

ATTACHMENT A

**CDFG Appeal to Board of Supervisors
dated October 10, 2008**



COUNTY OF SANTA BARBARA

Planning and Development

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SUBMITTED TO THE BOARD OF SUPERVISORS
COUNTY OF SANTA BARBARA
PLANNING AND DEVELOPMENT
JAN 13 10 45 AM '10

Appeal to the Board of Supervisors or Planning Commission (County or Montecito)

APPEAL TO THE BOARD OF SUPERVISORS OR PLANNING COMMISSION (APL) on the issuance, revocation, or modification of :

- All Discretionary projects heard by one of the Planning Commissions
- Board of Architectural Review decisions
- Coastal Development Permit decisions
- Land Use Permit decisions
- Planning & Development Director's decisions
- Zoning Administrator's decisions

THIS PACKAGE CONTAINS _____

- ✓ APPLICATION FORM
- ✓ SUBMITTAL REQUIREMENTS

AND, IF ✓'D, ALSO CONTAINS _____

South County Office 123 E. Anapamu Street Santa Barbara, CA 93101 Phone: (805) 568-2000 Fax: (805) 568-2030	Energy Division 123 E. Anapamu Street Santa Barbara, CA 93101 Phone: (805) 568-2040 Fax: (805) 568-2522	North County Office 624 W. Foster Road, Suite C Santa Maria, CA 93455 Phone: (805) 934-6250 Fax: (805) 934-6258	Clerk of the Board 105 E. Anapamu Street Santa Barbara, CA 93101 Phone: (805) 568-2240 Fax: (805) 568-2249
Website: www.sbcountyplanning.org			

SUBMITTAL REQUIREMENTS

8Copies of the attached application.

8Copies of a written explanation of the appeal including:

- If you are not the applicant, an explanation of how you are an “**aggrieved party**” (“Any person who in person, or through a representative, appeared at a public hearing in connection with the decision or action appealed, or who, by the other nature of his concerns or who for good cause was unable to do either.”);
- A clear, complete and concise statement of the **reasons or grounds for appeal**:
 - Why the decision or determination is consistent with the provisions and purposes of the County’s Zoning Ordinances or other applicable law; or
 - There was error or abuse of discretion;
 - The decision is not supported by the evidence presented for consideration;
 - There was a lack of a fair and impartial hearing; or
 - There is significant new evidence relevant to the decision which could not have been presented at the time the decision was made.

1Check payable to Planning & Development.

✓
✓ Note: There are additional requirements for certain appeals including:

- a. **Appeals regarding a previously approved discretionary permit** – If the approval of a Land use permit required by a previously approved discretionary permit is appealed, the applicant shall identify: 1) How the Land Use Permit is inconsistent with the previously approved discretionary permit; 2) How the discretionary permit’s conditions of approval that are required to be completed prior to the approval of a Land Use Permit have not been completed; 3) How the approval is inconsistent with Section 35.106 (Noticing).
- b. **Appeals regarding Residential Second Units (RSUs)** – The grounds for an appeal of the approval of a Land Use Permit for a RSU in compliance with Section 35.42.230 (Residential Second Units) shall be limited to whether the approved project is in compliance with development standards for RSUs provided in Section 35.42.230.F (Development Standards).



PLANNING & DEVELOPMENT
APPEAL FORM

SITE ADDRESS: Five miles southwest of the City of Lompoc

ASSESSOR PARCEL NUMBER: 083-100-008,004,007; 083-250-011,019; 083-090-001,002,003,004; 083-080-004

PARCEL SIZE (acres/sq.ft.): Gross 2,950 Net

COMPREHENSIVE/COASTAL PLAN DESIGNATION: AC (Agriculture Commercial) ZONING: AG-II-100

Are there previous permits/applications? []no []yes numbers: (include permit# & lot # if tract)

Are there previous environmental (CEQA) documents? []no []yes numbers: SCH # 2006071008

1. Appellant: California Department Of Fish And Game Phone: (858) 467-4201 FAX: (858) 467-4299

Mailing Address: 4949 Viewridge Avenue San Diego, CA 92123
Street City State Zip

2. Owner: Phone: FAX:

Mailing Address: E-mail:
Street City State Zip

3. Agent: Phone: FAX:

Mailing Address: E-mail:
Street City State Zip

4. Attorney: Phone: FAX:

Mailing Address: E-mail:
Street City State Zip

COUNTY USE ONLY

Case Number: Companion Case Number:
Supervisorial District: Submittal Date:
Applicable Zoning Ordinance: Receipt Number:
Project Planner: Accepted for Processing
Zoning Designation: Comp. Plan Designation

COUNTY OF SANTA BARBARA APPEAL TO THE :

BOARD OF SUPERVISORS

PLANNING COMMISSION: COUNTY MONTECITO

RE: Project Title Lompoc Wind Energy Project

Case No. 06CUP-00000-00009

Date of Action September 30, 2008

I hereby appeal the approval approval w/conditions denial of the:

Board of Architectural Review – Which Board?

Coastal Development Permit decision

Land Use Permit decision

Planning Commission decision – Which Commission? Santa Barbara County Planning Commission

Planning & Development Director decision

Zoning Administrator decision

Is the appellant the applicant or an aggrieved party?

Applicant

Aggrieved party – if you are not the applicant, provide an explanation of how you are and “aggrieved party” as defined on page two of this appeal form:

Please see attached

Reason of grounds for the appeal – Write the reason for the appeal below or submit 8 copies of your appeal letter that addresses the appeal requirements listed on page two of this appeal form:

- A clear, complete and concise statement of the reasons why the decision or determination is inconsistent with the provisions and purposes of the County's Zoning Ordinances or other applicable law; and
- Grounds shall be specifically stated if it is claimed that there was error or abuse of discretion, or lack of a fair and impartial hearing, or that the decision is not supported by the evidence presented for consideration, or that there is significant new evidence relevant to the decision which could not have been presented at the time the decision was made.

See attached

Specific conditions imposed which I wish to appeal are (if applicable):

- a.

- b.

- c.

- d.

Please include any other information you feel is relevant to this application.

CERTIFICATION OF ACCURACY AND COMPLETENESS Signatures must be completed for each line. If one or more of the parties are the same, please re-sign the applicable line.

Applicant's signature authorizes County staff to enter the property described above for the purposes of inspection.

I hereby declare under penalty of perjury that the information contained in this application and all attached materials are correct, true and complete. I acknowledge and agree that the County of Santa Barbara is relying on the accuracy of this information and my representations in order to process this application and that any permits issued by the County may be rescinded if it is determined that the information and materials submitted are not true and correct. I further acknowledge that I may be liable for any costs associated with rescission of such permits.

for	Ed Pert, Department of Fish and Game	<i>Theresa A. Stewart</i>	<i>10-10-08</i>
	Print name and sign - Firm		Date
for	Ed Pert, Department of Fish and Game	<i>Theresa A. Stewart</i>	<i>10-10-08</i>
	Print name and sign - Preparer of this form		Date
for	Ed Pert, Department of Fish and Game	<i>Theresa A. Stewart</i>	<i>10-10-08</i>
	Print name and sign - Applicant		Date
for	Ed Pert, Department of Fish and Game	<i>Theresa A. Stewart</i>	<i>10-10-08</i>
	Print name and sign - Agent		Date
	Not applicable		
	Print name and sign - Landowner		Date

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Aggrieved Party Statement

Is the appellant the applicant or an aggrieved party?

The Department of Fish and Game (Department) is an aggrieved party. The Department is the State's trustee agency for fish and wildlife resources and, by law, has jurisdiction over natural resources affected by the proposed project. (See generally Fish & G. Code, § 711.7; Pub. Resources Code, § 21070; Cal. Code Regs., tit. 14, § 15386, subd. (a).) The Department is an aggrieved party because, among other reasons, the proposed project will result in potentially significant impacts to natural resources subject to the Department's trustee obligations; the Department participated in the local lead agency's required environmental review of the proposed project, identifying the significant impacts to trust resources caused by the proposed project, along with potentially feasible mitigation measures to avoid or substantially lessen these significant effects; and local lead agency has not and it refuses to address the significant impacts to trust resources caused by the proposed project in the manner required by law.

Department of Fish and Game Appeal of the Santa Barbara County Planning Commission's Approval of the Lompoc Wind Energy Project and Certification of the Related Environmental Impact Report

The Department of Fish and Game (Department) hereby appeals the decision of the Santa Barbara County Planning Commission (Planning Commission) on September 30, 2008, to approve the Lompoc Wind Energy Project (LWEP) and certify the related environmental impact report (EIR) (SCH# 2006071008) prepared by the County of Santa Barbara (County) pursuant to the California Environmental Quality Act (CEQA). Environmental Impact Report (EIR). The Department appeals the Planning Commission's approval and certification to the County Board of Supervisors (Board) pursuant to local ordinance and other applicable law based on concerns regarding compliance with CEQA. Importantly, the Department supports the LWEP project as an alternative to green-house gas emitting forms of energy. Yet, despite our repeated statements of support, the Department is concerned significant project-related impacts on fish and wildlife resources have not been adequately analyzed and disclosed, or mitigated to the extent feasible as required by CEQA.

Central to our concern are the California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (Wind Energy Guidelines). The Wind Energy Guidelines are the result of a collaborative effort by the Department and the California Energy Commission, with input from experts in the field and interested stakeholders, including representatives of the wind energy industry. (California Energy Commission and California Department of Fish and Game, 2007.) In our view, adherence to and implementation of the Wind Energy Guidelines is a critical component for the development of wind energy resources in California in a manner that also helps conserve the State's important fish and wildlife resources that the Department holds in trust for the people of California.

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I. Adhering to and Implementing the Wind Energy Guidelines is Critical to Meet the Disclosure and Mitigation Requirements under CEQA

The Department, on numerous occasions, urged the County and the proponents of the LWEP project to adhere to the Wind Energy Guidelines. The guidelines include, for example, recommendations for conducting pre-permitting bird and bat assessments, the primary purpose of which is to determine the level of impact to birds and bats from a proposed project. The guidelines also recommend, at a minimum, one full year of pre-permitting surveys for birds and bats. The Department is concerned the County and the project proponents have yet to commit to these recommendations. Absent such a commitment, we believe the EIR likely understates the nature and extent of significant project impacts on various trust resources at issue. For the same reason, the Department is concerned related significant impacts are not minimized or mitigated to the extent feasible as required by CEQA.

II. Information Presented to the County in the EIR is Based on Surveys that do Not Adequately Describe Existing Environmental Conditions or, More Importantly, the Significant Project-Related Impacts to Trust Resources

The Department, in comment letters dated September 11, 2007 and September 25, 2008 (attached) regarding the draft and final versions of the EIR (DEIR and FEIR), recommended the County perform adequate pre-construction surveys of birds and bats to accurately assess the potential for impacts to these species resulting from the LWEP.

At the Commission hearing on September 30, 2008, a representative of the LWEP applicant stated the LWEP site has the lowest bird and bat use of any wind farm in California. The representative supported this statement using survey data showing 227 birds passed through the site in spring, 2008. The Department believes the number of birds using the site was grossly understated, and the Department expects the actual number of birds (and bats), and the associated risk, to be much higher for the following reasons:

- Ninety-four (94) species of birds were observed on the project site in spring, 2008. The survey data of 227 birds, presented by the applicant, represented the observation of the 52 species of birds counted as migrants. It did not include the number of birds observed for the 42 remaining resident species, many of which would be at risk from wind turbine collisions. It also did not include the number of birds observed during winter surveys.
- Fall migration surveys have not been completed yet on the LWEP site, so the full year of data collection recommended by the Guidelines has not been compiled. Fall migration is also when bird counts should be the highest.

