

Meeting Summary | February 5-7, 2007

Altamont Scientific Review Committee

Developed by the Center for Collaborative Policy

Edited & Approved by the SRC

Key Outcomes

- The SRC confirmed that, under the new settlement agreement goal of a 50% reduction in mortality, the study sample size will remain at 2500 turbines, as this will still allow for results with a scientifically credible margin of error of $\pm 10\%$. However, this sample size is subject to change depending on the outcomes of the questions submitted to the settling parties by the SRC.
- The SRC worked with Monitoring Team members to develop a sample design for its intensive study of American kestrel and burrowing owl mortality. This intensive study is an integral part of the SRC's recommended approach to the Altamont-wide Monitoring Program and if it is not implemented the search interval should be reduced to every two weeks instead of every 30 days, which would have significant cost implications. (The draft California Energy Commission guideline recommend two-week intervals.)
- The SRC discussed the approach to the monitoring program and agreed that some of the provisions of the settlement agreement, such as the blade painting study, may require additional studies peripheral to the monitoring program to avoid confounding monitoring results. If the monitoring program includes too many mortality reduction schemes, it may fail to provide conclusive data on each scheme's effectiveness. The SRC was not in agreement over whether the additional studies should be peripheral to the core monitoring program or integrated into it.
- The SRC produced a memo to settlement agreement parties emphasizing that scientific research is usually unable to obtain 100% certainty, and that $\pm 10\%$ is a margin of error acceptable to the SRC. What this means is that a reduction in mortality of 52%, for example, with a $\pm 10\%$ margin of error means the actual mortality reduction could be any percentage from 42% to 62%.
- The SRC heard a request by wind firm FPLE to receive credit for its 2004 actions removing 54 turbines and relocating an additional 43 and asked the company to provide more information so the SRC can evaluate whether the amount of avian risk of the removed/relocated turbines is comparable to those it is being asked to remove. The issue will be considered at an upcoming SRC meeting.
- The SRC reviewed wind company compliance with the conditional use permits, requested more information and clarified the status of some items.
- The SRC heard promising results of a small pilot study by AWI that used the black, high-gloss Hodos painting scheme on 37 turbines and agreed that AWI should move forward with the study and present study plans to the SRC.
- The SRC agreed to consider revising its charter in light of other documents that define its role. The goal of which is to make the charter and County-related documents consistent with regards to the SRC roles and responsibilities.
- The SRC has taken it under advisement that the Settlement Parties will look to the SRC to evaluate some aspects of the Settlement Agreement, such as baseline mortality.

Summary of Action Items and Meeting Follow-Up

(Details provided in main text.)

Party	Due Date	Action
Compliance Reporting		
Companies	3/15	Submit map of tiered turbines removed (FPLE already submitted)
Facilitator	Done	Submit SRC Recommendation to County on Item 2B recommending that end-row towers be removed.
AIC	3/15	Provide analysis and map prepared for AIC on rock piles for SRC April meeting
County	April SRC	Discuss actions that County will take to verify wind companies' compliance with permits
County	April SRC	Clarify the meaning of SRC responsibility with regards to language in permits that says "subject to confirmed determination by SRC"
County	April SRC	Recalibrate compliance deadlines
Companies	April SRC	Submit pictures depicting retrofits of electric distribution poles to APLIC standards
County	June SRC	Revise compliance reporting table to include G-1 & G-2
County	April SRC	Companies to present "progress toward repowering as stipulated in compliance reporting
Facilitator	Done	Add language to Compliance Summary Table about SRC approval for AWI to move forward with field experiment of Hodos painting scheme and present study plans
MISC		
FPLE	2/28	Provide additional data on Tier 1/2 credits (see list)
WEST	3/15	Year 1 seasonal shutdown report for all companies
MT/staff	2/28	Submit confidentiality/requests for FPLE tiered info/maps
MT	4/15 or 5/1	As part of data analysis in existing scope, perform test for association between last year's fatalities and rock piles near turbines
MT	3/15	Submit revised draft of searching/observation protocols to SRC
County	2/28	Inquire about timing of blade painting proposal/study design
Settling Parties	2/15	Submit responses to questions about the meaning of multiple terms in the Agreement
SRC	done	Send memo on data uncertainty to settling parties
Facilitator	2/28	Update Q&A document on settlement and post on web site.
Facilitator	2/28	Inquire with County Counsel about data confidentiality agreement and Brown Act.
County	3/15	Issue letter to companies requesting power output data
Facilitator/County	April SRC	Exhibit D & Board Resolution review & possible modification -- bring appropriate elements over to charter
Smallwood	2/28	Identify bird for inquiry to Lindsay Museum
AIC	3/15	Review fates of birds sent to Lindsay Museum to assess suitability of the facility for future bird deliveries

SRC Goals for the Meeting

The purpose of this meeting was to:

- Understand the settlement agreement and any changes in the SRC's role as a result
- Recommend changes to monitoring program given settlement
- Modify SRC work plan to meet SRC responsibilities under settlement

Settlement Agreement

The SRC reviewed and discussed the final settlement agreement and its effect on the Monitoring Program and held a question and answer session with settlement parties to understand the settlement terms.

