

## ENDANGERED SPECIES RECOVERY COMMITTEE

January 24, 25, 2018 MEETING MINUTES

Meeting Location: State Capitol Building. 415 Beretania Street, #423, Honolulu, HI 96813

**MEMBERS:** Scott Fretz (DLNR), Jim Jacobi (USGS), Gordon Tribble (USGS), Michelle Bogardus (USFWS), Darren LeBlanc (USFWS), Loyal Mehrhoff (At-Large), Kimberly Burnett (UH), Lisa Spain (At-Large)

**ABSENT:** None.

**STAFF:** DOFAW: Kate Cullison, Glenn Metzler, Emma Gosliner, James Cogswell, Afsheen Siddiqi

USFWS: Jon Sprague, Diane Sether, John Vetter, Jiny Kim

OTHERS: Mike Maberry (UH Institute for Astronomy), Charlie Fein (KC Environmental), Rex Hunter (DKIST), Mark Warner (DKIST), Huisheng Chen (DKIST), Laurie Allan (DKIST), Sean Moura (HECO), Elizabeth O'Sullivan (HECO), Tiffany Agostini (Tetra Tech), DJ Hay (HDOT), Tomo Aiko (Kawailoa Wind), Jacob Dutton (Tetra Tech), Alicia Oller (Tetra Tech), Brita Woeck (Tetra Tech), Mitch Craig (Terraform Power), Cameron Black (DBEDT), Lisa Munger (Goodseill Anderson), George Akau (Auwahi Wind), Marie VanZandt (Sempra Renewables), Maxx Phillips (KNSC), Stephanie Nagai (SWCA)

### DAY ONE

**ITEM 1.** 9:00am Call to Order

**ITEM 2.** Announcements

Cullison said we were expecting to bring Cyanotech, but still working with AG to clarify process it needs to go through for extension, with an open ended take. The ITL already covers it and have mitigated for take for the next 19 years. Committee should expect this for next meeting.

**ITEM 3.** Annual Review for Daniel K Inouye Solar Telescope (DKIST) HCP, Maui

Presented by Tony Chen and Laurie Allan (DKIST), presented a summary of data for 2017 nesting season.

Mehrhoff agreed that there is a net benefit but, had needed some clarification. In this instance DKIST used comparison of 2011-2012 and then 2014-2017 and he didn't understand why DKIST dropped 2013. Chen replied that they tried to make a more conservative estimate. Mehrhoff said DKIST did not look at egg predation, asked what the reason for that was. Chen

responded that they do not know how many eggs were produced or predated. Egg shells in burrow entrance could be egg predation, but eggs are such a difficult variable.

Mehrhoff said the project had two kinds of control set up: a baseline shown in presentation, and other site control site. At the control site, the big predation year is 2011, and then drops in both sites. Is it really useful or valid to use 2011 as one of your baseline years without predation? Both had very high predation rates in 2011 around 86%. Both sites showed drop over time in predation rate. One side there was additional treatment one not and both showed a big drop. Without using 2011 as a valid baseline still end up with net benefit.

Chen said one of the arguments is that summit area is such a harsh environment for predators. Even our presence alone, with our intensive monitoring and management by the people walking around, we probably drop the predation rate walking around monitoring burrows. You can see goats running away from the site. Comparing control and conservation site, probably 60% of the intensity of management is in the conservation site. Jacobi mentioned that is was questionable how valuable the control site was. It was a good idea and wouldn't discourage from a future project but need to be clear in how to set it up.

Bogardus said there were a lot of lessons learned in this project setting up the control site, and using it for data analysis. A lot of good lessons learned from adaptive management component. Applicant worked well with agencies to identify challenges and how to analyze data in a way that help us understand what those benefits are. Agreed with Jacobi and Mehrhoff that going this way was better than using the control site.

Mehrhoff noted that it would be nice to have discussion built into annual report. Jacobi offered a seabird white paper document idea. Bogardus said that there should be further discussion on what the future of the DKIST site is, and what it might look like. Would be a good opportunity to talk about seabird conservation on Haleakala, and can be built into upcoming mitigation projects for seabirds. Jacobi agreed that there is a need to consolidate all we know about seabird and combine into a management strategy.

**ITEM 4.** Request approval to amend DKIST HCP. The amendment requests the potential to terminate mitigation after five years instead of the current six, if construction at the facility has ended and there has been a demonstrated net benefit.

Fretz explained to the Committee that all members have received Cullison's submittal, and are being asked to recommend approval to the Board for the DKIST amendment. Received minor edits from applicant this morning but overall still has the same principles which will be discussed today.

DKIST/NSF attorneys David Boboltz and Caroline Blanco present the amendment over the speakerphone to the Committee and explain the requested changes. Fretz asked DKIST to explain the changes and why they are requesting it. Bogardus said the changes would be more legally defensible. Fretz said when the committee originally approved this HCP there were two

parts, six years of construction and a mitigation fence for six years. There is language that in the event those two events were out of sync, applicant would still have to continue mitigation for six years.

Bogardus clarified that this is a BO on the federal side so the intent is to mirror the language and make sure it is up to date and consistent with the HCP.

Boboltz explained that DKIST is requesting minor amendment that is consistent with minor amendment section 6.9 in the HCP. Amendments 1, 2, and 3 designed to clarify the duration of HCP from five years versus six years of construction and implementation of ungulate fence. Amendment 4 covers long term rodent control and Amendment 5 deletes the redundant long term rodent control obligation since it is already covered in the BO which will continue on beyond the HCP. HCP termination requests concurrence by the ESRC provided that: NSF meets its mitigation, there is no take and NSF submits final report. Will coordinate with agencies to transition the conservation area in April 2018. Obligations completed by December 2018, submit final report and get approval to terminate the HCP and ITL in January 2019.

Fretz asked DKIST to address their proposed changes in the DOFAW staff submittal. Blanco goes over the minor revisions to amendment. Fretz asked if exterior construction was a covered activity, and if there was any interior construction activities that would cause take. Blanco confirmed that. Fretz said for the ITL, can't delegate to the ESRC to terminate the ITL when the HCP ends. Potential way to avoid that is to change language to say - or until terminated with compliance with the HCP. That way, the termination procedures are in the HCP and the ITL is automatically terminated when the HCP is.