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Only one week of acoustic monitoring for bats was performed on the site, at ground level. The Guidelines recommend a full year of acoustic monitoring both at ground level and at the elevation of operation of the turbines (rotor-swept level).

III. Significant Project-Related Impacts on Trust Resources are Not Mitigated to the Extent Feasible as Required by CEQA

The Department previously commented that the County did not present adequate, feasible mitigation measures for the minimization of significant adverse impacts to migratory birds and bats resulting from construction and operation of the proposed project. The County determined that impacts from bird and bat collisions with wind turbine generators (WTGs) are potentially significant and unavoidable (Class I impacts). The Commission subsequently issued a Statement of Overriding Consideration for these impacts.

The Department is concerned the Commission overrode these significant impacts under CEQA without meaningful consideration of potentially feasible mitigation measures identified by the Department. The Department provided three specific examples of additional feasible mitigation in the September 25, 2008 FEIR comment letter, including acquisition of compensatory habitat and formation of an advisory body or technical advisory committee (TAC) to direct adaptive management and mitigation. The Commission did not appear to give these measures meaningful consideration. Instead, the Planning Commission staff report for the hearing on September 30, 2008, indicates:

- There was no nexus between wildlife impacted on the project site and distant off-site conservation areas;
- Off-site conservation easements or habitat enhancements must be located sufficiently far away from the wind farm that they do not attract birds to the vicinity; and
- Compensatory habitat ratios are arbitrary, and that acquisition of off-site conservation lands is financial infeasible.

These statements, however, do not appear to take into account the following information and other related information the Department provided to the Commission:

- There are abundant, nearby habitats, which are biologically identical to the project site that could serve to compensate for on-site impacts to birds and bats;
- The off-site, nearby areas would not require habitat enhancement that would attract more birds and bats to the LWEP;
- There is precedent for the application of compensatory mitigation and the formation of a TAC, applied by many agencies as a standard mitigation practice;
- Through cost sharing with partners, habitat protection through compensation can be financially feasible.

Compensatory mitigation, in the form of replacement habitat, constitutes feasible mitigation and should be acquired, enhanced or preserved. In addition, off-site compensatory mitigation is recommended as an approach to reduce biological impacts in

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the County of Santa Barbara Environmental Thresholds and Guidelines Manual (County of Santa Barbara Planning and Development Department, 1995).

The Department strongly recommends the formation of a TAC to review and assess the results of the proposed Bird/Bat Mortality Study (Mitigation Measure BIO-16b) and to advise the County on appropriate mitigation measures and their implementation. The Department recommends that the TAC be composed of representatives of the Department, U.S. Fish and Wildlife Service, the National Audubon Society, the lead biologist for the mortality study, the project owner or operator, the County, and a representative from the local community/interest group. Formation of a TAC was proposed in the DEIR prepared for this project, but was removed from the FEIR. The Department recommends that the County reconsider its decision regarding the TAC as a feasible mitigation measure. The implementation of the TAC would allow interested parties to assess the operations of the LWEP and develop an adaptive management approach to the operations. Adaptive Management measures could be evaluated and incorporated into the project prior to and during construction as feasible measures to reduce or minimize the significant impacts associated with the project.

IV. Request for Relief: Reversal of Planning Commission Approval and Certification, and Re-Approval and Certification with Additional Conditions of Approval

In short, the Department respectfully requests that the County Board reverse the Planning Commission approval and certification of the EIR as set forth above and as further detailed in the Department's comment letters concerning the proposed project. The Department could support re-approval of the project with conditions of approval that would require: (1) the formation of the TAC as recommended by the Department, (2) the acquisition of appropriate compensatory mitigation for significant impacts on trust resources identified by the Department, and (3) the opportunity for Department input as the County selects a biological resources consultant to conduct bird and bat strike mortality surveys in connection with operation of the LWEP.

The Department believes the creation of a TAC, the inclusion of off-site compensatory mitigation, and the implementation of adaptive management measures into the project are feasible mitigation measures that would minimize the impacts of the proposed project to a level below significance. The County's failure to provide sufficient information to identify, analyze, and mitigate for all potentially significant impacts violates CEQA. The Commission's approval of the project and certification of the EIR should be reversed.



DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>

South Coast Region
4949 Viewridge Avenue
San Diego, CA 92123
(858) 467-4201



September 25, 2008

John Day
Santa Barbara County Planning and Development Department
123 East Anapamu Street
Santa Barbara, CA 93101
Fax No.: (805) 568-2522

**Subject: Final Environmental Impact Report for the Lompoc Wind Energy Project,
SCH # 2006071008, Santa Barbara County**

Dear Mr. Day:

The Department of Fish and Game (Department), has reviewed the Final Environmental Impact Report (FEIR) for impacts to biological resources. The Department had submitted comments on the Draft EIR (DEIR) prepared for this project, dated September 11, 2007. We incorporate those comments, by reference, in this letter.

The proposed project involves the construction of a wind energy generation facility in northern Santa Barbara County. The Lompoc Wind Energy Facility (LWEF) would be located on approximately 2,950 acres (4.6 square miles) of rural, agriculturally zoned land on coastal ridges southwest of Lompoc, approximately 5 miles southwest of the City of Lompoc and 3 miles north of the coast. The LWEF site is bounded by Vandenberg Air Force Base (VAFB) on the south and west sides and private property on the north and east sides. The southern Project boundary abuts the coastal zone. The project would include installation of 65 wind turbine generators (WTGs) producing 1.5 megawatts each, new access roads and improvements to existing roads (including a new bridge across Canada Honda Creek), a communication system, up to 10 meteorological towers, an Operations and Maintenance (O&M) facility, onsite electrical collection and distribution lines, an onsite Project Substation, an 8.7-mile power line to the Lompoc area, and upgrades to existing PG&E facilities. The anticipated operational life of the Project is approximately 30 years. The principal use of the land is cattle grazing. The Project area terrain includes rolling hills and rugged, steep slopes.

The WTGs would be almost 400 feet in total height from foundation to blade tip. WTG spacing would be no less than 400 feet apart. The final locations of individual WTGs in each corridor would be subject to adjustment in the corridor until the time of construction. This flexibility in WTG layout is needed in the event that the environmental review, pre-construction field surveys (geotechnical, biological, or cultural), or further wind studies indicate that a modified layout is preferable. If future information necessitates the need to place project components outside of these corridors, these changes would be subject to subsequent environmental review. The WTGs would be of the three-bladed, horizontal axis design and in total produce up to 120 megawatts (MW). The blades would be up to 135 feet long and constructed of laminated fiberglass.

Habitat types with the potential to be impacted by the project include coastal scrub, freshwater marsh, riparian scrub, eucalyptus woodland, live oak woodland, native and annual grassland, native perennial grassland, and ruderal. Surrounding land uses include rangelands to the north,

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west, and south and a diatomite mine to the east. Proposed project impacts include an estimated permanent removal of 42.9 acres of habitats and temporary removal of 126.6 acres of habitats (for WTG and power pole installation and construction staging and underground lines).

Wildlife with the potential to be impacted by the project from construction activities include the Federal and State Endangered and Fully Protected unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), the Federal Endangered El Segundo blue (*Euphilotes battoides allyni*), the Federally Threatened and State Special Concern Species California red-legged frog (*Rana aurora draytonii*), the Federal and State Endangered Gaviota tarplant (*Deinandra increscens* ssp. *villosa*), the California Species of Special Concern San Diego desert woodrat (*Neotoma lepida intermedia*), coast horned lizard (*Phrynosoma coronatum frontale*), and silvery legless lizard (*Anniella pulchra pulchra*), and the California Native Plant Society List 1B mesa horkelia (*Horkelia cuneata puberula*), black-flowered figwort (*Scrophularia atrata*), and Kellogg's horkelia (*Horkelia cuneata sericea*).

Wildlife with the potential to be impacted by the project from construction and operational activities including WTG and power line strikes include the State Endangered and Fully Protected American peregrine falcon (*Falco peregrinus anatum*), the State Fully Protected and Special Concern Species golden eagle (*Aquila chrysaetos*), the State Fully Protected white-tailed kite (*Elanus caeruleus*), and 11 additional bird Species of State Special Concern and 5 bat Species of State Special Concern.

Measures proposed in the FEIR to mitigate impacts include:

- A Worker Education and Awareness Program
- Pre-construction survey and avoidance measures for special status species and ground-nesting birds
- Power lines installed underground whenever feasible
- WTGs of low RPM and tubular design
- Overhead power lines equipped with raptor perch guards and spaced to minimize the potential of raptor electrocution
- Permanent meteorological towers to be without guy wires
- Pre-construction surveys and avoidance of active bird nests and bat roosts
- A two-year Avian and Bat Mortality Study, following the guidelines developed by the California Energy Commission and the Department
- Small mammal control
- Gaviota tarplant and Kellogg's and mesa horkelia habitat protection and salvage
- Pre-construction plant surveys
- Native perennial bunchgrass protection
- Site restoration of temporarily impacted construction and staging areas
- Tree protection and replacement
- Protection of creeks, springs, and wetlands
- Erosion control seed mixture augmentation
- Riparian habitat restoration
- Avian monitoring
- Additional measures to protect birds and bats, if mortality studies reveal a higher level of mortality, to include project modifications, mitigation research, and contribution to bird conservation and recovery and research on wind energy impacts to birds and bats

The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (CEQA Guidelines §15386(a)) and pursuant to our authority as a Responsible Agency (CEQA Guidelines §15381) over those aspects of the proposed project that come under the purview of Fish and Game Code Sections 1600 et seq. (for impacts to jurisdictional streams), and 2081 (for incidental take of state-listed species). As trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species.

Impacts from Bird and Bat Collisions with WTGs

The Department supports the proposed LWEF as an alternative to green-house gas emitting forms of energy. We also support the proposed LWEF for its contribution to legislation (AB 32) aimed at reducing emissions to 1990 levels by the year 2020. However, we remain concerned with the potential for mortality of the sensitive bird species listed above, as outlined in our comment letter for the DEIR.

Pre-Construction Bat Surveys

Acoustic surveys for bats were conducted on the proposed project site from March 9-16, 2008. The full results of this study were not contained in the DEIR prepared for the proposed project or the FEIR and its appendices. The citation for the Bat Survey Report (CCBRG, 2008) was not included in the Reference section of the FEIR. Of the five bat Species of State Special Concern with potential to be impacted by the proposed project, only the pallid bat (*Antrozous pallidus*) was detected. However, the surveys conducted were not consistent with recently published California Guidelines (Guidelines) (California Energy Commission and California Department of Fish and Game, 2007), nor do they meet standard industry practice.

The Guidelines recommend acoustic monitoring for bats for one-full year, both at ground-level and at the rotor-swept level. The seven days of ground-level acoustic monitoring conducted contains little information about bat activity at the proposed rotor-swept level 300 feet higher. Also, surveys conducted in March do not cover the period of probable bat activity and do not cover the fall migratory period when the majority of bat fatalities have been found to date (Kerlinger, et al. 2006, *ibid.*, 2008).

The California central coast is the only area where male and female hoary bats (*Lasiurus cinereus*) are known to winter together, the proposed project therefore has potential for negative impacts on reproductive hoary bats of both sexes. In addition, the numerous records of both hoary bats and red bats (*Lasiurus blossevillii*) on VAFB are primarily in the fall.

The Department therefore recommends additional acoustic bat surveys be conducted on the proposed project site to include all seasons, and to include both ground-level and elevated survey points, as described in the Guidelines.