Summary of Discussion Outcomes/Clarification on the Settlement

- The 50% decline in mortality is measured from the baseline number established in the settlement, but the baseline identified in the settlement was for all raptors and the Parties indicated the SRC could use the 1,130 fatalities per year representing the four target species.
- The settlement agreement is unclear regarding measuring 50% reduction for the four target species as a pooled group or individually. The parties stated during the meeting that measuring the 50% reduction is for the pooled four target species.¹
- November 2009 is the deadline for reaching the 50% reduction, which will be less time than the stated 3-year period from the date of the settlement adoption.
- The SRC will advise on the adaptive management measures. If unable to reach 50% reduction, companies will implement adaptive management measures that all the settling parties approve.
- The settling parties did not perform a quantitative assessment of the proposed mitigation measures to estimate whether these measures can achieve a 50% mortality reduction.
- The settling parties and the SRC will hold annual meetings to address issues and possible mitigations.
- All turbines will be available for the monitoring program except for turbines owned by Northwind and the repowering projects. The turbines on land held by East Bay Regional Parks District are also unavailable for the monitoring program. The 50% reduction target applies only to those turbines owned by the companies participating in the settlement. The SRC will discuss how to attribute the results of the monitoring to the settlement parties.
- The SRC will evaluate the need for annual mid-course corrections to reduce raptor mortality and consult with the parties.

¹ The consensus of the SRC was that under the 2,500 turbine sample size scenario, a pooled species approach was necessary in order to achieve sufficient statistical precision to detect the required 50% reduction. The SRC did not, however, agree that the pooled scenario was the optimal scientific approach to measure raptor mortality. While each species might not realize a 50% reduction under the pooled scenario, attempting to measure a 50% reduction of each species would require a significantly greater turbine sample size.

- The SRC determines the appropriate mortality adjustment factor for carcasses not found due to searcher detection error and scavenger removal. If the factor exceeds 2.5, then the parties will have to revisit the baseline and will consult the SRC in this process. At the very least, the County will seek the SRC's recommendation on the baseline to assist the County in moving forward with these negotiations.
- Using correction factors other than the scaling factor mentioned in the settlement agreement is possible, but subject to negotiation by the parties. One SRC member's notes indicated the Parties were to confer further on this issue and get back to the SRC.
- The Parties suggested the possibility of a joint Natural Communities Conservation Plan (state) and Habitat Conservation Plan (federal), but this is not a required element of the Settlement Agreement.
- The Parties were unclear on how they thought an NCCP/HCP would work with respect to reducing bird mortality given that these processes typically plan for compensatory mitigation rather than mitigation to reduce impacts of ongoing operations of an existing project.
- The role of the SRC in the NCCP will be determined by California Department of Fish & Game.
- The NCCP will not cover listed non-volant species including San Joaquin kit fox, California red-legged frog, California tiger salamander, or nesting burrowing owls. It will be a special NCCP narrowly confined to birds killed by wind turbines.
- An Environmental Impact Report will occur under the NCCP or without the NCCP if it does not go forward.
- The parties will inform the SRC before it proceeds with any rodent trapping or other prey reduction management strategy. However, the parties had not yet consulted with the regulatory agencies over the legality of their use of rodent trapping in light of the potential impacts to listed species.
- The turbines for the blade painting study have not yet been selected. The SRC will consider the selection of turbines for blade painting prior to approval.
- The SRC must approve the parameters of the blade painting study. The SRC is concerned that if the painted turbines are excluded from the winter shutdown it would decrease the sample size of the turbines committed to the winter-time shutdown experiment and thus reduce the ability to detect a change in mortality levels. In addition, it would add confounding factors to the analysis.

Questions Still Needing Clarification from Settling Parties

1. How to handle level of precision, e.g. how will the parties respond to a 55% reduction if there is a margin of error of $\pm 10\%$. The original question goes to whether the Parties want to rely on 50% with a percentage error rate (i.e. accept that any 50% reduction will be subject to a $\pm 10\%$ error), or aim for a higher reduction so that with the error there is certainty of having achieved the required 50% reduction (i.e. aim for 60% reduction with a $\pm 10\%$ error) as earlier suggested by Julie Yee.
2. What relocation criteria will the companies use for relocating Tier 1 and Tier 2 turbines?
3. Will the settling parties, subject to Exhibit G-1, be required to move rock piles and removing end of row turbines / derelict turbines, as required in Exhibit G-2?

