

DRAFT Meeting Summary | June 14-15, 2010 Altamont Scientific Review Committee

Developed by the Center for Collaborative Policy
Reviewed but not yet approved by the SRC.

SRC Members Present:

Joanna Burger
Jim Estep
Shawn Smallwood
Julie Yee

Key Outcomes

- The Altamont Pass Scientific Review Committee (SRC) developed recommendations on plans for adaptive management, available on the SRC website at [P167 SRC Recommendations on Adaptive Management Proposal](#). The County will forward the SRC recommendations to the East County Board of Zoning Adjustments when it considers the Adaptive Management Plan at its July meeting.
- The SRC also conducted a preliminary review of the Draft Study Plan for Future Monitoring (M53). This review will continue over the summer.
- Lastly, the SRC finalized the Hazardous Turbine Relocation Guidelines (P70) and multiple meeting summaries.

Action Items & Meeting Follow-Up

Party	Due Date	Action
SRC	6/22	Submit comments on draft study plan for future monitoring
Jim & Shawn	7/1	Add burrowing owl section to P70 Relocation Guidelines
Jesse		Share federal recommendations on monitoring & wildlife, add citation to draft study plan
Joanna & Jim	July	Prepare draft of avian mortality terms
CCP	7/23	Update P70 to remove track changes
CCP	7/23	Revise P151 per SRC direction

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Meeting Account

Welcome & Meeting Overview

Sandra Rivera of Alameda County introduced Mary Selkirk of the Center for Collaborative Policy, who will be taking over from Gina Bartlett as facilitator for the Scientific Review Committee after this meeting. Gina Bartlett facilitated the meeting.

Announcements & Updates

Sandra Rivera of Alameda County provided the following updates:

- The Adaptive Management Plan proposal on this meeting's agenda, once it incorporates SRC recommendations, will go to the East County BZA on July 8 or July 15.
- Since the last conference call meeting, the wind companies have agreed to continue funding for current monitoring until the new bird year begins on October 1. Continuing existing monitoring will allow for a complete data set for this bird year.
- In regards to the Conservation Plan, companies are contributing to wildlife agency staffing, so they will be engaging again.
- In regards to the potential CalWEA adjustment factors study, Brian Karas, Monitoring Team member and County Compliance Monitor, said he has been in discussion with CalWEA, and they have not finished the study design or design of the pilot study, which would be contingent on approval of the County and the SRC. Sandra Rivera said the agreement is that the design will be completed, and SRC approval will be sought, before the pilot study is begun. One of the purposes of the pilot is to reduce the cost to the Monitoring Team in coordinating with the study, and to assess issues related to the study design.

- The notice of preparation for the EIR is expected in July or August. The focus of the EIR will primarily be repowering, but will also cover operation and maintenance of existing turbines.
- The Monitoring Report is due out near the end of June. The Monitoring Team needs some input. The SRC liaison subcommittee has not yet met, but will if there are outstanding issues.

Facilitator Gina Bartlett reviewed the agenda topics the SRC can expect for the remainder of the 2010 year and for 2011.

Remainder of 2010

- Finalize study plan for future monitoring
- Finalize Monitoring Report

Items for 2011

- The impact of configuration changes on hazardous turbine ratings
- Reviewing the data on ongoing monitoring
- Other potential studies (including burrowing owl studies)
- SRC input into the EIR

SRC Review and Recommendation on Proposed Adaptive Management Program

Related Documents

[P163 Alameda County Adaptive Management Plan Proposal II](#)

[P165 NextEra Memo on Audubon-Requested Information](#)

[P161 Smallwood Assessment of AMPs](#)

[P166 NextEra Memo on Smallwood AMPs Assessment](#)

[P156 Alameda County Adaptive Management Plan Proposal with Attachments](#)

SRC members in April reviewed three separate Adaptive Management Plan proposals, a proposal developed by Alameda County, a proposal by the wind company settling parties, and a proposal by Audubon. The SRC made numerous comments on the proposals in April. Since that time, Sandra Rivera of Alameda County said the settling parties have been unable to come up with an agreed-upon joint proposal. The County has subsequently modified the April version of its proposal for discussion during the June meeting to:

- Allow for later removal of HRT 8.0 turbines, 2012 rather than 2011.
- Establish a new caveat that turbines ranked 8.5 and 8.0 would be removed with an SRC review of on-the-ground conditions.
- Language was added to reflect SRC discussion on elimination of high risk sites and situations, rather than just removing turbines.

The SRC is being asked to provide a written recommendation on the adaptive management plan proposal. SRC recommendations will be included in materials submitted to East Bay BZA in July. Rivera asked that the SRC base its recommendations on the County's draft proposal.

Public Comment

Bob Power of Santa Clara Valley Audubon said he was not comfortable with the recommendation that the SRC use one plan as the basis for its recommendations.

Emre Ergas of NextEra asked if SRC members could be as specific as possible about measuring a 50% decline in avian mortality compared to baseline, including what time period, what start point, what endpoint, what measurement, and what expected results.