Recommended Mitigation Measures

An EIR shall describe feasible measures which could minimize significant adverse impacts (CEQA Guidelines §15126.4(a)(1)). The Department does not agree the FEIR has presented adequate, feasible, mitigation measures for the minimization of significant adverse impacts to migratory birds and bats resulting from construction and operation of the proposed project. If the project is approved as proposed, the Department recommends the following measures to reduce impacts to bird and bat species at risk. These measures are in addition to those mitigation measures outlined in the FEIR.

Technical Advisory Committee (TAC) – The Department strongly recommends the formation of a TAC to review and assess the results of the proposed Bird/Bat Mortality Study (Mitigation Measure BIO-16b) and to advise the County on appropriate mitigation measures and their implementation. We recommend that the TAC be composed of representatives of CDFG, USFWS, the National Audubon Society, the lead biologist for the mortality study, the project owner or operator, and the County. Formation of a TAC was proposed in the Draft EIR prepared for this project, but was removed from the FEIR. The Department supported the formation of a TAC, and it was our understanding it would be retained. We recommend that the County reconsider its decision regarding the TAC.

Compensatory Mitigation – The Department strongly recommends that compensatory mitigation, in the form of replacement habitat, be acquired, enhanced or preserved. Three examples are presented below that we believe will mitigate for anticipated impacts.

Example #1: Ratio-based

This approach combines the anticipated impacts from the project footprint and project airspace to achieve appropriate mitigation. The impact acreages are those presented in the FEIR.

1. Proposed project: Approximately three-thousand acre project area, sixty-five 1.5 MW turbines in coast range foothills, mostly annual grassland used for grazing.
2. Footprint impact: 42.9 acres of habitats permanently lost due to roads, turbine pads, other infrastructure, and 126.6 acres of temporary impacts resulting from staging and work areas. Recommend ratio of 2:1 for permanent loss of habitat, 0.5:1 for temporary loss = 150 acres.
3. Airspace/collision impact: Pre-permitting studies indicate high raptor use and an estimated high risk of collision for raptors. Total loss of aerial habitat = 187.2 acres. Recommend ratio of 5:1 for high likelihood of impacts to raptors = 936 acres.
4. Total Compensatory Mitigation: Add terrestrial and airspace components (150 + 936) = 1086 acres. Recommend the acquisition, enhancement, or preservation of 1086 acres of annual grassland and coastal scrub habitats to provide foraging/nesting habitat for raptors.

Example #2: Biologically-based

This approach uses the attached table of bird species observed on the proposed project site which have been found in mortality studies at other WEFs. The compensation would be comprised of a total of 5,000 acres of undisturbed habitat (to support golden eagle, 1/3 of its home range), and containing:

- at least one dense riparian zone (a perennial stream or river);
- at least one large pond (10 acres or more) with dense growth of aquatic plants;
- small and medium-sized mammals;
- waterfowl (to provide peregrine falcon prey base);
- both dense and open forests containing large trees (for nesting, roosting and perching);
- cliffs and rock outcrops (for nesting);
- at least half the acreage composed of open grasslands (for foraging and nesting habitat);
- large burrows (for burrowing owls).

Example #.3: Comparable Wind Energy Facility Mitigation

A Final EIR for the proposed Hatchet Ridge wind energy project in Shasta County, California contains mitigation for impacts to birds and bats which includes pre-construction compensation habitat for impacts to fully protected species (Mitigation Measure BIO-3). The mitigation measure also is comprised of TAC formation, post-construction fatality monitoring, additional post-construction compensation, on-site habitat modifications, research, and operational changes including possible WTG shut-down (attached).

We recommend that the identification of the location and the means of protection for replacement habitat will be a task assigned to the TAC. As an example, one area to target for this task could be the Gaviota Coast, between Gaviota State Park and Pt. Conception, approximately 5 miles southeast of the proposed project site. This is an area of approximately 100 square miles containing large areas of habitats similar to those existing on the proposed project site.

CESA Permitting

The project as proposed has potential for take of Gaviota tarplant, a State listed endangered plant. The County acknowledged the need to obtain a CESA permit for incidental take of this plant species, in their response to the Departments comments on the DEIR. The Department emphasizes the need for the permit to be obtained prior to construction, and we provide the following information and recommendations concerning this species:

Gaviota Tarplant

The Department has reviewed the FEIR and the Olson and Rinlaub 2006 report relative to field survey methods for Gaviota tarplant (*Deinandra increscens* ssp. *Villosa*). Surveys were primarily conducted during spring and summer of 2002 and generally were located in areas where project impacts were anticipated to occur.

Gaviota tarplant is an annual plant species. Annual plants typically exhibit considerable variation in occupied habitat and above-ground population levels, based in part on poorly understood environmental variables. A single survey, in a single growing season typically does not adequately capture the normal variations exhibited by annuals such as Gaviota tarplant. Additionally, 2002 was a dry year and received about ½ the normal level of rainfall (e.g.: 9.05 inches of rainfall at the Goleta Santa Barbara Airport weather station as compared with average rainfall of 18.25 inches). It is therefore likely that the numbers of individuals and amount of occupied habitat for Gaviota tarplant identified in 2002 would be low in a year of low rainfall.

The Department therefore recommends that additional early summer surveys be conducted for Gaviota tarplant in years exhibiting more normal levels of rainfall in order to better assess project impacts and determine appropriate mitigation measures.

The Department agrees with the FEIR that the combination of temporary and permanent impacts to Gaviota tarplant will lead to significant fragmentation effects, and therefore represents a significant adverse impact (FEIR pg 3.5-68). While additional habitat would remain within the project boundary, the majority of the mapped Gaviota tarplant habitat is located near roadways, substations, and turbine construction corridors, especially those located along the eastern portion of South Ridge and Middle Ridge. Any remaining population in areas proximate to development (i.e. within several hundred feet) will be vulnerable to adverse indirect effects (Conservation Biology Institute, 2000).

Examples of indirect effects likely to occur from project implementation include, but are not limited to: introduction of new invasive weed species; expansion of existing weed populations which directly compete with Gaviota tarplant for space and nutrients; expansion of ground squirrels and associated bioturbation near paved areas and turbine footings, and; invasion of Argentine ants which tend to establish and spread along paved and hardened surface features (Suarez, et al. 1998). Increases in weeds and associated soil disturbance are likely to reduce suitable habitat conditions for Gaviota tarplant and other native species.

Invasion by Argentine ants can lead to losses of native pollinators, and has a cascading, negative effect on arthropod diversity and associated ecosystem values (Human and Gordon, 1996). The FEIR asserts that the project would not substantially eliminate habitat for pollinators because additional habitat areas are present outside the project disturbance areas (FEIR 3.5-68). However, the FEIR fails to acknowledge the potential for introduction or expansion of Argentine ants into areas that support pollinators for Gaviota tarplant or other sensitive onsite arthropods, such as the El Segundo blue butterfly and California red harvester ant (*Pogonomyrmex californicus*), food source for sensitive reptiles such as coast horned lizard.

The FEIR concludes that approximately 10.3 acres of occupied Gaviota tarplant habitat would be permanently eliminated by the project, and an additional 22.4 acres would experience temporary impacts. As described here, additional adverse indirect effects are also likely to occur which are not addressed in the FEIR. The nature and duration of temporary impacts is unclear and the document uses inconsistent terminology in describing these impacts. Figure 3.5-3, for instance, labels all turbine locations within mapped polygons of Gaviota Tarplant as "Turbine Temporary Impacts". Elsewhere these turbines are described as being there for the next thirty years, which would not be considered a temporary impact. These inconsistencies should be reconciled to indicate that all areas proposed for permanent project features constitute permanent, long-term impacts to the biological resources that occur there.

The FEIR proposes a series of actions aimed at mitigating adverse effects to Gaviota tarplant (Mitigation Measures BIO-6; pg 3.5-91). The Department generally agrees with the proposed mitigation measures aimed at further minimizing permanent and temporary project impacts to Gaviota tarplant.

We note that the FEIR proposes no mitigation for the permanent loss of occupied habitat. CEQA defines mitigation as efforts to avoid, minimize, rectify, reduce, or otherwise compensate for an impact by replacing or providing substitute resources or environments (CEQA Guidelines Section 15370). In contrast, the FEIR proposes to mitigate permanent tarplant habitat loss by gathering additional data on range and subpopulations; contributing to taxonomic research; requesting CDFG to review the listing status of Gaviota tarplant; and contributing to baseline ecological research (FEIR pg 3.5-93). None of these actions, should they occur, would replace or otherwise compensate for permanent loss of occupied habitat for Gaviota tarplant stemming from construction and operation of the proposed project as the CEQA and CESA require.

The Department generally requires permanent mitigation for permanent impacts to the habitat of state-listed threatened and/or endangered species. Should the project at this location be approved, there are several options for providing compensatory permanent mitigation for permanent loss of Gaviota tarplant and fragmentation of its habitat and surrounding ecosystem. To compensate for permanent impacts to approximately 10 acres of Gaviota tarplant habitat, permanent protection of at least 20 acres of comparable occupied tarplant habitat should be required. Acquisition of fee title or recordation of a permanent conservation easement to be held by the Department, or our approved agent, is the primary strategy for unavoidable impacts to endangered plant species. CESA also requires permanent protection of at least 20 acres of occupied habitat within the vicinity of the project site would be the most desirable strategy as it

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would provide permanent mitigation for tarplant in the vicinity of the impact area. Protection of similar habitats offsite could also be considered. The Department manages the Gaviota Tarplant Mitigation Bank located near the town of Gaviota; this bank contains 7.75 remaining credits. There are other private lands in the Gaviota area that could potentially be acquired or conserved through Conservation Easement that also support Gaviota tarplant. It may also be feasible to obtain a conservation easement on nearby private ranches known to support the species such as Bixby Ranch.

Impacts to Sensitive Biological Resources

Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) – About 850 unarmored threespine stickleback were salvaged from the Barka Slough area of San Antonio Creek on VAFB to Canada Honda Creek in 1984. The Department's California Natural Diversity Data Base (CNDDB) record for this occurrence is within 1/3 mile of the proposed bridge over the Creek (attached). We requested a discussion and analysis of the potential for impact to this Fully Protected Species, with appropriate mitigation for any significant impacts, in our letter of comment on the DEIR. The County's response to this request was that unarmored threespined stickleback would not be expected to occur in the section of Canada Honda Creek on the project site, which is intermittent. The Department does not agree this response constitutes discussion and analysis. We therefore request a more thorough analysis and discussion of this potential impact.

Thank you for this opportunity to provide comment. Questions regarding this letter and further coordination on these issues should be directed to Mr. Martin Potter, Environmental Scientist, at (805) 640-3677.

Sincerely,



Edmund J. Pert
Regional Manager
South Coast Region

References:

- California Energy Commission and California Department of Fish and Game. 2007. *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*. Commission Final Report. California Energy Commission, Renewables Committee, and Energy Facilities Siting Division, and California Department of Fish and Game, Resources Management and Policy Division. CEC - 700 - 2007 - 008 - CMF.
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- U.S. Fish and Wildlife Service. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

Attachment (2)

cc: Ms. Betty Courtney
Department of Fish and Game
Santa Clarita, California

Mr. Martin Potter
Department of Fish and Game
Ojai, California.

