

DOCKETED

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262



In Reply Refer To:
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May 13, 2015

Mr. Roger Johnson
Deputy Director, Siting, Transmission and Environmental Protection Division
California Energy Commission
1516 9th Street, MS 2000
Sacramento, California 95814

Subject: Bird and Bat Conservation Strategy for the Genesis Solar Energy Project, Riverside County, California

Dear Mr. Johnson:

The U.S. Fish and Wildlife Service (Service) appreciates the continued coordination among the Renewable Energy Action Team (REAT) agencies on project-specific planning, environmental review, and development of compliance plans, including Bird and Bat Conservation Strategies (BBCS). The Bureau of Land Management (BLM) and California Energy Commission (CEC) recently approved the BBCS for the Genesis Solar Energy Project. We have provided substantive comments on several iterations of the draft BBCS that were not incorporated into the accepted version, and would like to highlight the importance of the monitoring program within the adaptive management¹ framework as a means of addressing and evaluating our concerns. As we learn more about the relationship between solar facilities and avian impacts, we anticipate the need for further refinement of this and other project-level BBCSs, as monitoring results and changing agency policy may warrant.

Because utility-scale solar development is a relatively nascent industry, systematic monitoring designed to assess the impacts associated with construction and operation of these types of facilities has not been conducted. Consequently, our current scientific understanding of the effects of all aspects of facility operations (e.g., noise, lighting, mirrors, utility lines, etc.) on bird and bat impacts, such as differential effects on behaviors and mortality rates of resident and migratory species, and changes in population status of those groups, is limited.

The Service looks forward to participating in the Technical Advisory Group (TAG) that has been established for this project. As a member of the TAG, we offer the following components of the BBCS that will help the REAT agencies better understand the risks to avian communities and how best to avoid and minimize impacts to migratory birds on this and other solar energy projects. Among other issues, we will ask that the TAG address the topics below.

¹ Adaptive management is an iterative, science-based process that involves: (a) formulating alternative actions to meet measurable objectives; (b) predicting the outcomes of alternatives based on current knowledge; (c) monitoring to test the assumptions underlying those predictions; (d) implementing alternatives; (e) monitoring results; and (f) using results to improve knowledge and adjust actions and/or objectives accordingly.

- The Genesis Solar Energy Project will be one of the first utility-scale solar projects where systematic mortality monitoring will be conducted. Accordingly, the adaptive management section of the BBCS focuses on the mortality monitoring component of the plan; however, discussions regarding effectiveness monitoring of existing conservation measures and the identification of metrics or thresholds necessary to trigger implementation of additional conservation measures should be articulated in the plan. These types of metrics would be useful in addressing impacts that may not have been accounted for during the permitting process. We believe it will be important for the TAG to consider effectiveness monitoring in the adaptive management process to minimize adverse effects.
- To our knowledge, distance sampling has never been used for this application (mortality monitoring on wind and solar projects). Due to site-specific conditions (obstructed visibility inherent to the project panel configuration), 100 percent of the proposed search area may not be adequately observed. Consequently, additional survey area may be needed to meet the stated objective to survey 30 percent of the project site. The TAG should evaluate the results after each monitoring season (i.e., quarterly) and make recommendations to BLM to modify the methodology, if warranted.
- The BBCS establishes mixed monitoring intervals (7 and 21 days) for different seasons. Longer monitoring intervals are not supported by the available literature from the Mojave region. Longer survey intervals could introduce a bias toward larger bodied species, with medium and smaller sized species being under-represented. This bias could be further complicated by sampling only a subset of the fall and spring migration periods. Consequently, these intervals coupled with the distance sampling method as proposed, could result in statistically significant under-sampling, which cannot be corrected for using estimators. We suggest the TAG evaluate the methods and results in accordance with an agreed upon schedule as discussed below.
- There are over 400 species of resident and migratory birds known to occur in this region (Rosenberg *et al.* 1991, Patten *et al.* 2003). The migration periods specified in the BBCS are inadequate to cover the suite of species that have been documented in the area. We will work within the framework of the TAG to review a subset of avian species migratory patterns and make recommendations to adjust the migration monitoring periods, as appropriate, so as to avoid bias where possible in the mortality monitoring results.
- Mortalities of rare species have been documented at this and other solar facilities in southern California. Currently, the BBCS includes systematic monitoring of 30 percent of the solar field; however, this level of survey effort may not be sufficient to detect rare mortality events of uncommon and/or listed species, such as Yuma Ridgway's rail (*Rallus obsoletus yumanensis*). New modeling tools, such as the Evidence of Absence tool (Huso *et al.*, in press), have recently become available and can be used to inform what level of monitoring will be needed to increase the level of confidence that a rare mortality event has not occurred during the monitoring period. We recommend that the TAG assess whether the use of this tool should be used to inform future monitoring efforts.