Cullison clarified in the HCP that any internal construction should not include the use of massive equipment, anything that would cause a lot of vibration the agencies would want to weigh in on. Spain said she was uncomfortable seeing the word exterior construction for the first time, due to the subjective definition of interior versus exterior construction. The inside of the building also includes transport of a lot of big equipment up and down the mountain. Michelle rather than specifically referencing exterior construction, should instead say all covered activities are completed, and refer back to definition of covered activities in HCP.

Fretz mentioned that the submittal asked Committee to recommend inclusion of language to the Board to delegate to the DOFAW administrator upon recommendation of the ESRC to terminate in compliance to the HCP.

Mehrhoff asked if the changes requested today would be in addition to the submittal or in lieu of. Allan clarified that it would be in lieu of. Mehrhoff said he was alright with the changes, as long as long term rodent control is carried on in the federal BO.

Fretz asked if there are any public comments on this item, there were none. Fretz asked for a motion to recommend that the board approve the amendment with understanding that staff may work with applicant to make minor adjustments to the term that may be different from submittal as long terms consistent with principles that we deliberated on.

Mehrhoff motions for approval. Spain seconds. 5 yes votes, the motion passes.

## ITEM 5. Annual Review for Kawaihoa Wind Power HCP, Oahu

Alicia Oller, Tomo Aiko, Jacob Dutton, Tiffany Agostini, and Brita Woeck presented annual report.

Jacobi asked if there are any characteristics of the misses of the canine searches. Dutton replied it is mainly based on wind. Oller praised dog searcher Deb Wilson for hard work. Oller mentioned that Kawaihoa is looking at acquiring Dole-Waimea Pupukea Mauka property and clarified to the committee that it is a separate parcel from the Tier 4 Helemano acquisition.

Fretz commented that the bat subcommittee should reconvene and look at what has been funded and what money is available and what needs to be funded next. This acquisition is in lieu of habitat management. Cullison said the terms of the original HCP do not require ESRC to approve mitigation. Bogardus clarified that this mitigation is not part of the amendment. Cullison said mitigation approval has been delegated to the staff level. Fretz asked to confirm in the HCP.

Fretz asked how we know that project is the best use of mitigation funds. Agostini said the area had been discussed as a good area for bat conservation in the past. Metzler said DOFAW Oahu Branch made a list of preferred sites for bat conservation. Fretz questioned where acquisition fits into the priority for bat funds and mitigation. The subcommittee was created to look at dollars available and make recommendations. This HCP predates the subcommittee and would like to create a way to make sure all mitigation goes through subcommittee already. Oller mentioned that acquisition is listed as appropriate mitigation in the bat guidance document. Fretz said the bat subcommittee would be reconvening soon, and would bring up Tier 3 mitigation for discussion.

Metzler brings the committee up to date on Kawaihoa's bat take, five observed bats since last annual report, and calculated take of 68. Fretz requested reformatting of Kawaihoa's annual report and to include an additional table to see take estimated over the years. Mehrhoff suggested updating white paper on bats using graphics generated by evidence of absence to include entire term of HCP and see how take has changed.

Oller said Kawaihoa was curtailing February to December at 5 m/s. Fretz asked why Kawaihoa is not curtailing at higher wind speed. Oller said they are looking at that and bat deterrent research. Bogardus thought that January bat fatality was interesting because January is not thought to be a high activity month. Metzler commented that there is no curtailment at Kawaihoa at the moment.

Fretz said Kawaihoa is already over their permitted limit, at 68 of 60 approved and have a pending amendment. Metzler stated that turbine 30 on the site is responsible for six of the observed bat takes. Dutton said that turbine 30 is located at the lowest point. Bogardus asked if there was anything different for the SEEF or CARE at the site or turbine. Dutton said it is the last turbine searched.

Mehrhoff asked Oller for details on the two Kawaihoa incidental/out of survey observed bats. Oller said both were found outside of the search areas, around 46m and the wind was blowing the other way. Mehrhoff wanted to know for future reference if the search areas are adequate. He

also asked how the bat lanes at Ukoa Pond aligned with the bat monitors. Agostini explained that the plan was to put out monitors before the work at Ukoa and compare it to activity after work at Ukoa. Mehrhoff asked how they will be able to tell if the lanes are effective. Jacobi asked how the project is related to producing more bats for mitigation offset. Oller suggested talking to Kawaihoa management about putting out more monitors.

Fretz asked how long Kawaihoa will carry out monitoring and invertebrate sampling at Ukoa site. Agostini said three to five years after water hyacinth removal. Fretz noted that Kawaihoa is amending, and using habitat monitoring as a research project to figure out what kind of habitat management results in responses in bat activity is something the ESRC has talked about a lot. He wanted to make sure discussions about amendment include monitoring to a sufficient level.

Craig questioned why there hasn't been any adaptive management for the high take exceeding permit level. Fretz said they were out of compliance now. Bogardus said FWS has known for a couple of months that their take has been exceeded and will be sending a letter outlining some recommendations, as they would like to reduce the likelihood of take if possible. Mehrhoff said other farms have implemented higher levels of curtailment, might be a good question as to why Kawaihoa has not. Jacobi mentioned putting more emphasis on deterrents. Fretz said minimizing to the maximum extent practicable and suggested 5.5 m/s curtailment or shutting off at night. Committee is asking Kawaihoa to respond to that. Fretz said to revise the annual report, and come back to the Committee because it does not look like Kawaihoa is acting at the maximum extent practicable. Mehrhoff said that Kawaihoa had reached an estimated take last June, and there should have been suggestions in the annual report on how to have zero take or what actions to take on how to reduce take.

Sether clarified the difference between cut out and cut in speeds. Curtailment speed sometimes may be referring to cut out speed which is always lower, and wanted to make sure we're all using the same operational definitions. Cut out speed is the wind speed in [m/s] averaged over 10 minutes that will determine whether the turbine will feather and start slowly decelerating. When wind speed exceeds that amount by a certain amount or degree, you can cut off at 5.0 m/s, when wind speed gets above that for 10 min or greater, then the turbines will speed up and that is the cut in speed. When people report on curtailment can be hard to tell if they are reporting cut in or cut out numbers.