4. Will the Buena Vista and Diablo Winds Repowering projects be measured as part of the 50% reduction? (The original turbines in the Buena Vista and Diablo Winds projects contributed to the mortality estimate of 1300 raptors.)

Additional Follow-Up Questions (not originally submitted with above list)

5. Will the SRC be restricted to the two mortality adjustment factors mentioned in the Agreement?
6. Can the Companies transfer the winter-time and permanent shutdown exemptions on the turbines included in the blade painting experiment over to turbines outside our monitored sample of turbines? The idea here was to minimize confounding of factors and maintain our sample size for winter shutdown.

Follow-Up Required

- Parties to respond to questions stated above within 7-10 days following the meeting
- Facilitator to update Q&A document for the web site

Settlement Issue: Credits for FPLE Removed Tier 1 & Tier 2 Turbines

In 2004, FPLE permanently removed 54 turbines and relocated 43, for a total of 97. Of these, 42 of the lattice towers were left as end-of-row pylons. In April 2006, FPLE removed 22 of the 42 remaining end-of-row derelict towers. FPLE reported the removal/relocation was aimed at reducing avian mortality, and identification of high risk turbines was based on actual fatalities as well as unpublished studies by Curry & Kerlinger and Lois Culp and proximity to Grainger Hunt's documented golden eagle fatalities. Relocations were to existing pads. Of the 97, 40 had no classification designation and 57 were classified into tiers by Smallwood and Spiegel, June 2005.

FPLE is seeking credit for each of the removals/relocations as it is being asked to remove 60 under the settlement agreement. So far it has removed 9 of the 60. Of the nine:

Tier 1: 4 removed, 23 remaining.

Tier 2: 5 removed, 28 remaining.

In making the presentation, FPLE provided proprietary information and maps that the SRC will keep confidential.

In its discussion, the SRC took into account the following considerations:

1. They considered string removal, not individual turbines
2. Concern about achieving 50% reduction if credits are granted and Tier 1 & 2 turbines continue to operate, given that last year's data did not show any mortality reduction, and preliminarily showed a mortality increase compared to the years 1998-2003.
3. A desire to encourage companies to be proactive in their actions to reduce avian mortality, and to avoid "discouraging" companies from being proactive
4. Attempt to "assess" the risks removed

The SRC identified more information that it would like from FPLE to help it evaluate whether the collective avian risk posed by the removed/relocated turbines was comparable to the collective risk of those identified by the Agreement before removal. After FPLE submits the information, the SRC will consider the issue at a conference call meeting, or if necessary, at its April meeting.

Follow-Up Required

FPLE to provide details in support of its request for credits.

The SRC discussed the possibility of Smallwood ranking 1,300 unclassified turbines into the Tier classification, using data supplied last year by WEST, Inc. and perhaps some follow-up work to attribute landscape conditions at these turbines. However, the SRC did not provide further direction on this matter, so no follow-up is planned.

The SRC requested that FPLE provide the following information in a table:

1. List of 97 removed turbines
2. 57 of the 97 that were removed have classifications based on Smallwood and Spiegel. The SRC requests that FPLE list the classifications per Smallwood & Spiegel January, March & June 2005 for each of the 57 turbines.
3. Mortality by turbine
4. Mortality dates
5. Other information provided on table for 60 turbines
6. Mortality info for new turbine locations

The SRC requested that FPLE provide the following:

7. The SRC requested that FPLE provide the evaluation criteria used for turbine removal & relocation
8. The SRC requested the mortality for the removed turbines as it compared to the mortality for the Tier 1 and Tier 2 turbines they would have to remove if they complied with the current rules.

Conditional Use Permits and Compliance Reporting

The SRC reviewed a table summarizing actions taken by the companies in response to the conditional use permits. The table is posted on the Altamont SRC web site at http://www.altamontsrc.org/alt_compliance_reporting.php. FPLE has added to the compliance table since the December 2006 SRC meeting. In addition, Alameda County will recalibrate compliance reporting dates by the SRC April meeting. The County is working to incorporate SRC recommendations into the conditional use permits and forward requests to the Companies.

Confirmed Determination by the SRC

In Exhibit G some mitigation measures are subject to “confirmed determination by the SRC.” The SRC discussed the “confirmed determination” language and agreed this language probably means verification, but questioned the SRC role and responsibility in determining if measures have been completed. The County indicated that the companies report when mitigation measures are instituted. The County lacks resources to provide on-site verification in the field. At least one SRC member preferred

verification consisting of first-hand examination of measures or verification from a trusted third-party such as the monitoring team. The County will discuss how verification will occur and clarify the meaning of the language and report back at the April SRC meeting.

Exhibit G, Item 1

P.2 -- 42 FPLE tower structures “remained as pylons.” The SRC had agreed that these pylons be taken down. The County has not yet communicated that recommendation to the owners.

