

NOTES | 6/27/2012 Conference Call**Altamont Pass Wind Resource Area Scientific Review Committee**

Prepared by the Center for Collaborative Policy

Reviewed and approved by the SRC

All 5 SRC Members Present**Discussion Topics****Avian Use Subcommittee Update & Recommendations****Meeting Outcomes**

- The SRC agreed that avian use analysis in the final 2005-2010 bird fatality report would use a metric of the number of observations per minute (or hour) per square kilometer, except for data from early surveys done with a larger search radius. The metric in these cases would use an assumed radius of 600 meters for small birds. Larger bird use would be analyzed using the Avian Use subcommittee's recommended metric of 800 meters as well as a 600-meter radius to provide an upper and lower range of estimates.
- The SRC supported the subcommittee's recommended conceptual approach to collecting bird use and to collecting limited behavior data going forward, which shifts from a 10-minute to a 30-minute observation session to be consistent with standard practice, the literature, the original study design for bird use monitoring in the APWRA, and likely session length at repowered sites. The SRC also asked for the addition of clear objectives, expected outcomes and analyses to the approach write-up; SRC review of observation points; and a proviso that the method would be tested and then reviewed at an SRC conference call meeting shortly thereafter.

Action Items

Party	Due Date	Action
SRC	11 a.m. – 1 p.m., July 12, 2012	Next conference call meeting on QA/QC & detection probability analysis to be used September meeting
SRC & Public		Can provide comments on draft avian use and behavior protocol and draft data form to Monitoring Team (M91)
Monitoring Team		Develop new set of bird use observation points
Monitoring Team		Circulate to SRC and public the draft bird use and behavior observation points, objectives, expected outcomes and analyses
Monitoring Team		See if Shawn Smallwood can provide information on distance from observer to bird for a proportion of the locations outside 600 meters

Avian Use Subcommittee Update & Recommendations

Related Documents

[M91 Subcommittee Memo on Avian Use & Behavior](#)

Monitoring Team Manager Doug Leslie presented background on the Avian Use and Behavior Subcommittee's deliberations, and recommendations to the SRC (see [M91 Subcommittee Memo on Avian Use & Behavior](#)) developed over three meetings on two topics:

1. Avian use and behavior analysis metrics to use for the final 2005-2010 bird fatality report
2. Monitoring Program objectives and a protocol for collecting avian use and possibly behavior data going forward.

1. Avian Use Analytical Approach for Final Fatality Report

An SRC recommendation was needed for the analytical approach to use on 2005-2010 avian use data for the final bird fatality report to be presented at the September SRC in-person meeting.

The Subcommittee recommended that the best metric available at this time is the number of observations per minute (or hour) per square kilometer. The time standardization would address the differing lengths of observation sessions used in those years, while the per-square-kilometer calculation would be the best metric available to reflect the variation in search radius through time.

SRC Questions and Comments

SRC members raised the following issues in discussion:

- How would the per-square-kilometer metric be developed when there is no data on the distance from observer to bird? In response, Doug Leslie said the metric would incorporate the area of the circle based on the search radius used in order to account for the SRC decision made during the current study period (in 2007) to reduce the radius size from 800 to 600 meters.
- There was a concern that the number of birds observed would not vary the same as the change in search radius. Since observers view fewer birds in the longer distance, a more comparable approach might be to take the first 600 meters of observations from those made with an 800 m radius.
- Another approach might be to develop an adjustment factor that can be used to make the earlier data comparable to future monitoring.
- An SRC member suggested that perhaps the Monitoring Team could use the volume of visible air space data that would be made available in July, as distance data would be needed to calculate that. In response, Doug Leslie, Julie Yee and Michael Morrison said this is a topographically derived metric that does not need to be developed from distance from observer to bird data.
- Visible air space data could be used in future analyses.
- There were concerns that there would be no easy way to analyze the two different datasets and that the adjustments would have biases. One approach would be to

conduct an analysis on only the more recent, 600-meter viewshed data (in addition to the full dataset which includes data from the earlier years).