Mehrhoft suggested that all wind projects as much as possible have the same cut-in and cut out speeds that will complicate what kind of credit you are going to get, need to bring it into account. Bogardus asked if we have projects across the islands that have different cut in and cut out speeds. Sether said they are all slightly different. Bogardus asked what the calculated take (estimated take) was at the end of 2016. Oller responded 51.

Fretz asked Kawaihoa to revise their report and get back to the committee. Spain had a procedural question, since the Committee is making a request for information, does the committee need to take a vote action. Fretz asked for public comments. There were none. Fretz said Craig was correct that adaptive management should be happening at the earliest possible

moment, and staff is always the first point on that. However, this HCP is out of compliance and don't see how Kawaihoa has been minimizing take.

Jacobi recommended that applicant responds to Committees concerns as a report to add as an addendum to the annual report. Bringing a historical perspective another project that was way out of compliance, the ESRC recommended to the Board to send a letter to resolve this right away. It is appropriate to make that kind of recommendation. Fretz said given that Kawaihoa Wind is already over permitted take, the actions of minimizing to the maximum extent practicable go all the way up to total shut off at night in assurance of zero take. Asked the Committee if there is a unanimous consent of this request to the permittee.

Mehrhoff mentioned that while amendment is in process, what can be done under the existing permit to minimize and avoid because that has not occurred, what will be done in the future. Suggests for future reports with bats to use Evidence of Absence software to produce projection plots, so you can see what the projections are going to be in the future to provide a quick visual for readers. All staff reports should include that.

Committee agrees on unanimous consent to ask permittee to provide a response to an inquiry as to what it will do to ensure that it is avoiding and minimizing take to the maximum extent practicable particularly given that it is already over its authorized take and explaining why it cannot shut the turbines off at night. Bogardus said FWS letter will lay out similar request and ultimately it is still a liability issue. Fretz requested to bring it back to next quarterly meeting in April.

#### **ITEM 6, 7, and 8, Annual Reviews for Kaheawa Wind Power I and II, Maui and Kahuku Wind Power, Oahu**

Craig presented on Kaheawa I, II and Kahuku wind farms.

Haleakala Nēnē pen produced 14 fledglings this year, almost twice what was expected. Mehrhoff asked what the conversion of fledglings to adults for Nēnē. Craig couldn't recall the exact number. The net productivity is small enough that the fledglings we produced should cover the take. But will take 20 years of at least 8 fledglings a year to cover the projected take of Nēnē. Not sure if it is possible to do that. Mehrhoff asked if anything has been found outside of the 70m search area. Craig said he did not think it was true, have not found bats that far, but maybe birds.

Jacobi asked for details about a gosling found, asked about downed wildlife protocol. Craig said he used to send birds to Thierry Work but the State has birds in their freezers now.

Fretz asked for clarification on KWP I higher baselines. It is not an amendment that goes through the committee and board committee, it's something else. Craig said it goes to the agencies doesn't think it is required to go to ESRC. Fretz said it is essentially a tier. Craig agreed.

Fretz asked what KWP II is doing to decrease the level of take to the maximum extent practicable since KWP II has exceeded its permit of 11 bats. Craig said KWP II increased

curtailment to 5.5 m/s from 5.0 and KWP I from no curtailment to 5.5 m/s. Fretz said KWP II is over their take, and asked why not curtail at a higher rate, or shutting down the machines or alternative measures. Fretz said KWP II has a request to amend and projected take is 44 and requested amendment is 48, Tier 4 level. He asked if the 48 was projected with additional minimization measures. Craig said it does not assume any more minimization than KWP II is doing now, unless the alternative is 6.5 m/s curtailment becomes necessary. Bogardus clarified that the 2017 data bumped the projection down from 48 to 44, and Craig confirmed. Fretz asked what are the maximum practicable measures for KWP II to reduce take and asked to bring back on the next agenda.

Bogardus asked if Craig included the years in the beginning of the Kahuku project term for its 20-year projections. Craig said it did, but that there is a reduction factor that is assumed when curtailment is added.

Mehrhoff said he would like to see revisions to the white paper on what factors for curtailment should be since there is a lot more data since KWP I came online.

Craig mentioned that KWP I and II use predominantly more dog searching, only do human search if the dog is injured or not able to come. Bogardus asked about the previous ant issues. Craig said it is not an issue anymore. Ants do attack in some places, typically it covers grass with dirt particles but eventually the dirt goes away and leaves a white skeleton. Not sure if dogs can detect skeletons or not.

#### Lanai Petrel Colony Update

Bogardus gave an update on predator control work on Lanai. Funding is set aside for the loss productivity for petrel mitigation into the NFWF account. The seabird recovery team helped identify priorities and agreed on funding to support the Lanai colony. Jacobi noted that it started with the original Lanai meteorological towers. Bogardus said the money Craig has set aside is still in the NFWF account and has not been expended yet because in order to spend it, there needs to be a plan first which would be brought to the ESRC. Pulama Lanai has been working diligently working on the colony and have gotten a better handle on what type of benefit to expect with what type of management. They've done the fence assessment and potentially the money could be attributed to the fencing or for predator control and colony management outside of the colony, or up until the fence is installed. The level of benefit anticipated is high for any of those options and shouldn't be any trouble to reach benefit needed from KWP. Pulama Lanai will write out more detailed options and consult with agencies.

Craig asked if the Kauai research group did baseline assessment. Bogardus said there's a baseline assessment from 2015, started implementing predator control in 2016 only halfway through year, and in 2017 did high level predator control throughout the colony so you're looking at baseline information against management actions.

Fretz asked what the baseline at the Lanai site is. Bogardus said the number of burrows they're monitoring now is four times higher than before.

