

## DOCKETED

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<b>Filer:</b>	Tera Baird
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## **Standard Solar Project Monitoring Objectives**

Avian mortality has been documented at several solar facilities in California. In an effort to better understand the circumstances surrounding these mortalities, robust systematic monitoring at solar facilities will need to be conducted. The Service has established the following primary objectives for monitoring at all commercial-scale solar facilities:

- 1) Estimate the overall annual avian mortality rate associated with the facility. This estimate should include mortality associated with all the features of the project that are likely to result in injury and mortality (e.g., fences, ponds, solar panels, elevated solar flux).
- 2) Determine which species are impacted at the facility during daylight hours and which species are being impacted after nightfall.
- 3) Determine whether there is spatial differentiation within the solar field in the rates of mortality between species of (i.e, panels on the edge of the field vs. interior of the field)?

When addressing all of the questions identified above the monitoring methods should be structured in order to provide information on the seasonal differences in mortality rates and which species or taxonomic groups are most vulnerable. This will be accomplished by implementing a consistent monitoring effort throughout the annual cycle and by establishing baseline information regarding local bird abundance during pre-project surveys to inform which species most frequently utilize the project area.

In order to adjust mortality estimates, each project will need to conduct carcass persistence and searcher efficiency surveys to identify corrective factors and adjust mortality estimates as appropriate. In order to calibrate the corrective factors for seasonal differences these surveys should be conducted seasonally throughout the annual cycle. Carcass persistence surveys will inform the search intervals for all monitoring and will be conducted during pre-project surveys and can be re-calibrated by ongoing carcass persistence surveys, as appropriate.

Systematic monitoring should be conducted for a minimum of 3 years unless information or adaptive management strategies warrant an alternative number of years of monitoring. In addition, monitoring should be adequate to provide results that are suitable for meta-analysis and to evaluate effectiveness of adaptive management.