

Meeting Summary | May 9-10, 2012

Altamont Scientific Review Committee

Developed by the Center for Collaborative Policy
Reviewed and approved by the SRC

All SRC Members Present:

Joanna Burger
Jim Estep
Mike Morrison
Sue Orloff
Julie Yee

Key Outcomes

1. Draft Fatality Report

The SRC provided comments to the Monitoring Team on the draft 2010-11 Bird Year Fatality Report. Comments included:

Editorial Comments

- Figures and tables should be self-explanatory and have titles that clearly explain the data presented
- All summary tables need to be clearly explained

Content

Results:

- Provide explanation of any changes to the database that affect the numbers
- When results have changed from previous reports, provide explanation in the body of the report

Specific feedback/requests:

- Plot fatality curves by season
- As the 50% fatality reduction is approached, look where there are outliers or hot spots in the data to help determine future management actions.
- Burrowing owl results: What would Table 3-8 look like without the feather spot data?
- Table 3-11 on implications of repowering:
 - Need more information on newer turbines, not just Diablo Winds – add Buena Vista fatalities
 - Add impact assessment graph
 - Display differences on a temporal basis, across years and across months

Alameda County requested that the SRC provide written comments to the Monitoring Team on the report by May 23, 2012.

Presentation on Bird Use Data

ICF provided a series of slides demonstrating multiple regression analysis using the use data by species. Issues raised with the multiple regressions included:

- The need to consider topography rather than just spatial factors
- The need to account for changes in sampling sites

The Avian Use Subcommittee will meet in the next six weeks and work with the Monitoring Team to develop recommendations for use data methodology that will be most relevant to the draft fatality report.

2. QAQC Study

SRC Member Julie Yee presented results of a simulation that she developed to address the following questions:

1. Can we describe a carcass removal function?
2. Can we develop a detection function that incorporates imperfect searcher efficiency as a function of age of carcass?
3. Can we reliably estimate the number of fatalities that occur?

The SRC concluded that the results confirmed the model. Julie Yee will next apply the model and analytic method to the actual fatality database to provide more reliable fatality estimates.

The Analysis Subcommittee will meet with the Monitoring Team and carry out these analyses. The SRC will follow up with a July 12 conference call.

3. Proposed Solar Farms in Vicinity of the APWRA

County Planning Director Albert Lopez reported to the SRC that the County has been asked to approve a new large solar farm that is located in the vicinity of the APWRA. He requested SRC input so that the County could develop a policy that would help guide its decision-making on this and future solar farm projects.

SRC feedback included:

- Concern about proximity of the proposed project without any data on the effects of avian displacement
- Consider the baseline habitat and bird use
- Be prepared to practice due diligence by expanding avian monitoring into areas of solar farms

4. FloDesign Study

The SRC provided feedback on the revised FloDesign Study Work Plan and interactions with the current monitoring program.

The Monitoring Team and the FloDesign study team will coordinate from now until September 30 2012. On Oct 1, the new 2012-13 bird year, the new Detailed Implementation Plan will go into effect. FloDesign will pick up the cost of additional coordination time up to a reasonable point. The Monitoring Team will leave out carcasses. It was agreed that there would not need to be coordination between teams on non-native species. The Monitoring Team will be developing a new Detailed Implementation Plan that may exclude turbines/string/blobs being monitored concurrently in the FloDesign Study.

Action Items & Meeting Follow-Up

Party	Due Date	Action
SRC & MT	Sept. 13-14, 2012	Next In-Person Meeting
SRC & MT	June 27, July 12	<ul style="list-style-type: none"> • June 27 Topic: Avian use models to inform 50% fatality reduction metric. • July 12 Topic: QAQC/Detection Probability analysis
SRC	5/23/12	Submit written comments on draft fatality report to Monitoring Team
Monitoring Team/Avian Use Subcommittee	By 6/27/12	Avian Use: Meet to prepare recommendations for SRC on June 27 on avian use models to inform 50% fatality reduction metric for MT use in final 2010-11 bird year fatality report. Issues raised in SRC discussion on multiple regressions included: <ul style="list-style-type: none"> • The need to consider topography rather than just spatial factors • The need to account for changes in sampling sites
Monitoring Team/Analysis Subcommittee	By 7/12/12	QAQC: Secure appropriately structured dataset from MT and take necessary steps to have recommendation for SRC on July 12 on detection probability curve for MT use in final 2010-11 bird year fatality report. SRC suggested runs: by seasons, by species.
Monitoring Team		SRC & public feedback for Final Bird Fatality Report: <ul style="list-style-type: none"> • Figures and tables should be able to stand alone. Captions should be sufficiently detailed to make figures/tables self-explanatory; titles should clearly explain the data presented; X and Y axes should be clearly labeled. Information should be sufficient to inform non-involved readers. All summary tables need to be clearly explained. • Example: what is the difference between raptors versus non-raptors & avian fatalities on page 3-2? Ensure there is consistency in usage. Use "all birds" if that is what it is. • Be transparent about whether the data answers the question, and why or why not. • Be transparent about how 50% reduction is analyzed (including contribution from each species) Content Results: <ul style="list-style-type: none"> • Provide explanation of any changes to the database that affect the numbers • When results have changed from previous reports, provide explanation in the body of the report Specific feedback/requests: <ul style="list-style-type: none"> • Table 2-2: 09-10 row, last column, should say "operating," not

Party	Due Date	Action
		<p>"shut down."</p> <ul style="list-style-type: none"> • Table 3-2 & 3-4, page 3-2: total should be annual average, not a sum. • Figure 3-5: Plot fatality curves by season, winter data vs. summer data • Include a graphical representation of location of fatalities or depicting hot spots/outliers • Burrowing owl results: suggest showing Table 3-8 BUOW numbers without feather spot data • Table 3-6 & 3-7: Numbers don't seem to add up; troubleshoot data/numbers/calculations. May be an issue with MW values. • Table 3-8 should be before Table 3-10 • For average annual fatality rate, show MW • Data in Feb. report very different for golden eagle 2010 estimated fatalities – 17 vs. 55. Why such large differences? • Table 3-11 on implications of repowering: <ul style="list-style-type: none"> • Need more information on newer turbines, not just Diablo Winds – add Buena Vista fatalities • Provide context for data, such as difference between Diablo Winds and current repowered turbines • Add impact assessment graph • Plot change in fatality over time for DW and non-DW turbines. • Display differences on a temporal basis, across years and across months, so it is clear that DW are not shut down in winter • Show graphical differences • DW are 660 kw, not 750 kw turbines <p>SRC feedback for future:</p> <ul style="list-style-type: none"> • Thinking ahead, the analysis is potentially entering another phase. As the 50% fatality reduction is approached, look where there are outliers or hot spots that could skew data, to potentially help inform future management actions • Perhaps include recommendations for further research
Jesse Schwartz & Shawn Smallwood		Need to communicate on utilization data in order to resolve observation data issues before revision of draft fatality report
Monitoring Team & FloDesign Study Team	May-Sept. 2012	<p>FloDesign Study: The Monitoring Team and the FloDesign study team will coordinate from now until September 30 2012. FloDesign will pick up the cost of additional coordination time up to a reasonable point. The Monitoring Team will leave out carcasses. There is no need to coordinate between teams on non-native species.</p>

Party	Due Date	Action
Monitoring Team	July-Sept. 2012	FloDesign Study: In development of DIP for 2012-13 bird year, consider excluding turbines/string/blobs being monitored concurrently in the FloDesign Study

