

NOTES | 7/10/2007

Altamont Pass Wind Resource Area Scientific Review Committee Conference Call

Prepared by the Center for Collaborative Policy
Reviewed and Approved by the SRC 10/16/2007

Agenda Items

Altamont-Wide Field Protocols
Power Output Data

Altamont-Wide Field Protocols

Avian Use Objective

The Monitoring Team (MT) has added text describing the objective of the avian use monitoring: to estimate the relative use of the project area by species and to provide data on bird behavior as it relates to weather, topography and facility characteristics. *Depending on the final decision on relative abundance data collection methods, the MT may want to add that relative abundance data will be compared to previous and other studies.*

Limiting Viewsheds for Point Counts

The MT has two locations: one for the 10-minute relative abundance “point count” and then another for the 20-minute behavior observations. They planned to include all turbine strings within 500 m of the observer. The SRC had previously recommended 400 m. The SRC is fine with 500 m as long as the MT has a map that shows topographic features and delineates sequential distance radii for guidance to the observers. (This means there will be circles on the map showing where distances are 100 meters, 200 m 300 m, and 400 m away from the observer.) For analytical purposes, data could later be curtailed to 400 meters.

Although the SRC had previously recommended limiting viewsheds for point counts, the monitoring team raised the issue for discussion. The primary motivation for using an unlimited viewshed for point counts is to analyze the trend in bird use in the Altamont Pass, i.e. by comparing current to previous use. Also, other wind farm sites are using unlimited viewsheds for point counts. Some data have indicated that bird use or relative abundance is decreasing in Altamont Pass and risk is increasing. However, Wally Erickson felt the preliminary results at Diablo Winds indicate relative abundance consistent with Orloff and Flannery (1992). The MT proposed for discussion using an unlimited viewshed (record everything out that you can see) and then truncating it as appropriate for the analysis.

The SRC would have liked to have been able to compare the data and may still be able to do so, but recognizes methods and assumptions have changed from one study to the next. Most of the SRC members felt that the data would be stronger if the viewshed was limited. Although distance sampling might be able to assist in making some adjustments to make estimates comparable, there would be no way to correct for the number of birds missed up close because the observer is concentrating far away. The SRC feels that precision is critical to moving forward given the problematic and controversial issues at Altamont. This ultimately is why the SRC has been formed—to provide unimpeachable methods to look at the issues; not to continue with previous practices for the sake of comparison. The SRC thinks consistency from now forward, with methods that will stand up to peer review, can help avoid compounding errors. They would like to build on the work of past researchers and improve upon it even if they won't be able to

say that raptor use has changed with a 500 m search radius. Ultimately, participants discussed the previous studies and decided that they could truncate the Orloff and Flannery (1992) and Smallwood and Thelander (2004, 2005) data to 500 m, and thus may be able to compare present with previous data.

Resource Selection Analysis

The MT will consider doing a resource selection analysis to identify landscape features which birds use in greater proportion compared to what would be expected by chance or if there is no selection preference. Resource selection analysis supports comparative analyses between different and non-overlapping landscape features, such as ridges and ravines, across project sites. For example if a raptor species uses ridges 80% of the time and ravines 20% of the time, then the analyst can conclude that the species is moving across the landscape in a random or uniform manner if 80% of the landscape was ridges and 20% was ravines. However, if 50% of the landscape was actually ridges, and the other 50% was ravines, then the raptor species used ridges more often than expected and it used ravines less often than expected. The resource selection analysis is not outlined in the observation protocols. In the protocol, observation point selection looks like it is solely related to turbine string location rather than also considering topography choices and habitat characteristics, and does not make use of the digital elevation model developed by Lee Neher.

Mapping Point Count Survey Data

The SRC questioned the need to record point count data on both data forms and maps. Because the observer should be continuously alert in order to detect all bird occurrences during the point count survey, the SRC recommended that data be recorded only on field forms and not be recorded on maps. Wally Erickson agreed to delete this from the protocol.

Digital Recorders versus Field Forms

The SRC and MT also discussed the pros and cons of using digital recorders to record point count survey data instead of using field forms, as is currently being used. One SRC member suggested that the use of digital recorders increases accuracy by allowing the observer to view the survey area continuously rather than stopping to record data on a field form. The main disadvantage to this technique is that there may be problems with data entry consistency, which could be a problem because the data are entered into electronic spreadsheet form by personnel who are not the same personnel who collected the data. Thus, it was agreed that field forms would continue to be used.

SRC Recommendations on Monitoring Protocols

- ✓ MT to add the objective of the avian use study
- ✓ SRC agreed to 500 m for behavior studies with topographic maps developed by Neher
- ✓ Add discussion of resource selection analysis to the protocol and reference it in the objective
- ✓ Point observation counts: limit viewshed to 500 m
- ✓ MT will add note about flight type

The MT will incorporate changes and send to SRC by July 11, 2007.

Power Output Data

The SRC has previously requested power output data from the companies to assist in recommending management modifications that could potentially reduce fatalities. During this conversation, the SRC and MT discussed the availability of data and more detail about how it might be used.

Some companies have power output data and others have none. One question is what to do about having data for one company and not for others. Another issue is what are the companies comfortable sharing and the implications of sharing those data. The SRC thinks it needs the data that are available.

How would the data be used?

- The goal is to reduce mortality while maintaining the maximum power output. If the SRC can have data on power output, it can potentially identify the kinds of situations that both reduce fatality and maximize output. Without power output data, the SRC can only make recommendations that ignore the effects on power output.
- To be able to manage this problem, the SRC needs to know what kinds of output cause the least mortality. Some towers may produce relatively small amounts of power and kill more birds. Seasonal breakdowns of the power output are needed to understand the amount of power, as a function of season, and mortality as a function of season.
- Power output is a variable representing operational activity and that would be studied to determine its relationship to mortality.
- The data and the subsequent analysis could support the SRC in resolving some issues that could ultimately be helpful to the wind power companies. For example, lattice towers had the highest mortality of all turbine types (Orloff and Flannery 1996). However, one of the reasons could have been because they had a relatively high percent time of operation (Orloff 1992). The SRC could re-examine end-row turbines and examine the power output relationship.

What type of data is needed?

- Power output is a surrogate for the time and amount of operation, which could be preferable to output data.
- The SRC has requested operating time and output
- Power output data by season or by day or percentile of operation (how much time per day is used per day or time data).
- The MT / SRC could aggregate in some way to preserve data confidentiality.

Getting the data daily is very difficult for some companies. For example, the AES wind turbines from the 1980s have no computer monitoring. The power output data are unavailable for some companies. They have to visit each turbine to determine how much it produces. At least one SRC member stated that it would be worthwhile to make these visits to the turbines.

The County reports that some companies feel that there is inequity around the data because some companies have the data and others don't. And, the level of effort required to go into the field is problematic. At least one member of the SRC pointed out it is also problematic to not make this effort.

The SRC would like to start somewhere. If one company can't participate in this because they don't have the data, one SRC member suggested that maybe that company could participate in another study. The County will continue discussing this with the companies and keep the SRC abreast of the discussion.

Participants

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