

BALD EAGLE MANAGEMENT PLAN

BIG CREEK HYDROELECTRIC SYSTEM

MAMMOTH POOL (FERC Project No. 2085)

BIG CREEK Nos. 1 AND 2 (FERC Project No. 2175)

BIG CREEK Nos. 2A, 8, AND EASTWOOD (FERC Project No. 67)

BIG CREEK No. 3 (FERC Project No. 120)

FEBRUARY 2007

**SUBMITTED BY
SOUTHERN CALIFORNIA EDISON COMPANY**

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1.0 INTRODUCTION

This Bald Eagle Management Plan (Plan) has been developed for four of Southern California Edison's (SCE) hydroelectric projects included in the Big Creek Hydroelectric System, located in the Upper San Joaquin River Watershed. The Plan covers the following four Federal Energy Regulatory Commission (Commission or FERC) licensed projects: Mammoth Pool (FERC No. 2085), Big Creek Nos. 1 and 2 (FERC No. 2175), Big Creek Nos. 2A, 8, and Eastwood (FERC No. 67) and Big Creek No. 3 (FERC No. 120). These Projects include seven powerhouses and four major reservoirs, and have a combined dependable operating capacity of about 890 megawatts (MW).

SCE has prepared this Plan in consultation with the U.S. Fish and Wildlife Service (USFWS), U.S. Department of Agriculture-Forest Service (USDA-FS), California Department of Fish and Game (CDFG) and other stakeholders in the Big Creek Alternative Licensing Process (ALP). The Plan was developed to address ongoing maintenance and operations of the four Big Creek Projects and their potential impact to bald eagle in the Projects' vicinity. This Plan, including the specified avoidance, protection, and mitigation measures, will supersede all previous documents developed by SCE for the four Big Creek Projects that address bald eagles. The Plan will be in effect upon FERC approval.

The Draft Bald Eagle Management Plan was submitted to agencies and stakeholders on August 17, 2005. Comments on the plan were received from USFWS, USDA-FS, and CDFG.

2.0 EVALUATION AND IMPLEMENTATION OF MAINTENANCE ACTIVITIES

This section describes the location of bald eagles and their habitat within the vicinity of the four Big Creek Projects and the potential effects/enhancements of ongoing operations and maintenance activities. Additionally, this section identifies the appropriate bald eagle avoidance and protection measures to be implemented for the term of the license(s).

2.1 LOCATION OF BALD EAGLES AND HABITAT IN THE PROJECT AREA

The presence of bald eagles and their habitat (nesting and wintering) in the vicinity of the four Big Creek Projects was determined based on extensive field surveys conducted in the vicinity of the four Big Creek Projects as part of the Big Creek ALP (SCE 2001; 2003; and 2004). The location of known nests, nesting habitat, and wintering habitat are summarized below. Maps of bald eagles nests in the vicinity of the four Big Creek Projects are provided as Figures 1, 1A and 1B.

2.1.1 NESTING AND FORAGING HABITAT

Appropriate nesting habitat within the four Big Creek Projects includes tall (> 100 feet) conifers in uneven-aged, multistoried stands within 0.5 mile of Project reservoirs (i.e.,

Florence Lake, Shaver Lake, Huntington Lake, and Mammoth Pool Reservoir) and the South Fork San Joaquin and San Joaquin rivers. Foraging habitat is the same as nesting habitat except that large forebays (Balsam Creek Forebay, Bear Diversion Forebay, Mono Diversion Forebay, Dam 5 Forebay, and San Joaquin River Dam 6 Forebay) are also considered suitable habitat. Bald eagle occurrences have been recorded in the vicinity of all four Big Creek Projects.

Two bald eagle nests have been confirmed in the vicinity of the Big Creek Projects. This includes a nest on the south shore of Shaver Lake (Big Creek Nos. 2A, 8, and Eastwood), and another near Rancheria Campground (Big Creek Nos. 1 and 2).

The nest at the south shore of Shaver Lake on Kokanee Point was first detected in 1999. In 2000, two chicks were reported, but both chicks died, presumably from a winter storm. In 2001, two chicks successfully fledged. The nest was unsuccessful in 2002, but produced three young in 2003. In 2005, one chick fledged successfully (Byrd, pers. comm., 2005).

A nest was identified at Huntington Lake in 2003, after the breeding season. In 2004, one juvenile was observed that fledged the nest (Smith, pers. comm., 2005). In 2005, this nest produced two fledglings (Sorini-Wilson, pers. comm., 2005).