Ms. Natasha Lohmus
Department of Fish and Game
Santa Barbara, California

Mr. Maurice Cardenas
Department of Fish and Game
Ojai, California

Ms. Mary Meyer
Department of Fish and Game
Ojai, California

Mr. Mark Elvin
US Fish and Wildlife Service, Ventura Field Office
Ventura, California

Mr. Scott Morgan
State Clearinghouse

Gasterosteus aculeatus williamsoni

unarmored threespine stickleback

Element Code: AFCPA03011

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: Endangered	Global: G5T1	CDFG Status:
State: Endangered	State: S1	

_____ Habitat Associations _____

General: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.

Micro: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.

Occurrence No. 6	Map Index: 13081	EO Index: 14825	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1984-05-18
Origin: Introduced Back into Native Hab./Range			Site: 1984-05-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1995-02-17

Quad Summary: Tranquillon Mtn. (3412055/171D)
 County Summary: Santa Barbara

Lat/Long: 34.60066° / -120.54899°	Township: 06N
UTM: Zone-10 N3831490 E724764	Range: 35W
Mapping Precision: SPECIFIC	Section: 14 Qtr: XX
Symbol Type: POLYGON	Meridian: S
Area: 379.1 acres	Elevation: 580 ft

Location: CANADA HONDA CREEK (AKA HONDA CREEK) - VANDENBERG AFB.

Location Detail:
 Ecological:
 Threat:

General: ABOUT 850 STICKLEBACKS WERE SALVAGED FROM PONDS THAT WERE DRYING UP IN THE BARKA SLOUGH AREA OF SAN ANTONIO CREEK & TRANSPLANTED INTO THE UPPER & MID-SECTIONS OF CANADA HONDA CREEK.

Owner/Manager: DOD-VANDENBERG AFB

- _____ Sources _____
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 - MCG84F0002 MCGRIFF, DARLENE (DFG). FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI. 1984-XX-XX.
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HABITAT REQUIREMENTS OF AVIAN SPECIES WITH POTENTIAL FOR MORTALITY FROM OPERATION OF THE LOMPOC WIND ENERGY FARM¹

SPECIES	HOME RANGE (ACRES)	WATER	FOOD	NESTING	TERRITORY	OTHER
MALLARD ²	500	REQUIRES PONDED WATER	AQUATIC PLANTS	ON GROUND IN DENSE GROWTH	100 FT. BETWEEN NESTS	
TURKEY VULTURE ^{2,3}	UNKNOWN	NONE	CARRION	TREES, SNAGS AND ROCKS	NONE	TREES AND SNAGS FOR ROOST SITES
WHITE-TAILED KITE ^{2,3}	1,216	NONE	SMALL MAMMALS	DENSE TREE STANDS	NONE	TREES AND SNAGS FOR HUNTING PERCHES
NORTHERN HARRIER ²	1,000	RIPARIAN	SMALL MAMMALS	ON GROUND NEAR WETLANDS	100 ACRES	COMPETES WITH OTHER RAPTORS
RED-TAILED HAWK ^{2,3}	3,200	NONE	SMALL MAMMALS	LARGE TREES IN OLD FORESTS	200 ACRES	
FERRUGINOUS HAWK ^{2,3}	1,728	NONE	SMALL MAMMALS	NO RECORDS IN CALIFORNIA	N/A	TREES AND SNAGS FOR HUNTING PERCHES
GOLDEN EAGLE ^{2,3}	15,000	NONE	SMALL AND MEDIUM SIZE MAMMALS	LARGE TREES AND CLIFFS	SAME AS HOME RANGE	WILL PREY ON LIVESTOCK
AMERICAN KESTREL ^{2,3}	1,200	NONE	SMALL MAMMALS	TREE CAVITIES	270 ACRES	

PEREGRINE FALCON ²	8,000	PONDED WATER	WATERFOWL	HIGH CLIFFS NEAR WATER	5 MILES BETWEEN NESTS
RING-BILLED GULL ²	N/A	FRESH WATER	VARIABLE	OPEN GROUND	40 SQ. FT.
ROCK DOVE ^{2,3}	N/A	FRESH WATER	SEEDS	CLIFFS AND CAVES	N/A
MOURNING DOVE ^{2,3}	2,500	FRESH WATER	SEEDS	TREES	100 FT. BETWEEN NESTS
BARN OWL ^{2,3}	1,728	NONE	SMALL MAMMALS	CLIFFS AND CAVATIES	30 FT. AROUND NEST
GREAT HORNED OWL ²	700	NONE	SMALL AND MEDIUM SIZE MAMMALS	LARGE TREES AND CLIFFS	160 ACRES
BURROWING OWL ²	4	NONE	INSECTS	LARGE BURROWS	NONE
NORTHERN FLICKER ^{2,3}	100	FRESH WATER	INSECTS	CAVATIES	100 ACRES
WHITE-THROATED SWIFT ³	UNKNOWN BUT LARGE	N/A	INSECTS	CLIFF FACES	N/A
WESTERN WOOD-PEWEE ³	N/A	UNKNOWN	INSECTS	TREES	3-4 ACRES
PACIFIC-SLOPE FLYCATCHER ²	N/A	RIPARIAN	INSECTS	TREES	UNKNOWN
WESTERN KINGBIRD ²	N/A	N/A	INSECTS	TREES	1,300 FT. BETWEEN NESTS
HORNED LARK ^{2,3}	N/A	FRESH	INSECTS	OPEN GROUND	4 ACRES

TREE SWALLOW ³	N/A	WATER	INSECTS	TREE CAVATIES	N/A	
VIOLET-GREEN SWALLOW ²	N/A	N/A	INSECTS	TREE CAVATIES	N/A	
CLIFF SWALLOW ²	N/A	PONDED WATER	INSECTS	MUD	N/A	
AMERICAN CROW ²	N/A	FRESH WATER	OMNIVOROUS	TREES	N/A	
COMMON RAVEN ²	2,300	N/A	OMNIVOROUS	TREES AND CLIFFS	N/A	
RUBY-CROWNED KINGLET ³	N/A	N/A	INSECTS	N/A	N/A	
AMERICAN PIPIT ³	N/A	N/A	INSECTS	N/A	N/A	
LOGGERHEAD SHRIKE ²	40	NONE	INSECTS	DENSE FOLIAGE	40 ACRES	
WARBLING VIREO ³	N/A	FRESH WATER	INSECTS	N/A	N/A	
ORANGE-CROWNED WARBLER ³	5	FRESH WATER	INSECTS	DENSE BRUSH	N/A	
YELLOW WARBLER ^{2,3}	N/A	FRESH WATER	INSECTS	RIPARIAN	N/A	
TOWNSEND'S WARBLER ³	N/A	N/A	INSECTS	N/A	N/A	
COMMON YELLOWTHROAT ³	5	FRESH WATER	INSECTS	ON OR CLOSE TO GROUND	5	
WILSON'S WARBLER ³	N/A	FRESH WATER	INSECTS	ON GROUND IN DENSE RIPARIAN	3 ACRES	
SAVANNAH SPARROW ²	8	NONE	SEEDS	ON GROUND	0.5 ACRE	

RED-WINGED BLACKBIRD ^{2,3}	N/A	PONDED WATER	SEEDS	DENSE WETLAND GROWTH	0.25 ACRE
TRICOLORED BLACKBIRD ²	SAME AS RED-WINGED BLACKBIRD				
WESTERN MEADOWLARK ^{2,3}	10	FRESH WATER	INSECTS AND SEEDS	ON GROUND IN GRASSLANDS	10
BREWER'S BLACKBIRD ^{2,3}	N/A	FRESH WATER	INSECTS AND SEEDS	VARIABLE	AROUND NEST

¹ Observed during avian surveys at the LWEP property 2002-2008.

² Killed in collision with wind turbine at the Altamont Pass Wind Resource Area

³ Carcasses found during surveys at the Montezuma Hills Wind Resource Area

Revisions to the EIR

Revisions to the text of the draft EIR are presented in this chapter. Changes are referenced by chapter and page number as the original text appeared in the draft EIR. One figure (Figure 2-1) has also been revised, and is included here. Table 3.4-3 has been revised; it is included in its entirety. The figure and the table appear at the end of this chapter. Revisions are shown in strikeout/underline format. These changes, in concert with the unrevised text of the draft EIR, constitute the final EIR.

Executive Summary

Page i

Hatchet Ridge Wind LLC (HRW) is proposing to build the Hatchet Ridge Wind project. The proposed project would generate up to 102 megawatts (MW) of electricity. The project may comprise up to sixty-eight 1.5-MW wind turbines (i.e., a 102-MW facility utilizing relatively small turbines) or as few as forty-two 2.4-MW wind turbines (i.e., a 100.8-MW facility utilizing relatively large turbines). Because the applicant has selected it as the preferred option, this analysis considers an array of forty-four 2.3-MW wind turbines, constituting a project with a generating capacity of 101.2 MW. Impacts are not generally anticipated to vary substantially with the size/number of turbines; however, where differences exist, they are identified in the analysis. This EIR provides an evaluation of potential environmental impacts associated with any of the three configurations (i.e., 42, 44, or 68 turbines). The proposed project would be constructed in one or more phases and would include construction of an interconnection with an existing Pacific Gas and Electric Company (PG&E) transmission line that crosses the leased property; the interconnection switching station would be owned by PG&E.

Chapter 2, Project Description

Page 2-1

HRW proposes to construct up to 68 three-bladed wind turbines along a 6.5-mile turbine string corridor on Hatchet Ridge. Each wind turbine would be installed on a tubular steel tower up to 262 feet (80 meters) tall. Each turbine/tower combination would have a maximum height of approximately 420 feet (128 meters), measured from the ground to the turbine blade tip at its highest point. The exact height and placement of the turbines and associated facilities within the development corridor would be determined by such factors as equipment manufacturer and environmental constraints. HRW has requested to make these final turbine and equipment siting determinations prior to construction but subsequent to this environmental analysis. However, the overall footprint of the turbines and associated facilities would not exceed the turbine

development corridor boundaries as shown in Figure 2-1; the final permanent project footprint of the Hatchet Ridge Wind Energy project would be approximately ~~73~~75.6 acres.

Page 2-7

- An interconnection switching station (to be owned by PG&E) would be constructed adjacent to the existing 230 kV PG&E transmission line. The switching station is planned to be located adjacent to the associated existing PG&E transmission line, most likely in Section 28 of Township 35N, Range 2E Mt. Diablo Baseline & Meridian. The switching station would occupy approximately ~~2-4.6~~ acres. It would be a graveled, fenced area with switching equipment and an area to park utility vehicles.

Section 3.1, Aesthetics and Visual Resources

Page 3.1-11

Impact AES-2: Adverse effects on a scenic vista by degrading the visual character of the project area and its surroundings (significant and unavoidable)

As described in Chapter 2, *Project Description*, the proposed project involves installing wind turbines along the ridgeline of Hatchet Mountain. It would introduce large, vertical, artificial structures with revolving turbine blades into the viewshed and would change the ridgeline from one that is predominantly natural to one with distinct artificial features that would be highly visible to Burney residents and businesses, roadway travelers, and recreationists in or on the outskirts of Burney. Between 42 and 68 turbines, with hub height of either 65 or 80 meters would be installed along a 6.5-mile alignment along the ridgeline. Relative to baseline conditions, these turbines would substantially alter the existing visual character and quality of views toward the ridge regardless of the number or height of the turbines. As shown in the simulation for Viewpoint 1 (Figure 3.1-11), at such distances the turbines would not be very noticeable and would not affect the existing visual character. Moreover, movement of the turbines from this vantage would not be very noticeable due to distance. However, as shown in simulations for Viewpoints 2 and 3 (Figures 3.1-12 and 3.1-13, respectively), from closer vantage points (e.g., Burney) the turbines become prominent visual features on the ridgeline and alter the visual character and quality for all viewer groups. In addition to the size, movement of the turbines would likely draw more focused viewer attention toward the structures than would stationary structures of equal size and visual mass. Furthermore, the visibility and stature of the turbines would be more pronounced in the morning hours after sunrise when the turbines are illuminated by the lower angle of the sun, and during sunset when they are silhouetted against the evening sky.