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Meeting Account

Draft 2010-11 Bird Year Fatality Study

Related Documents

[M87 Draft 2010-11 Bird Year Monitoring Report](#)

[M90 May 2012 Presentation Slides](#)

Report Presentation

Monitoring Team Manager Doug Leslie gave a PowerPoint presentation on the draft report (see [M90 May 2012 Presentation Slides](#)). Key points included:

- There has been a significant decrease in installed capacity on the APWRA
- Bird use data has been incorporated into the report, as in figure 3-2. The green dashed line shows use data, which is the number of times an observer saw a bird. Observations show a consistent dip in December. More analysis of bird use is needed before any conclusions can be developed based on that data, as there are some potential biases, such as the changes in methods that occurred during the timeframe. Also, the approach of relating fatalities to use data might not be useful for burrowing owls, as their behavior patterns are different.
- Figure 3-4 shows trends in adjusted fatality rates for the four focal species, with a $\pm 80\%$ confidence interval, calculated with the Delta method. Figure 3-5 shows the data expanded to estimate APWRA-wide annual fatalities.
- There is a large amount of bias in burrowing owl fatality data, affected by the fact that the Diablo Winds area happens to have a large burrowing owl population.

- Preliminary results indicate that the 50% reduction in fatalities has been achieved for all four focal species combined, analyzed either by the Settlement Agreement method or the three-year rolling average method.
- Looking at the individual focal species, a 50% fatality reduction was achieved for three species (red-tailed hawk, golden eagle and burrowing owl), but not for American kestrels. In September, the SRC will be asked to consider the various approaches to estimating fatality reduction and to reach a conclusion.

SRC and Monitoring Team Discussion

SRC and Monitoring Team members raised the following questions and issues:

- An intriguing question is the 2006 spike in fatalities, which continues to make interpretation difficult. In 2010, there was an uptick in fatalities for large raptors.
- It's possible that there are greater fatalities among migrant birds than resident birds. A graph separating winter and summer data might provide greater insight into this question.
- While red tail hawk fatalities show an overall magnitude of decrease, golden eagle fatalities are near 2005 levels. For whatever reason, 2008 seems to be the bottom, and now fatalities are trending flat or slightly up. More data are needed to interpret.
- During this period, there were fewer operating turbines, so the increase in fatalities is not expected. It might be interesting to graph the fatalities with the turbine attrition line.
- Perhaps there are hotspots which contribute a bias when blob-level data is expanded. Perhaps the analysis could be done by turbine type and bird use.
- Jesse Schwartz of the Monitoring Team said the landscape is well-sampled, so the expansion should not cause a bias.

SRC Feedback on Draft Report

SRC members gave specific feedback for the final report, which will be followed up with written comments. Feedback:

- Every figure and table should be able to stand alone, and be understood without reference to text. Captions should be sufficiently detailed to make figures/tables self-explanatory; titles and legends should clearly explain the data presented; X and Y axes should be clearly labeled. Information should be sufficient to inform non-involved readers. All summary tables need to be clearly explained.
- Doublecheck the numbers for consistency. Any discrepancies can raise questions about the database.
- In general, follow established guidelines on formatting from a journal such as the *Journal of Wildlife Management*
- What is the difference between raptors versus non-raptors & avian fatalities on page 3-2? Ensure there is consistency in usage. Use "all birds" if that is what it is.
- Be transparent about whether the data answers the question (and make the question clear), and why or why not.
- Be transparent about how 50% reduction is analyzed (including contribution from each species)
- Provide an explanation of any changes to the database that affect the numbers, analyses, or results

What he has heard so far has been encouraging. His biggest concern is keeping raptors healthy and outside the turbine area. His organization's objective is not to impact repowering. If it works here, it can work in the rest of the country. The last thing we need is to throw remnant birds into the APWRA. We need to keep irrigated agriculture because it is performing as an ecosystem – perhaps it could be purchased with outside funding.

Danielle Roach of the California Department of Fish and Game said that alfalfa is the number one preferred forage habitat. Her department would want compensating habitat in perpetuity within Alameda County.

Meeting Summary Approval

Related Documents

[P237 DRAFT SRC Call Notes 4-12-12](#)

SRC members approved P237, the April 12, 2012, conference call notes, with one punctuation correction.

FloDesign Revised Study Plan

Related Documents

[P238 Smallwood FloDesign Draft Study Design April 2012](#)

[P241 CEC PIER 2012 Grant Notification](#)

The FloDesign study has been expanded, after receiving a grant from the California Energy Commission PIER program. In addition, FloDesign has acquired AES SeaWest facilities in the Altamont, and is therefore now a settling party and subject to the CUPs. This item is to discuss the expanded study and the interaction of the study with concurrent monitoring programs, including the Alameda County Monitoring Program and activities by the wind companies. Renee Culver of NextEra held a preliminary meeting on how to integrate current monitoring with the FloDesign study, and efforts are underway to develop a memorandum of agreement (MOA) among FloDesign, NextEra and Alameda County. Facilitator Mary Selkirk and Sandra Rivera of Alameda County met with Shawn Smallwood, who is conducting the FloDesign study, and Monitoring Team Project Director Doug Leslie to discuss the matter earlier in the week.

When the SRC considered the study in September, it was a small, discrete research project, run as a test rather than a project requiring a conditional use permit. Now, there will be a new conditional use permit and the project will need to go through CEQA review.

The SRC is being asked to consider how the study logistics would work, and to provide recommendations.

John Howe of FloDesign said his company heard from the SRC in September that they have a strong interest in avian behavior, and that the study, while interesting, would not achieve statistically significant conclusions. FloDesign acquired 403 AES SeaWest turbines. This would be considered a short-term project, and the company is scoping out plans for eventual repowering.

He passed around a small replica of a FloDesign turbine. The turbines produce three times more energy for the rotor area than conventional turbines, as more force gets drawn into the rotor area. Towers would be 120 feet high at the hub and 150 feet high at the top of the shroud. The objective of the offset turbine design is to make it self-yawing, so that it actively turns in response to the wind. Maintenance would occur via portable cranes rather than ladders. Turbines are designed to achieve 100 kW at a wind speed of 11 miles per hour, so they could be placed closer to urban areas and the existing grid.

The goal of the study is to include the minimum number of turbines necessary to achieve a statistically significant result.

Shawn Smallwood said the year-round study will be a Before-After, Control-Impact design looking at behavior and fatalities (study specifics described in [P238 Smallwood FloDesign Draft Study Design April 2012](#)). In early April, the study had people on the ground searching for birds in order to test the study design and protocol and work out bugs. The study will provide more than one year of information before the new turbines go up in early 2014.

Answers to SRC Questions and Comments on Study

Shawn Smallwood and John Howe gave the following information in response to SRC questions:

- There would probably not be different turbine heights in the same row
- The vortex would change wind speed in front of the turbine, although it would be different from a jet engine, which has suction. The design reduces resistance so more of the mass flow goes into the turbine. A key question for the study will be looking at whether birds and bats are drawn in to the turbine.
- There are Northern Power Systems 100 kW turbines in the area for comparability, although they are not at the same height
- The study will look at night behavior
- The study's definition of behavior is how birds respond to turbines, slope, and each other
- The study design has a species-based priority system of golden eagles first, red-tailed hawks second, etc.
- Variation at the site is not indicative of the entire APWRA, as there is not as much high terrain.
- Turbines ranked 9 and 10 on the SRC's hazardous rankings have been removed from the study site. Not many turbines were removed at SeaWest, except one entire row.
- The study defines a cluster as a short row or a single turbine
- The study design was based on fatality data, not topographic characteristics. But in the field, it's clear that the topographic issues are reflective of the SRC recommendations.
- There are many burrowing owl colonies in the area.
- Study authors think a hand-held voice recorder would be less disruptive to bird activity than quick body actions.