- If the primary goal of using the data is to see if relative abundance data tracks with fatality rates, it would be important to use the data from the early years.
- Since 2006 data shows a fatality spike, it might be important to look at the early years.
- One possible approach would be to develop bracketed estimates using both a 600-meter and an 800-meter metric. This would capture the error to give it boundaries.

Doug Leslie said that Shawn Smallwood had originally been planning to provide the distance from observer to bird data, but encountered issues with maps not being clear because too many dots representing observed birds were recorded on one sheet. There might be a possibility of attempting to develop the data from the raw sheets for future use.

He said that red-tailed hawk use did not show a similar spike as fatality estimates showed in 2006. It declined from 2005 through 2006 to 2007, was fairly flat to 2008, declined in 2009 and increased slightly in 2010.

SRC Recommendation

After discussing the alternatives, the SRC agreed to the following recommendation:

1. Adopt the Subcommittee recommendation for 600-meter data in preparing the analysis for the final 2005-10 avian fatality report.
2. For 800-meter data, take a different approach based on bird size:
 - Since small birds are very difficult to see beyond 600 meters, for small birds (American kestrel and burrowing owl), standardize the 800-meter data using a 600-meter area metric to make it comparable with the 600-meter data being standardized using a 600-meter area metric.
 - For larger birds, which may still be visible at a reduced rate beyond 600 meters, use both estimates in order to bracket the estimate. Calculate the data with a 600-meter metric to provide one end of the bracket, and with an 800-meter metric to provide the other end of the bracket.

2. Avian Use & Behavior Recommendations Going Forward

Doug Leslie outlined objectives suggested by the subcommittee for avian use and behavior going forward: To help inform repowering, emphasize sites that are not repowered but are likely to be repowered; look at a limited set of behaviors; and prioritize comparability in use rates in order to maintain the seasonal and annual relative abundance estimates through time.

For the Monitoring Program avian use and behavior protocol going forward, the Subcommittee recommended:

- Shifting to a 30-minute-long observation session, from the current 10-minute-long session, as this would accord with standard practice, the original study design, and recommendations in the literature. The change would require a decrease in the number of observation points to maintain existing staffing resource levels with the longer observation time. There would be no decrease in the sample size, as the amount of total time observing birds would be the same, but there would be a decrease in the geographic scope as observers remain longer at each point.

- Adding a behavior component that identifies the location of birds and a limited set of behaviors, which can be tracked in a way that does not require plotting or digitization.

30-Minute Observation Session

In response to a question, Doug Leslie said the Monitoring Team does not yet know what proportion of the current observation points will be reduced under the proposed 30-minute approach. Because the change does not reduce the observation time, there is no need for a power analysis. There is a reduction in geographic scope as a result of longer sessions at each observation point. The Monitoring Team will look at selecting observation points based on avoiding redundancies, such as those with the study being undertaken at AES SeaWest turbines. The change would not require eliminating any previously gathered 10-minute data. It could also increase efficiencies because of reduced travel time.

SRC Questions and Comments

SRC members raised the following issues in discussion:

- It will be important to implement distance training and quality control to identify what the observer error is and correct for observer drift over time. This could involve multiple observers independently gathering information for the same session. QA/QC information should be incorporated into future reports.
- While the SRC had recommended a 10-minute period of no surveying to begin each session, this was apparently never implemented. Observers are often walking to get to a high point, and have been instructed to settle in and scan for perched birds before starting. This means that in practice they are letting birds "resume normal activity" and can work out an approach.

SRC Recommendation

The SRC supported the Subcommittee recommendation to shift to a 30-minute observation session and reduce the number of Observation Points.

Suggested Protocol Changes & Draft Data Form

Additionally, the Subcommittee considered other approaches to changing the avian use protocol to help clarify procedures and ensure consistency of data collection over time.

Doug Leslie said he has revised a draft data form (see [M91 Subcommittee Memo on Avian Use & Behavior](#)) once based on Subcommittee comments, but still wants to hear from the Subcommittee and SRC on the latest version. SRC members can submit comments in writing.

SRC members were asked for feedback on the datasheet design, rules of priority, the list of behaviors to be observed, distance categories and other aspects of the protocol.