SRC Initial Discussion

In an initial discussion on the latest adaptive management plan proposal, SRC members raised the following points:

- In section 4b, what is the definition of "timely removal"? In response, Andrea Weddle of the Alameda County Counsel's Office said this means the action must occur by the date previously identified. SRC members can change the wording as they wish.
- In section 5e, increasing the search interval is discussed, but the SRC has strongly recommended against that because it would make it difficult to interpret monitoring data. Sandra Rivera agreed that that item should be removed.
- In section 6, there is a logic problem, a chicken and egg problem, in that the turbines cannot cease operation until the reduction in mortality is known. In response, County officials said, for each section, there is a date by which the avian reduction is to be determined. Removal is to occur during seasonal shutdown. An SRC member said it can take considerable time to process the data and conduct the analysis. It will be important to develop a set methodology that is applied.
- An SRC member asked how important it is that the 50% reduction in mortality be achieved soon. The way the proposal is written, it creates the expectancy that the reduction may not happen.
- Burrowing owls are an important issue in this discussion. There is insufficient understanding about the causes of burrowing owl mortality around wind turbines. The proposal should add information on what the studies are going to do. The SRC agreed that its initial study design needed to be updated and focused.
- In regards to hazardous turbine ranking, it may be better to look at hazardous strings, rather than on a single-turbine basis.
- Adaptive management should have feedback from monitoring to inform decisions at each step. We don't know the effects of management actions. It gets difficult to develop a set of recommended actions without the proper analysis of what they are anticipated to achieve. It would be helpful to have a clear process for how actions are going to inform the next management steps. It would be helpful to have the settling parties provide the risks as far as how much mortality is acceptable given a certain energy output. Science could provide the answer to how to minimize the expected loss.

Review of Smallwood and NextEra Reports

SRC member Shawn Smallwood reviewed his assessment (P161 Smallwood Assessment of AMPs). He was surprised to discover that relocations wouldn't accomplish sufficient mortality reductions, because of the overwhelming and somewhat confounding influence of burrowing owl fatalities. We first need to understand these fatalities and what fraction is

caused by turbines versus predators. This is still a crude analysis, with no confidence intervals. His assessment indicates the goal of a 50% mortality reduction would not be achieved until eight years, even with the Audubon/CARE plan. The assessment used the last four years of the current study as baseline because the SRC and Monitoring Team concluded that the fatalities were not different between the 1998-2002 and 2005-2009 periods. The original baseline does not have as many turbines monitored, so the current study provides a better data set for comparison. He tried to make adjustments for removal of vacant towers and for seasonal shutdown, by looking at mortality changes in December when all turbines were shut down. He would favor repowering as a management action as fast as possible, given the conclusions of the assessment.

SRC members discussed what role they thought the assessment could play in their analysis and recommendations.

One SRC member said, like all the reports, it is subject to questions about assumptions. Most of the fatalities are burrowing owls. If none of the burrowing owl fatalities are due to turbines, they could be eliminated. The analysis is going around in circles because of this unanswered question. This underscores the importance of conducting the burrowing owl studies.

Another SRC member said the assessment has utility, but it's not clear how it could be used.

An SRC member said the burrowing owl issue would be solved if repowering eliminates burrowing owl fatalities. However, the effect of repowering on burrowing owls is still unclear.

Emre Ergas of NextEra discussed his memo (P166 NextEra Memo on Smallwood AMPs Assessment). The analysis uses raw fatalities, without searcher detection or scavenger removal scaling. It used the 2005-09 period as a baseline, but scaled to the number of turbines in the baseline study period. The important factor is that mortality is trending down. However, burrowing owls are still a problem. He would recommend using a moving average to analyze the 50% reduction – look at if the last three years showed a 50% reduction.

An SRC member said it can be difficult to interpret mortality figures because of interannual variation. For example, mortality in the 2005-06 year was low, but interpretation requires an understanding of bird abundance.

SRC members said they can see the logic in using a three-year running average to smooth out the interannual variation. The running average could be looked at annually to help inform whether management actions are on the right track.

Zack Walton of Downey Brand said, until the settling parties agree to replace the baseline in the settlement agreement, it remains at 1300.

Hazardous Turbine Ranking

One SRC member said the hazardous turbine ranking indicated the existing condition at each turbine site and care should be taken during removals or relocations to avoid inadvertently creating new risky situations. Rather than removing turbines solely on the

basis of their risk category, the site conditions should be assessed to determine the best means of reducing risk at that location.

Another SRC member said it's important to remember that the hazardous turbine ratings did not consider burrowing owl situations. If burrowing owl mortality is not addressed, it will never be possible to get a 50% reduction for the four focal species.

Zack Walton of Downey Brand asked if it makes sense to look at hazardous turbine removals, as Smallwood's assessment shows that in eight years, 1% or less of the reduction comes from hazardous turbine removals.