Item 2A

AIC -- retrofitting electric distribution poles -- were riser elements capped? An AIC representative said yes, and reports were submitted on that. She will submit pictures to the SRC. At least one member of the SRC requested that an expert third party visit the poles to confirm the poles meet APLIC standards.

Item 2b

The required action needs modification based on the SRC 12/06 meeting. The SRC recommended all derelict towers be removed as soon as possible.

At the meeting, FPLE added a new 2b item to p.4, for fall 2004, “non-operating tower structures were removed from 64 turbine sites.”

Item 2C—Rock Piles

The language should be updated as the SRC has issued recommendations for the rock piles to be removed in the summer 2007, subject to a consultation with California Department of Fish & Game and the US Fish & Wildlife Service regarding the appropriate timing of the removal. The County will issue a letter on the recommendations after obtaining some clarification from the wildlife agencies. The SRC will meet with AIC at the April meeting to discuss the company's questions about the rock pile recommendation and a report that AIC has on the subject.

Item 5—Repowering

AWI was asked what progress had been made toward repowering 10% of turbines. Company representatives said they hadn't started the first annual letter because there is no EIR establishing conditions for repowering. This action was supposed to occur before the EIR. The county will discuss the issue with AWI.

Follow-Up Required

- Companies to submit maps of tiered turbine removal
- Alameda County will recalibrate deadlines by SRC April meeting
- Facilitator provide County with updated language on 2b to remove all end-row towers based on SRC 12/06 meeting; add new FPLE item that was omitted and reported at the meeting.
- AIC by 3/15 submit rock pile report for SRC meeting
- County consult with CDFG and FWS to confirm that summer 2007 is the appropriate time to move rock piles considering terrestrial species.

- By SRC April meeting, County to determine if verification is possible or clarify language “subject to confirmed determination by SRC” to clarify SRC responsibility.
- AIC to submit pictures on retrofitting electric distribution poles
- By June SRC meeting, Facilitator/County to revise compliance reporting table to include G-1 & G-2.
- County/AWI to discuss AWI progress toward 10% repowering.

AWI Hodos Painting Scheme Study

AWI presented the results of its pilot study on the Hodos painting scheme. The 37 treated turbines were associated with one fatality using Wildlife Reporting and Response System (WRRS) methodology, whereas the comparison group was associated with 32 fatalities. The Comparison group consisted of KCS56-100 turbines documented by WRRS to have killed at least one raptor from 1989 through 2006. (It was unclear how the treatment group of turbines was selected from the available population.) The treated turbines caused a mortality of 0.021 fatalities per turbine per year of focal species (Golden eagle, red-tailed hawk, American kestrel and burrowing owl), while the comparison group caused more than 0.15 fatalities per turbine per year. AWI is now developing the methodology of a larger study. The SRC suggested that AWI consider replication and interspersed of turbines receiving the painting treatments and those used as controls.

AWI has purchased the patent for any painting design on wind turbines from the University of Maryland. AWI said the other Companies do not yet have permission to paint the blades on their turbines and will need permission from AWI.

SRC Agreement on AWI Hodos Study

The SRC agreed that AWI should move forward with the study, and present study plans to the SRC for their advice and approval.

Follow-Up Required

- Facilitator – Add language about SRC approval for AWI to move forward with Hodos blade painting experiment and study plans to Compliance Table
- AWI coordinate with facilitator to place study design on SRC fall 2007 agenda

Altamont-Wide Monitoring Protocols

The SRC discussed several aspects of the monitoring protocols to determine if it meets the goals of the settlement agreement and to clarify several issues for the Monitoring Team so that it could develop its scope of services.

Sample Size = 2500 Turbines

The settlement agreement increases the raptor mortality reduction goal from 45 to 50%. The SRC had recommended a sample size of 2500 turbines (under the assumption that the reduction goal is based on pooled, not individual species mortality). For the study to have a scientifically acceptable margin of error of $\pm 10\%$ requires 2000 turbines through

the end of the study. A surplus of 500 allows for attrition during the study period, with the aim of maintaining a sample size of 2000 by the end of the study period.

SRC Agreement on Sample Size

The SRC agreed that, under the new settlement agreement goal of a 50% reduction in mortality, the sample size will remain at 2500 turbines (under the assumption that the reduction goal is based on pooled, not individual species mortality), as this will still allow for results with a scientifically credible margin of error of $\pm 10\%$. The SRC agreed, however, that the sample size might have to increase to include monitoring of turbines used in the blade painting experiment and those subject to other mitigation measures. The SRC also agreed that to attempt to reduce mortality of each of the four target species individually rather than as a pooled group, that substantially more turbines would be required in the sample size. It was considered highly unlikely that a sample size of 2500 turbines would be able to demonstrate a 50% reduction of each species within a $\pm 10\%$ margin of error. Thus, this agreement was based on the pooled species assumption in consideration of budget constraints.