- The BBCS includes the use of monitoring personnel who do not have academic ornithological and field ecology/biology background. Though training will be conducted, locating carcasses can be quite difficult. An assessment of searcher efficiency rates and a complete description of methods [i.e., the number, size (weight), and species of trial carcasses used, exact time and location of carcass placement, surveyor detectability thresholds, etc.] should be reviewed periodically by the TAG to determine if modifications are warranted.

Accurate identification of species is critical to understanding which species/taxa may be at risk from the project. We appreciate that an Authorized Avian Biologist will be available to ensure proper identification of carcasses and implementation of collection protocols and that a biologist will be on-site during monitoring periods to provide oversight. However, for carcasses and feathers that the Authorized Avian Biologist cannot identify, we would like to establish a process to have these items identified by a natural history museum, ornithological research institution, or public wildlife forensic laboratory approved by the Service.

- As part of our efforts to gain a better understanding of cumulative impacts associated with solar projects throughout the desert region, biological samples from bird carcasses will need to be collected. Identification of affected sub-populations of priority species is needed to help determine the significance of demographic impacts. Determination of the sub-species and regional populations affected require the collection of morphometric, genetic, and isotope data from collected carcasses (including those currently in storage on the project site).

One of the primary functions of an effective mortality monitoring program is to obtain the data necessary for the TAG to make informed decisions on the implementation and/or modification of conservation actions needed to reduce the impacts of mortality. Data are also needed to assist the TAG in determining the effectiveness of those conservation actions once they are adopted. We recommend that the TAG review the site-specific avoidance and minimization measures implemented to date by the project proponent, and assess whether effectiveness monitoring data could be collected to determine the utility of these and any future conservation actions.

The BBCS for Genesis states that the TAG meets subsequent to each monitoring season to review results of the carcass persistence, searcher efficiency, and mortality monitoring surveys. Seasonal meetings will allow the TAG to evaluate the concerns listed above and recommend any necessary adjustments to the monitoring methods prior to the next seasonal survey, if warranted and the meeting schedules allow.

We also recommend that an annual comprehensive report that includes mortality estimates for all birds and key taxa identified by the TAG, an analysis of meteorological data, taxa-specific migration information that may affect avian presence on and around the project site during the monitoring period, be submitted to the TAG after each full year of monitoring. The report should analyze the assumptions associated with the protocol, monitoring methods employed, and results that inform any conclusions. Based on a review of the report, the TAG may recommend continuation of the current protocol or recommend modifications to the methods to better achieve the monitoring goals and objectives.

We look forward to participating in the TAG and working together to develop and implement a meaningful adaptive management strategy that will facilitate conservation of our shared trust resources. If you have any questions regarding these comments or our recommendations, please contact Thomas Dietsch, in our Division of Migratory Birds (thomas_dietsch@fws.gov; 760-431-9440, extension 214) or Jody Fraser in the Palm Springs Fish and Wildlife Office (jody_fraser@fws.gov; 760-322-2070, extension 207).

Sincerely,

//s// Kennon A. Corey

Kennon A. Corey
Assistant Field Supervisor

cc:

Magdalena Rodriguez, California Department of Fish and Wildlife, Ontario, California

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Huso, M.M.P., D. Dalthorp, D. Dail, L. Madsen. In press. Estimating wind-turbine caused bird and bat fatality when zero carcasses are observed. *Ecological Applications*.

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Rosenberg, K.V., R.D. Ohmart, W.C. Hunter, and B.W. Anderson. 1991. *Birds of the Lower Colorado River Valley*. University of Arizona Press. Tuscon, AZ, 416 p.