Fretz said in 2006 DOFAW started a project on Lanai and managed burrows there and predator control there and number of burrow there was high and high density. Then the met tower contributed to some portion of vegetation control. Public funds supported DOFAW/PCSU to get predator control done and then 2012 the new landowner kicked DOFAW out, leaving a lapse in management and potentially predators came back and impacted the population gains, but what is the baseline. Bogardus asked to continue the conversation offline.

### Kahikinui Update

- Tier 1 and 2 for KWP II. Started bat research with USGS for upcoming tiers.
- HAPE burrows within the fenced area has been found. More fuel for fire, things are growing over. Going to install firebreaks outside fence line. Gave an overview on ungulate removal and outplanting efforts.

### Makamaka'ole Discussion

There has been evidence of another bird species burrowing in enclosure, and created an uluhe tunnel, next to one of the speakers. Camera evidence of adult petrels utilizing two different burrows. Found two Hawaiian petrel burrows and four Newell's shearwater burrows.

Fretz asked if birds were just visiting and not nesting. Craig said photos only show them entering and exiting the burrows and not sure if nesting or not, they go in afterwards. Fretz said it does not sound conclusive on how many nests and eggs there are. Craig said they know how many eggs there are after the season, none fledged and all discovered eggs were cracked. Jacobi said one possibility was the nesting birds could be inexperienced breeders.

KWP II found two eggs in burrows that saw on camera were the most active. There was less petrel activity than last year. Jacobi asked if there was concern whether there is competition from Bulwer's petrels and other two species. Craig said there was concern about competition between the NESH and HAPE. Bogardus asked if Craig was still running speakers for both Newell's and petrels. Craig said yes, at one point it was suggested to mixed the two species and get more variety in calls. Now each enclosure has separate species calls. Bogardus asked if there was any value in not doing any Newell's calls at all.

Jacobi asked Craig on his perspectives on how the project is working. When first proposed there was a model on how many birds would be produced. Is there a time period of when you look to a plan B if the outputs are not what was expected? Craig said the HCP specifies five years, which will conclude next year. The minimum number of pairs required is two pairs of each species per enclosure. Essentially there have been at least two NESH pairs, but having more trouble with the petrels. Partly because of the decrease in activity this year, not as many night surveys to make sure there are still petrels flying around, they still are flying around. When Craig first started, he hardly ever heard Newell's shearwater, and now they are heard regularly. The first couple of years showed more petrels on the ground. Will go through next year as planned, and if there are no petrel nesting that means this site probably won't work, we need to mitigate for petrels more than shearwaters.



Occasionally get rats in the enclosures, no cats or mongoose. Have been used baited traps. Maui DOFAW has been removing barn owls. Jacobi asked if there are any burrow or bird searching outside of the enclosures. A concern has been attracting birds to an area outside the fence and being vulnerable to predators. Craig said there have been surveys done, have found one burrow. Jacobi suggested searching once a year. Craig said this year they are thinking of taking a dog out there to help look for birds and burrows. Craig mentioned amending NESH take down, to mitigate for less birds. There have been no downed NESH found during the permit term so far. He also mentioned they don't show projected take for species they have not found any observed take for, and suggested including that in future reports.

Financially the best thing for KWP II is to abandon the Makamakaole site, and do mitigation elsewhere unless it includes building a fenced enclosure. Fretz asked what their other mitigation options were. Craig mentioned the DKIST site on Haleakala. Fretz said there is a lot of work potentially there, but Auwahi has also expressed interest in that site. East Maui colonies found that have both petrels and NESH could be managed, as well as the Lanai colony management.

Bogardus asked if one of the reasons Makamakaole is not calling in as many petrels is because we don't have very many flying over west Maui. Craig said there are more petrels than shearwaters on west Maui. Bogardus said maybe this site would be better as a translocation site rather than a social attraction site. There could be value in evaluating the cost benefit analysis for translocation, not sure how feasible that could be, but is another option to consider. Fretz said he was curious what proponents you guys had worked with when Makamakaole was first presented and asked what they thought of the project's future. It is such a huge investment to abandon the site.

Craig said something we have to consider is loss productivity if we keep taking more petrels. Even if translocation is tried, it still takes five years to see if it works. Fretz agreed and said it's not just the issue of social attraction not working, it is that it's not working fast enough. Bogardus said there is no easy way to decrease the level of cost and given biosecurity. She asked if just going down to one enclosure would decrease the costs. Craig said there is also a large cost to remove them as well. Jacobi asked Craig is there is anything at the site that could be done differently or more intensively such as predator control or weed control to get to a higher level of viability. The site visit would be a useful place to brainstorm ideas, and would be helpful for Fern Duvall to be present.

Craig suggested KIUC could get shearwater credits from Maui, we could meet our shearwater mitigation with lowering take request, and could sell that credit to KIUC and try to attract petrels. Bogardus responded that she wasn't sure how credits going between entities would work but retaining that site on Maui, it's a huge benefit. There are no managed NESH colonies on Maui Nui, having that in some way shape or form is inherently valuable.

Craig said KWP I has existing obligations left that needs to be spent. While we do not know the results of the current bat research, it does not make sense to begin a habitat restoration project without having the information needed. Jacobi said that would be taken up with the subcommittee in looking at what options are research and otherwise and will report back. Craig

said the outcomes of the current research will help us find out where most of the bats are and then protect those areas. Think it's figuring out the best places to protect and spending the money there.

### Downed Wildlife Protocol Discussion

Craig said he would like to stop reporting game birds they find on Maui if they run into the towers. DOFAW Maui comes up and gets them, and would like to stop doing that. Spain asked if there was a reason why that was requested. Jacobi said it was originally included because it helps with understanding ballistics and how things fall out around the tower, and how different sizes react. I was a proponent in making sure everything was recorded. Not sure how valuable the carcasses are now. Fretz said they need to record the data and that he would work with Craig on making something work, game birds are still regulated species. Said the State does not need to come and pick up game birds but would like the data.