Percentage Mortality Reduction Achievement

The SRC discussed whether settling parties and the public will understand the meaning of a confidence interval (i.e., measured reduction $\pm 10\%$ margin of error) in relation to the 50% goal, and whether 50% is considered a threshold, or a target surrounded by a certain confidence interval. One SRC member favored a 60% target with a $\pm 10\%$ margin of error (to ensure that at least a 50% reduction was achieved). Another member favored the targeted percentage of 50% with a $\pm 10\%$ margin of error, arguing the standard approach in science is to accept uncertainty around the targeted value. The SRC produced a memo to settlement agreement parties emphasizing that scientific research is rarely able to obtain 100% certainty, and that a measured reduction surrounded by a bracketed confidence interval is an expected result of the study. What this means is that a reduction in mortality of 52%, for example, with a $\pm 10\%$ margin of error means the actual mortality reduction could be any point from 42% to 62%.

SRC Agreement on Species Studied

The SRC agreed that assuming cost constraints will continue, the targeted reduction in mortality will be applied to the pooled mortality of four target species: golden eagle, red-tailed hawk, burrowing owl and American kestrel. However, at least one SRC member expressed reservations about the pooling of these species.

Because red-tailed hawks have not responded to any mitigation measures except winter-time shutdown, this could affect the parties' ability to achieve the 50% reduction target. Pooling the species could also result in a 50% reduction in which the mortality of one species contributes almost entirely to the 50% reduction of the pooled species, while the mortality of other species remains unchanged.

Baseline for Study Purposes

The SRC had an extensive discussion on the baseline estimate of 1300 raptor fatalities per year. The 1300 death rate is for all raptors. The death rate for the 4 target species is less than 1300. Concerns focus on the variability of mortality levels from year to year

and study to study, improvements in methodology over time, and the possibility of variable abundance from year to year. Variable abundance should be examined for raptors from year to year and factored into the baseline. The SRC discussed the need to use alternative measures besides the baseline to determine change in mortality. One member proposed not using a baseline mortality estimate and instead measuring differences in mortality between treatment and control groups henceforth (i.e., winter shutdown study). The SRC determined that they did not need to resolve the issue of the baseline mortality in order for the Monitoring Team to proceed, so the issue was deferred until more data becomes available.

SRC Agreement on Possible Need for Independent Studies

The SRC discussed the approach to the monitoring program and agreed that some of the provisions of the settlement agreement, such as the blade painting study, may require independent studies outside scope and costs of the current monitoring program to avoid confounding monitoring results. If the monitoring program includes too many mortality reduction schemes, it may fail to provide conclusive data on each scheme's effectiveness. However, the SRC remains undecided on this issue, and decided to defer further deliberations on it until the Parties and Companies return with more answers to outstanding questions.

Field Protocols

The SRC reviewed and discussed "Altamont Searching & Observation Protocol" (updated January 2007) with Monitoring Team and made the following changes:

- MT to take 4 photos of each fatality, as opposed to 1.
- MT to develop a protocol for handling bird bands.
- Page 3: "(the find will not be included in data analysis)" cut to allow for professional judgment.
- Page 4: Review Lindsay Museum handling of injured birds -- Shawn Smallwood to research ID number of specific case and AIC will obtain report on the fates of birds delivered to the Lindsay Museum.
- Page 5: detected bird is changed from "mourning dove-sized or larger" to "raptor and other large birds."
- Page 7: MT will attempt to use obtained raptors for experimental scavenging carcasses rather than other non-raptor species.
- Page 9: SRC changed the definition of "feather spot" from "greater than or equal to 10 feathers" to "two primaries or greater than or equal to 10 feathers, or five or more tail feathers."
- Definition of fatality: the monitoring team and SRC agreed to collect as much data as possible, and then use common criteria for determining a fatality.
- Page 11 (data sheets): Change "Fatality #" to "Incident #"
- Page 13: MT plans to change it. Will provide relative abundance information, an estimate of flight height and perching for the focal species.
- Page 14: will record approximate distance to the observer, including first distance and closest distance.
- Page 20: The MT might consider using orthophoto maps overlaid on digital elevation model developed by Lee Neher.

The SRC also discussed whether the field staff or supervisor should declare the cause of death of the fatality. The desire was to make the best use of on-site information and searcher expertise while avoiding a situation where someone makes too many questionable determinations that are evaluated and subsequently changed by a supervisor and subject to criticism as a result of the changes. The SRC directed that sufficient space be provided for field notes under "evidence of death" for the field staff to make a preliminary call, to take notes following instructions. The field supervisor would then review the data sheet and determine the likely cause of death.

Publishing Results

SRC members felt strongly that the study results should be published so that they will be peer-reviewed and shared with the scientific community.