An SRC member said removal, instead of relocation, may get the best effect, from 6-13%. The issue is that burrowing owl fatalities are confounding the effectiveness of the management actions. Since turbine rankings did not take into account the locations and behavior of burrowing owl nesting areas, it is difficult to assess the effects of removing hazardous turbines. Burrowing owls may still be at risk at turbines ranked low hazard by the SRC. The 2005 tier rankings, on the other hand, work well for burrowing owls, but not for other species.

Another SRC member said, intuitively, removing turbines from clearly risky locations should make a difference.

An SRC member said there may be merit to relocations if they're done carefully. Perhaps a map of burrowing owl hazard zones could be developed, with relocations to avoid those areas. Other elements would need to be incorporated into the relocation guidelines.

SRC members agreed that removing turbines ranked 9 and 10 would be important to reduce risks to birds.

Key Focus of the AMP Proposal

One SRC member reemphasized that the focus of the SRC's recommendations is repowering. In addition, include removal of hazardous turbines, or relocation with more care, to areas that are not high-risk or burrowing owl zones. Repowering provides a good balance between birds and energy production, because of the huge difference in power output with the new turbines. Power output can be increased in concert with an 80% reduction in fatalities for the focal raptor species.

However, since the timeline for repowering is unclear, SRC members said it was important to reduce mortality at existing turbines as much as possible.

SRC members agreed that their recommendation could state that the SRC's overwhelming view is that repowering should be considered ASAP with all consideration given to appropriate siting. In the interim, the recommendation is for hazardous turbine removal and winter shutdown.

One SRC member said it would be preferable to continue with the same recommendation for hazardous turbine removal/relocation, as there is really no new information.

Public Comment

Emre Ergas of NextEra said his company uses removal to the greatest extent. Relocations are to a failed turbine site, not a new site. He doesn't see a large difference between the effects of relocation and removal. Secondly, he would like the SRC to consider granting credit for removing turbines that are not required to be removed.

Nan Leuschel of Ralph Properties suggested that perhaps a higher priority could be put on repowering at sites with burrowing owl populations. That way, perhaps the studies on burrowing owls would not have to be undertaken.

Mike Lynes of Golden Gate Audubon urged the SRC not to be so worried about repowering. Let the policy folks figure out how to make repowering happen expeditiously. As far as the credits, Audubon is interested in talking about how those would work. If the SRC thinks they can work, his organization is amenable. Their concern is that, in the past, they have been a game. It will be important to make sure that they are real.

Ryan McGraw of AWI asked that the SRC take into account the effects of the Alameda County permit mandate. By 2013, 35% of AWI's capacity will be gone.

Zack Walton of Downey Brand said he is concerned about the confounding nature of burrowing owls. What would mortality be if the burrowing owl aspect was eliminated -- how effective would the management actions be?

An SRC member responded that the SRC is charged with reducing mortality for the four focal species.

Another SRC member supported a clause about trading options. Removing a large number of turbines for repowering could create a large open zone, which might have a beneficial effect for birds. Perhaps the SRC should consider a strategy to evaluate entire turbine strings to create broad corridors for birds to fly through – by removing strings with several hazardous turbines, and creating flight corridors for birds.

One SRC member said there continues to be merit in removing only a portion of a string.

Among the possible criteria for looking at relocation sites, SRC members listed burrowing owl absence, topographic issues such as owl habitat, filling gaps, a ranking of less than five, and use of a predictive model such as that used with Vasco Caves.

Public Comment

Renee Culver of NextEra suggested adding historical mortality data to the analysis of relocation sites. Burrowing owls were not considered in the rankings, and the topography that was considered for rankings is not typical burrowing owl habitat. We cannot say anything about burrowing owl risk with the hazardous turbine rankings. We may be over complicating something we have no confidence in.

Emre Ergas of NextEra said requiring removals could take a significant amount of production. The wind companies have contracts with landowners, and they can't remove all of a landowner's turbines.

Credit for Removing Turbines

Emre Ergas of NextEra said his company would like to remove 56 8.0-rated turbines rather than the 21 8.5 turbines. He suggested that the credit be based on the fatality per turbine proportion.

Zack Walton of Downey Brand said NextEra is on track to have repowered turbines up by the end of 2011. The timing is contingent on getting approvals. The old turbines would be taken down from February to May 2011. The project area now has 435 turbines, and under repowering would have 35. In 2004, the area hosted 650 turbines. Some have been removed in anticipation of repowering. Repowered turbines would be 480 feet to blade tip. NextEra coordinated with Shawn Smallwood to develop a model based on Vasco Caves for siting.

Bob Powers of Santa Clara Audubon asked what would happen if the program and the credits led to no reduction in mortality.

Zack Walton of NextEra said that, under the settlement agreement, if there is no 50% reduction, actions need to continue to be taken.

Mike Lynes of Golden Gate Audubon said he would want to see it penciled out, but is amenable to the 8.5 turbines being in place for one more year, if at the end of the year, they come out for good.

One SRC member said any incentive for repowering is good.

Emre Ergas of NextEra said it is important to test out the assumptions. The plan to repower will cost approximately \$200-\$300 million on one project. The company needs to make sure it makes its investment back and solves mortality issues.