2.1.2 WINTERING HABITAT

Wintering habitat elements that are critical to bald eagles include trees or other vantage points of sufficient height, night roosts, and shelter from harsh weather conditions in areas with adequate forage. Wintering habitat in the vicinity of the four Big Creek Projects is the same as nesting habitat, except for elevations above 6,500 feet in elevation because of severe weather and at least partial freezing of rivers and reservoirs. Bald eagles are not known to winter above 6,500 feet in elevation in the vicinity of the four Big Creek Projects. Wintering bald eagles have been reported near Powerhouse 3 facilities and surrounding roads and at Mammoth Pool Reservoir and surrounding Project facilities and roads. Although wintering bald eagles have been documented at these locations, it has not been determined if there are bald eagle winter roosts. Winter roosts are communal night roosting locations, near wintering foraging grounds, in protected locations to minimize energy expenditure. Traditional winter roosts are used regularly on multiple days or consecutive years by numerous eagles in the winter.

2.2 POTENTIAL EFFECTS/ENHANCEMENTS TO BALD EAGLE

As part of the Big Creek ALP, an analysis of potential effects from ongoing operation and maintenance (O/M) of the four Big Creek Projects was completed. The potential Project impacts are summarized below.

2.2.1 PROJECT POWER LINES

Project power lines in the vicinity of the Big Creek Projects were evaluated to determine if they meet the guidelines set forth in the Suggested Practices for Raptor Protection on

Power Lines: The State of the Art in 1996 (Avian Power Line Interaction Committee (APLIC) 1996). Following completion of this analysis, it was determined that four Project power lines do not meet APLIC guidelines for protection of raptors. These Project power lines therefore pose a potential risk for raptor electrocution (including bald eagles). However, no raptor or bald eagle mortalities have been known to occur along these lines and the potential risk is considered small.

Raptors, including bald eagles, may also nest on Project power lines or associated structures during the term of the license(s). If these nests pose a fire or public safety issue, they may require removal or trimming. Removal or trimming of an active nest may be considered an adverse effect.

2.2.2 LAKES AND FOREBAYS

More than 87% of bald eagles in California nest within one mile of water, including reservoirs (Zeiner et al. 1990). Consistent with this, bald eagles are known to nest and forage on reservoirs and forebays in the vicinity of the Big Creek Projects. Florence Lake, Shaver Lake, Huntington Lake, and Mammoth Pool Reservoir represent nesting and foraging habitat for bald eagle.

2.3 AVOIDANCE AND PROTECTION MEASURES

Avoidance and protection (A/P) measures that SCE will implement during the term of the license(s) are provided below.

2.3.1 PROJECT POWER LINES

To avoid and minimize the potential for bald eagles to be electrocuted on Project power lines and to minimize adverse effects to eagles nesting on power poles and towers, SCE will implement Procedures set forth in the Avian Protection (Specific Order) (Attachment A).

Electrocution

If during the term of the license(s) a bald eagle mortality occurs on a Project power line, the mortality shall be reported via telephone to the Northern Hydro Division's Environmental Manager or Safety and Environmental Specialist (SES) within 24 (twenty-four) hours of discovery of a carcass. Either the Environmental Manager or SES will promptly notify SCE's Environment, Health and Safety (EH&S) Division by telephone and will immediately follow up that notification with a written raptor mortality report. The report shall be completed using the Animal/Bird Mortality Reporting Form, provided as Attachment B, or a similar form providing relevant information.

SCE will provide USFWS and CDFG with an annual bald eagle mortality report that includes the date, raptor species, and location of each Project-related mortality. SCE will not provide reports for years in which no Project-related bald eagle mortalities have occurred.

Nest Protection

All vegetation maintenance and work activities involving active or inactive bald eagle nests on Project power lines will be coordinated with the Northern Hydro Division's Environmental Manager, SES, or other qualified personnel.

Active Nests

- SCE will not remove active bald eagle nests (i.e., eggs, young, and incubating adults present) from power poles without close coordination with and any required approval from CDFG and USFWS. All necessary state/federal permits will be obtained by SCE prior to any actions to the nest.
- If imminent danger (fire/electrocution) to the safety of bald eagles or nests exists, or if a threat to human life or property exists, nest material may be trimmed, conductors may be moved away from the nest, or other practices may be implemented to ensure the welfare of the birds, if present. Such activities will be coordinated with the Northern Hydro Division's Environmental Manager, SES, or other qualified personnel. CDFG and USFWS will be notified by telephone or in writing, within one week of any such actions.