Page 3.3-13

Mitigation Measure AES-1: Use rapid-discharge flashing red safety lighting

As discussed in Chapter 2, *Project Description*, studies have suggested that use of a flashing red light reduces the visual impacts on neighboring communities. To comply with FAA regulations, Accordingly, a rapid-discharge flashing red light will be used rather than a single incandescent light to comply with FAA regulations.

Section 3.3, Air Quality

Page 3.3-11 (Mitigation Measure AIR-1)

- All land clearing, grading, earth moving, and excavation activities on a project will be suspended when winds are expected to exceed 20 miles per hour. If ground-disturbing activities are conducted under windy conditions (in excess of 20 miles per hour), the applicant will ensure that best available dust prevention techniques are used during such activities and will increase the frequency of watering to protect air quality as needed.

Section 3.4, Biological Resources

Following Page 3.4-8

Table 3.4-3 has been revised. Errors in the *Potential Occurrence in Project Area* column of the table have been corrected for several species. The revised table is reproduced in its entirety at the end of this chapter.

Page 3.4-17 (Mitigation Measure BIO-3)

- Construct project components using the setback recommendations established in USACE and California Department of Fish and Game guidance: a 100-foot setback from wetlands and streams and a 250-foot setback from wetlands, streams, and ephemeral pools that provide habitat for special-status amphibianspecies.

Page 3.4-20

Mitigation Measure BIO-6: Monitor avian and bat mortality rates and implement adaptive management measures, if necessary

Mitigation Measure BIO-6 involves preparing and implementing a multifaceted program of avian and bat mortality monitoring and implementing adaptive management measures, as needed. It comprises the components listed below.

- Forming a technical advisory committee (TAC).
- Preparation and implementation of an avian and bat mortality monitoring study plan, and submittal of annual monitoring reports.
- Evaluating results of the monitoring study relative to specified fatality thresholds.
- Providing funding for and implementation of offsite mitigation for potential take of fully protected species and/or impacts on other avian or bat species.
- Providing a secondary compensatory mitigation fund for implementation of offsite habitat enhancement or protection/conservation measures.
- Preparing and implementing an onsite habitat protection and enhancement plan.

- Implementation of adaptive operational management measures, based on monitoring results, if necessary.

A summary table presenting the Mitigation Measures Decision Framework is presented at the end of the description of this BIO-6 mitigation measure.

Technical Advisory Committee. Shasta County Department of Resource Management shall be responsible for the formation of a Technical Advisory Committee (TAC). Invitations for participation shall be sent to representatives from the California Department of Fish and Game, the U.S. Fish and Wildlife Service, Shasta County Department of Resource Management, the applicant's project operations and construction managers (also referred to herein as "project owner" or "owner"), and a not-for-profit organization dedicated to avian conservation. The County shall make reasonable efforts to ensure participation by the above parties, but notwithstanding failure of any of these representatives to respond or agree to participate, the TAC shall be formed prior to the initiation of project operations. As its first order of business the TAC shall approve its Charter which shall specify all organizational matters including but not limited to notice, frequency and conduct of meetings, and specification of those decisions which may be determined solely by the TAC without subsequent directive from the Planning Director. Attendance at TAC meetings shall be by invitation of its members only.

The TAC shall review and approve monitoring protocols prior to project operations and prior to implementation of any new or revised protocols. The TAC will review results from fatality monitoring to determine if fatality thresholds have been exceeded or if fatality of fully protected species has occurred. If such thresholds have been exceeded, the TAC shall make recommendations to the County Planning Director to require implementation of mitigation measures pursuant to the Mitigation Measures Decision Framework table below. To the extent practicable, decisions of the TAC shall be made using best available science as determined by the TAC. In the event that decisions cannot be made by consensus, decisions of the TAC shall be made by simple majority vote. The Planning Director shall have final authority to direct their implementation. Prior to making any decision based on a TAC recommendation, the Planning Director shall review the recommendations of the TAC and may consider additional recommendations of, or any other information provided by, any of its voting members.

Monitoring Study. The project owner shall implement and fully fund a 3-year operational avian and bat fatality monitoring study by a qualified professional recommended by the TAC and approved by the County Planning Director, which will begin when the first turbine begins operation, pursuant to the monitoring protocols developed by the TAC and approved by the Planning Director. The owner shall submit the monitoring results in an annual monitoring report, submitted to the TAC.

After the first full 2 years of monitoring after the entire project is in operation, a third year will be scheduled as determined by the TAC. Additional years of monitoring at the owner's expense may be required should population-level impacts on any species become apparent. Consultation among the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and Shasta County Department of Resource Management shall occur on a semiannual basis through the TAC process during the monitoring study to determine the need for continued monitoring or additional studies specific to refining mitigation measures. One objective of the monitoring study will be to determine if specific additional mitigation for impacts is warranted and what the mitigation should entail. Additional mitigation will be required if fatality rates exceed a threshold of concern for a particular species or groups of

species. See the fatality thresholds table below; note that due to state fully protected status for bald eagle and sandhill crane, more than one fatality of either shall constitute a requirement for additional mitigation as described below. To determine if a threshold has been exceeded, the average annual fatality rate for species and species groups will be determined after each year of monitoring. Fatality thresholds listed in the table below were determined based on the pre-project surveys, current knowledge of species that are likely to use the habitat in the project area, the EIR impact analysis, and the regulatory status of the potentially impacted species. The owner shall arrange for a permit to enter for research/monitoring purposes for qualified scientists (when funded by others) subject to approval of the TAC.

The operational monitoring study shall be designed to determine the level of each avian or bat species' mortality from the project and must take into account biases such as the searcher efficiency, carcass removal, and effective search area to estimate total mortality from the project, using methods such as those described in the California Energy Commission's *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*. The determination of exceedance of fatality thresholds shall be based on the results of the monitoring, so will therefore be expressed as an annual rate per turbine or per MW. This method effectively utilizes the adjusted or calculated fatalities impacts, as opposed to just the observed impacts. For example, the number of fatalities for any given species that are found may not be the total number of that species actually impacted because of the biases associated with searcher efficiency (carcasses that are not found) or carcass removal (carcasses scavenged before they could be found).

Fatality Thresholds. Due to the project's potential for causing fatalities to bald eagle and sandhill crane, which are state fully protected species, compensatory mitigation is mandatory prior to construction (described further below). Under California law, any take of a fully protected species is illegal. Per the EIR, the project owner will assume impacts are possible and will mitigate up front for these potential impacts. Additionally, if impacts exceed the fatality thresholds identified in the tables below, additional mitigation will be required as described in the mitigation framework outlined below. Exceedance of the following fatality thresholds would trigger the TAC to evaluate additional mitigation and to use the funds set aside in a secondary compensatory mitigation fund as prescribed in the following below.

Fully Protected Species

<u>Species</u>	<u>Fatality Thresholds</u>
<u>Bald eagle</u>	<u>1 fatality per year</u>
<u>Sandhill crane</u>	<u>1 fatality per year</u>

Special-Status Species

<u>Species</u>	<u>Fatality Threshold Per Year of Operations</u>
<u>Other raptor species</u>	<u>0.35 fatalities per turbine; 0.15 fatalities per MW</u>
<u>Yellow warbler</u>	<u>0.07 fatalities per turbine; 0.03 fatalities per MW</u>
<u>Owls</u>	<u>0.11 fatalities per turbine; 0.05 fatalities per MW</u>

Funding for Offsite Mitigation for State Fully Protected Species Prior to Project Construction and Operation. In recognition of the project's potential to take state fully protected species (bald eagle and sandhill crane), which, were a take permit possible per the

State Fish and Game Code, would require the owner to minimize and fully mitigate for all take, the owner shall provide for compensatory mitigation prior to construction. Mitigation will involve acquisition of offsite habitat appropriate for sandhill crane and bald eagle. For impacts on sandhill crane, the project owner will work with an appropriate wildlife refuge with nesting and breeding habitat located such that sandhill crane populations potentially impacted have a reasonable nexus to populations that breed on the lands to be acquired. The acreage and quality of acquired breeding land shall be chosen to optimize opportunity for breeding enhancement of sandhill cranes at a ratio of 2:1 (i.e., two birds produced annually from enhanced or preserved breeding habitat for each bird potentially killed; best available estimate is 1 fatality per year). Title to acquired parcel(s) will be transferred to the wildlife refuge for preservation, enhancement, and management of sandhill crane breeding habitat prior to construction. The project owner shall also donate \$100,000 to a reputable land trust or conservation program approved by the California Department of Fish and Game and U.S. Fish and Wildlife Service for the purpose of preservation and enhancement of bald eagle breeding habitat. The program may involve acquisition of lands, purchase of a conservation easement, land stewardship or conservation, or research projects.

Secondary Compensatory Mitigation Fund for Implementation of Offsite Species or Habitat Enhancement or Protection/Conservation Measures. If data show that a fatality threshold of concern has been exceeded, the project owner shall implement additional mitigation measures that the County Planning Director determines are appropriate, based on the TAC's recommendations and analysis of the data and best available information for the species impacted. Such mitigation shall be designed to benefit the affected species or species group (e.g., raptors). Examples of appropriate additional mitigations include, but are not limited to, protection of nesting habitat for the affected species through purchase or conservation easement, enhancement of habitat or protected areas, creating artificial nesting habitat (e.g., nest structures), improving wildfire response and prevention, modifications of onsite conditions (e.g., grazing, weed control), wetland enhancement or creation, species-related research to improve knowledge of a species and conservation needs (e.g., bat population research), contributing to established conservation programs for specific species or issues (e.g., Bat Wind Energy Cooperative), and establishing a compensatory mitigation fund for species-specific conservation programs. Focusing mitigation on specific impacted species and resources is consistent with state and national policies for environmental protection such as the California Environmental Quality Act, National Environmental Policy Act, Endangered Species Act, and Clean Water Act.

Onsite Habitat Protection and Enhancement Plan. Onsite habitat modification/ protection or enhancement measures shall also be implemented if thresholds for additional mitigation are reached or unexpected fatalities occur. Unexpected fatalities include exceedance of the above-established fatality thresholds or fatalities of special-status species not anticipated in pre-operations studies. Examples of possible mitigation measures include, but are not limited to, protection of nests identified within the project boundary, alterations to habitat within the study area to inhibit or enhance certain species' success, and modification of lighting schemes to address fatalities related to lighting at the project site. The TAC shall review and consider the relevant data and recommend the appropriate habitat protection measures to be implemented for the particular species in question.

Adaptive Operational Management Measures. Further mitigation that includes operations strategies for the wind project would be considered only if the above-described additional species- or resources-specific mitigation measures imposed by the Planning Director fail to mitigate the fatality threshold exceedance after 1 year of implementation, as

determined by the recommendation of the TAC based on its review and analysis of the monitoring data following implementation of the above-described measures. Also, the operations strategies must be designed to benefit the appropriate species or species group (e.g., raptors) where a threshold for significant impacts has been exceeded and there are no other appropriate mitigation measures to offset the impact. Any operations management strategies would be developed by the TAC with input from the project owner’s operations management team and Shasta County’s Department of Resource Management, so that project owner expertise and understanding of feasibility related to turbine management is considered in the process.

