver Lake nest and 43 snags by the Lake Edison nest.

During focused bald eagle and osprey surveys in 2002, there were two bald eagle nests detected in the study area. Both of these nests are previously known nests. One was located at Lake Edison and produced two fledglings in 2002. In 2003, the nest failed. The other was located at Shaver Lake and was unsuccessful (i.e., failed) in 2002. This nest produced three young in 2003. A new nest was constructed after the breeding season in 2003 at Huntington Lake, but did not produce any young.

Southern California Edison's (SCE) Raptor Protection Program was reviewed. No revisions of SCE's Raptor Protection Program are recommended. Refer to the 2003 TERR 8, Raptors, Technical Study Report (TSR) for a complete review of the Raptor Protection Program.

The design of the Big Creek ALP transmission lines and Project power lines under 33 kV were reviewed to determine if they comply with guidelines set forth in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996* (APLIC 1996). Refer to the 2003 TERR 8, Raptors, TSR for a complete review of the design of the Big Creek Hydroelectric Project transmission lines and Project power lines under 33 kV in the Big Creek ALP study area.

No additional information was obtained for osprey in 2003. All of the information was presented in the 2002 TERR 9, Bald Eagle and Osprey TSR.

### 2.0 STUDY OBJECTIVES

- Determine the presence of nesting bald eagles and osprey and foraging and wintering habitat near Project reservoirs, forebays, and diverted and augmented streams.

### 3.0 STUDY IMPLEMENTATION

#### 3.1 STUDY ELEMENTS COMPLETED

- Recorded approximate number of snags in the nearby areas around the known bald eagle nests.
- Reviewed SCE's Raptor Protection Program.
- Reviewed the designs for the Big Creek ALP hydroelectric transmission lines and Project power lines under 33 kV to determine if they are consistent with guidelines

set forth in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996* (APLIC 1996).

### **3.2 OUTSTANDING STUDY ELEMENTS**

- Develop a single, comprehensive bald eagle management plan for all Project reservoirs that do not currently have one in place (i.e., Lake Edison, Florence Lake, Mammoth Pool Reservoir, Huntington Lake, and Shaver Lake).<sup>1</sup> A bald eagle management plan is currently being developed for Redinger Reservoir as part of the Big Creek 4 (FERC No. 2017) Relicensing Project.
- Complete analysis of designs of additional Project power lines below 33 kV, to determine if they comply with the guidelines set forth in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996* (APLIC 1996).

### **4.0 STUDY METHODOLOGY**

#### **4.1 SNAG COUNTS AROUND KNOWN BALD EAGLE NESTS**

Attempts were made to use aerial photographs to count the number of snags in the areas around known bald eagle nests, but it was determined that the resolution of the photographs was too low to approximate the number of snags. ENTRIX biologists surveyed areas within approximately ½ mile of the known bald eagle nests on July 22, 2003. The bald eagle nest at Shaver Lake was surveyed by boat with binoculars. Snags were counted and general locations were recorded on a map. The ½-mile area around the nest at Lake Edison was surveyed on foot with binoculars from the vantage point at the top of the Lake Edison Dam. Snags were counted and general locations were recorded on a map.

#### **4.2 2003 UPDATE ON NESTING BALD EAGLES**

Steve Byrd (SCE Lands Division) and Mike Smith (California Department of State Parks, Millerton Lake State Recreation Area) were contacted to obtain information on the nesting success of the bald eagles at Shaver Lake and Lake Edison in 2003.

#### **4.3 REVIEW OF RAPTOR PROTECTION PROGRAM**

SCE's Raptor Protection Program was reviewed to determine if revisions to the plan are appropriate. Refer to the 2003 TERR 8, Raptors, TSR for a complete review of the Raptor Protection Program.

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<sup>1</sup> This study element will be completed in 2004.