Inactive Nests

- Inactive bald eagle nests or nests present in nonbreeding season (September–March) will not be removed unless the presence of the nest creates a threat (i.e., fire or safety) to operations and appropriate permits have been obtained. This removal may include placement of the inactive nest on an artificial nesting platform. Such activities will be coordinated with the Northern Hydro Division's Environmental Manager, SES, or other qualified personnel. USFWS will be contacted prior to nest relocation to obtain necessary permits.

2.4 SCE PROGRAMS

In addition to the above A/P measures, SCE has also established several programs to train personnel on the recognition of special-status resources, including bald eagle. The programs will continue to be implemented during the term of the license(s), and are briefly described below. The programs may be revised from time to time to ensure compliance with new or changed laws, regulations, policies, and operational or business practices. Each program is described briefly below.

2.4.1 ENDANGERED SPECIES ALERT PROGRAM

The Endangered Species Alert Program (ESAP) was developed to provide SCE personnel with a means for identifying when they may be working within an area with the potential for occurrence of legally protected plants and animal species in the SCE Service Territory. This training is conducted on an annual basis. For each of these species within the SCE Service Territory, the ESAP Manual (SCE 2006a) includes a photograph, description, natural history information, and map showing the species'

distribution in relation to SCE facilities. This manual and maps (or Geographic Information System (GIS) database) are reviewed prior to implementing any project that involves ground disturbing activities within the Project area. Should a proposed activity have the potential to conflict with a known sensitive species population, SCE's Northern Hydro Division Environmental Manager, SES, or other qualified personnel will be notified to evaluate the situation and, if needed, coordinate with and obtain appropriate permits from regulatory agencies.

2.4.2 NORTHERN HYDRO SPECIAL-STATUS SPECIES INFORMATION PROGRAM

SCE's Northern Hydro Division has developed a Special-Status Species Information Program (NHSSIP) to provide SCE personnel with a means of identifying when they may be working within an area that could support a Forest Service Sensitive (FSS) species. This Program will require the use of the Environmental Compliance Program described below and will enhance the ESAP described above. This program includes a photograph or line drawing, description, natural history information, and map showing the species' distribution in relation to SCE facilities for all FSS species potentially occurring in the Project vicinity (SCE 2006b).

2.4.3 AVIAN PROTECTION PROGRAM

SCE employees are informed about the SCE Avian Protection Program (APP) through posters, written literature, wallet-sized cards, formal training that discusses pertinent environmental regulations, general raptor identification, reporting procedures for the discovery of a dead raptor, protocols for how to deal with avian nests, and modifications that can be made to power line structures to lower the risk of avian electrocutions. A copy of the SCE's Avian Protection (Specific Order) and the Animal/Bird Mortality Reporting Form are provided as Attachments A and B. This training is conducted annually as part of the ESAP described above.

2.4.4 ENVIRONMENTAL TRAINING PROGRAM

SCE employees attend environmental training sessions on a regular basis, as well as on an as-needed basis. These training sessions include a review of background material, permit conditions, and instructions on how to avoid impacts to biological resources. Project-specific meetings may also be conducted in the field on a job-specific or activity-specific basis to review appropriate maintenance protocols (A/P measures) in environmentally sensitive areas.

2.4.5 ENVIRONMENTAL COMPLIANCE PROGRAM

SCE will develop a compliance program that includes a process that must be followed prior to implementation of specific O/M activities. This is a program designed to track O/M activities implemented, update resource information, and guide personnel in implementation of O/M activities in compliance with A/P measures developed for the Project. The compliance program consists of three components, the Northern Hydroelectric Environmental Compliance Database, GIS Database, and the Compliance Process, as described below.

Northern Hydroelectric Environmental Compliance Database

The Northern Hydroelectric Environmental Compliance Database (Compliance Database) will be developed and integrated with SCE's existing databases. A component of the database will be designed for tracking the training records of SCE personnel and O/M activities that have been planned and completed. The database will also include all A/P measures associated with this Plan. This database will be queried prior to implementation of specified O/M activities.