SRC members discussed possible approaches to the credit, including granting credits on a two to one basis, in line with the NextEra proposal, or other qualitative approaches. Another approach would be to attempt to establish a quantitative rationale for credits. Credits could be offered for repowering only, or for removing turbines to create open corridors for bird flight.

One SRC member questioned whether developing a credit approach is in line with the SRC's mandate, because crediting is typical of regulatory or enforcement roles and the SRC is not a regulatory body. Two other SRC members said it would be, as it would be providing a mechanism to aid in the reduction in avian mortality.

Public Comment

Bob Power of Santa Clara Valley Audubon said he would love to see the results of giving the credit penciled out, as well as the projected net effect on raptor mortality, so the credit for the wind companies corresponds to the credit for birds.

Renee Culver of NextEra suggested perhaps giving a credit for a dangerous cluster. The wording is now for individual turbines.

Ryan McGraw of AWI said that in Alameda County, multiple companies operate in one spot. He asked the SRC how that situation would play out in terms of the credit for opening corridors.

Chris Dreiman of enXco said his company may be removing turbines because of a land lease issue, so there would be no net gain. It would be helpful if this action could qualify for a credit.

Kris Davis of Drinker Biddle asked why the credit would be tied only to repowering. Wind company representatives asked what the definition of "corridor" would be for the purpose of credits. SRC members suggested that a corridor is an area for flight activity, a safe flight pathway that allows for unimpeded movement and low risk for turbine-related mortality.

Andrea Weddle of Alameda County suggested that the SRC agreed to a general recommendation about the concept of a credit. The County can develop language indicating that the SRC would consider credit. The issue could go back to the SRC for more detail at a later date.

SRC Discussion on How to Measure a 50% Reduction

Public Comment

Zack Walton of Downey Brand said he hopes all the parties can come to agreement on a new framework, as it's obvious to everyone the framework doesn't work.

Kris Davis of Drinker Biddle said, under the current framework and approach, his clients ask him how many birds their turbines are taking, and he can answer the question.

SRC Discussion

SRC members discussed the idea of establishing a new baseline for measuring a 50% reduction in raptor mortality, using an annual mean from the current study period. This would be accomplished using three-year running average to determine if a 50% reduction has occurred. During the discussion, the following points were made:

- A baseline based on multiple years of data would help smooth out fluctuations in the population trend caused by interannual variation. This is a procedure used by many population trend studies.
- There is little difference in fatality rates between the current and the baseline studies, but the current study includes more even spatial distribution and regular searches.
- The new baseline would be calculated from the current study in the spirit of representing the original baseline (1998 -2003) period.
- The 1998-2003 baseline information would be retained and used where helpful.
- The new baseline should be adjusted to account for the mitigation measures that were implemented during the current study, so that this mitigation would be recognized in its contribution to the 50% reduction.
- For example, the effect of winter shutdown can be seen in December. Use Diablo Winds, Buena Vista and Tres Vaqueros to adjust for repowering.

- While using the last four years of the current study would incorporate more information to achieve greater precision, a significant amount of mitigation occurred in the last year with hazardous turbine removals, so more adjustment would be required. It might be better to use the first three years of the current study for the baseline.
- Abundance data should be factored into the metric where possible. Caveats: we will not have good abundance data for burrowing owls, and the abundance data will not be available for the current monitoring report.
- Abundance data could be incorporated to develop an abundance-adjusted fatality rate: fatality rate divided by the abundance of birds.
- Look at the changes in mortality for the three species, minus burrowing owls, attributable to wind power. A burrowing owl study is needed to investigate fatalities of this species. As a check on whether the measures are successful, look at the three species, using a weight of evidence approach.
- Where there are information gaps, use fatality rates by turbine size.
- Do not redefine the baseline each year – have a static baseline.
- The figures would be adjusted for scavenger removal and searcher efficiency.

Public Questions

Mike Lynes of Golden Gate Audubon said the settling parties want numbers of fatalities per year. Is that achievable? Is there a window within a confidence interval that can be agreed upon? He suggested using the annual numbers for each species, and putting them together. Know to look at burrowing owl figures with a jaded eye. The challenge is to make sure the baseline numbers don't become squishy. The SRC could come up with a definition, and the settling parties can comment on it.

Bob Power of Santa Clara Valley Audubon asked that the SRC make as inarguable a system as possible.

SRC Consensus Recommendations on Adaptive Management Proposal

SRC members agreed that language should be added to the plan that there are no assurances that the goals are going to be achieved. If the 50% fatality reduction goal hasn't been reached, then actions are to be identified to achieve the goal.

In this section in which the SRC is to recommend "after analyzing field monitoring data," SRC members agreed to change the language from "analyze" to "review."

Facilitator Gina Bartlett and SRC Member Julie Yee created a draft set of consensus recommendations based on the June 14 discussion. On June 15, SRC members and the public reviewed and revised the draft. The County will incorporate the SRC recommendations into its adaptive management plan proposal for consideration by the East County BZA.