SRC Comments on FloDesign Study

SRC members raised the following issues in regard to the study:

- It might be beneficial to add up the number of turbine addresses and see if the control and experiment turbines are equal, and look at topography as well.
- The study might consider using light camo cloth to camouflage observers.

Sandra Rivera of Alameda County asked, since Alameda County and the SRC have discretion in their review, how changes would affect the grant. Shawn Smallwood said the fact that this study responds to SRC recommendations is viewed favorably by the CEC.

SRC Input on FloDesign Study

The SRC made the following recommendations for the study:

- It will be important to follow SRC guidelines on maintaining minimum gaps in order to avoid creating dangerous situations.
- Recommend you use decision rules so that when high-priority species enter, the observer switches, and notes that the previous observation is aborted
- Describe in the study plan the process for analyzing data
- Perform reliability studies with your crew on the same bird, to determine the distance at which they would observe an individual. Be clear about reliability of observation of avoidance behavior
- Provide a regular report to the SRC on bird data.

Coordination between FloDesign Study and Monitoring Program

There are 99 turbines that would be searched by both the Monitoring Program and the FloDesign study. The goal of the FloDesign study is to conduct two searches per week. The SRC is being asked to consider the logistical and analytical implications of this. The SRC is also being asked to consider a request by Shawn Smallwood that the Monitoring Team leave carcasses on the ground rather than pick them up.

Monitoring Team Manager Doug Leslie said his only concern is that the study not impact the Monitoring Team scope, time and budget, as there are no additional funds for additional work. Monitoring Team members provided additional information:

- One possibility is to remove the involved turbines from monitoring, but they are a large proportion of the turbine type represented in the monitoring sample
- The FloDesign study is using a different search interval; the Monitoring Program unit is an entire string, while the FloDesign study is using smaller units; and the FloDesign study is focused on high fatality turbines, so data wouldn't be comparable
- Additional carcasses in the field incur lost time, as a searcher has to determine if carcass data need to be recorded. However, not having to pick up a carcass is also a cost-saving.
- A large percentage of the fatalities found are pigeons
- The need to coordinate multiple data streams could impact work accomplished by the search team lead
- The SeaWest turbines are not in one blob, but potentially up to five blobs
- Leaving out carcasses is not an issue, but the concern is about mission creep.

SRC Discussion

In discussion, SRC members raised the following points:

- Perhaps grant money could support the Monitoring Team's costs for consultation

- Would leaving birds in the field incur a cost to the Monitoring Program or impact workload? Perhaps there is a way to clearly identify carcasses left in the field in order to save time
- There could be some advantage leaving carcasses in the field as it would be an ad hoc detection trial, and could provide information for the Monitoring Program detection function
- There could be value if the two studies can use each other's data
- If there is a good detection probability estimate, the difference in search intervals should not be an issue, and the Monitoring Program should be able to utilize the FloDesign study data. The focus should be on developing a methodology.
- Fewer points of contact and coordination would be helpful, as would be one dataset.

Monitoring Team Member Jesse Schwartz said there eventually could be a comparison, except there isn't sufficient understanding at this point of the unknowns. The Monitoring Team could develop an approach in the next three months and remove the overlapping strings in the next bird year.

Sandra Rivera of Alameda County said, if 50% mortality reduction is met, it's unclear what level of monitoring there might be in the next bird year. Also, the monitoring program is paid for by all companies, and all companies may not be willing to pay for time spent coordinating with FloDesign.

Public Comment

Loan Tran of NextEra reported that NextEra has the contract to provide reporting and wildlife response for the AIC companies on a monthly and yearly basis, and holds the master data. They are concerned that it will take additional staff time to determine if carcasses are duplicates. The power companies have crews out every day, and put tape on carcasses. Rock pigeons must be reported. Coordination is also required with the burrowing owl study. It's possible the number of overlapping turbines is larger, possibly 128. It would be helpful if the extra time could be charged to FloDesign.

Joan Stewart of NextEra said there are only eight hours in a day for existing staff to accomplish tasks. NextEra, Alameda County and FloDesign are working on a memorandum of agreement. NextEra can do the work, but wants it organized and wants agreement ahead of time on what communication there is going to be. The concern is the extra communication that ends up having to happen about unexpected issues and the need for clarification.

John Howe said FloDesign would consider providing funding to offset others' costs. The company would want the amount to be reasonably bounded.

The SRC considered various options and their impact on Monitoring Program data quality, use of resources and costs. Options considered included removing overlapping turbines or blobs from the current bird year monitoring, or coordinating and sharing data.

SRC Recommendation on Coordination between Monitoring Program and FloDesign Study

After considering multiple options, the SRC recommended the following:

- The FloDesign study search high fatality strings, and share information on fatality rates with the Monitoring Team on a timely basis
- The Monitoring Program and FloDesign coordinate until 9/30/12
- The Monitoring Team redesigns its Detailed Implementation Plan for the 2012-13 bird year to exclude FloDesign turbines, to the extent possible without impacting the sample. The Monitoring Team could choose other strings to balance the FloDesign data.
- The Monitoring Team leave carcasses in the field through September 2012
- There be no coordination between the two studies on non-native species
- The Analysis Subcommittee consider the feasibility of this approach
- This approach be treated as a trial run. If it is not working out, further discussion should occur.

Next Steps

- Shawn Smallwood will come back to the SRC with a detection study design and information on how the data will be analyzed
- Eventually, when FloDesign turbines are put in, the SRC will review and provide a recommendation to Alameda County

SRC Work Plan for 2012

Related Documents

[P99 SRC Work Plan and Milestones](#)

The SRC reviewed its work plan for the remainder of 2012 (see [P99 SRC Work Plan and Milestones](#)). For 2013, the SRC will likely hold fewer meetings.

Future SRC Meetings

In-Person Meetings

- **September 13 & 14, 2012**

Topics:

- Final 2010-11 Bird Year Fatality Study
- 50% Avian Fatality Reduction Consideration
- FloDesign Study

Conference Call Meetings

- **June 27, 2012, 11 a.m.-1 p.m. Topic:** Avian use models to inform 50% fatality reduction metric
- **July 12, 2012, 11 a.m.-1 p.m. Topic:** QAQC/Detection Probability analysis

Documents Circulated at Meeting

P100_SRC Document List with Reference Numbers

[M87_Draft 2010-11 Bird Year Monitoring Report](#)

[M90_May 2012 Presentation Slides](#)

[P240_Yee QA/QC Analytical Methods Update](#)

[P239_Alameda County Memo re APWRA Solar](#)

[P237 DRAFT SRC Call Notes 4-12-12](#)

[P238_Smallwood FloDesign Draft Study Design April 2012](#)

[P241_CEC PIER 2012 Grant Notification](#)

[P99_SRC Work Plan and Milestones](#)