Geographic Information System Database

Several studies have been conducted for the Project. The results of these studies, data obtained from the USDA-FS Special-status Species Database, the California Natural Diversity Database (CNDDDB), and other biological studies were incorporated into a GIS database. This information includes the locations of special-status species and their habitats in the vicinity of the Project. Because of the sensitive nature of the locations of some special-status species, some GIS data layers are confidential. Therefore, access to these layers will be limited to SCE employees who are trained in the sensitivity and proper use of the information.

Updating GIS Database

The GIS database will be evaluated annually during the term of the license(s) to determine if updates are needed. Prior to updating the database, SCE will contact USDA-FS for the most recent version of its Special-status Species Database. SCE will also contact the USFWS for the current list of Threatened and Endangered Species and obtain any new versions of the CNDDDB when they become available. Any new data on the location of resources in the vicinity of the Project that is obtained during implementation of O/M activities, or required species monitoring, will also be incorporated into the database on a regular basis. SCE will contact the agencies and obtain approval to use the newest available data sources if they become available.

Compliance

SCE will review all O/M work activity requests that are determined to be subject to environmental regulation. They will use the Database to determine which A/P measures are appropriate, given the timing and nature of the work to be conducted, and the proximity of special-status biological resources to the work location. SCE will require that contractors comply with all applicable A/P measures.

2.5 RESOURCE MONITORING AND REPORTING

The following section defines the resource monitoring and reporting that will be implemented for the four Big Creek Projects. Additionally, agency consultation is also described.

2.5.1 MONITORING

Two types of surveys will be conducted to monitor the status of bald eagles in the vicinity of the four Big Creek Projects—nesting surveys and wintering surveys. Each of these is described below.

Bald Eagle Nesting Surveys

Protocol-level Surveys

The objective of bald eagle nesting surveys is to monitor the breeding status of existing nests and to locate any new nests during the term of the license(s). Nesting surveys (i.e., searching for new nests and monitoring existing nests) will be completed in appropriate breeding habitat identified in the vicinity of the four Big Creek Projects every five years in accordance with Protocol for Evaluating Bald Eagle Habitat and Populations in California (Jackman and Jenkins 2004). The result of each survey will be reported on the CDFG Bald Eagle Nesting Territory Survey Form provided as an attachment to the CDFG Bald Eagle Breeding Survey Instructions (Attachment C). The first bald eagle nesting survey will be initiated one year following FERC approval of this Plan and every five years thereafter. A brief description of nesting surveys is provided below. Table 1 shows the timing of bald eagle nesting and wintering surveys.

- Determination of New Nests and Occupancy of Existing Nests. Conducted in late February through March (as early in the season as possible, but contingent upon weather conditions) to determine whether the survey area (suitable breeding habitat) is occupied by bald eagles and if so, to determine their breeding status. This shall include observations of old nests, as well as identification of any new nests in the area. Presence or apparent absence of adult bald eagles, courtship behavior, and nest construction will be recorded.
- Determination of Presence of Eggs/Nestlings. Conducted in mid-nesting season, late April through May, to determine the presence of eggs/nestlings in known nests. All nesting sites documented in the initial survey shall be evaluated to determine the presence of adults and number of eggs and/or nestlings.
- Determination of Nest Success. Conducted in late nesting season, early June through early July, to determine nest success. All nesting sites documented as having eggs or nestlings during the second survey shall be revisited a third time to determine the status and breeding success of the nest.

Annual Nest Monitoring Surveys

SCE will contact USDA-FS, CDFG, and USFWS annually to determine if new nests are identified in the Project area. SCE will coordinate with the agencies to verify that each nest is surveyed and that data is collected on the status of the nest (active/inactive) and the number of fledglings produced. If nests are not already scheduled to be surveyed by an agency or local biologists, SCE will conduct the survey. Surveys will consist of

one or two visits to the nest on foot or by boat. Following each survey, SCE will provide a report of findings to USDA-FS, CDFG, and USFWS.

Bald Eagle Wintering Surveys

Wintering surveys consist of two types of surveys, wintering bird surveys and winter roost surveys. Winter surveys will be conducted every five years during the period from November 15 through March 15. Survey methods are based on the Protocol for Evaluating Bald Eagle Habitat and Populations in California (Jackman and Jenkins 2004). The first wintering bald eagle survey will occur within one year of FERC approval of this Plan. Wintering surveys will be completed in appropriate wintering habitat in the vicinity of the four Big Creek Projects. A brief description of wintering bird and winter roost surveys is provided below.