The SRC¹ reviewed and approved P167, a document listing the following SRC consensus recommendations on the proposed Adaptive Management Plan:

¹ SRC Member Susan Orloff did not participate in developing these recommendations due to illness.

The Scientific Review Committee (SRC) reviewed the County of Alameda's proposed plan at the SRC public meeting on June 14-15, 2010. The County of Alameda requested that the SRC review and provide recommendations on the County's proposal (P163_Alameda County Adaptive Management Plan Proposal II, 06-07-2010). The SRC received and considered elements of the two other proposals submitted by the settling parties. Because the settling parties were unable to reach agreement on adaptive management, the SRC considered the various proposals striving to balance the interests of wildlife and wind power. Some of the settling parties participated in the public meeting and discussion on these recommendations.

The SRC provides these recommendations on repowering, hazardous turbine removal, additional studies, and methodology for measuring 50%. The SRC cannot provide assurances that the management actions proposed in the Adaptive Management Proposal will achieve a 50% reduction. The plan can provide a framework to evaluate the 50% reduction and potential subsequent actions if the 50% reduction has not been reached.

Repowering Primary Strategy

The Scientific Review Committee reiterates its recommendation that **repowering with careful turbine siting is the primary strategy to reduce avian mortality** toward a 50% reduction and should move forward as quickly as possible. Without repowering, then the SRC recommends seasonal shutdown and hazardous turbine removal.

Hazardous Turbine Removal

Strategies based on high risk turbine removals should take into consideration the configuration of turbines after the removals. For example, the removal of a HRT ranked moderately high (<9) could create a gap which increases the collision risk of neighboring turbines and discounts the benefit of removal. The plan should aim to remove high risk *situations*, and removals of HRTs ranked <9 should be examined case-by-case. For HRTs ranked 9 through 10, the collision risk is considered sufficiently high that they are always recommended for removal.

Following the relocation guidelines and filling gaps when possible is part of the relocation evaluation. Consistent with the existing proposal, the SRC and staff should periodically re-evaluate turbine rankings to consider how the configuration at the time of the evaluation might change the hazard ranking of turbines. The configuration shifts frequently as part of regular wind company operation, but would also be affected by filling gaps, removals and relocation established through the proposal.

Relocations should also be evaluated on a case-by-case basis, and should avoid areas with burrowing owls as well as HRT addresses.

Credits can be applied to HRT removals when lesser HRTs are removed for repowering and for creating safe flight paths (corridors) and more open space for

foraging. Similar credits can be considered for other contexts besides repowering if they create safe flight paths and open space for foraging.

Burrowing Owl and Adjustment Factor Studies

The SRC recommends that the plan heighten the importance of the burrowing owl study and adjustment factor study since these studies are essential to improve understanding and ultimately reduce fatalities. Burrowing owl fatalities have been very significant in the mortality rates. The burrowing owl study is just as important as the monitoring plan for analyzing and interpreting trends and for informing repowering. The management plan should make the burrowing owl study high priority.

Omit the item under 5.e.ii. The search interval should remain set at 30 days.

Methodology for Measuring 50%

The SRC would recommend shifting the methodology to measure 50% reduction for the purposes of this monitoring program.

The 50% reduction should be evaluated annually by comparing mortality estimates between:

- 1) a recommended new baseline defined using the first 3 years of the current monitoring program (bird years 2005-06, 2006-07, 2007-08), and
- 2) A running average based on the last 3 years. For example, at the end of 2010, the average of bird years 2007-08, 2008-09, and 2009-10 would be compared with the recommended new baseline.

The 50% reduction should be evaluated separately for the four focal species.

The recommended new baseline (2005-2008) is considered to have had similar fatality conditions as the original baseline period (1998-2003), and the recommended new baseline does not rely on assumptions about the uneven sampling in the original baseline study. To the extent possible, the recommended new baseline will be adjusted upward to offset reductions from mitigations occurring between 2003 and 2008, for the purpose of better representing the baseline period.

Each year that the 50% reduction is not met, then the SRC will recommend management actions determined to most effectively reduce fatalities, at a level commensurate with the remaining difference. In order to inform the SRC's recommendations, the County should provide complete information on the management actions conducted to date (i.e. when, where, and which turbines removed or relocated).

The SRC recommends that the metric for measuring a 50% reduction be scaled by bird abundance, as soon as bird abundance data are available.

Hazardous Turbine Ranking

Related Documents

[M51 APWRA Hazardous Turbine Ratings](#)

[P153 Smallwood & Estep Additional Hazard Ratings](#)

[P70 SRC Hazardous Turbine Relocation Guidelines](#)

The SRC Field Rating Subcommittee (Jim Estep and Shawn Smallwood) conducted a field visit the week of March 8 to rate previously unrated turbines. They presented their work at the SRC in-person meeting in April. Since then, they revised their latest ranking report, P153, and have provided recommended edits to the P170 Relocation Guidelines, as the SRC asked in April. In addition, SRC Member Julie Yee helped identify any discrepancies between Monitoring Team and Subcommittee data sheets from the March field rating visit, which helped the Monitoring Team and Subcommittee to resolve those discrepancies.