Monitoring Team's Proposed Three-Year Budget

The SRC reviewed the budget to determine that it reflects the scope of the monitoring program. The SRC requested it be copied on communications between the County and MT on issues related to the budget and teaming arrangement. A MT representative stated that some of the recommended changes regarding project management and roles of staff could not be changed as recommended due to University of California requirements.

SRC members asked about rental housing/meals costs. An MT representative said the housing plan saves money that would otherwise, under state laws, have to be spent to provide hotel and per diem travel costs, and would help in the goal of retaining qualified field staff.

SRC members suggested that the budget show hour breakdowns based on who is expected to do the work in the area of report preparation. The current budget is divided equally between the firms and does not reflect the likely distribution of the work load.

Other Monitoring Protocol Agreements:

- The SRC agrees that the intensive sample design study for burrowing owls and American kestrels is an integral part of the Altamont-wide monitoring program and if not implemented, the search interval for the Altamont-wide program should be reduced to every two weeks instead of every 30 days.
- All turbines except Northwind, Diablo and Buena Vista will be included in the study. Also excluded are the turbines on East Bay Regional Park District property.
- The SRC assumes that the sample size of 2500 will accommodate turbine attrition, including any turbines that might be removed over the life of the study.
- The Monitoring Team should replicate the same criteria used to choose the first 2200 study turbines to choose the final 300.
- The MT, for its six-month analysis, should consider the association of fatalities with the number of rock piles as well as just rock piles and mortality. This will help to determine if rock pile removal should be evaluated further.
- The scope of services should include a line item for work and analyses requested by the SRC.

Follow-Up Required

- By March 15, WEST submit Year 1 seasonal shutdown report for all companies
- MT to give SRC revised copy of search/observation protocol document.

Sample Design on American Kestrels and Burrowing Owls

The SRC worked with Monitoring Team members to develop a sample design on American kestrel and burrowing owl mortality.

The Monitoring Team presented raw burrowing owl and American kestrel fatality data for 2006 sampling which shows significantly higher numbers in September and October.

SRC Agreements on Burrowing Owl/American Kestrel Study Design

- The SRC agreed for the first year to focus the four-month study in two 2-month periods, September-October 2007 (when mortality is most likely to occur) and in the spring, probably March-April (when predators are searching for food for young) to observe if there is a seasonal difference in scavenging rate.
- The study will sample 200 turbines every other day for two months, or 6000 total turbine searches per season and 12,000 searches for the year.
- Using a 4 turbine/hour search rate, the study will take 3000 hours total for the four-month period. The trade-off is that the number of hours for this focused study is still less than what would have been spent on a much larger Altamont wide monitoring study (i.e., sampling every two weeks).
- The MT will provide the SRC with more information about study plot locations.
- The study should as much as possible overlap with existing monthly search plots.
- The MT should check with Alameda County if this item should go before the Board of Supervisors on Feb.27 (Feb.13 deadline).

Power Output Data

The SRC agreed to a set of power output variables that it would like to obtain from wind companies for mortality study data. It agreed to send out an initial request for the following data, to see if it is available:

SRC Agreement to Seek Power Output Data

- kWh per turbine per day
- Operating time per turbine per day (number of 10-minute intervals greater than 0)
- Average RPM per turbine per day with frequency distribution
- From Oct. 2005 forward
- If not available per day, at the smallest time interval available

Follow-Up Required

- County to send letter inquiring what information is available.
- Facilitator to inquire about Brown Act issues with data confidentiality

Mortality Rates

The SRC discussed whether mortality should be analyzed per some measure of abundance, as a very low number of birds in the APWRA would likely yield a very low fatality rate. Little is known about inter-annual variability or migratory patterns of avian populations in the APWRA. The SRC agreed to hold a future discussion on the factors affecting the baseline.

Draft Statewide Guidelines

The SRC reviewed and discussed the California Energy Commission's draft Statewide Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development. The draft guidelines are voluntary. The guidelines have a greater focus on bats and small birds than the current Altamont study program. The guidelines also recommend a regulatory agency-based science committee, but SRC members agreed that the Altamont situation, given its uncertainty and complexity, is better served by a committee composed of independent scientists. The SRC requested clarification in its charter that the SRC thinks that Altamont is better served by the best scientific expertise rather than regulatory representatives. The guidelines also drew the committee's attention to potential effects of turbine lighting, but it was also pointed out the old-generation turbines in the APWRA are not lit.