Wintering Bird Surveys

- Single-day surveys will be conducted monthly in the Project area from December through February (three surveys, at least two weeks apart). Unless weather prohibits safe surveys, the January survey will be conducted during the USFWS two-week nationwide bald eagle winter survey to allow comparisons with statewide population trends. Surveys will be completed from a helicopter or boat, depending on weather conditions and accessibility. Data will be recorded on data sheets developed by Zack et al., 1997, as modified by Jackman, et al., 2001 (Attachment D).

Winter Night Roost Surveys

- Winter night roost surveys will be conducted once a month (December through February) in areas where wintering eagles are observed foraging during daylight hours. To find potential night roost areas, bald eagles will be visually observed as they move from foraging habitat to potential night roosts in the late afternoon. The number of eagles entering the potential night roost will be recorded.
- Probable night roost areas will be revisited the following morning for at least two hours beginning one-half hour before sunrise. Eagles observed returning to foraging habitat will be counted. Once a forest stand is identified as a potential night roost, a daytime survey will be conducted to look for evidence of use by bald eagles (feathers, castings) and to Global Positioning System (GPS) or pinpoint the exact location used for roosting.

2.5.2 REPORTING

Within six months of the completion of protocol-level nesting and wintering surveys, SCE will prepare a survey report that includes the following:

- Results of nesting and wintering surveys;
- Map of the location of active nests and winter roosts;

- Survey data sheets;
- Evaluation of operations and maintenance activities potentially affecting any newly identified nest or winter roost;
- Appropriate avoidance and protection measures to minimize any potential effects to bald eagle, if necessary; and
- Completed CNDDDB forms.

Within three months of the completion of annual nest monitoring surveys, SCE will provide a letter report of findings to USFWS, USDA-FS, and CDFG.

2.6 AGENCY CONSULTATION

Following the submittal of the completed nesting and wintering survey report to FERC, USDA-FS, CDFG, and USFWS, SCE will review all agency comments and consult with agencies as necessary on the adequacy of any A/P measures to minimize adverse effects on bald eagles.

Additionally, if the bald eagle is delisted during the license(s) term, SCE will consult with agencies and revise this Plan as appropriate.

3.0 LITERATURE CITED AND PERSONAL COMMUNICATIONS

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.

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Jackman, R.E., W.G. Hunt, and N. Hutchins. 2001. Foraging Ecology of Bald Eagles on Shasta Lake. Report by U.C. Santa Cruz, Predatory Bird Research Group for USDA Forest Service, Shasta Lake Ranger District.

Southern California Edison Company (SCE). 2001. Final Technical Study Plan Package for the Big Creek Hydroelectric System Alternative Licensing Process prepared by Southern California Edison. August 3, 2001. *In* SCE's Amended Preliminary Draft Environmental Assessment (APDEA) for the Big Creek Alternative Licensing Process (ALP). Mammoth Pool Project (FERC Project No. 2085), Big Creek Nos. 1 and 2 (FERC Project No. 2175), Big Creek Nos. 2A, 8 and Eastwood (FERC Project No. 67), and Big Creek No. 3 (FERC Project No. 120). February 2007 (Supporting Document (SD)-B, Volume 4, Books 6 and 21).

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Personal Communication

- Byrd, Stephen. Wildlife Biologist. Southern California Edison, Shaver Lake, California. October 14, 2005—e-mail to Sara Gillespie of RBI regarding status of Shaver Lake bald eagle nest.
- Smith, Michael. Biologist. November 2, 2005—e-mail to Janelle Nolan-Summers of RBI regarding status of Huntington Lake bald eagle nest.
- Sorini-Wilson, Kim. Wildlife Biologist. High Sierra Ranger District, Sierra National Forest, Prather, California. October 14, 2005—e-mail to Janelle Nolan-Summers of RBI regarding status of Huntington Lake bald eagle nest.

TABLE

Table 1. Timing of Bald Eagle Nesting and Wintering Surveys.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Nesting Surveys		[Black]	[Black]	[Black]	[Black]	[Black]	[Black]					
Winter Surveys	[Black]	[Black]	[Black]								[Black]	[Black]
Breeding season and wintering season are shaded gray. Periods in which surveys are conducted are shaded black.												

Source: Jackman and Jenkins 2004

FIGURES

Placeholder for

Figure 1. Big Creek Projects Bald Eagle Overall View

Figures 1A and 1B. Locations of Bald Eagle Nests in the Vicinity of the Four Big Creek Projects

Non-Internet Public Information

These Figures have been removed in accordance with the Commission regulations at 18 CFR Section 388.112.