SRC Meeting Participants

SRC Members Days 1 & 2

Joanna Burger

Jim Estep

Mike Morrison

Sue Orloff

Julie Yee

Staff

Sandra Rivera, Alameda County, Days 1-2

Mary Selkirk, Facilitator, Days 1-2

Ariel Ambruster, Associate Facilitator,
Days 1-2

Albert Lopez, Alameda County, Day 1

Liz McElligott, Alameda County, Day 1

William Fleishhacker, Alameda County,
Day 1

Monitoring Team

Doug Leslie, Days 1-2

Jesse Schwartz, Days 1-2

Brian Karas, Days 1-2

Chris Brungardt, Days 1-2

Others

(Meeting sign-in is optional)

Heather Beeler, USFWS, Days 1-2

Andrew Bell, FloDesign, Day 2

Rich Cimino, Ohlone Audubon, Day 1

Chris Dreiman, enXco, Days 1-2

Chris Dugan, TRA Environmental, Day 1

Jeff Everett, USFWS, Days 1-2

Jim Hopper, AES Wind Generation, Days
1-2

John Howe, FloDesign, Day 2

Liz Leyvas, ICF, Day 2

Mike Lynes, Golden Gate Audubon, Day 1

Travis Poitras, ICF, Days 1-2

Danielle Roach, CDFG, Days 1-2

Andrew Roth, AWI, Days 1-2

Stu Russell, Point Impact Analysis, Days 1-
2

Jesse Sirotkin, AWI, Days 1-2

Shawn Smallwood, Days 1-2

Joan Stewart, NextEra, Days 1-2

Loan Tran, NextEra, Days 1-2

List of SRC Agreements Developed May 9 & 10

(Compiled from this document)

SRC Recommendation on Coordination between Monitoring Program and FloDesign Study

After considering multiple options, the SRC recommended the following:

- The FloDesign study search high fatality strings, and share information on fatality rates with the Monitoring Team on a timely basis
- The Monitoring Program and FloDesign coordinate until 9/30/12
- The Monitoring Team redesigns its Detailed Implementation Plan for the 2012-13 bird year to exclude FloDesign turbines, to the extent possible without impacting the sample. The Monitoring Team could choose other strings to balance the FloDesign data.
- The Monitoring Team leave carcasses in the field through September 2012
- There be no coordination between the two studies on non-native species
- The Analysis Subcommittee consider the feasibility of this approach
- This approach be treated as a trial run. If it is not working out, further discussion should occur.

NOTES | 9/21/2012 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**

- **AWI Request for 2012-13 Winter Shutdown Permit Exemption for 3 Turbines**
- **2012-13 Bird Year Monitoring Program Update**
- **FloDesign Detection Trial Expansion Proposal**

Meeting Outcomes

- The SRC recommended that the County approve the AWI request for a permit exemption for three turbines in the upcoming winter shutdown, provided that the turbines are adequately monitored and that Alameda County and the SRC be notified within two days if fatalities involving one of the four focal species or species of concern occur in the monitored area. In that case, the SRC could meet to consider potential responses.
- The SRC recommended that the County allow the expansion of FloDesign study detection trials to monitored turbine strings, with the involvement of an SRC subcommittee to ensure there is adequate coordination and communication between the two study teams, FloDesign and the Monitoring Team. The SRC recommended periodic updates.

Action Items

Party	Due Date	Action
SRC	Nov. 19, 2012	Next conference call meeting - 11 a.m.- 1 p.m. Pacific, 1-3 p.m. Central, 2-4 p.m. Eastern time
SRC	Dec. 5-6, 2012	Next In-Person Meeting – 1.5 days
Alameda County/(tent) Monitoring Team	Friday, Oct. 5	Complete monitoring plan for 3 AWI turbines, provide for public review
AWI Turbines monitor (TBD)	During winter shutdown	Notify Alameda County/SRC within 2 days of fatality of four focal species/species of concern at AWI turbines; Provide data on non-focal species fatalities monthly
SRC	During winter shutdown	Be Available for conference call meeting within 2 weeks of notification of focal species fatalities at AWI turbines
Wind companies	ASAP	Provide comments as necessary on DIP
MT	ASAP	Add box to data sheets for searchers to self-identify “semi-blind” situations

Party	Due Date	Action
Shawn Smallwood	By time of Subcommittee meeting	Add to the FloDesign study distribution list to be informed of each carcass placement the Monitoring Team and Doug Leslie
MT	DONE	Hold conference call meeting of MT/FloDesign subcommittee by 9/28/12
MT, Shawn Smallwood	During FloDesign detection trials	Use MT/FloDesign subcommittee as needed to work on improvements to communication/coordination

Introductions and Agenda Review

Sandra Rivera of Alameda County thanked the group for accommodating scheduling changes due to the delay in data and reporting, and apologized. Alameda County is considering changing some dates called for in the Adaptive Management Plan, because the SRC decision on whether avian mortality has been reduced by 50%, now held off until December, could require EDF (formerly enXco) and FloDesign to remove some turbines.

Review and Recommendations on Altamont Winds, Inc., Request for Conditional Use Permit Modification for Three Turbines to Run during Winter Shutdown

Related Documents

[P249 Alameda County Memo and AWI Report on AWI Exemption Request](#)

[P247 AWI Request for Winter Shutdown Exemption for 3 Turbines](#)

Altamont Winds Inc. is asking for an exemption from 2012-13 winter shutdown for three turbines, for testing purposes. Sandra Rivera of Alameda County reviewed [P249 Alameda County Memo and AWI Report on AWI Exemption Request](#), which includes information the SRC requested for their review. Two of the three turbines have not been monitored for fatalities. She asked the SRC to provide recommendations to the Planning Director on the scientific implications of the proposed exemption on avian mortality and on the Monitoring Program. After the SRC recommendation, Alameda County will make a determination about CEQA review for the exemption.

SRC Questions

SRC members had the following questions:

- Is it true that none of the three turbines are currently monitored or would be monitored in the upcoming year? The Monitoring Team confirmed this.
- What is the HRT rating for the entire row of 56-100s? The Monitoring Team reported that seven turbines are rated 4.5 and two are rated 7.5. Andrew Ross of AWI added that the 7.5 turbines are end-row turbines, which are ranked higher. SRC member Jim Estep, a member of the subcommittee that conducted the 2010 ranking, said turbines 6639 and 6641 would be ranked relatively low, with the end-row

Next Steps

- Alameda County will work with the Monitoring Team to determine if it can develop the monitoring plan for the three AWI turbines.
- The monitoring plan for the turbines will be developed by the deadline of Friday, October 5. It will be made available for public review.
- Only a portion of the WEG turbine string needs to be monitored, because of spacing in the long string that creates separate islands of turbines.
- For fatalities of the four focal species at the turbine strings, Alameda County and the SRC will be notified within two days of detection. The SRC would be available during the winter shutdown to hold a conference call meeting to discuss response, with a two-week window for a meeting after notification.
- Notification to Alameda County and the SRC about non-focal species would occur monthly, unless there is high mortality.

2012-13 Bird Year Monitoring Program Update

Related Documents

[M93 2012 Bird Year DIP Distribution Memo](#)

[P250 Alameda County Memo on FloDesign Detection Trial Expansion](#)

[P246 Smallwood FloDesign Detection Trial Protocol](#)

[P248 SRC Call Notes 7-12-12](#)

Update on 2012-13 Bird Year Monitoring & Detailed Implementation Plan (DIP)

Monitoring Team Manager Doug Leslie said the Team will begin clearing searches soon for implementation of the new bird year monitoring design. He asked that the power companies review the DIP and provide any necessary feedback to the Monitoring Team to ensure that the design does not include turbines that are planned for shutdown/removal in the coming bird year.