Craig said he has heard it is ok to pick up the birds on Oahu and put them in the freezer. On Maui, DOFAW does come out to pick up birds. Fretz thought the downed wildlife protocol was the same across islands for wind facilities. Jacobi asked if someone comes and picks them up. Craig mentioned that bats are different and Corinna receives them for her genetic study. Jacobi wanted to make sure there is a consistent protocol throughout projects. He also asked if there have been any potential species for rehab. Craig said not for bats, but have found two great frigate birds and took them to the vet, as well as pueo. Fretz said the committee should review the downed wildlife protocol and give comment. In our case we don't have to come up and pick up every T and E and MBTA we just want to be notified and potentially come up and get it and if not, we would tell you to do something else. Craig said we keep them onsite in the freezer until the end of the year and we let the agencies know if someone wants them, otherwise we will bury them as part of the permit. If no one is available they tell you to stick it in the freezer until someone can pick it up, but that is usually uncommon. The protocol says to contact people within 24 hours of finding downed wildlife and contact Glenn. Metzler said the protocol says to contact the on-island biologist. Jacobi said the committee needs to clarify and look at the protocol.

Fretz had a follow up question for Craig on KWP II project level of take, if you look at your estimated take for that facility for the past 5 years are you doing something different that caused your take to be zero for the past three years. Craig said it coincides with the 5.5 m/s curtailment, but is not sure it is attributable. Downsized the search area so you would be finding fewer and fewer observed. The longer you go without finding one the less the calculated take is going to go up. The SEEF is almost 100% the CARE time is the only thing affecting the estimate.

Mehrhoff said he has not seen any cases where the estimates have gone up based on zeros. Craig said what that is saying is based on the observed the estimated in year one is five, based on the observed in year two the estimated in seven. What happen then is the SEEF got much higher, otherwise if it had stayed at a lower level we would probably see it continue to climb. Craig explained that the longer period of time with only one observed take and estimate has changed because SEEF and CARE has improved.

Jacobi mentioned setting up long term monitoring for bats. He does not think we will move away from using audio detectors, but are moving away from using only audio detectors. Jacobi clarified the semantic difference between estimated take and calculated take calculated take is the number that counts. Tribble recommended not trying to do restoration in an area within reasonable flight range to a turbine for bats. Acoustic monitoring will be used for a long time it's the best tool that we have.

Fretz said not to bring KWP II amendment to the Board until we are certain that we have the same HCP document on the state and federal sides. Item is not on the agenda for discussion so it will be discussed at a later date.

Fretz asked if there were any public comments. There were no public comments.

## ENDANGERED SPECIES RECOVERY COMMITTEE MEETING PART II

Meeting Location:

State Capitol Building, 415 Beretania Street, Room #423, Honolulu, HI 96813

January 25, 2018 9:00am

MEMBERS: Scott Fretz (DLNR), Jim Jacobi (USGS), Gordon Tribble (USGS), Michelle Bogardus (USFWS), Darren LeBlanc (USFWS), Loyal Mehrhoff (At-Large)

ABSENT: Kimberly Burnett (UH), Lisa Spain (At-Large)

**ITEM 1.** 9:00am Call to order.

**ITEM 2.** Request for Comments on the December 2017 Draft Habitat Conservation Plan: Kauai Sea Bird Light Attraction

Reiss gave a presentation on the status of the HCP. The document is getting close to public review, therefore good opportunity to address any major comments.

Jacobi asked Reiss to highlight anything radically different from December 2016 presentation. Fretz asked if Reiss would be identifying comments from December and if they have been incorporated into the draft. Reiss said the comments were incorporated but don't have a specific item dedicated to that. Reiss presented background information for new members, as well as the preliminary draft HCP.

Bogardus asked if HCP was assuming that all birds released in good condition are surviving, it's been an ongoing conversation in program. Reiss responded that at this point the program is assuming that any bird that is actually released and evaluated.

Jacobi asked if there was a database that shows all of this information. Reiss responded that all that information is searchable and available now but is not sure how publically available the data is.

For every non-lethal take there is also considered a lethal take. LeBlanc asked why the numbers are not equivalent. Reiss responded that in the past KSHCP was written as a scalable, island-wide HCP for anyone who wanted to participate in could. That is what has caused a lot of the delay because it is difficult to write a mitigation program for public review process that is also scalable. Major changes in the program are to fit the suite of expected applicants. The 50% discovery rate is the base for the calculation method for how you estimate take. Applicants with smaller facilities or searching techniques may request a higher discovery rate to build in some capacity for higher rate and thus larger proportion of nonlethal birds. Jacobi asked if there is a

way to vet those requests. Reiss said it would occur during the PIP review process, but that ultimately the regulatory agencies will make final calls on request for each applicant.

Bogardus asked for every nonlethal mortality there is an assumed lethal mortality because of the 50% discovery rate. If a bird is found dead, would you still have the second dead assumed unfound bird? Reiss responded that all birds that are found have a second dead birds associated with it.

Mehrhoff asked what the SOS pickup rates per year are. Reiss responded between 120-150 Newell's shearwaters and usually around 10 Hawaiian petrels and Band-rumped storm petrels are random. Mehrhoff asked what the rates were about 10 years ago, and Reiss responded around 1,000 birds a year. Mehrhoff asked where the lag time is accounted for. Fretz said it is somewhere before Year 30 [of the project]. Reiss said in terms of that initial gap between the number of birds taken and overall offset doesn't happen until around Year 25.

Jacobi asked if mitigation plan was expecting to have all three seabird species nesting outside of the fence. Reiss replied that she was not expecting Hawaiian petrels and Band-rumps to nest inside the fence, in order to offset predator control will occur outside of the fence as well.

Bogardus said that cat control will benefit all three species. Reiss said migratory predator have large home ranges so removal of those within that area will benefit the species. LeBlanc asked how the program will measure the benefit for Hawaiian petrel and band-rumped storm petrels. Bogardus said for Band-rumped there are no historically known burrows.

Reiss responded rats will mostly predate on fledglings and chicks. Cats documented as one of the worst predators, in one night can take out 10 burrows whereas rat predation is more dispersed. Bogardus referenced a study by Kessler that compared predator impacts against each other, and breaks it out to show which impact is most likely to occur and which is helpful for the relative value of predator control.