These Figures are considered Non-Internet Public information and should not be posted on the Internet. This information is provided in Book 24 of the Application for New License and is identified as "Non-Internet Public" information. This information may be accessed from the FERC's Public Reference Room, but is not expected to be posted on the Commission's electronic library, except as an indexed item.

ATTACHMENT A
AVIAN PROTECTION (SPECIFIC ORDER)

POWER PRODUCTION	DEPARTMENT ORDER PPDE-05
	New 09/28/06
	Revision 0

Avian Protection
(Specific Order)

I. PURPOSE

The purpose of this Department Order is to:

- Provide a standard procedure for reporting and monitoring avian mortality or other activities (i.e., nesting) in the vicinity of Power Production Department (PPD) structures;
- Facilitate efficient communication among the PPD Divisions (Eastern and Northern Hydro, Mohave and Mountainview Generating Stations), other entities within SCE [i.e., the Corporate Environment, Health, and Safety Division (EH&S)], and appropriate regulatory agencies;
- Ensure PPD structures are maintained in a manner that reduces adverse effects on bird species in accordance with federal and state regulations, while protecting public health and safety.

II. RAPTOR MORTALITY REPORTING

Raptor electrocutions and power line collisions shall be reported via telephone to the Division's Environmental Manager or Safety and Environmental Specialist (SES) within 24 (twenty-four) hours of discovery of a carcass. Either the Environmental Manager or SES will in turn promptly notify EH&S by telephone and will immediately follow up that notification with a written raptor mortality report. (See Attachment A)

III. RETROFITTING OF EXISTING STRUCTURES

Any PPD structure involved in the electrocution of any raptor, or other endangered/threatened bird species, will be evaluated to determine the feasibility of retrofitting or modifying that structure so that the probability of future bird electrocutions is minimized. Such evaluation of that structure will be performed within 30 (thirty) business days or sooner (for eagles or listed species), and the results of that evaluation will be reported to either the Division's Environmental Manager or SES, and EH&S. If structures of a similar design and in similar habitat are located in the same vicinity of any electrocution, the responsible Manager will determine if these other structures should also be retrofitted to make them more raptor safe. All other electrical structures in any area where clusters of electrocutions have occurred will be examined for possible retrofitting. Each Division, in consultation with EH&S, will identify these clusters and determine which structures may need to be retrofitted and the appropriate retrofit required.

POWER PRODUCTION	DEPARTMENT ORDER PPDE-05
	New 09/28/06
	Revision 0

As opportunities arise during routine operation and maintenance activities, field personnel will assess exposed wires and surfaces for possible retrofitting if they are capable of electrocuting raptors and other birds/wildlife. The Division's Environmental Manager or SES must be advised of any retrofitting activity. Retrofits may include, but are not limited to, installing approved bushing covers on transformers, insulator hoods, protective covering on jumper wires or taps, and making other modifications.

IV. NEW CONSTRUCTION

All new or rebuilt structures within Raptor Concentration Areas (RCAs) will be of a raptor-safe construction. An RCA is an area designated by EH&S as likely to have a high concentration of raptors. All new or rebuilt structures on land administered by the federal government (USFS, BLM, etc.) shall be designed to be raptor safe whenever possible. Each new structure installed that has potential to electrocute birds and other wildlife will be evaluated by both the Division and EH&S to determine if the structure can be made raptor-safe. The Division's Environmental Manager or SES will be contacted regarding the replacement of structures.

V. NEST PROTECTION

Protected nests include:

- Active nests (nest contains eggs, young birds or adult birds sitting on the nest) of raptors and other bird species protected by the Migratory Bird Treaty Act;
- Active and inactive nests of all eagles and other threatened or endangered bird species.

All vegetation maintenance and work activities involving protected nests on PPD structures will be coordinated with the Division's Environmental Manager or SES. The Division's Environmental Manager or SES will assess the work activity and, if deemed necessary, coordinate with EH&S and appropriate governmental agencies in accordance with SCE's Federal Fish and Wildlife Permit (See Attachment B).

In the event of an emergency (threat to public health or safety, or to the safety of the birds and nests), nesting material and/or nearby trees may be trimmed, conductors or other structures may be moved away from the nest, or other appropriate measures taken as listed in SCE's Federal Fish and Wildlife Permit, to ensure safety of birds and provide safe electrical operations. The Division's Environmental manager or SES shall be contacted before conducting these emergency activities, whenever possible. Contact with the agencies is required before the relocation of any protected bird nest.