At a May 2012 SRC meeting, the SRC recommended that the Monitoring Team redesign its DIP for the 2012-13 bird year to exclude FloDesign turbines, to the extent possible without impacting the sample design, as a way of avoiding coordination issues between the two teams with the overlap in monitoring. Doug Leslie said the Monitoring Team reviewed whether it could remove all the FloDesign turbines from monitoring during the coming bird year. Doing so would have significantly degraded the benefits from the rotating panel design, because a large chunk of monitored capacity for several BLOBs would be eliminated, and would unbalance the sample of turbine types. There are advantages to aggregating at the BLOB level for analysis.

SRC Questions and Comments

SRC members asked the following question:

- What number of turbines is in the overlap? In response, the Monitoring Team had a figure of 192 turbines; Shawn Smallwood said the FloDesign crew is only searching 152 turbines. The discrepancy in numbers is probably caused because the FloDesign team does not search entire turbine strings.

SRC members were comfortable continuing with the approach used since April 2012, with the two teams coordinating in the overlapped area.

Doug Leslie said there had not been any notable problems with the overlap, except for a couple instances when a Monitoring Team search crew drove by and noticed a FloDesign crew member at a fatality, which compromised the blindness of the searchers.

SRC members suggested that proactive communication between team coordinators could eliminate such problems.

One SRC member asked that data sheets allow searchers to mark instances such as these when their search might be "semi-blind" rather than fully blind. This would be used to help bin the searches in developing the detection probability estimate – the model uses three categories: totally blind, not blind, and semi-blind.

Proposal to Expand FloDesign Detection Trials to Monitored Turbines - Would the Proposed Expansion Impact the Monitoring Program?

The FloDesign study began monitoring in April. In July, study leader Shawn Smallwood requested that Alameda County allow the study to begin placing carcasses as part of detection trials. At its July 12 meeting, the SRC recommended in support of carcass placements occurring only at non-monitored turbine strings. Shawn Smallwood is now requesting that carcass placements be allowed at monitored SeaWest turbine strings.

Sandra Rivera of Alameda County said the County would like to hear from the SRC if they have enough information to make a determination, and if so, if the SRC concludes that the proposed expansion would or would not potentially impact the Monitoring Program.

Doug Leslie, Monitoring Team Project Manager, said the proposal as outlined in P246 calls for not providing the Monitoring Team with carcass information.

Shawn Smallwood said that wording was based on the assumption that the Monitoring Team would not be monitoring SeaWest turbines, and he had no problem providing them with timely information on carcass placements.

Doug Leslie said he saw two sources of confounding factors with the overlap in studies:

1. It would add to the probability of misidentifying a placed carcass as a fatality
2. The search crew could be alerted to the presence of a fatality they would not otherwise know about.

SRC Discussion

SRC members raised the following points in discussion:

- The first issue could be addressed by careful record-keeping and marking; the second issue could be addressed, as it has been to date, with proactive collaboration and communication. These are controllable, not confounding factors. It seems like the two teams have been working well together so far and the issues have been very minor. The proposal could be supported with an assurance that communication occurs.
- The FloDesign study could provide interesting and important information.

- There should not be a significant bias as long as there is good communication and clear marking in the field.

Doug Leslie said that communication between the two teams has not been stellar to date. He suggested that the SRC might be able to play a role in helping to improve communication. He proposed that an SRC subcommittee of Mike Morrison and Jim Estep be established to work on the issue with the two study teams to improve interactions.

SRC members confirmed that they believe they have sufficient information to assess the impact of the proposed expansion on the Monitoring Program, and that they supported the proposed expansion going forward.

SRC Recommendation on Proposed FloDesign Carcass Placement Expansion

The SRC agreed to support the proposed expansion, with the proviso that an SRC subcommittee of Mike Morrison and Jim Estep work with the two teams as needed to ensure communication and coordination.

Next Steps

- Shawn Smallwood to add to the FloDesign study distribution list the Monitoring Team and Doug Leslie, , to be informed of each carcass placement. Each carcass is marked with feather clips and zip ties.
- SRC Members Mike Morrison and Jim Estep will be notified immediately by either Shawn Smallwood or Doug Leslie if any communication issues arise between the two teams.
- Doug Leslie will arrange a conference call meeting of the subcommittee within a week to confirm communication and coordination about procedures prior to FloDesign's expansion of carcass placements to monitored strings.

Public Comment

Brian Karas said a webinar will be held Wednesday, September 26 on the EcoStat study that took place in the APWRA on estimating bird and bat fatalities (discussed previously by the SRC as the CalWEA study). SRC members and others are invited to join in to hear about the study results.

Wrap Up and Next Steps

November Conference Call Meeting: The SRC will need to hold a conference call in the second half of November to consider how it would like to approach assessing hazardous turbines ranked 8.0 in preparation for a December recommendation. Discussion of the final fatality report could also be included on the agenda. A date and time will be announced.

December 5-6, 2012 In-Person Meeting: The SRC's next in-person meeting will be 1.5 days on December 5 and 6.

ATTENDEES

SRC

Joanna Burger
Jim Estep
Michael Morrison
Sue Orloff
Julie Yee

Consultants

Doug Leslie
Brian Karas

Identified Public

Bill Damon, AWI
Chris Dreiman, EDF (formerly enXco)
Mike Lynes, Golden Gate Audubon
Morgan McGovern, AWI
Tara Mueller, Attorney General's Office
Andrew Ross, AWI
Joan Stewart, NextEra
Shawn Smallwood

Staff

Sandra Rivera, Alameda County
Mary Selkirk, CCP
Ariel Ambruster, CCP

Meeting Summary | September 26-27, 2011

Altamont Scientific Review Committee

Developed by the Center for Collaborative Policy

Reviewed & approved by the SRC

All SRC Members Present:

Joanna Burger

Jim Estep

Mike Morrison

Sue Orloff

Julie Yee

Key Outcomes

1. Monitoring Report

The SRC accepted M73, the 2005-2009 Monitoring Program Final Report.

2. Seasonal Shutdown and Guidance to Alameda County

Guidance to Alameda County on the scientific issues relevant in considering the AWI request for a seasonal shutdown waiver for the 2011-12 winter season.

As Alameda County weighs the AWI request for a 2011-12 seasonal shutdown waiver, the County should consider the following scientific issues:

1. Per the Monitoring Team September 2011 Final Report (M73), implementation of seasonal shutdowns has been successful in reducing red-tailed hawk winter fatalities by more than half (from 35% of annual fatalities in 2005 to 15% in 2009).
2. Other species (American kestrel, burrowing owl, golden eagle) show no clear signal of either reduction or increase in fatalities during seasonal shutdown.
3. Issuing a waiver to AWI for the 2011-12 season could increase bird fatalities because of the intermixing of operating and non-operating turbines in close proximity, thus potentially erasing any gains from seasonal shutdown.
4. Allowing for a waiver for AWI would make analysis of seasonal shutdown avian fatality reduction and overall annual fatality reduction extremely difficult.
5. If Alameda County were to issue a waiver to AWI, the SRC concludes that the entire Monitoring Program design would need to be reconsidered in light of the fact that AWI turbines are interspersed throughout the Altamont Pass Wind Resource Area with other turbines subject to the seasonal shutdown requirement.
6. Since there is a measurable positive effect from seasonal shutdown on reducing red-tailed hawk fatalities, supporting the issuance of a waiver would violate the mission of the SRC.