Additional Research. Additional research may be needed if unexpected fatalities occur as a result of operations. Unexpected fatalities include exceedance of the above-established fatality thresholds or fatalities of special-status species not expected in pre-operations studies. The scope of any additional studies shall be limited to addressing specific unexpected fatalities, and the results shall be used to determine appropriate additional mitigation measures; the owner shall provide updates to State BIOS and CNDDDB records within 6 months of any new information on species occurrences, diversity, or migration.

Mitigation Measures Decision Framework. The following table provides a listing and summary of each component of the mitigation measures BIO-6 program, as well as the timing and responsibility for implementation and triggers for additional mitigation.

Mitigation Measures Decision Framework for BIO-6

<u>Mitigation Measure Component</u>	<u>Summary Description</u>	<u>Timing/Duration/Formulae</u>	<u>Trigger/Threshold for Additional Mitigation</u>
<u>Technical Advisory Committee</u>	<u>Formation of a Technical Advisory Committee (invited parties shall include one representative each from the CDFG, USFWS, one conservation organization, project operations and construction manager (the owner), and Shasta County Department of Resource Management). The TAC shall be limited to one voting member from each party, with advisors for each party allowed to attend and participate in meetings and lend expertise to the members. See <i>Technical Advisory Committee</i> above for further details on the operation of the TAC.</u>	<u>The TAC shall be formed during construction and shall hold its first meeting prior to the commencement of commercial project operations in order to review and make initial recommendations for the monitoring study protocols. Thereafter, the TAC shall meet at least semiannually to review the results of avian fatality monitoring.</u>	<u>If the monitoring studies show that any fatality thresholds have been exceeded, the TAC shall confer to make recommendations to the Planning Director for additional mitigation as outlined below.</u>

<u>Mitigation Measure Component</u>	<u>Summary Description</u>	<u>Timing/Duration/Formulae</u>	<u>Trigger/Threshold for Additional Mitigation</u>
<p><u>Fatality monitoring and thresholds</u></p>	<p><u>Fatality monitoring will be conducted by a qualified biologist approved by the TAC and will be used to compare pre-operations predictions of fatality with actual fatalities associated with project operations to determine if impact thresholds have been exceeded. Carcass scavenge calibration shall commence on the first appropriate day for the applicable species after day 1 of operations. In addition the owner shall arrange for a permit to enter for research/monitoring purposes for qualified scientists (when funded by others) subject to approval of the TAC.</u></p> <p><u>Additionally, project operations staff will be trained in handling and reporting avian fatalities encountered in the course of turbine maintenance and other regular activities on site. A protocol for project staff will be developed through coordination with the California Department of Fish and Game and the County for appropriate handling and reporting of fatalities. The project owner acknowledges that project staff training is intended to supplement, not substitute, for the formal monitoring study requirements outlined above.</u></p>	<p><u>Three years, beginning as close as possible to the first day of commercial project operations. Additional periods of monitoring shall be required should results of monitoring studies suggest that additional monitoring is warranted. See <i>Monitoring Study and Fatality Thresholds</i> above for further details.</u></p>	<p><u>Referral to the TAC for potential changes to monitoring methods and additional monitoring or research shall occur if the monitoring studies show that the fatality thresholds are exceeded. The TAC shall review the first year of monitoring data to determine whether to recommend to the Planning Director any changes or refinements to the monitoring protocols.</u></p> <p><u>Reasons for extending monitoring beyond the 3 years include: fatality of species not expected during pre-project surveys, fatality of special-status or fully protected species exceeding thresholds, and inadequacy of monitoring data. Additional monitoring or changes to the monitoring protocols will be subject to the approval of the Planning Director based upon the recommendations of the TAC.</u></p>
<p><u>Up-front compensatory mitigation for potential bald eagle and sandhill crane impacts</u></p>	<p><u>The owner shall provide for compensatory mitigation prior to construction for potential impacts on bald eagle and sandhill crane.</u></p>	<p><u>For sandhill crane and bald eagle, mitigation will involve acquisition, enhancement, or preservation of sufficient offsite breeding habitat at a 2:1 ratio of potential mortality. The project owner will work with the appropriate wildlife refuge to identify appropriate sandhill crane breeding habitat for acquisition. Lands will be transferred to the wildlife refuge for preservation and enhancement. For bald eagle, mitigation will be contribution of \$100,000 to a reputable land trust or conservation program approved by DFG and USFWS for the purpose of</u></p>	<p><u>Due to the project's potential for causing fatalities of bald eagle and sandhill crane, which are state fully protected species, compensatory mitigation is mandatory prior to construction.</u></p>

<u>Mitigation Measure Component</u>	<u>Summary Description</u>	<u>Timing/Duration/Formulae</u>	<u>Trigger/Threshold for Additional Mitigation</u>
		<p><u>offsite preservation and enhancement of bald eagle habitat.</u></p> <p><u>Proof of initiation of compliance with the up-front compensatory mitigation requirements shall be provided by the project owner to the Planning Director prior to the issuance of any construction permits.</u></p>	
<p><u>Secondary compensatory mitigation fund</u></p>	<p><u>The applicant shall set aside a mitigation fund to be used should threshold exceedances occur. The mitigation fund shall be used for habitat protection and enhancement, additional research, and/or additional mitigation determined to be appropriate by the TAC to address threshold exceedances. The TAC will recommend to the Planning Director the best uses of the compensatory mitigation fund.</u></p>	<p><u>A mitigation fund shall be set up by the project owner as a one-time endowment or other type of protected principal for individual mitigation activities approved by the Planning Director, based on the recommendations of the TAC. The mitigation fund shall be calculated at a rate of \$1,000 per MW based on the full capacity of the project. Proof of funding and the details of the fund's principal value, custodial financial institution, and accessibility shall be provided by the project owner to the Planning Director prior to the commencement of commercial project operations.</u></p>	<p><u>Subject to the Planning Director's review and approval of the recommendations of the TAC, and in addition to all other mitigation herein described, the Secondary Compensatory Mitigation Fund shall be used when the fatality thresholds described above are exceeded in any year of operations</u></p>
<p><u>Onsite habitat protection and enhancement plan</u></p>	<p><u>Onsite habitat modification/protection or enhancement measures shall be implemented if thresholds for additional mitigation are reached or unexpected fatalities occur. Unexpected fatalities include exceedance of the above-established fatality thresholds or fatalities of special-status species not anticipated in pre-operations studies. Examples of possible mitigation measures include, but are not limited to, protection of nests identified within the project boundary, alterations to habitat within the study area to inhibit or enhance certain species' success, and modification of lighting schemes to address fatalities related to lighting at the project site. The TAC shall review and consider the relevant data and recommend the appropriate habitat protection measures to be implemented for the particular species in question.</u></p>	<p><u>The TAC shall make a recommendation to the Planning Director for additional measures to be included in a Habitat Protection and Enhancement Plan. Such measures shall be implemented as specified by the Planning Director, but in all cases shall be fully implemented within 1 year following the final decision of the Planning Director to impose specific additional measures.</u></p>	<p><u>If fatality thresholds are exceeded, habitat protection and enhancement measures may be needed, subject to the recommendation of the TAC and approval of the Planning Director.</u></p>

<u>Mitigation Measure Component</u>	<u>Summary Description</u>	<u>Timing/Duration/Formulae</u>	<u>Trigger/Threshold for Additional Mitigation</u>
<u>Operations measures</u>	<u>Changes to operations shall be considered only if all other mitigation approaches outlined above are not effective in fully mitigating the impact to a less-than-significant level. Any proposed changes to operations shall be subject to the approval of the Planning Director and must be determined to be reasonable, feasible, and linked to reducing specific impacts identified through the monitoring studies conducted at the project. For example, operations changes that may be implemented include shutdown of individual turbines during times of sensitivity of species known to be impacted, if the TAC can determine that a particular turbine location and the spinning of its blades is a cause of the fatalities. Operations shutdowns will be limited to individual turbines where fatality thresholds are consistently exceeded and to the time periods in which the fatality threshold exceedances occur. Shutdowns shall only be approved on a month-to-month basis.</u>	<u>Approved on a month-to-month basis and limited to the time periods in which the fatality threshold exceedances occur.</u>	<u>Operational changes shall only be implemented if the fatality threshold exceedance persists and cannot be mitigated to a less-than-significant level by the Habitat Protection and Enhancement Plan, compensatory mitigation, and additional research mitigation approaches described above. The Planning Director has the ultimate approval authority over any changes to project operations.</u>
<u>Additional research</u>	<u>Additional research may be needed if unexpected fatalities occur as a result of operations. Unexpected fatalities include exceedance of the above-established fatality thresholds or fatalities of special-status species not expected in pre-operations studies. The scope of any additional studies shall be limited to addressing specific unexpected fatalities and the results shall be used to determine appropriate additional mitigation measures; the owner shall provide updates to State BIOS and CNDDB records within 6 months of any new information on species occurrences, diversity, or migration.</u>	<u>Additional research to address unexpected fatalities may be needed after the first year of fatality monitoring. The TAC may make recommendations to the Planning Director regarding the protocols of any such additional research.</u>	<u>If fatality thresholds are exceeded, additional research may be necessary, subject to the discretion and recommendations of the TAC. The Planning Director shall have final approval authority over the protocol, timing, and methodology of any such additional research.</u>

Mitigation Measure BIO-6: Monitor avian mortality rates and implement adaptive management measures, if necessary

Following initiation of project operations, a monitoring study will be conducted to determine avian mortality rates resulting from operation of the project. The monitoring study will use standardized area searches of all turbines at the project site in accordance with published guidelines (see California Energy Commission [CEC] *Guidelines* [California Energy Commission and California Department of Fish and Game 2006]). The information will be compiled, analyzed, and documented in annual reports for a period of 5 years, and will be made available to the public for use in evaluation of future wind farm projects. If mortality rates of special-status species are determined to be below the level at which populations may be negatively affected (as defined above), no further mitigation will be required. As lead agency under CEQA, the County will coordinate closely with USFWS and the California Department of Fish and Game (DFG) to set up an adaptive monitoring program for implementation by the applicant.

If mortality rates exceed levels at which population-level effects could occur, one or more of the following adaptive management measures will be implemented at the discretion of USFWS or DFG to reduce the level of mortality to the maximum extent practicable:

- ~~Timing restrictions on the operation of one or more turbines (time of day or seasonal shutdown). Turbines are shut down when the turbine blades are “feathered” horizontally in the wind, and the turbines stop rotating.~~
- ~~Permanent shutdown of one or more turbines.~~
- ~~Relocation of one or more turbines.~~

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(Impact BIO-11)

However, the accuracy of these estimates are confounded by several factors. The proposed project will use 2.3–2.4 MW turbines, whereas the data from other wind farms used in the analyses are from wind farms using 1.8 MW turbines. Larger turbines such as those proposed for use at Hatchet Mountain are characterized by larger and higher rotor-swept areas but lower rotation speeds (in revolutions per minute). Whether these turbine characteristics would result in lower, higher, or comparable mortality rates than traditional turbines is unknown.

In addition to the avian use studies, a radar study of nocturnal bird and bat migration using marine radar was conducted in fall 2007 (included as Appendix B of the final EIR). The results of this study provide no additional information that would alter the conclusions drawn from the diurnal avian use studies.

Due to the uncertainty associated with these estimates and the potential for unexpectedly high mortality rates, this impact is considered significant and unavoidable. Implementation of Mitigation Measure BIO-6 would reduce this impact to the maximum extent practicable.