POWER PRODUCTION	DEPARTMENT ORDER PPDE-05
	New 09/28/06
	Revision 0

All personnel with potential to discover birds injured or killed by SCE facilities or with potential to work near active or inactive nests in the course of their work should carry the current Federal Fish and Wildlife Permit in their possession. A copy of the valid permit is necessary to carry out procedures outlined in this avian protection department order.

VI. TRAINING

All PPD personnel whose jobs may have some involvement with environmental resources such as wildlife habitat or water quality will receive regular training on special-status species, including avian protection issues, at a frequency to be determined by each Division. All contractors will receive training on environmental resource issues depending on the work to be performed, and will have contractual obligations to abide by applicable laws, regulations and SCE permits.

Appropriate personnel will receive guidance on correct measures to take should an encounter with protected nests impact project activities.



R. W. Krieger Jr.
Vice President

Attachment A: Raptor Mortality Report Form

Attachment B: Federal Fish and Wildlife Permit effective 6/1/2006 through 3/31/2009

Prepared by: Michael Murphy, Technical Specialist, Northern Hydro Division, in consultation with Anne M. Gollay, Project Manager, Business Planning & Development and Jill Fariss, Technical Specialist, Corporate Environment, Health and Safety.

ATTACHMENT B

ANIMAL/BIRD MORTALITY REPORTING FORM

POWER PRODUCTION	DEPARTMENT ORDER PPDE-05
Attachment A	New 09/28/06
	Revision 0

Animal/Bird Mortality Report

To: Jill Fariss Date: _____
 Biological & Archaeological Resources Group
 Corporate EH&S Division, RP&A Department
 Quad 3A, G.O.1

From: Name _____
 Work Location _____ PAX _____

Describe the species of the Animal or Bird that was mortally injured by SCE facilities (electrocuted/hit by a SCE vehicle, etc.).

Describe how the Animal or Bird was mortally injured by SCE facilities (bird contacted transformer bushings, etc.).

Weather Conditions (e.g. rainy and cold, sunny and warm, etc.)

Circuit Name & Voltage _____

Specific Problem Location (e.g. Pole #/Address/Cross Streets, etc.)

POWER PRODUCTION	DEPARTMENT ORDER PPDE-05
Attachment A	New 09/28/06
	Revision 0

Description of Terrain and Vegetation in Area (e.g. near agriculture area, dense city area, residential housing, etc.)

Please attach picture of the Bird or Animal, if possible.

ATTACHMENT C

CDFG BALD EAGLE BREEDING SURVEY INSTRUCTIONS

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME

BALD EAGLE BREEDING SURVEY INSTRUCTIONS

The breeding season of bald eagles in California extends primarily from February through July. Each year, cooperating agencies, organizations, and private individuals participate in a statewide monitoring program to document nesting activities at each nesting territory. In 1997, 160 recently active breeding territories were surveyed, and the number increases yearly.

Annual breeding season surveys are an important part of the population recovery effort. Survey information is used by resource agencies to aid breeding territory management or protection activities. Additionally, population status and trends must be monitored annually to provide the data needed for assessing population recovery.

Specific assignments and scheduling of observer time are usually handled at the agency district or regional office level. In general, agencies are responsible for surveys of territories on or near their own lands, with Department of Fish and Game also surveying on private lands. Field personnel should coordinate their surveys with other agencies or with volunteers to avoid duplication of effort or to arrange for survey help.

The bald eagle breeding population is increasing annually. So, it is important that suspected new nesting territories be adequately checked, especially early in the breeding season.

Territories should be checked at least three times during the nesting season, although more frequent checking is preferred. Emphasis should be placed on checking during incubation and early nestling periods.

1. **Early March** (early incubation) - Territories in northern California should be checked in the first half of March, if possible, or as soon thereafter as road or weather conditions allow. The purpose of the first check is to determine whether the territory is occupied (record presence of adults, courtship behavior, evidence of nest repair or construction, incubation).
2. **Late April or early May** (early nestling period) - This check is needed to confirm that a territory is unoccupied, or if occupied in March, to determine whether the breeding pair is still tending the nest (incubating eggs or tending young nestlings).
3. **Mid June** (late nestling period) - The main purpose of this check is to determine how many nestlings are approaching fledging age.

Survey dates may be modified from these recommended time periods if the territories can be checked more frequently or if particular breeding pairs are known to begin nesting especially early or late in the season.