The SRC accepted the changes to P70 and P153, and thanked Subcommittee members for their work.

Meeting Summary Approval

Related Documents

[P130 SRC Call Notes 8-13-09](#)

[P131 SRC Call Notes 8-20-09](#)

[P151 SRC Call Notes 2-22-10](#)

[P152 SRC Call Notes 3-1-10](#)

The SRC approved meeting notes for the August 13, August 20 and March 1 conference call meetings as written (P130, P131, P152). The meeting notes for the February 22 conference call (P151) were approved with one change: The SRC Subcommittee of Julie Yee and Shawn Smallwood will be referred to as the Monitoring Team Liaison Subcommittee to avoid confusion with a second SRC subcommittee focusing on field ranking.

Draft Study Plan for Future Monitoring

Related Documents

[M53 Draft Study Plan for Future Monitoring](#)

[M52 Future Monitoring Scope and Costs](#)

[P90 SRC Burrowing Owl Study Plan](#)

Sandra Rivera of Alameda County said the goal is for the SRC to review and provide comments on recommended changes to the Draft Study Plan for Future Monitoring (M53) this summer, so that the plan can go before the Board of Supervisors for approval in September, to implement for the new bird year that starts October 1. Monitoring Team members suggested the design should be finalized 4-6 weeks prior to implementation, near the end of July.

Doug Leslie of the Monitoring Team said the Team believes this plan is the best way to reduce costs, retain statistical power and continue to provide a good estimate of an annual mortality rate. It would have the same statistical power as current monitoring, maintains

comparability, and saves money that could go toward other research priorities. He would like the study plan to be thoroughly vetted by the SRC and Team members.

Doug Leslie made two clarifications to this draft:

1. It was a mistake to include collection of bird behavior data as part of the core study plan, and should instead be considered optional, or as a new study for the SRC to consider and prioritize.
2. The approach to estimating adjustment factors is an optional proposal to try to get at detection probability directly. It is up to the SRC to decide whether to recommend funding this approach.

Jesse Schwartz of the Monitoring Team said the draft incorporates relevant recommendations from the newly released Federal Advisory Committee (FAC) recommendations on best practices. He strongly urges SRC members to review these recommendations, which he sees as a new industry standard.

In response to a question, Schwartz said he would deal with turbine presence and absence through a spatial balance in sampling and a rolling panel design to avoid random bias. The Team would need to sit down with maps with the SRC and industry to develop an annual implementation plan with the intent that the turbines chosen for that year would not be up for decommissioning during the monitoring timeframe. Monitoring team members said status updates from wind companies could be incorporated at determined intervals. The monitoring team should work with the companies to standardize information at least quarterly in regards to operating and removed turbines. Monitoring team and wind company records now exactly match, so coordinating should be easier in the future.

SRC General Feedback on Draft Study Plan

SRC members first provided their overall reactions to the study plan:

- One SRC member likes the approach and feels the plan has a good chance of meeting goals. There are still some issues about how to address the shifting landscape.
- Another SRC member liked a lot of the study plan. However, the SRC first needs to know what the management plan will be in order to properly design the monitoring plan.
- Another SRC member said it is a good overall plan, and likes the rolling panel design. Bird abundance needs to be a part of the design, and the design should address repowering.
- Another SRC member liked almost all of the elements. It will be important to discuss the details to understand how the plan will be implemented on the ground. However, there are some concerns about the rolling panel, as there would be a long search interval right before a search, and a higher likelihood of finding old fatalities after the clearing search. The adjustment factors study will be very important in order to compare to the baseline study 2000-03 period. If the current study is used as the baseline, and a 30-day search interval is maintained, it will not be as important. It will also be important to prioritize bird abundance.

Two SRC members said the study plan should add an evaluation of repowering, and emphasize repowering is a primary goal. However, Monitoring Team members said they don't have a management plan for repowering to base a monitoring plan on. The plan therefore is focused on monitoring annual mortality at existing turbine sites. In addition, there would need to be a repowering plan on the table to design around.

Public Comment

Zack Walton of Downey Brand said post-construction monitoring will be required at repowered turbines. One thing to keep in mind is that CEC guidelines call for a search every other week. The wind companies believe there is enough evidence now that repowering reduces avian mortality. Rather than monitoring repowered turbines versus other turbines, a more important goal will be to study how repowered turbines perform against each other. Once in, they will stay in, so the goal should be to identify problematic sites and not problematic turbines.

In response, one SRC member said, as long as the plan has a goal of a 50% reduction in mortality, monitoring will have to measure the reduction repowering is producing towards that goal.

Renee Culver of NextEra asked what would happen if repowering happens very quickly. In response, Jesse Schwartz said, as soon as it looks like a possibility, a plan should be developed with the number of turbine types to be monitored. The Team will have to increase the percentage of turbines sampled as those numbers decrease in order to maintain the sample.