AWI did not have the most recent analysis of red-tailed hawk fatality declines with seasonal shutdown when the company made its request. The SRC acknowledges that

AWI's request for waiver on seasonal shutdown was submitted before the Monitoring Team's September 2011 Final Report was published.

3. QAQC Study

The SRC approved the "hybrid" recommendation for QAQC proposed by the Monitoring Team, to be implemented through the end of 2011.

Key components of this recommendation include:

- Carcasses will be left out for 90 days
- Carcasses will be fresh, small raptors with the aim of achieving a total of 50 carcasses by the end of 2011
- The study would involve three groups of 50 turbines
- Searches would occur on Days 1, 15, 30, 60 and 90
- The study would abolish field manager post searches and replace with status checks

4. enXco FloDesign Work Plan

The SRC approved the proposal as outlined in P223 Smallwood FloDesign Study Design, with a recommendation that the study include collection of behavioral data at the following points: the transition from operation to non-operation at the beginning of winter shutdown; at some point during the winter shutdown; and during the transition from non-operation to operation at the end of winter shutdown.

5. Goals and Objectives for 2012

The SRC considered Monitoring Program goals and objectives going forward, in the context of the transition to a repowered APWRA environment, and recommended the following:

- Continue to measure success toward a 50% reduction of fatalities
- Investigate burrowing owl fatalities
- Assess the feasibility/utility of deriving a conversion factor to relate the current Monitoring Program methods to a repowered turbines monitoring protocol

Action Items & Meeting Follow-Up

Party	Due Date	Action
SRC	February 16-17, 2012	In-person meeting (2 days)
Sandra Rivera		Will communicate the hazardous turbine issue in FloDesign study to the other settling parties to see if it is a concern to them.
Shawn Smallwood		Will communicate with Audubon and CARE representatives to make sure they are aware of the high risk turbine issue relative to the FloDesign study.
Sue Orloff		Will consider developing a conceptual model and hypothesis to use in analyzing the data.

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Meeting Account

Announcements & Updates

Sandra Rivera of Alameda County reported that the number of wind turbines included in the DIP for the 2011-2012 bird year has decreased by 53 turbines, including turbine strings wind companies have decided are not economical to keep running.

Update on Monitoring Team Activities

Doug Leslie, Monitoring Team Project Manager, reported the following:

- Monitoring is proceeding on schedule and according to protocol.
- The changes to the QAQC Study are being implemented
- One member of the Monitoring Team is working on the burrowing owl distribution and abundance study with Shawn Smallwood
- The Team is finishing up the Detailed Implementation Program (DIP) for the 2011-12 bird year. The Team has gotten information from NextEra and enXco and coordinated with Shawn Smallwood. It should be distributed in one week. The Team has been working with the wind companies to identify turbines that are expected to be removed in the coming year, so they will not be included in monitoring.

Monitoring Team Revised Final Report

Related Documents

[M73 2005-10 Monitoring Report](#)

[M82 Altamont Monitoring Report September 2011 Presentation Slides](#)

Monitoring Team Project Manager Doug Leslie gave a presentation on the final 2005-09 Monitoring Report (M73). With this document, the reports are caught up. The team's goal is to incorporate bird use data in the next draft report. Shawn Smallwood has a contract with the Monitoring Team to enter that data through September 2011.

In reviewing the report, Doug Leslie and Monitoring Team member Jesse Schwartz highlighted the following issues:

- A difference in this report from previous reports is that fatalities were estimated on the BLOB (base layer of operating group boundaries) unit. Blobs are stratified by geography and turbine type.
- Table 2-3 was added at the request of one of the SRC members to show removal of tier and hazardous rated turbines for each year. It is interesting that the magnitude of these removals is small in comparison to the number of turbines removed through attrition.
- Adjusted fatality rates, in Figure 3-4, show a similar pattern among all four species. There was a large spike in fatality rates for small raptors in the 2006 bird year.
- Figure 3-6 shows trends in the three-year rolling average of adjusted fatality rates for the four species. Large raptors are showing a linear decrease, while small raptors show a different pattern.
- The estimates show wide variance and low power, because of high uncertainty. Numbers should not be lifted from the report and used for forecasting, and this needs to be made clear.
- Table 3-13 extrapolates Diablo Winds fatality rates to the rest of the Altamont to give an idea of what fatality rates might be under repowering.
- As far as **performance towards achieving the 50% reduction** in fatalities, the Monitoring Team showed a PowerPoint slide summary (see M82) with the following information:
 - There is an overall reduction of 24% [from the 2005-2007 rolling average to the 2007-2009 average (ref. Table 3-10)]. Figures for the four focal species are:
 - Golden eagle, 48% reduction
 - Red-tailed hawk, 48% reduction
 - Burrowing owl, 41% reduction
 - American kestrel, 5.1% increase
- In regard to the **impact of seasonal shutdown**, the Monitoring Team showed a PowerPoint slide with the following information: there is evidence of an effect on red-tailed hawks, as the proportion of annual fatalities in winter is declining over time at turbines participating in seasonal shutdown (non-Diablo Winds turbines only). There is no clear evidence of an effect on the other three species.
- The report **concludes** that there is increasing evidence of a reduction in raptor fatalities in the APWRA since 2005, as installed capacity declined, hazardous turbines were removed and portions of the APWRA were repowered; there is some evidence

Shawn Smallwood said, if the estimate is going to be refined, it is important to focus on small raptors, as they are the biggest analytical problem. The SRC's decision is focusing on the problem.

Joan Stewart of NextEra asked if the monitoring is going to result in new mitigation actions. In response, Sandra Rivera of Alameda County said it is a matter of closing the books and being able to say that the best job has been done on adjustment factors, so the Monitoring Team and the SRC can say something about small raptors that they couldn't say before. The estimates may not apply to NextEra, because it is doing repowering, but the estimates are needed for the other companies. Jesse Schwartz of the Monitoring Team said the QAQC Study could potentially change the 50%, because small raptors are a big factor in the calculation.

Consideration of Proposed EnXco FloDesign Avian Safety Study Work Plan

Related Documents

[P223 Smallwood FloDesign Study Design](#)

Sandra Rivera of Alameda County explained that, under the plan being considered, the SRC would oversee the research and review whether the turbine design is an acceptable technology to potentially reduce avian mortality, and whether it is something that Alameda County should use.

Shawn Smallwood, who would conduct the study, reviewed P223, the proposal for the FloDesign study at enXco turbines at Patterson Pass. The proposal is to do a 2 to 3 replacement of the FloDesign 100 kW turbines for the existing 65 kW turbines. They would be in rows of 10 in a fairly small field. There would be gaps to ensure that fatalities were assigned to the correct turbine. The study would be a trial with a very small sample of 10. Results would not be definitive, but would provide information to support a recommendation on whether the technology should be encouraged or discouraged. He will assume that the technology does well if it kills zero or 1-2 birds and no raptors, and would recommend moving forward aggressively if those are the results. An eagle fatality would be a game killer, from his perspective.

In response to SRC direction, he has coordinated with the Monitoring Team and developed a before/after control/impact design. The proposal includes monitoring existing turbines. There would be four groups, a replacement group before/after, and a control group before/after. He has selected high-risk sites, where he estimates about 15 birds are found each year. It would start February 15 2012 and end November 1 2012.