LeBlanc asked if the predator control species were the same as from Griesemer's model. Reiss responded yes, the predators include feral pigs, rats, cats, and barn owls. Not controlling for rats or bird predators outside of the fence.

Reiss goes over changes since last ESRC presentation in December 2016.

Fretz asked if data assumes 100% survival of released birds. Reiss said the data is mixed.

Griesemer said there is the same rate of survival if birds are released within 48 hours. Bogardus asked if the compensation is to rehab and release, payment of SOS is not part of this document. If we're relying on SOS to get birds to the point where they could be released but not compensated for SOS. LeBlanc asked what happens if funding for SOS ends. Bogardus asked how HCP is mitigating for nonlethal take, if applicants are not paying for rehab which seems like an obvious component. Reiss clarified that nonlethal take is still take. Griesemer asked what would happen if funding for SOS is removed. Reiss replied that it is a changed circumstance we would have a certified vet to handle birds turned in by the applicants.

Bogardus said Committee still needs to figure out how to mitigate for nonlethal take. Reiss said it was her understanding that the applicants would be mitigating for the impact of the take itself.

Impact of the bird is released and seemed to be in good condition. Bogardus said they are not paying for that work.

Fretz asked if there are any public comments before moving to Committee discussion.

David Henkin representing Earth Justice as a Staff Attorney:

Henkin began coming to meetings on this item since 2004. He is eager to see this project come to a close, and it is important for all applicants to do anything they can to minimize their take, and make sure that the HCP that is adopted meets legal standards and contributes to extend the life of extinction for Newell's shearwater which has suffered mightily. I don't think the reduction from thousands to hundreds of downed birds is due to minimization efforts as much as the decline in the species. Earthjustice echoes some of the concerns already brought up, the discovery versus unknown bird in the bush that is presumed to have died and if applicants can prove that they can find all of these birds. The question was raised about not all of the birds found are recoverable. Earthjustice has assisted in funding some of these SOS success rate studies. Fact of the matter is the data set is extremely small, we're talking about a handful of birds. We strongly support efforts to determine the adequacy and effectiveness of the SOS program. We want the program to be successful and we want to keep the birds alive.

But for the agencies and Committee to assume that these small data sets that all of these birds are going to survive. I don't think this is in line with the Endangered Species Act which gives the benefit of the doubt to the species, and want to make sure that we are going to do everything we can do to minimize take in the first instance that we're not looking at how to deal with the unavoidable take but then for the mitigation need to make sure it is going to be adequate. We haven't had much opportunity as far as peer review and science on the yield to expect from the social attraction site and whether the size of the site is big enough or if the program is ambitious enough to deal with the level of take requested by the applicants. We don't know who the applicant pool is with any specificity, it seems from initial review this assumption that there will be a constant yield. This seems counterfactual if you deal with el niños and ocean conditions, I know from one of the SOS survival studies where all of the birds died, even the ones that went through SOS and the ones that didn't. That's because there wasn't any food in the ocean for them, or they couldn't find it. The notion that over 30 years there is going to be this steep curve of productivity - Earthjustice questions the reality of those assumptions given that under federal ESA you need to offset the unavoidable take to the maximum extent practicable. Under the state law you need to have a conservation net benefit. The notion that we're going to get 27 years out of a 30 year program and expect to have a net conservation benefit, it seems like a social attraction project is undersized. Earthjustice looked at the minimization measures in the appendix reviewing color and intensity of lighting for what applicants are trying to do, it's pretty abstract but we will reserve comments until we have some specifics. Overall we have no desire to hold up the process and appreciate the questions the ESRC is asking today, these are the exact questions that need to be worked out before greenlighting the plan.

Fretz asked if the PIPs will be included in the public review document. Reiss responded that yes, all PIPs will be in the public review as a critical part.

Henkin said the public is supposed to give input to the ESRC and not wait until a draft HCP is out for public review. In this particular instance, I had to contact the ESRC for any publically available materials for this draft on the website. I was given a Dropbox link so I could see the materials provided to the Committee. I don't know that other members of the public took the initiative that I did to access documents prior to the meeting, but that shouldn't happen. The public should have it, I appreciate that it was provided after I asked for it, but it should be more transparent.

Cullison replied that the draft will post in OEQC for public comment. At this time it is an incomplete working draft. We consulted with attorneys at the Office of Information Processes that it does not need to be posted, it needs to be available at request that the agenda item and presentation needs to present enough information for the public to comment on. This really was an initial change. If we can't continue to do it this way, we will wait until the draft is ready for public comment. We were trying to create the best draft we could before posting in OEQC, we wanted initial feedback first.

Fretz said that drafts will not come before the Committee until it's been posted if there is confidentiality in question. This is not that case, this is something that has been put on the agenda for the ESRC to read and talk about it the public should be able to see it too. I don't see why it's not the case.

Chow said that the only thing required under the sunshine law, is the agenda posted on the State Calendar six days in advance. There is no legal requirement to post it anywhere but, it should be provided upon request as a public document and as a courtesy to the public. In this particular instance, it was decided not to post.

Craig Gorsuch had a brief comment and question. Worth mentioning the possible inverse relationship between cats and rats based on anecdotal observations from trappers on the island that control predators around seabird colonies. He asked what the predator fence looked like especially in regard to keeping out cats and erosion and longevity and cost.

Reiss responded that it is available in management plan, and that the design of the fence has a track record for keeping out cats. Costs are not made public right now, basing them on predator experts who have worked with other fencing projects in Hawaii. Fretz noted that the management plan probably contains citations to other similar fences done elsewhere

Tribble asked how the project came up with five acres for the fence area. Reiss responded based on other social attraction projects as well as the colonial nature of the nesting in dense colonies. We modeled making the fence bigger and within the time of the 30 year period we did not see increased productivity in that site because you're not reaching carrying capacity within the 30 years. Tribble asked if fence would have Newell's and petrels. Reiss said mostly focusing on nesting Newell's and only playing NESH calls.

