

# Report summarizes incidence, monitoring, and mitigation of avian fatality at solar energy facilities

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Like many industrial activities, utility-scale solar energy development can affect birds and avian communities directly through fatality or indirectly through degradation, loss, or fragmentation of habitat. In general, direct fatalities are related to collisions or solar flux. Collisions can occur with all types of solar energy technologies, but solar flux effects on birds have been observed only at facilities with towers equipped to concentrate solar power.

EVS has partnered with the National Renewable Energy Laboratory (NREL) to prepare a [report](#) (PDF, 3.9 MB) summarizing current knowledge regarding avian issues at utility-scale solar facilities, along with a [bibliography](#) (PDF, 2.1 MB) of relevant literature. The work was sponsored by the [DOE SunShot Initiative](#).

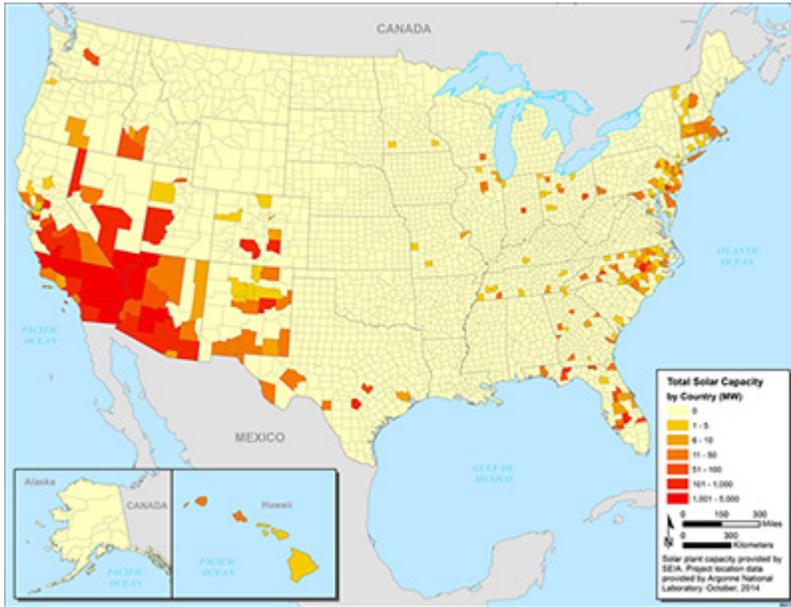
Intended as an initial rapid assessment, the report summarizes available mortality data and current monitoring and reporting requirements for both solar and non-solar developments. The report also evaluates the effectiveness of mitigation measures used in non-solar applications, examines aspects of avian fatality specific to solar technology, and recommends future steps.

Most of the available information on solar-avian interactions comes from projects in the southwestern United States, where utility-scale solar production is concentrated. In preparing the report, EVS and NREL reviewed hundreds of documents, many obtained directly from solar energy companies, industry organizations, and state and federal regulatory agencies.

The report's findings point to several recommendations for improving understanding of avian fatality issues at solar energy facilities:

1. Consistency and standardization in avian monitoring and reporting protocols need to be improved.
2. Additional systematic data on avian fatalities are needed to decrease uncertainty about the risks of solar energy development to avian populations.
3. Development of a solar-avian science plan will improve the scientific value of avian mortality data, inform decisions about project siting and design, and identify future research needs.
4. The industry, federal and state agencies, and other stakeholders should work collaboratively toward developing and implementing a useful and scientifically rigorous data collection program, evaluating avian mortality related to utility-scale solar development and its causes, and identifying appropriate mitigation measures.

EVS is pursuing efforts to (1) assist federal and state agencies, industry, and other stakeholders in the development of a collaborative working group to discuss monitoring objectives and a framework for addressing the objectives, (2) assist in the development of a solar-avian science plan to document and prioritize monitoring objectives and data needs and (3) develop an avian risk assessment tool to improve understanding of impacts and inform project-specific mitigation decisions.



Total Solar Utility-Scale Energy Production Capacity (MW) by County. [Source: Argonne National Laboratory]



Utility-scale power tower solar energy facility [Source: Argonne National Laboratory]



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