In terms of behavior, he will look at birds seen per hour, reaction to rotor wake and the front of the turbine, if birds are flying through rotor zones, and estimated flight heights.

One question is how to handle seasonal shutdown. He would recommend no searches in winter during the seasonal shutdown.

One SRC member suggested checking bird behavior in winter as the turbines are turned on and off, and another suggested checking for perchability of the turbines in the middle of the winter shutdown.

In response to a question, he said he is proposing a change to a 60-meter search radius. He has developed a method that he has written up, but it hasn't gone through peer review yet.

SRC Recommendation on the FloDesign Study

The SRC approved the proposal as outlined in P223 Smallwood FloDesign Study Design, with a recommendation that the study include collection of behavioral data at the following points: the transition from operation to non-operation at the beginning of winter shutdown; at some point during the winter shutdown; and during the transition from non-operation to operation at the end of winter shutdown.

John Howe of FloDesign said a real value of this study would be if it was independently administered. As a private company, FloDesign would not be perceived as independent. In order to remedy this, FloDesign is prepared to appoint an independent administrator, or establish an independent board of advisors. There is an interest in avoiding adding bureaucracy. What should FloDesign do to ensure that the study gains acceptance? If the study shows bird strikes, the company wants to know that up front, so it could introduce the technology for performance advantages but not for bird advantages.

Sandra Rivera of Alameda County said the research is taking place under the CUP, and a partnership with the SRC in Alameda County is proposed, under which enXco and FloDesign will pay the cost of the study, but it would be administered through Alameda County with input from the SRC.

In response, an SRC member said it seems the SRC is performing that independent role, as it has reviewed and approved the study design and will be monitoring the study. There is no need for another oversight entity.

John Howe said his company is prepared to fund the study up to \$250,000. It does not look as if funding would be available through PIER or the National Wind Technology Center. The company is interested if SRC members have suggestions for other potential funding avenues.

Josh Lazarus of enXco echoed John Howe's comments, adding that the technology is an alternative that enXco would like to research and consider.

SRC Discussion of FloDesign Study Hazardous Turbine Issue

One SRC member raised the issue that the pilot study would include erecting turbines in high risk areas where turbines were removed based on SRC recommendations of high-risk turbine ratings.

In response, John Howe said the company has made a commitment to remove the turbines if it is determined they are risky site locations. If not, the company hopes to incorporate them into a repowering plan. He has met with Mike Lynes of Audubon and reviewed the study.

Shawn Smallwood said two turbines were removed from the study area that were in the range of 8.5 to 10 ranking. In addition, two turbines are scheduled for removal, with a ranking of 8.

An SRC member concluded that the step is not introducing a large amount of potential mortality, but it needs to be clearly understood that the step is being taken and it is inconsistent with what the SRC has done.

Next Steps

- Alameda County will communicate the hazardous turbine issue in this study to the other settling parties to see if it is a concern to them.
- Shawn Smallwood will communicate with Audubon and CARE representatives to make sure they are aware of the issue.

Weather Analysis

Related Documents

[P227 Orloff Weather Presentation September 2011](#)

Sue Orloff of the SRC reported on the research she did on weather to examine whether there might be any correlation with the unusually high avian fatalities seen in the 2006 bird year. She found daily precipitation information for Livermore and the Tracy Pumping Plant. In her research today, she hasn't found any consistent trends. SRC members raised the following possible hypotheses for weather interactions:

- High rainfall in December leading to large insect populations in January
- High rainfall in previous years affecting rodent populations
- High rainfall affecting the amount of time burrowing owls spent outside versus in their burrow
- Birds might fly more if there is a low prey base

Action Items

- Sue Orloff will consider developing a conceptual model and hypothesis to use in analyzing the data.

Reflections on SRC Milestones

Related Documents

[P224 Summary of SRC Milestones June 2010-11](#)

SRC Discussion on Recent Milestones

Facilitator Mary Selkirk reviewed P224, the summary of SRC milestones since June 2010, taken from key outcomes SRC members developed at the end of each meeting. In addition, she identified key themes from telephone conversations she had with SRC members in summer 2011:

- Each SRC member identified as a goal going forward to focus on the changing landscape in the Altamont with repowering

- A couple SRC members hope to have a comprehensive burrowing owl study completed by the end of 2012, and have an understanding by that time of how monitoring is going to proceed in a repowered environment
- There was satisfaction with the level of discussion among SRC members and the Monitoring Team
- Some had concerns that interaction with the Monitoring Team detracted from SRC discussions.

She asked SRC members to comment on milestones that they feel are important. SRC members identified the following:

- The SRC has developed a much better relationship with the Monitoring Team
- The group developed a method for considering whether winter shutdown had an effect, and it did
- The rolling average will make it easier to identify the impact of management actions on avian fatalities
- The analysis has gotten beyond the comparison with the original baseline and baseline study

SRC Discussion on Aspects to Carry Forward to Future

Mary Selkirk asked SRC members how the group would like to move forward in the next couple years. SRC members listed the following items:

- Determine mortality at new turbines. A subset of this will be to identify the impacted species, and whether they are different than the focal species now. It will be important to be in the forefront before full repowering occurs.
- Participate in the development of how the Monitoring Program needs to be modified, including the question of the frequency of monitoring.
- Make sure there are no problems with comparability between the two monitoring programs.
- Consider a new search radius for the larger repowered turbines.

Public Comment

Zack Walton of NextEra said the Attorney General's Office settlement agreement calls for 30% of repowered turbines to be monitored every two weeks and the rest monthly.

In terms of comparability, Zack Walton said the issue of the 50% applies to existing turbines, not to new turbines. The data and analysis won't be applied to repowered turbines. Those involved in the Settlement Agreement struggled with how to evaluate the new landscape, as there will be no more strings. For example, in Contra Costa, NextEra has gone from hundreds of turbines to 34. He doesn't know how easy or difficult it will be to identify if one turbine is problematic. If there are a couple of turbines with disproportionate fatalities, is that significant? And there will be no relocation or seasonal shutdown, as the large capital investment requires longevity. There could be fine-tuning of operations.

In response to a question, he and Renee Culver of NextEra said that information is not currently available on the configuration of repowered turbines and their proximity to old generation turbines. They will provide that information as it becomes available.

of time, and to assess management action effects. There will likely be a two-week search interval for the repowered turbines – should there be efforts to make current monitoring comparable to that?

SRC Discussion

In discussion, SRC members made the following points:

- The goal is looking at the 50% and continuing to tease out the effectiveness of seasonal shutdown
- If there is a new monitoring process in place for repowering, it would take a lot of coordination to identify what the reduction is. In response, Sandra Rivera said it would be useful to see the effect of repowering. One question the settling parties will need to decide is, if the 50% is met, whether monitoring is still needed.
- When there is a change in protocol, it is helpful to run both the old and new protocols simultaneously so the relationship between their respective data can be understood, to apply the new system to the old generation turbines. We need data for the change in protocol. We have to, or we will lose all of our data.
- If the only aspect that is different is the search radius, then the only issue is searcher efficiency. If Shawn Smallwood is correct that the search radius isn't big enough, there could be a bias on the new turbines. It is a different issue than comparability. Jesse Schwartz of the Monitoring Team responded that the great majority of detections are within the search radius, and the question is how many fall outside of that radius. A straw man proposal is for the Monitoring Team to develop an analytical proposal in regard to search radius.
- If the search radius is okay now and there is an increase in the search radius which captures the same distribution of fatalities as the old radius, then it's the same method, and there would not appear to be a bias.
- In one SRC member's studies, topography overshadowed every other factor.
- An SRC member asked the Monitoring Team if it would be possible to extrapolate biweekly-interval data back to comparative monthly-interval data. The response was yes, but with a smaller search interval, there will be more bleedthrough.