#### **4.4 REVIEW OF BIG CREEK ALP TRANSMISSION LINES AND PROJECT POWER LINES UNDER 33 KV**

A literature review was performed to determine if the designs for SCE's Big Creek ALP transmission lines and Project power lines under 33 kV were consistent with accepted practices for power line design and raptor safety. Refer to the 2003 TERR 8, Raptors, TSR for a complete review of the design of the Big Creek ALP transmission lines and Project power lines under 33 kV. Additional Project power lines less than 33 kV were identified as part of the completion of list of facilities and features within the study area. Analysis of these Project power lines less than 33 kV will be completed in 2004.

#### **5.0 STUDY RESULTS AND ANALYSIS**

##### **5.1 SNAG COUNTS AROUND KNOWN BALD EAGLE NESTS**

ENTRIX biologists counted 11 snags within approximately ½ mile of the bald eagle nest site at Shaver Lake. These snags are too small (approximately 2 inches diameter or smaller at the top of the snag) to represent appropriate roosting habitat. There were 43 snags counted within approximately ½ mile of the bald eagle nest site at Lake Edison. Many of these snags appeared to be large enough in size (approximately 6 inches diameter or larger at the top of the snag) to provide appropriate roosting habitat.

##### **5.2 2003 UPDATE ON NESTING BALD EAGLES**

During focused bald eagle and osprey surveys, there were two bald eagle nests detected in the Project area. Both of these nests are known nests. One was located at Lake Edison and produced two fledglings in 2002. In 2003, the nest failed (Mike Smith, Personal Communication). The other was located at Shaver Lake and was unsuccessful in 2002. This nest produced three young in 2003 (Steve Byrd, Personal Communication). A new nest was constructed after the breeding season in 2003 at Huntington Lake, but did not produce any young (Mike Smith, Personal Communication).

##### **5.3 REVIEW OF RAPTOR PROTECTION PROGRAM**

SCE's Raptor Protection Program was reviewed and revisions to the plan are not recommended. Procedures set forth in APLIC (1996) are included in SCE's Raptor Protection Guidelines. Refer to the 2003 TERR 8, Raptors, TSR for a complete review of the Raptor Protection Program.

##### **5.4 REVIEW OF BIG CREEK ALP TRANSMISSION LINES AND PROJECT POWER LINES UNDER 33 KV**

According to APLIC (1996), eagles are one of the most susceptible raptor species to electrocution from power lines. In the majority of studies conducted in the western United States, the majority of reported raptor mortalities were eagles. Golden eagles have the highest rate of electrocution deaths, but bald eagle deaths from electrocution are common as well (APLIC 1996). Eagles have large wingspans that can reach up to

seven feet. Large size is by far the most crucial factor that increases the likelihood of an electrocution (APLIC 1996). There was a bald eagle electrocution at Huntington Lake in 2002, as discussed in the 2003 TSR entitled TERR 8, Raptors.

Despite their common use of power line structures for nesting and perching, osprey electrocutions are surprisingly rare (APLIC 1996). However, osprey electrocutions do occur, particularly during nest construction and among fledglings (USGS 2002). Osprey nests built on power lines frequently cause power outages when nesting materials interfere with electrical equipment (USGS 2002). Refer to TERR 8, Raptors, for a complete review of the design of the Big Creek ALP transmission lines and Project power lines under 33 kV.

## **6.0 LITERATURE CITED**

Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996. Edison Electric Institute and The Raptor Research Foundation. Washington, D.C.

Byrd, Steve. SCE Lands Division. Personal Communication.

Smith, Mike. California Department of State Parks, Millerton Lake State Recreation Area. Personal Communication.

U.S. Geological Survey (USGS). 2002. Ospreys in Oregon and the Pacific Northwest. USGS Forest and Rangeland Ecosystem Science Center, Corvallis, OR. USGS-FS-153-02. Accessed online 12/8/03 at <http://fresc.usgs.gov/products/fs/fs-153-02.pdf>.