Impact BIO-12: Potential direct mortality of special-status and common bat species (less than significant)

High levels of bat mortality resulting from collision with wind turbines have been documented at some wind farms, particularly in the eastern United States (Erickson et al. 2002). Ten species of bats occur or could potentially occur in the project area (Appendix C-1), four of which are considered a special-status species (pallid bat is a California species of special concern Table 3.4-3). Operation of the proposed project could result in the direct mortality of special-status and common bat species through collision with rotating turbine blades. To assess the magnitude of this potential impact, bat use of the project area was sampled at a single location for 78 nights between May and October 2006 using Anabat detectors (Appendix C-1).

The mean number of bat passes per detector per night was compared to existing data at five wind farms where both bat activity and mortality levels have been measured. The level of bat activity documented at the Hatchet Mountain site is much lower than at three eastern and midwestern wind farm sites, all of which had relatively high levels of bat mortality; but it is higher than at two western wind farm sites, both of which had relatively low levels of bat mortality. Because the project area is intensively managed conifer forest on a ridgetop, there is no habitat capable of supporting large concentrations of bats (i.e., communal roosting or nursery sites). The data collected on site do not indicate that substantial numbers of bats migrate

through the project area, although some bat mortality is likely to occur. Therefore, this impact is considered less than significant. No mitigation is required.

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Impact BIO-13: Potential interference with avian and bat migration corridors (less than significant)

Significant levels of avian and bat mortality are not likely to occur unless the project area comprises a substantial portion of an established migration corridor. Avian use of Hatchet Mountain was relatively uniform, and no obvious flyways or concentration areas were observed. The majority of large birds flew perpendicular to and across the prominent ridgeline, rather than parallel with the ridge, suggesting that the ridge is not an important migratory route for diurnal migrants¹. The majority of nocturnally migrating birds and bats observed during the study of nocturnal bird and bat migration were also observed moving perpendicular to the ridgeline. The data collected during the 1-year avian use study suggest that the project area is not within a major migratory pathway for diurnal migrants. The information available indicates that interference with migration corridors is unlikely; this impact is considered less than significant. No mitigation is required.

Section 3.5, Cultural Resources

Page 3.5-11

Impacts and Mitigation Measures

Mitigation Measure CUL-1: Coordinate with the Pit River Tribe during project development, and prepare a detailed recordation of Hatchet Ridge–Bunchgrass Mountain

The County and the project owner will facilitate a preconstruction meeting and field visit with the Pit River Tribe through the Tribe's chairperson and the Pit River Environmental Office to discuss locations or issues of cultural sensitivity in the proposed project area. The project owner will coordinate with the Tribe to consider ways to minimize impacts on culturally sensitive locations during construction. Additionally, the County and the applicant will coordinate with the Pit River Tribe through the Tribe's chairperson and the Pit River Environmental Office to retain a professional ethnographic consultant to undertake a detailed recordation of Hatchet Ridge–Bunchgrass Mountain as a traditional cultural property. The recordation will commence prior to construction and will include photographic documentation of pre- and postconstruction conditions on Hatchet Ridge–Bunchgrass Mountain. Additional research, particularly into ethnographer Omer C. Stewart's notes filed at the University of California, Berkeley, and interviews with Itsatawi and Madesi individuals, will also be required to complete the recordation referenced in the document. The information gathered as a result of field, interview, and research tasks will be compiled into a report, which the ethnographer will be transmitted to the Pit River Tribe. The Tribe will have the right to determine the dissemination of the report is submitted to the California Historical Resources Information System. Detailed recordation of Hatchet Ridge–Bunchgrass Mountain in this manner will create a photographic and documentary record of the ~~traditional cultural property resource~~ prior to construction of the proposed

project, resulting in partial compensation for the loss of the property's character-defining features of isolation, harshness, and serenity.

Mitigation Measure CUL-2: Implement a cultural resources monitoring program with the Pit River Tribe during construction

Cultural resource monitors from the Pit River Tribe will be invited by the project owner to monitor initial ground-disturbing construction activities associated with the proposed project in areas identified by the Tribe as culturally sensitive to ensure that more discrete sacred localities in the project area are avoided or that impacts on such localities are mitigated to the extent feasible, including, but not limited to, avoidance or data recovery. The Pit River Environmental Office should coordinate with the appropriate Achumawi bands (Itsatawi and Madesi) to assign monitors.
~~Cultural resource monitors from the Pit River Tribe will monitor ground-disturbing construction activities associated with the proposed project to ensure that more discrete sacred localities in the project area are avoided or that impacts on such localities are mitigated to the extent feasible. The Pit River Environmental Office will coordinate with the appropriate Achumawi bands (Itsatawi and Madesi) to assign monitors.~~

Section 3-12, Transportation/Traffic

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Although no comment was received to this effect, it was noted during review that one mitigation measure was misnumbered. That error is corrected here.

Mitigation Measure TRA-62: Consult with FAA to meet the FAA requirements



DEPARTMENT OF FISH AND GAME

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September 11, 2007

Mr. John Day
Santa Barbara County Planning and Development Department
123 East Anapamu Street
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Fax No.: (805) 568-2522

**Draft Environmental Impact Report for
the Lompoc Wind Energy Project
SCH # 2006071008, Santa Barbara County**

Dear Mr. Day,

The Department of Fish and Game (Department), has reviewed the Draft Environmental Impact Report (DEIR) for impacts to biological resources. The proposed project involves the construction of a wind energy generation facility in northern Santa Barbara County. The Lompoc Wind Energy Facility (LWEF) would be located on approximately 2,950 acres (4.6 square miles) of rural, agriculturally zoned land on coastal ridges southwest of Lompoc, approximately 5 miles southwest of the City of Lompoc and 3 miles north of the coast. The LWEF site is bounded by Vandenberg Air Force Base (VAFB) on the south and west sides and private property on the north and east sides. The southern Project boundary abuts the coastal zone. The project would include installation of 60 to 80 wind turbine generators (WTG), new access roads and improvements to existing roads (including a new bridge across Canada Honda Creek), a communication system, up to 10 meteorological towers, an Operations and Maintenance (O&M) facility, an onsite electrical collection and distribution lines, an onsite Project Substation, a 7.85-mile power line to the Lompoc area, and upgrades to existing PG&E facilities. The anticipated operational life of the Project is approximately 30 years. The principal use of the land is cattle grazing. The Project area terrain includes rolling hills and rugged, steep slopes.

The WTGs would be 315 to 492 feet in total height from foundation to blade tip. WTG spacing would be no less than 1.5 rotor diameters (350 to 495 feet) apart. The final locations of individual WTGs in each corridor would be subject to adjustment in the corridor until the time of construction. This flexibility in WTG layout is needed in the event that the environmental review, pre-construction field surveys (geotechnical, biological, or cultural), or further wind studies indicate that a modified layout is preferable. If future information necessitates the need to place project components outside of these corridors, these changes would be subject to subsequent environmental review. The WTGs would be of the three-bladed, horizontal axis design and in total produce up to 120 megawatts (MW). The blades would be approximately 115 to 165 feet long and constructed of laminated fiberglass.

Habitat types with the potential to be impacted by the project include coastal scrub, freshwater marsh, riparian scrub, eucalyptus woodland, live oak woodland, native and non-native annual grassland, native perennial grassland, and ruderal. Surrounding land uses include rangelands to the north, west, and south and a diatomite mine to the east. Proposed project impacts include an estimated permanent removal of 34 acres of habitat and temporary removal of 20 acres of habitat (for WTG and power pole installation and construction staging).

Wildlife with the potential to be impacted by the project from construction activities include the Federal and State Endangered and Fully Protected unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), the Federal Endangered El Segundo Blue (*Euphilotes battoides allyni*), the Federally Threatened and State Special Concern Species California red-legged frog (*Rana aurora draytonii*), the Federal and State Endangered Gaviota tarplant (*Dienandra increscens* ssp. *villosa*), the State Special Concern Species San Diego desert woodrat (*Neotoma lepida intermedia*), coast horned lizard (*Phrynosoma coronatum frontale*), and silvery legless lizard (*Anniella pulchra pulchra*), the California Native Plant Society List 1B mesa horkelia (*Horkelia cuneata puberula*), black-flowered figwort (*Scrophularia atrata*), and Kellogg's horkelia (*Horkelia cuneata sericea*).

Wildlife with the potential to be impacted by the project from construction and operational activities including WTG and power line strikes include the State Endangered and Fully Protected American peregrine falcon (*Falco peregrinus anatum*), the State Fully Protected and Special Concern Species golden eagle (*Aquila chrysaeto*), the State Fully Protected white-tailed kite (*Elanus caeruleus*), and 11 additional bird Species of State Special Concern and 5 bat Species of State Special Concern.

Measures proposed in the DEIR and intended to avoid, minimize, and mitigate impacts include:

- A Worker Education and Awareness Program
- Pre-construction survey and avoidance measures for special status species and ground-nesting birds
- Power lines installed underground whenever feasible
- WTGs of low RPM and tubular design
- Overhead power lines equipped with raptor perch guards and spaced to minimize the potential of raptor electrocution
- Permanent meteorological towers either (1) guyed and equipped with bird flight diverters, or (2) unguyed
- Pre-construction surveys and avoidance of active bird nests and bat roosts.
- A two-year Avian and Bat Mortality Study, following the guidelines developed by the National Wind Coordinating Committee
- Small mammal control
- Gaviota tarplant and Kellogg's and mesa horkelia habitat protection and salvage
- Pre-construction plant surveys
- Native perennial bunchgrass protection
- Site restoration of temporarily impacted construction and staging areas
- Tree protection and replacement

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- Protection of creeks, springs, and wetlands
- Erosion control seed mixture augmentation
- Riparian habitat restoration
- Avian monitoring
- An avian and bat mortality study, including quarterly and annual reports and formation of a technical advisory committee to review and assess the annual reports
- Additional measures to protect birds and bats as recommended by the technical advisory committee

The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (CEQA Guidelines §15386(a)) and pursuant to our authority as a Responsible Agency (CEQA Guidelines §15381) over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code Section 2050 et seq) and Fish and Game Code Section 1600 et seq. regarding impacts to streams and lakes. As trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species.

Bird and Bat Surveys

One of the most effective ways of bird and bat strike impact avoidance and minimization is the placement of WTGs. A WTG should be placed to minimize the potential for bird and bat strikes at that location. A thorough knowledge of bird and bat use for a given location is essential for the proper placement of WTGs to reduce impacts. The Department is concerned the level of bird and bat surveys conducted for the proposed project was inadequate to make an informed decision regarding WTG placement relative to bird and bat strikes.

California guidelines recently proposed recommend a bird use count (BUC) sampling duration and frequency of 30 minutes once a week for one year, covering most daylight hours and weather conditions (California Energy Commission and California Department of Fish and Game, 2007). The guidelines also recommend nocturnal surveys, migration counts, and raptor nest searches. BUCs conducted for the proposed project consisted of a total of 26 days of surveys in 2002, 2005 and 2006, including point-count surveys. No formal raptor nest searches, nocturnal surveys, or migration counts were conducted. This level of BUC sampling is far short of the effort recommended to obtain an accurate representation of bird use on the proposed project site.

For bats, California guidelines recommend acoustic monitoring for one year. The DEIR relied on an acoustic monitoring study conducted between 1997 and 1999 on the adjacent VAFB (Pierson et al, 2002). While the results of that report may be useful for determining bat species with potential to be found on the proposed project site, formal acoustic monitoring must be conducted on site for accurate bat use information to assist in proper WTG placement. Our review of the Pierson, et al report indicates high potential for bats on the project site based on the species occurrence maps (many roost sites found, including maternity roosts, directly adjacent to the proposed project site on Canada Honda).