SRC Questions and Comments

SRC members raised the following issues in discussion:

- Make sure there is no debate among searchers about what they are collecting, that they all do it the same way and that the data are entered and checked in a timely manner.

- Test to make sure that there are no inconsistencies in data collection.
- There was a concern that there is a potential for error in binning data into distance categories, because data gatherers cannot go back to rebin.
- Several SRC members were interested in seeing data collected on how close birds are observed to turbines, as this is the "zone of risk." One approach would be to add distance to turbine as a variable.
- The Monitoring Team protocol establishes zones within the survey area that could be analyzed for location relative to the turbines within the survey area. Perhaps it would be possible to overlay the data after the fact. It can sometimes be difficult to correctly establish the distance a bird is from a turbine, particularly if the observer's line of view is perpendicular to a turbine row.
- A related question is if there is a zone near a turbine that birds tend to avoid.
- In response to a question, Doug Leslie clarified that flight height is relative to the ground, not to the observer, so it can be used to determine if a bird is in a rotor swept area.
- In response to a question about the rules to change priority if high-priority birds enter, Doug Leslie said these rules would only apply when there is a lot of bird activity and choices need to be made. The priority decisions would be made minute by minute.
- In response to a question, Doug Leslie said the observations will be done monthly, which is what is done now.

Public Comment

Renee Culver of NextEra asked the following questions:

- Whether the Monitoring Team already had maps giving distances and attributes of landscape features to use in analysis. In response, Doug Leslie said they have GIS plots over images.
- If there would be a schedule for data entry. Doug Leslie said it would be entered as it occurs.
- If only one person would be gathering the data. Doug Leslie responded that this would be the goal, if feasible, as the largest source of variation comes from differing searcher personnel.

In regard to the question of distance from turbine, she also noted that not many of the observation points will overlap with new generation turbines, and much of the work that Shawn Smallwood is doing is looking at this question.

Sandra Rivera of Alameda County raised the question of whether avian behavior in relation to repowered turbines would be one of the objectives of this monitoring program. The SRC's and Monitoring Team's purview is generally restricted to old generation turbines.

SRC members suggested that information related to hazardous type of graphic situations could be applicable to repowering.

Doug Leslie said all parties have agreed that there hasn't been a good job historically of collecting use and behavior data. Part of this effort is not to create new studies, but to reformulate the protocols so everyone is clear on the goals and objectives. The primary goal

is to collect information on relative abundance seasonally and annually. Beyond that, since the observers will be at the site, they can collect some other useful data.

An SRC member suggested the Monitoring Team could test whether the behavior code in the proposed data sheet would allow observers to identify whether a bird appears to be within 30 meters of a turbine, or whether that information could be identified in an overlay.

SRC members expressed interest in getting a clearer understanding of the goals and objectives of the revised approach.

SRC Recommendation

The SRC agreed to support the overall direction of the new protocol, with the following conditions:

- When it circulates to the SRC the list of observation points, The Monitoring Team also include:
 - A clear statement of objectives for future use/behavior work
 - A list of expected outcomes from the data collection, including what it is supposed to accomplish and what it is not designed to accomplish
 - A list of expected analyses to be undertaken with the data
 - How it relates to repowering
- The protocol will be tried out, and the Monitoring Team would then discuss the trial at a subsequent SRC conference call meeting soon thereafter.

Next Steps

- SRC members and the public can provide written input on the draft avian use/behavior data form (M91).
- The Monitoring Team will look at redundant observation points that can be eliminated, such as those now being used in the FloDesign study at AES SeaWest turbines, and will circulate the list of new observation points with avian use/behavior protocol goals and objectives, expected outcomes and expected analyses.
- The Monitoring Team will approach Shawn Smallwood to see if he can provide any distance from observer to bird data for the locations outside 600 meters.

Next In-Person Meeting: September 13-14, 2012

Topics

- Final bird fatality report
- Determination of 50% avian mortality reduction
- Assessment of hazardous turbines ranked 8.0 in preparation for December recommendation
- Discussion of transition to repowering and comparability
- Questions related to the AWI permit modification request and EIR

ATTENDEES

SRC

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Consultants

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Identified Public

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