Bogardus told Reiss that day one of the meeting covered discussions on Makamakaole and overall how slowly the project is meeting expectations. Discussed cost benefit analysis in continuing on with that project given the delay in producing birds, for every year it delays

reaching higher activity levels, there are higher levels they need to mitigate for. Your model takes it into account and shows that you won't catch up until Year 13. Do you feel that your adaptive management triggers in the program are clear and sufficient enough to deal with changes to that program should it not meet the expected levels of productivity in year 13? Do you feel like it is pretty explicit in there?

Reiss responded that a lot of that you can only do from the lessons learned, such as changing nest box design. Need to tap into suite of knowledge of social attraction. We are looking closely at the way Makamakaole was designed and asking ourselves what happens if we get behind.

Griesemer said took a long time to build right performance targets in place that are adequate responses and look at different types of responses that could happen. Jacobi mentioned discussion of Makamakaole from yesterday. They showed great models in the beginning of their project that projected quite a bit of high productivity and high expectations. Yesterday there was serious consideration of abandoning the project. Finally have indications that it may work, but discussion in terms of Plan B and walking away from it or not counting on it for being a successful project. In terms of measurability and estimating, uncomfortable in terms of validation and confused in terms of barn owl control how to measure that besides through modeling.

Reiss agreed that it is going to be hard but will be documenting. Griesemer said they are hoping not to find any carcasses, if you are finding carcasses than that is some way to measure if you're doing a good job with the barn owl control. Will be looking around the fence area as well as along and along the trapping line and, not cutting in any trails. If there is barn owl presence then they will go to the roost and remove.

Jacobi understood the concerns of human impact on the site but on the site you do have some measurement of take versus assumptions. Validation is a key part in knowing if it would make a difference or not.

Mehrhoff asked when covered take starts, and when Year one of the project begins to offset take. Reiss said the take under the permit will begin when the permit begins. Mehrhoff asked if previous take is lost. Having trouble figuring out some of the take estimates for several of the years. Table 4.2 in the document shows 75 birds and the slide is showing 30. Reiss explained that it is the lethal take and nonlethal take combined, the take number has to be the number of birds brought down by light attraction, not just lethal take.

Bogardus said we're assuming the total number of birds found per year that there's roughly two times that amount. Only some subset of that is being covered by this suite of applicants. Griesemer agreed that 322 is the average of 2011-2015 with a 50% searcher efficiency rate, this HCP covers 25% of that per year, and 0.4% of the island-wide take. This is only showing lethal take.

Fretz said for 30 lethal take and 45 nonlethal but for every downed bird another one is assumed to be lethal, these numbers aren't adding up. Reiss said these numbers are to accommodate higher discovery rate. The PIPs will explain that discrepancy. Jacobi said it would be better to do it with your baseline discovery rate and then work down from there on a permit by permit basis



at this stage to be more conservative. Mehrhoff said it would be 45 plus 12 percent of the SOS points that don't make it. Jacobi suggested to show a standard discovery rate and if applicants can provide evidence that can be verified that it will be different, it will change. Fretz said it is setting an upper limit on how much take and how many applicants can join, it is 30 lethal take as the maximum. Reiss said that only lethal take needs to be offset with the mitigation project. Fretz said it was constructed this way because it's appropriate to the applicants you work with. Mehrhoff said the reality is if you were to go to 100% efficiency on those and eliminate the second unknown half the only thing you would be dealing with is the increase of the 12%. You would drop the 100% unknown fatalities to 12%.

Mehrhoff asked about Hawaiian petrel and Band-rumps and the assumption that mortality of those will be picked up in predator control. Reiss replied that the document looks at removal of barn owls and the impact of removal on the seabird populations. Mehrhoff referred to a slide that showed fledgling production from barn owls you're getting 5 and your percentages of the other two species are a lot lower. Trying to figure out how you get to one [fledgling] annually [for Newell's and Band-rumped]. Reiss said this wouldn't be related to the other species, it would be related to estimated population within the impacted area. Mehrhoff asked if there was enough home-range coverage of cats or barn owls and greater range proportionally of Petrels and Band-rumped than you do to Newell's. The predator control model looks at total available population, population estimate for the affected area, and we don't have those models for band-pumped. Also look at predation rate, predator control effectiveness is low, about 30%. We would be able to reduce barn owl predation by 70% and 30% for cats.

Jacobi asked if reduction is documented, or reported for predator control. Sounds like we're building bigger assumptions, asked if there was a report to look at for internal peer review. Reiss responded that at the moment you have to mine through all of the predator control group's reports, a lot of good data but don't have a comprehensive source of compiled all data. Bogardus stated that next week there is a predator control forum that will address this issue. However, right now NARS is doing predator control on Kauai, a seabird group doing the seabird monitoring, one report talked about the number of animals removed, and another report saying the predation rate from seabirds. Would be worthy to combine. Jacobi said that would be crucial, if nothing else, any management plan has an adaptive component, and part of the learning is from what you started from, and compiling other information from other sources. Urges front loading the assumptions with existing data, crucial to validation process. Bogardus replied that it is hard to be adaptive if you don't know what you're starting with. She offered an idea from the currently accessible seabird locations, can we use information from the current rate of impact from barn owls and cats to use it as a baseline to check as a measure of success for the area. Theoretically as you remove barn owls and cats, the burrows with long term monitoring program might have a reduction in their predation rate associated with those efforts. Asked if we could use that dataset as a baseline.

Reiss said the way the data is available now is not appropriate for this program to take it and do analysis Committee is asking. The trouble has been no baseline and monitoring effort has changed each year and right now from raw data it's not easy to create something that is valid.

Jacobi mentioned that there is a review process for all permitted programs, and watch programs evolve and get better. The ESRC is not regulatory, we're biology.

Fretz mentioned that given all of the uncertainties of what we're talking about that model you have for productivity, given the uncertainties the model you're using should be conservative to some degree. Is there an appendix that shows how model would be different if you put in different values that are less optimistic? Is the model conservative, how can the public tell? Reiss responded that the program is also conservative of take assumption, all data shows nesting is declining. Mehrhoff agreed that it was a better way to model it, with a pessimistic view because the site is not in the same area as your birds are, it's a guaranteed population relocation for the Kalalau rim so you would expect that the other areas with light attraction to go down. How robust is your funding going to be, because it should be consistent for your applicants over the years.