Follow-Up Required

- Charter modification: Clarify support for scientific expertise for advisory panel.
- Invite someone to present FAA lighting guidelines on turbines (possibly Al Manville or Wally Erickson)

SRC Protocols

SRC Communications with External Parties

The SRC discussed individual SRC member communications with the public on issues that are before the SRC as a whole. The SRC Charter now includes language that “Members are asked to speak only for their organization or themselves when asked by external parties... about the SRC, unless there has been a formal adoption of a statement, concepts, or recommendations by the SRC. Stakeholders will refer media inquiries to [Alameda County planning officials] and reserve freedom to express their own opinions to media representatives. Participants should be careful to present only their own views and not those of other participants of the committee.” Some SRC members expressed that members not send out separate public communications or assessments on issues that are or will be before the SRC, as the SRC is empowered to deliberate and reach consensus on issues as a committee, and express a public position as a committee. Another SRC member wanted to freely conduct scientific activity that would include assessments, and preferred having the ability to issue public communications on breaking issues that affect the SRC if an SRC meeting is not scheduled to occur in time.

The SRC discussed listing potential future agenda items although the list was quite general and seemed too limiting to communications deemed permissible for any SRC

member. They ultimately decided to have an informal agreement that reflected the understanding reached through the discussion.

The SRC discussed with its facilitator its mission. Language in the SRC Charter, approved by the SRC in December, states, “While appointed by these interests, SRC members are asked to strive to be objective in reviewing and providing guidance on science related to its charge. The SRC is not asked to represent the interests who appointed him or her.” One SRC member believes the “interests” of all stakeholders are to achieve the goals and objectives of the avian protection plan, whereas the facilitator believes the “interests” are stakeholder agendas that could potentially bias SRC members.

Language in the Board Resolution's Exhibit D creating the SRC states, “Purpose: ...represent and collectively balance the fundamental interests and input of all stakeholders...” The facilitator stated that the SRC discuss this issue during the charter formation and the Charter language was intended to supplant the Resolution language, but one SRC member expressed concern about the inconsistency. SRC members agreed to ask the County if the language in the documents could be made consistent or if the language in the BOS resolutions and Exhibit D not appearing in the Charter should now be added to the Charter.

Follow-Up Required

- Facilitator/County by April SRC -- Exhibit D & Board Resolution review & possible modification -- bring appropriate elements over to charter

Role of the Monitoring Team as it Relates to the SRC

The MT and SRC agreed that they needed to improve and clarify their joint communication. The SRC and MT followed up by developing a new communication process.

SRC/MT Agreement on SRC/MT Communication Process

1. A MT representative to be present at SRC meetings on relevant issues
2. MT to review draft SRC recommendation
3. MT summarizes and submits disagreements
4. SRC/MT meeting or conference call to resolve issues
5. SRC produces final decision to MT via county

SRC Agreement on Regular Conference Call Meetings

The SRC agreed to schedule standing conference call meetings every 2-3 weeks to allow for timely response to issues. The conference calls will be regular meetings under the Brown Act, with agendized items for planned actions.

SRC Agreement on Data-Related Confidentiality

The SRC agreed to a protocol for handling confidential data:

- It will not be shared outside SRC/MT
- It will not be e-mailed
- Companies should label materials “Confidential”

The facilitator will discuss this confidentiality agreement with the County Counsel to determine how it would be affected by the Brown Act.

Other SRC Agreements on Protocols

- Meeting Highlights to end with a list of SRC consensus agreements to document actions taken
- SRC agrees to refer questioning parties to SRC agreements, documents & upcoming agenda items
- Staff/Facilitator will date all emailed and meeting packet documents

Public Comment

Larry Gosselin DVM, a member the East County Board of Zoning Adjustments, asked the SRC whether it was going to consider repowering, given the aged facilities. SRC members said it will be an issue to consider after the details of the monitoring program are put in place.

Future SRC Agenda Topics/Items

- Study on small birds and bats at APWRA
- How to evaluate impacts on avian species & ecosystems for future review
- Whether to incorporate additional correction factors (besides scavenger removal & search efficiency)
- FAA light requirements presentation (possibly Al Manville or Wally Erickson)

April SRC Meeting Agenda Items

- Year 1 Seasonal Shutdown Data Report
- (tentative) Management Strategies and Program of Study
- Rock Pile Discussion Based on FPLE Report/Response to Recommendation

SRC Meeting Participants

SRC Members Day 1, 2 & 3

Joanna Burger
Jim Estep
Sue Orloff
Shawn Smallwood
Julie Yee

Staff

Gina Bartlett, Facilitator, Days 1-3
Sandi Rivera, Alameda County, Days 1-3
Brian Washington, Alameda County, Day 1
Ariel Ambruster, Facilitator Assistant, Days 2-3

