

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

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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.

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- 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 CNDDB 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>	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.	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.	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>Mitigation Measure Component</u>	<u>Summary Description</u>	<u>Timing/Duration/Formulae</u>	<u>Trigger/Threshold for Additional Mitigation</u>
<u>Fatality monitoring and thresholds</u>	<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> <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>	<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</i> and <i>Fatality Thresholds</i> above for further details.</u>	<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> <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>
<u>Up-front compensatory mitigation for potential bald eagle and sandhill crane impacts</u>	<u>The owner shall provide for compensatory mitigation prior to construction for potential impacts on bald eagle and sandhill crane.</u>	<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>	<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>

<u>Mitigation Measure Component</u>	<u>Summary Description</u>	<u>Timing/Duration/Formulas</u>	<u>Trigger/Threshold for Additional Mitigation</u>
		<u>offsite preservation and enhancement of bald eagle habitat.</u> <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>	
<u>Secondary compensatory mitigation fund</u>	<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>	<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>	<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>
<u>Onsite habitat protection and enhancement plan</u>	<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>	<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>	<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>

<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 CNDDDB 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 ~~is~~ 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.

Page 3.4-24

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

Page 3-12.10

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