Public Comment

Shawn Smallwood said he has about 10,000 records with the distance of carcasses from turbines. He believes many of the radii may be a bit short. It is okay, but we need to account for what we are missing, to quantify the effect. Searchers didn't go beyond what they thought was reasonable to see if there were more carcasses there.

SRC Recommendation on Goals and Objectives for the Monitoring Program

The SRC considered Monitoring Program goals and objectives going forward, in the context of the transition to a repowered APWRA environment, and recommended that the Monitoring Team:

1. Continue to measure success toward a 50% reduction of fatalities of the four focal species
2. Assess the feasibility/utility of deriving a correction factor to assure comparability between the current Monitoring Program analysis and monitoring of new repowered turbines
3. Investigate causes of burrowing owl fatalities

In regard to number 2, an SRC member asked that the Monitoring Team prepare a proposal indicating, if a correction factor is necessary, what it should be, or if it is not necessary, what the data is to support that conclusion.

Future SRC Meetings

For the coming year, the SRC will be busy through mid-2012. The final EIR for NextEra repowering is expected in mid-2012. Alameda County ended the HCP/NCCP process, because there was insufficient participation from the resource agencies.

In-Person Meetings

- **December 12-13, 2011. Topics:**
 - Avian Bat Protection Plan
 - Final monitoring report status
 - Burrowing owl distribution/abundance study results
 - Proposal for 2012 monitoring
- **February 2012, tentatively February 16-17. Topics:**
 - Final report QAQC data/fourth quarter 2011
 - Burrowing owl report
 - Draft repowering EIR

Documents Circulated at Meeting

P100_SRC Document List with Reference Numbers

[M73 2005-10 Monitoring Report](#)

[M82 Altamont Monitoring Report September 2011 Presentation Slides](#)

[P225 Alameda County - SRC Guidance on AWI 2011-2012 Seasonal Shutdown Waiver](#)

[P196 SRC Meeting Summary December 2010](#)

[P208 SRC Meeting Summary June 2011](#)

[P212 SRC Call Notes 7-5-11](#)

[P221 SRC Call Notes 8-11-11](#)

[P222 Yee More QAQC Simulation Analyses](#)

[M83 Small Raptor Probability of Removal Analyses](#)

[P223 Smallwood FloDesign Study Design](#)

[P227 Orloff Weather Presentation September 2011](#)

[P224 Summary of SRC Milestones June 2010-11](#)

SRC Meeting Participants

SRC Members Days 1 & 2

Joanna Burger

Jim Estep

Mike Morrison

Sue Orloff

Julie Yee

Staff

Sandra Rivera, Alameda County, Days 1-2

Andrew Young, Alameda County, Day 1

Mary Selkirk, Facilitator, Days 1-2

Ariel Ambruster, Associate Facilitator, Days 1-2

Monitoring Team

Doug Leslie, Days 1-2

Jesse Schwartz, Days 1-2

Brian Karas, Days 1-2

Others

(Meeting sign-in is optional)

Renee Culver, NextEra, Days 1-2

Chris Dreiman, enXco, Day 2

Jim Hopper, AES/SeaWest, Days 1-2

John Howe, FloDesign, Day 2

Josh Lazarus, enXco, Day 2

Ryan McGraw, AWI, Day 1

Tara Mueller, State Attorney General's Office, Day 1

Bob Power, Santa Clara Valley Audubon Society, Day 1

Shawn Smallwood, Days 1-2

Joan Stewart, NextEra, Days 1-2

Zack Walton, NextEra, Day 1

Mark Welther, Golden Gate Audubon, Day 1

List of SRC Agreements Developed September 26 & 27

(Compiled from this document)

SRC Recommendation on AWI Request for a 2011-12 Seasonal Shutdown Waiver

SRC members developed the following recommendation:

Guidance to Alameda County on the scientific issues relevant in considering the AWI request for a seasonal shutdown waiver for the 2011-12 winter season.

As Alameda County weighs the AWI request for a 2011-12 seasonal shutdown waiver, the County should consider the following scientific considerations:

1. Per the Monitoring Team September 2011 Final Report (M73), implementation of seasonal shutdowns has been successful in reducing red-tailed hawk winter fatalities by more than half (from 35% of annual fatalities in 2005 to 15% in 2009, based on Figure 3-10 regression trend).
2. Other species (American kestrel, burrowing owl, golden eagle) show no clear signal of either reduction or increase in fatalities during seasonal shutdown.
3. Issuing a waiver to AWI for the 2011-12 season could increase bird fatalities because of the intermixing of operating and non-operating turbines in close proximity, thus potentially erasing any gains from seasonal shutdown.
4. Allowing for a waiver for AWI would make analysis of seasonal shutdown avian fatality reduction and overall annual fatality reduction extremely difficult.
5. If Alameda County were to issue a waiver to AWI, the SRC concludes that the entire Monitoring Program design would need to be reconsidered in light of the fact that AWI turbines are interspersed throughout the Altamont Pass Wind Resource Area with other turbines subject to the seasonal shutdown requirement.
6. Since there is a measurable positive effect from seasonal shutdown on reducing red-tailed hawk fatalities, supporting the issuance of a waiver would violate the mission of the SRC.

AWI did not have the most recent analysis of red-tailed hawk fatality declines with seasonal shutdown when the company made its request. The SRC acknowledges that AWI's request for waiver on seasonal shutdown was submitted before the Monitoring Team's September 2011 Final Report was published.

SRC Recommendation on the QAQC Study

The SRC unanimously supported the following recommendation proposed by the Monitoring Team for continuation of the QAQC Study:

- The study should be continued through the first three months of the 2011-12 bird year, through the end of 2011. This would be half the cost of the existing QAQC Study
- The goal is to work up to a total of 50 records in the QAQC Study for small raptors
- The study will focus only on small raptors
- The interval will be two weeks

- Sampling will be blind
- Carcasses will be fresh, small raptors
- Carcasses will be left out for 90 days
- The study would include a total of three sites of 50 turbines each
- Searches would occur on Days 1, 15, 30, 60 and 90
- The study would abolish field manager post searches and replace with status checks

One SRC member qualified support for the vote with the addition that there be consideration of any follow-up when the SRC takes up the issue again in December and January.

SRC Recommendation on the FloDesign Study

The SRC approved the proposal as outlined in P223 Smallwood FloDesign Study Design, with a recommendation that the study include collection of behavioral data at the following points: the transition from operation to non-operation at the beginning of winter shutdown; at some point during the winter shutdown; and during the transition from non-operation to operation at the end of winter shutdown.

SRC Recommendation on Goals and Objectives for the Monitoring Program

The SRC considered Monitoring Program goals and objectives going forward, in the context of the transition to a repowered APWRA environment, and recommended that the Monitoring Team:

1. Continue to measure success toward a 50% reduction of fatalities of the four focal species
2. Assess the feasibility/utility of deriving a correction factor to assure comparability between the current Monitoring Program analysis and monitoring of new repowered turbines
3. Investigate causes of burrowing owl fatalities