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In conclusion, the Department believes the DEIR does not contain an adequate assessment of the biological conditions at the proposed project site, with regard to bird and bat use. Because of this, the DEIR cannot adequately evaluate potential project impacts and present appropriate avoidance, minimization, and mitigation measures as required by CEQA (CEQA Guidelines §15126.2 and §15126.4(a)(1)). We recommend re-surveying the site using California guidelines.

Impacts from Bird and Bat Collisions with WTGs

We support the proposed LWEF as an alternative to green-house gas emitting forms of energy. We also support the proposed LWEF for its contribution to legislation (AB 32) aimed at reducing emissions to 1990 levels by the year 2020. However, the evidence outlined below strongly supports the fact that this project, as proposed, will result in take of fully protected species, a violation of Fish & Game Code §3511:

3511. (a) (1) Except as provided in Section 2081.7, 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.

An operating wind energy facility (WEF) in Solano County was found to cause the mortality of 1 Fully Protected golden eagle and 3 Fully Protected white-tailed kites after two years of operation (Kerlinger, et al 2006). The Solano County WEF is similar in size to the proposed project (90 tubular design WTGs and 162 total MW). Turbine blade strikes kill an estimated 40-60 golden eagles per year at the Altamont Pass Wind Resource Area (WRA) (Hunt, 2002). The Altamont Pass WRA is much larger than the proposed project (more than 4,000 WTGs).

A report prepared to present a framework to screen potential wind sites for their likely impacts to birds used a rating system developed according to the tenets of the ecological indicators approach (Smallwood, et al. in press). Seven variables were examined and applied to 14 existing and proposed WEFs in California (Altamont Pass, Solano County, Tehachapi, Pacheco Pass, Jawbone Canyon, San Geronio, VAFB, the Santa Rita Hills east of Lompoc, the San Jacinto Mountains, Walker Ridge, southern Lake County, the Mendocino Coast, Clear Lake, and a random site). The existing and potential WEFs most likely to be used by raptors and waterfowl included VAFB and the site near Lompoc (Five golden eagles were observed on the proposed project site during surveys conducted for the proposed project and nesting nearby is likely). The predictive results showed the Lompoc and VAFB sites had the highest sum avian species negative impacts. Both sites are adjacent to the proposed project site.

The Department believes the proposed project will result in take of fully protected species. The Fish & Game Code §3511 does not provide for take incidental to otherwise lawful activity, therefore the Department opposes the approval of the proposed project without additional avoidance, minimization, and mitigation measures to avoid take of fully protected species. The Department strongly recommends the applicant include the following measures to reduce impacts to bird and bat species at risk. Monitoring of the mitigation measures effectiveness should be conducted and reported to the technical advisory committee, as well as the Department. If mitigation measures are determined to be ineffective, the Department in

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conjunction with the technical advisory committee should jointly develop appropriate and meaningful mitigation measures to minimize mortality.

Research should be conducted on the WEF to determine the effectiveness of several promising techniques to reduce bird strikes at WTGs and meteorological towers. These include blade painting and flight diverters. Hodos et al. (2001) found that motion smear, which makes the blade tips of wind turbines appear transparent to birds at high speeds, could be reduced under laboratory conditions. Their preliminary results suggested that a single, solid-black blade, paired with two white blades (inverse blade pattern) could be effective at reducing visual smearing of blades. The WTGs used for blade painting could be those which would have little or no visual impact as described in Section 3.2 of the DEIR. The 2-year monitoring effort proposed in the DEIR could be used to compare mortality rates at blade-painted WTGs vs. non-painted WTGs. Comparison could also be made between meteorological towers with and without flight diverters. Department staff would be available to assist in research design.

Kerlinger, et al. (2006) found avian risk at the Solano County WEF to be higher during fall migration. They suggested selective seasonal shut-downs be explored as an effective strategy to substantially reduce avian mortality.

Early research has shown placement of acoustic deterrents at WEFs can be effective at reducing mortality of bat species (Szewczak, 2007). This technique has shown promise but requires further field testing. Research should be conducted at the LWEF to further test the effectiveness of this technique.

Pre- and post-construction data gathering and avoidance/minimization measures described in the draft guidelines (California Energy Commission and California Department of Fish and Game, 2007) should be implemented.

CESA Permitting

A California Endangered Species Act (CESA) permit must be obtained if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. The project as proposed has potential for take of Gaviota tarplant, a State listed endangered plant. If take will occur, a CESA permit must be applied for. The procedure for obtaining a CESA permit may be found at the Department's website at <http://www.dfg.ca.gov/hcpb/cegacesa/cesa/cesa.shtml>.

Revisions to the Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit.

Impacts to Jurisdictional Drainages

The law requires any person, state or local governmental agency, or public utility to notify

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the Department before beginning an activity that could substantially modify a river, stream, or lake (Section 1602 Fish & Game Code). The project as proposed includes impacts from bridge construction to streambeds within Department jurisdiction (Canada Honda Creek). An application for a Lake or Streambed Alteration Agreement (LSAA), under Section 1600 et seq., therefore will be required. You may call our San Diego office at (858) 636-3160 to initiate the 1600 process. You may also obtain a notification package online by visiting the Department's website at <http://www.dfg.ca.gov/1600/1600.html>.

The Department's issuance of an LSAA is considered a project that is subject to CEQA. To minimize additional requirements by the Department pursuant to Section 1600 et seq., the DMND should fully identify the potential impacts to any drainage or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments. Impacts to drainages (including impacts to the special status aquatic species listed above) and associated mitigation are lacking in the DMND and so would not facilitate issuance of a streambed alteration agreement at this time. The Department emphasizes that in order to protect sensitive resources, substantial revisions to the proposed project may be required in the LSAA.

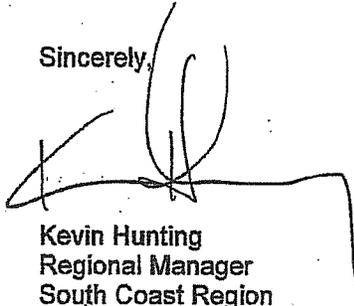
Impacts to Sensitive Biological Resources

1. Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) – About 850 unarmored threespine stickleback were salvaged from the Barka Slough area of San Antonio Creek on VAFB to Canada Honda Creek in 1984. The Department's California Natural Diversity Data Base (CNDDB) record for this occurrence is within 1/3 mile of the proposed bridge over the Creek (attached). No mention was made of this in the DEIR. We therefore request a discussion and analysis of the potential for impact to this Fully Protected Species, with appropriate avoidance, minimization, and mitigation for any significant impacts, be included in the DEIR.
2. California red-legged frog (*Rana aurora draytonii*) – Critical habitat for the California red-legged frog (CRLF) was described in the DEIR as occurring on the southeastern portion of the Project site, but that there was little suitable habitat in the Project area. However, 3 ponds were described in the DEIR as occurring on the project site. These ponds were not evaluated for their capability to support CRLF, although CRLF are known to occur in stock ponds (U.S. Fish and Wildlife Service, 2002). Mitigation Measure A-BIO-19: Protection of Creeks, Springs, and Wetlands states the applicant shall make every effort to minimize the area and degree of impact to wetlands. However, in order for the applicant to avoid conducting protocol level surveys and employing mitigation measures for CRLF, disturbances to ponds must be avoided.
3. El Segundo Blue (*Euphilotes battoides allyni*) – The El Segundo blue is a Federally endangered butterfly species. A specimen was observed recently near the proposed project site around Tranquillon Peak and an adjacent ridge. The proposed project has potential to impact this species. The U.S. Fish and Wildlife Service has more information on this occurrence.

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Thank you for this opportunity to provide comment. Questions regarding this letter and further coordination on these issues should be directed to Mr. Martin Potter, Environmental Scientist, at (805) 640-3677.

Sincerely,



Kevin Hunting
Regional Manager
South Coast Region

References:

- California Energy Commission and California Department of Fish and Game. 2007. *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*. Committee Draft Report. California Energy Commission, Renewables Committee, and Energy Facilities Siting Division, and California Department of Fish and Game, Resources Management and Policy Division. CEC - 700 - 2007 - 008 - CTD.
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- Hunt, W. G. 2002. Golden Eagles in a Perilous Landscape: Predicting the Effects of Mitigation for Wind Turbine Blade - Strike Mortality. California Energy Commission report, P500 - 02 - 043F. Sacramento, California. 72 pp.
- Kerlinger, P., R. Curry, L. Culp, A. Jain, C. Wilkerson, B. Fischer, and A. Hasch. 2006. Post-construction avian and bat fatality monitoring study for the High-Winds wind power project Solano County, California: two year report. Curry & Kerlinger, L.L.C. 136 pp.
- Pierson, E.D., P.W. Collins, W.E. Rainey, P.A. Heady, and C.J. Corben. 2002. Distribution, status, and habitat associations of bat species on Vandenberg Air Force Base, Santa Barbara County, California. Prepared for Vandenberg Air Force Base, 30 CES/CEV/PN Natural Resources. September 30.
- Smallwood, K. S., K. Hunting, L. Neher, L. Spiegel and M. Yee. 2007. Indicating threats to birds posed by new wind power projects in California. In press. 22 pp.
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wind turbines. Paper presented at the 2007 Annual Conference of the Western Section of the Wildlife Society. Monterey, California.

U.S. Fish and Wildlife Service. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

attachment

cc: Ms. Betty Courtney
Department of Fish and Game
Santa Clarita, California

Mr. Martin Potter
Department of Fish and Game
Ojai, California

Ms. Natasha Lohmus
Department of Fish and Game
Santa Barbara, California

Mr. Maurice Cardenas
Department of Fish and Game
Ojai, California

Ms. Mary Meyer
Department of Fish and Game
Ojai, California

Mr. Mark Elvin
US Fish and Wildlife Service, Ventura Field Office
Ventura, California

Mr. Scott Morgan
State Clearinghouse
Sacramento, California

Gasterosteus aculeatus williamsoni

unarmored threespine stickleback

Element Code: AFCPA03011

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: Endangered	Global: G5T1	CDFG Status:
State: Endangered	State: S1	

_____ Habitat Associations _____

General: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.

Micro: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.

Occurrence No. 6	Map Index: 13081	EO Index: 14825	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1984-05-18
Origin: Introduced Back into Native Hab./Range			Site: 1984-05-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1995-02-17

Quad Summary: Tranquillon Mtn. (3412055/171D)
County Summary: Santa Barbara

Lat/Long: 34.60066° / -120.54899°	Township: 06N
UTM: Zone-10 N3831490 E724764	Range: 35W
Mapping Precision: SPECIFIC	Section: 14 Qtr: XX
Symbol Type: POLYGON	Meridian: S
Area: 379.1 acres	Elevation: 580 ft

Location: CANADA HONDA CREEK (AKA HONDA CREEK) - VANDENBERG AFB.

Location Detail:

Ecological:

Threat:

General: ABOUT 850 STICKLEBACKS WERE SALVAGED FROM PONDS THAT WERE DRYING UP IN THE BARKA SLOUGH AREA OF SAN ANTONIO CREEK & TRANSPLANTED INTO THE UPPER & MID-SECTIONS OF CANADA HONDA CREEK.

Owner/Manager: DOD-VANDENBERG AFB

Sources	
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MCG84F0002	MCGRIFF, DARLENE (DFG). FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI. 1984-XX-XX.
SHA84U0001	SHAW, C. PHONE CONV. W/KEN SASAKI DFG-REGION 5 UNIT BIOLOGIST RE UNARMORED THREESPINE STICKLEBACK OCC'S 005 & 006. 1984-XX-XX.