SRC Comments on Sampling

One SRC member concurred with the concern about clearing searches, and whether this might magnify existing problems with sampling. Another SRC member was comfortable with this, because the KB study is available for use.

Jesse Schwartz said the recommendation is for the rolling panels to monitor an area for one year. It assumes that the clearing search is successful, and he strongly recommends, as does the FAC, the use of dogs, to obtain a clear site, or a group of people combing the site to clear it. One possibility would be to test dogs this year.

One SRC member asked why the program would continue monitoring Diablo Winds. Monitoring Team members said it would be an Alameda County control site to understand anomalies elsewhere. If it is possible to discontinue monitoring there, it would be advisable to do so to save money.

One SRC member expressed concern about the recommendation at the top of Page 4 to discontinue monitoring of six older generation turbine models. The Monitoring Team is recommending this because there are very few of these turbines in low mortality numbers. In addition, removing them from monitoring will help achieve spatial balance in monitoring across the Altamont. It could be assumed that their mortality rate is constant.

Jim Hopper of AES said he could see continuing to monitor the Enertech turbines because it is a large burrowing owl hotspot, but agrees with the Monitoring Team on the other models. The SRC member partly agreed with this, conceding on the Polenkos.

The Monitoring Team will revisit this issue and bring it back to the SRC for further discussion.

An SRC member also recommended considering moving from monitoring the Santa Clara turbines, as they are allegedly exempt from permit conditions.

SRC members made the following comments on other issues in the draft study plan:

- The study plan document should list its authors on the front of the document, as is standard scientific practice.
- Add a citation to the federal recommendations.
- Consider post-construction monitoring as separate.
- Consider using a grid or non-grid system that does not split strings and creates separate areas that are geographically homogenous. SRC members recommended considering turbine type, the natural west-to-east configuration of hills, the three large basins and other natural features. More and smaller sections would be better for randomizing. It will be important to write up the rationales for the design, and to document all protocols.
- Are there enough areas without turbines to provide a sufficient sample for the background mortality data gathering? A rigorous protocol should be done.
- Page 6 search radius discussion: An SRC member was concerned that there could be an error introduced by using the search radius for old-generation turbines for the much larger repowered turbines, and that there is no information on which to base a radius for repowered turbines. Another SRC member suggested using a subset with a wider search radius to develop information for establishing a repowered radius. This aspect is extremely important as we move toward larger turbines during repowering.
- Paragraph 2 on Page 14 needs clarifying.

Public Comment

Renee Culver of NextEra asked that the budget be included in the next version, as it could drive the options chosen.

Next Steps

- Monitoring Team to revisit for the next SRC meeting the recommended removal of several turbine models from monitoring (Page 4), and consider removing Santa Clara turbines from monitoring.
- SRC members will submit their comments on the draft plan by June 22. Conflicts between particular comments can be the talking points for the next discussion.
- Any major issues can be dealt with by the liaison subcommittee prior to the full SRC July in-person meeting

General Public Comment Period

There were no comments.

Future SRC Meetings

In-Person Meetings

SRC members identify the following tentative time frames for future in-person meetings:

- July 28-29: Monitoring Report, study plan for future monitoring
- Between September 14-16: 2-day meeting

Conference Call Meetings

- June 21, 9-11 AM
- Between September 1-3

Postponed Items

- Compliance Status Report
- Definition of Avian Mortality Terms

Documents Circulated at Meeting

[P163 Alameda County Adaptive Management Plan Proposal II](#)

[P165 NextEra Memo on Audubon-Requested Information](#)

[P161 Smallwood Assessment of AMPs](#)

[P166 NextEra Memo on Smallwood AMPs Assessment](#)

[M53 Draft Study Plan for Future Monitoring](#)

[P70 SRC Hazardous Turbine Relocation Guidelines](#)

[P153 Smallwood Estep Additional Hazard Ratings](#)

[P130 SRC Call Notes 8-13-09](#)

[P131 SRC Call Notes 8-20-09](#)

[P151 SRC Call Notes 2-22-10](#)

[P152 SRC Call Notes 3-1-10](#)

P100_SRC Document List with Reference Numbers

SRC Meeting Participants

SRC Members Days 1 & 2

Joanna Burger
Jim Estep
Shawn Smallwood
Julie Yee

Staff

Gina Bartlett, Facilitator, Days 1-2
Sandi Rivera, Alameda County, Days 1-2
Andrea Weddle, Alameda County, Days 1-2
Ariel Ambruster, Facilitator Assistant, Days 1-2

Monitoring Team

Doug Leslie, ICF International (formerly ICF Jones & Stokes), Day 2
Jesse Schwartz, ICF International (formerly ICF Jones & Stokes), Days 1-2
Brian Karas, BRC, Days 1-2

Others

(Meeting Sign-in is optional)