Others

Wally Erickson, WEST, Inc. Days 1- 3
Ed West, Jones & Stokes, Days 1-3
Brian Walton, UCSC, Days 1- 3
Joan Stewart, FPLE and AIC, Days 1-3
Rebecca Perree, FPLE, Days 1-3
Lynne Brown, CARE, Day 1
Michael Boyd, CARE, Day 1
Bill Yeates, Golden Gate Audubon, Day 1
Elisabeth Murdoch, Golden Gate Audubon, Days 1-2
Steve Steinhour, SeaWest Power Res., Days 1
Peter Weiner, Paul Hastings, Day 1
Rick Koebbe, Altamont Winds Inc., Days 1-2
Bob Szymanski, Altamont Winds Inc., Day 2
Bill Damon, Altamont Winds Inc., Day 2
Tara Mueller, California DOJ, Day 1
Amy DeReyes, Supervisor Keith Carson, Day 1
Kohar Shirikian, Contra Costa County, Day 2
Rubén Hernandez, Contra Costa County, Day 2
Larry Gosselin DVM, EBZA, Day 3

Appendix: List of SRC Agreements developed Feb 5, 6 & 7

(Compiled from this document)

SRC Agreement on Sample Size

The SRC agreed that, under the new settlement agreement goal of a 50% reduction in mortality, the sample size will remain at 2500 turbines (under the assumption that the reduction goal is based on pooled, not individual species mortality), as this will still allow for results with a scientifically credible margin of error of $\pm 10\%$. The SRC agreed, however, that the sample size might have to increase to include monitoring of turbines used in the blade painting experiment and those subject to other mitigation measures.

SRC Agreement on Species Studied

The SRC agreed that assuming cost constraints will continue, the targeted reduction in mortality will be applied to the pooled mortality of four target species: golden eagle, red-tailed hawk, burrowing owl and American kestrel. However, at least one SRC member expressed reservations about the pooling of these species.

Because red-tailed hawks have not responded to any mitigation measures except winter-time shutdown, this could affect the parties' ability to achieve the 50% reduction target. Pooling the species could also result in a 50% reduction in which the mortality of one species contributes almost entirely to the 50% reduction of the pooled species, while the mortality of other species remains unchanged.

SRC Agreement on Possible Need for Independent Studies

The SRC discussed the approach to the monitoring program and agreed that some of the provisions of the settlement agreement, such as the blade painting study, may require independent studies outside scope and costs of the current monitoring program to avoid confounding monitoring results. If the monitoring program includes too many mortality reduction schemes, it may fail to provide conclusive data on each scheme's effectiveness. However, the SRC remains undecided on this issue, and decided to defer further deliberations on it until the Parties and Companies return with more answers to outstanding questions.

Other Monitoring Protocol Agreements:

- The SRC agrees that the intensive sample design study for burrowing owls and American kestrels is an integral part of the Altamont-wide monitoring program and if not implemented, the search interval for the Altamont-wide program should be reduced to every two weeks instead of every 30 days.
- All turbines except Northwind, Diablo and Buena Vista will be included in the study. Also excluded are the turbines on East Bay Regional Park District property.
- The SRC assumes that the sample size of 2500 will accommodate turbine attrition, including any turbines that might be removed over the life of the study.
- The Monitoring Team should replicate the same criteria used to choose the first 2200 study turbines to choose the final 300.

- The MT, for its six-month analysis, should consider the association of fatalities with the number of rock piles as well as just rock piles and mortality. This will help to determine if rock pile removal should be evaluated further.
- The scope of services should include a line item for work and analyses requested by the SRC.

SRC Agreements on Burrowing Owl/American Kestrel Study Design

- The SRC agreed for the first year to focus the four-month study in two 2-month periods, September-October 2007 (when mortality is most likely to occur) and in the spring, probably March-April (when predators are searching for food for young) to observe if there is a seasonal difference in scavenging rate.
- The study will sample 200 turbines every other day for two months, or 6000 total turbine searches per season and 12,000 searches for the year.
- Using a 4 turbine/hour search rate, the study will take 3000 hours total for the four-month period. The trade-off is that the number of hours for this focused study is still less than what would have been spent on a much larger Altamont wide monitoring study (i.e., sampling every two weeks).
- The MT will provide the SRC with more information about study plot locations.
- The study should as much as possible overlap with existing monthly search plots.
- The MT should check with Alameda County if this item should go before the Board of Supervisors on Feb.27 (Feb.13 deadline).

SRC Agreement on AWI Hodos Study

The SRC agreed that AWI should move forward with the study, and present study plans to the SRC.

SRC Agreement to Seek Power Output Data

- kWh per turbine per day
- Operating time per turbine per day (number of 10-minute intervals greater than 0)
- Average RPM per turbine per day with frequency distribution
- From Oct. 2005 forward
- If not available per day, at the smallest time interval available

SRC/MT Agreement on SRC/MT Communication Process

1. A MT representative to be present at SRC meetings on relevant issues
2. MT to review draft SRC recommendation
3. MT summarizes and submits disagreements
4. SRC/MT meeting or conference call to resolve issues
5. SRC produces final decision to MT via county

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