We recommend that observers report the stage of development of nestlings in accordance with An Illustrated Guide for Identifying Developmental Stages of Bald Eagle Nestlings in the Field, by G. P. Carpenter (April 1990). This booklet is available from the San Francisco Zoological Society, Sloat Blvd. at the Pacific Ocean, San Francisco, CA 94132 (415-753-7080).

SUBMITTAL OF SURVEY FORMS

Please report observations on the **CALIFORNIA BALD EAGLE NESTING TERRITORY SURVEY FORM (REVISED 3/98)**.

Please mail all completed forms by
September 1 of the survey year to:

Mr. Ronald Jurek
California Department of Fish and Game
Habitat Conservation Planning Branch
1416 Ninth Street
Sacramento, CA 958 14

Forms will be maintained in Department files and annual survey results will be compiled on the basis of these reports. If you have questions or need additional forms, please contact Mr. Jurek at the above address or at Rjurek@dfg.ca.gov, PHONE 916-654-4267, CALNET 464-4267, FAX 916-653-2588.

NESTING TERRITORY SURVEY FORM

Revised

11/99

County: _____

Survey Year: _____

Property Owner: _____ (If USFS: _____ National Forest)

Name (or general location) of territory: _____

Name of nearest water body: _____

Location of nest: T_____ R_____ Sec _____ 1/4_____ 1/16_____ UTMn_____

No. of nests in territory - Intact: _____, Remnant: _____ UTMe_____

Nest Tree: Species _____ Year last used _____ Nest: Year last used _____

NOTE: Please attach a map showing the location of any newly documented nest tree.

Describe tree and nest condition and size, and any other remarks:

For each visit to the territory, note, in detail, the times, number and age of birds, behavior of birds (lying, perching, etc.), evidence of nesting (nest maintenance, courtship, incubation posture), disturbances, and other pertinent information:

Initials of Observer Date of Visit Observations

Initials of Observer	Date of Visit	Observations

(Attach additional pages, if necessary)

(Attach additional pages, if necessary)

General Remarks: _____

PLEASE SUMMARIZE OBSERVATIONS:

A. Successful nestings: No. of young known fledged _____ or probably fledged _____

B. If no fledglings were produced this season, please answer the following, if known:

How many adults were seen in the territory? ___ Were adults seen in the nest? Yes No

Number of nestlings observed: _____ Evidence of nest repair or construction? Yes No

Was an adult in incubation posture? Yes No

When did nesting fail?: During incubation ____ or nestling stage _____

Other remarks: _____

Observers names: _____

Affiliation: _____

Address: _____

Phone: () _____ FAX or email: _____

Mail completed forms by **SEPTEMBER 1** of the survey year to:

California Department of Fish and Game
 Habitat Conservation Planning Branch
 1416 Ninth Street
 Sacramento, CA 95814
 Attn: Ron Jurek

916-654-4267 FAX 916-653-2588 RJurek@dfg.ca.gov

ATTACHMENT D

BALD EAGLE OBSERVATION DATA SHEET

BALD EAGLE OBSERVATION DATA SHEET

Pg ___ of ___ **Data Entered:** _____ **Reservoir surface elevation** _____
Date: _____ **Time Start:** _____ **End:** _____ **Territory:** _____ **Nest Stage:** _____
Observer Location: _____ **Observers:** _____ **Temperature (x10°):** _____
Weather: (Clear / Partly Cloudy / Overcast / Rain/ Snow) **Wind:** (Calm / Slight Breeze / Breezy / Windy)

Eagle/Osprey	1	2	3	4	5	6	7	8
Time start								
Species/Age/Sex								
Number								
General Location								
UTM northing								
UTM easting								
Activity								
Perch type								
Dist from H2O(m)								
Habitat								
Time End								

Forage	1F	2F	3F	4F	5F	6F	7F	8F
General Location								
UTM northing								
UTM easting								
Time								
# Attempts								
Attack mode								
Dist. from perch								
Dist. from shore								
Success?								
Prey species								
Prey remains?								
Prey size (mm)								
Prey status								
Aquatic Habitat								

Public user #	1P	2P	3P	4P	5P	6P	7P	8P
Time								
Type								
Number								
Location								
Shore dist. (m)								
Eagle response								
Dist. to eagle (m)								

Comments on back; plot map points by observation, forage, or public user # (e.g., 1, 1F, 1P).