Renee Culver, NextEra, Days 1-2
Kris Davis, Drinker Biddle, Days 1-2
Chris Dreiman, enXco, Day 1
Emre Ergas, NextEra, Days 1-2
Jim Hopper, AES/SeaWest, Days 1-2
Nan Leuschel, Ralph Properties II, Day 1
Mike Lynes, Golden Gate Audubon, Days 1-2
Ryan McGraw, AWI, Days 1-2
Tara Mueller, California Attorney General, Day 1
Bob Power, Santa Clara Valley Audubon Society, Day 1
Mary Selkirk, Center for Collaborative Policy, Days 1-2
Joan Stewart, NextEra, Day 1
Zack Walton, Downey Brand & NextEra, Days 1-2
Michelle Wiles, AWI, Day 1

List of SRC Agreements Developed June 14 & 15

(Compiled from this document)

Altamont Pass Wind Resource Area Scientific Review Committee Consensus Recommendations on Adaptive Management Proposal (SRC Reviewed P163_Alameda County Adaptive Management Plan Proposal II, 06-07-2010)

Developed 15 June 2010 by the Scientific Review Committee²

The Scientific Review Committee (SRC) reviewed the County of Alameda's proposed plan at the SRC public meeting on June 14-15, 2010. The County of Alameda requested that the SRC review and provide recommendations on the County's proposal (P163_Alameda County Adaptive Management Plan Proposal II, 06-07-2010). The SRC received and considered elements of the two other proposals submitted by the settling parties. Because the settling parties were unable to reach agreement on adaptive management, the SRC considered the various proposals striving to balance the interests of wildlife and wind power. Some of the settling parties participated in the public meeting and discussion on these recommendations.

The SRC provides these recommendations on repowering, hazardous turbine removal, additional studies, and methodology for measuring 50%. The SRC cannot provide assurances that the management actions proposed in the Adaptive Management Proposal will achieve a 50% reduction. The plan can provide a framework to evaluate the 50% reduction and potential subsequent actions if the 50% reduction has not been reached.

Repowering Primary Strategy

The Scientific Review Committee reiterates its recommendation that **repowering with careful turbine siting is the primary strategy to reduce avian mortality** toward a 50% reduction and should move forward as quickly as possible. Without repowering, then the SRC recommends seasonal shutdown and hazardous turbine removal.

Hazardous Turbine Removal

Strategies based on high risk turbine removals should take into consideration the configuration of turbines after the removals. For example, the removal of a HRT ranked moderately high (<9) could create a gap which increases the collision risk of neighboring turbines and discounts the benefit of removal. The plan should aim to remove high risk *situations*, and removals of HRTs ranked <9 should be examined case-by-case. For HRTs ranked 9 through 10, the collision risk is considered sufficiently high that they are always recommended for removal.

² SRC Member Susan Orloff did not participate in developing these recommendations due to illness.

Following the relocation guidelines and filling gaps when possible is part of the relocation evaluation. Consistent with the existing proposal, the SRC and staff should periodically re-evaluate turbine rankings to consider how the configuration at the time of the evaluation might change the hazard ranking of turbines. The configuration shifts frequently as part of regular wind company operation, but would also be affected by filling gaps, removals and relocation established through the proposal.

Relocations should also be evaluated on a case-by-case basis, and should avoid areas with burrowing owls as well as HRT addresses.

Credits can be applied to HRT removals when lesser HRTs are removed for repowering and for creating safe flight paths (corridors) and more open space for foraging. Similar credits can be considered for other contexts besides repowering if they create safe flight paths and open space for foraging.

Burrowing Owl and Adjustment Factor Studies

The SRC recommends that the plan heighten the importance of the burrowing owl study and adjustment factor study since these studies are essential to improve understanding and ultimately reduce fatalities. Burrowing owl fatalities have been very significant in the mortality rates. The burrowing owl study is just as important as the monitoring plan for analyzing and interpreting trends and for informing repowering. The management plan should make the burrowing owl study high priority.

Omit the item under 5.e.ii. The search interval should remain set at 30 days.

Methodology for Measuring 50%

The SRC would recommend shifting the methodology to measure 50% reduction for the purposes of this monitoring program.

The 50% reduction should be evaluated annually by comparing mortality estimates between:

- 1) a recommended new baseline defined using the first 3 years of the current monitoring program (bird years 2005-06, 2006-07, 2007-08), and
- 2) A running average based on the last 3 years. For example, at the end of 2010, the average of bird years 2007-08, 2008-09, and 2009-10 would be compared with the recommended new baseline.

The 50% reduction should be evaluated separately for the four focal species.

The recommended new baseline (2005-2008) is considered to have had similar fatality conditions as the original baseline period (1998-2003), and the recommended new baseline does not rely on assumptions about the uneven sampling in the original baseline study. To the extent possible, the recommended new baseline will be adjusted upward to offset reductions from mitigations occurring between 2003 and 2008, for the purpose of better representing the baseline period.

Each year that the 50% reduction is not met, then the SRC will recommend management actions determined to most effectively reduce fatalities, at a level commensurate with the remaining difference. In order to inform the SRC's recommendations, the County should provide complete information on the management actions conducted to date (i.e. when, where, and which turbines removed or relocated).

The SRC recommends that the metric for measuring a 50% reduction be scaled by bird abundance, as soon as bird abundance data are available.