LeBlanc asked about the lethal and nonlethal take estimate numbers, describing the 45 for discovered birds, all non-lethal birds would be turned over to SOS. He asked if discovering a lethal take is accounted for in the 30, since it's counted twice, if model needs any adjustment. Is there any information on the percentage of birds that are released within 48 hours and what percentage are not? There should be some type of compensation for birds that are not released.

Mehrhoff asked what the estimated density in the social attraction site, and how does that compare with natural density. Reiss said she worked a lot with Andre Raine, and it ranges between 6 to 700 burrows based on similar species. Nothing on Kauai represents natural density according to Andre. Mehrhoff expressed concern about high seabird density in an area with rare plants.

Griesemer said the model estimated that the most it could reach over 50 years is half of the capacity of 400 burrows within 1-2 hectare area. Protection measures in place for plants, whole suite of measures that are included at the end for plants within the enclosure. LeBlanc asked if birds going to nest in enclosure would likely have productivity otherwise. Is that natural productivity if left to be without the fence incorporated into the model, total productivity ability? Reiss said the model compares exactly that, a bird lands within the fence, here is its reproductive potential, versus if the same bird lands outside the fence.

Mehrhoff asked what fallout distance for light will be used so applicants will know how much of an area they need to survey. Reiss said applicants will have to survey all survey-able areas on the property. But cannot require them to search beyond their own property. Mehrhoff asked how that will be factored in if the area extends outside of the applicant's property. LeBlanc asked if we are able to compare the parameters of the search for this project to parameters that gave that one additional bird for each bird discovered.

Jacobi said wind farms are required to search an area relative to where the impact is going to be. There can be restrictions on what areas can be searched and not be searched, very strong effort made for the use of CARE and SEEF searches. He was unclear on the search methodology applied by security staff and visitors to a hotel and routine staff. Not a concerted and confident effort and results. Asked how plan can get some reliability. Reiss said the PIP templates ask

applicants to explicitly describe search methods, timing, and maps, set a stringent requirement for the monitoring to be standardized. Fretz echoed Jacobi's concern on SEEF and CARE for facilities. Fretz suggested a discussion on methodology and searching in general guidelines required with applicants.

Bogardus said there is a level of practicability that has to be considered. If you are talking about two downed birds a year there is some acknowledgment of practicability of doing SEEF and CARE trials on a quarterly basis. Jacobi reminded her that the wind farms may only find one or two bats per year, and without good searcher efficiency they would find less. LeBlanc mentioned that if applicants limit their searches to their own property even though a street could be searchable, but they are not achieving the searcher efficiency that they could. With wind farms, it's all their property so they can search everywhere that is reasonable and practicable. This may not be the case with some of the applicants in the plan. Bogardus said with wind farms it's easier to use a ballistics model, but with seabirds it is hard to design a search radius. Mehrhoff said it should be based on the light, which makes up a percentage of the property. Bogardus said that ambient lighting will be trickier.

Jacobi asked why birds are not currently using the proposed mitigation site. Reiss said primarily predation. Current site has a lot of transiting based on auditory surveys and bird calling within Kalalau. Jacobi asked what is being done to make nesting outside of the fence more attractive to birds. Reiss mentioned predator control buffer outside of the fenced area. Tribble asked about social attraction by scent to draw birds in. Reiss said taking social from an active colony could be a better approach as a potential adaptive management approach.

Mehrhoft asked what kind of predator control applicants will do on their site. Reiss said will make it as seabird friendly as possible, cat and dog trapping. Bogardus asked about hotel applicants and cat feeding on the property not by the applicants, but by people who utilize those spaces and if there is a way to address that. Reiss replied that is where outreach and education comes in.

Jacobi was uncomfortable with different groups doing their own monitoring and trusting that they will do it right. Asked about the database with information coming in from all of the participants. Reiss clarified that it was an SOS database. Jacobi asked how it related to the HCP. Reiss said database follows the bird all the way through the SOS database. Jacobi asked who does the data analysis. Reiss responded that the agencies will.

Bogardus noted the problem with the database is that it shows where the bird was turned in, and not where the take occurred, teasing that out takes effort. LeBlanc asked if PIP going to have standardized database so everyone is recording the same information in the same way so it can be combined. Fretz asked if there is a role for an implementing entity on the site of some of the applicants. Reiss said it would be a part of the PIP. Bogardus said they have the option to have a contractor. Reiss said that there needs to be someone who is tying it all together, and the longstanding agreement has been that DOFAW would be the implementing entity. There has been recent conversation for a potential shift.

Bogardus stated that while there continue to be gaps in the project, there is a huge emphasis on getting this project permitted sooner rather than later. Mehrhoff said you need to have something that can be documented through this process. The permittees go out and do a great job of finding 100% of their birds and keeping them alive, they get credit for them, do people at SOS also get credit for those? The Committee agreed that those are big deal breakers.

Jacobi asked about start dates. Reiss said fence would need to happen when the birds are not present, the building window is December through April. Tribble asked about construction length, Reiss replied within the 4 month window. LeBlanc asked about the State HEPA requirement. Cullison said it was a flexible situation since State has not done this before.

Jacobi said when this project comes back to the committee it would be useful to have documentation of what the key issues that were brought up in the discussion and how they were addressed [or not addressed].

Mehrhoft mentioned that Committee has not discussed a contingency plan if the social attraction site does not work, if there is a backup plan. Reiss said the plan currently states that the site would not be abandoned until year 10.

### **ITEM 3. Annual Review for Auwahi Wind Farm**

Auwahi began the amendment process in February 2015. Currently looking at a yearlong acoustic activity and smart curtailment study. Current take estimate is 43 bats out of their permitted amount of 21. Auwahi initiated pilot canine searches last week and hope to expand the search area to almost 100%.

Akau and VanZandt gave an overview of the mitigation projects. Jacobi asked about the diversity and understory of the koa plantings. Jacobi recommended creating a written plan for the area in terms of composition and structure to have a design plan for the area in mind.

LeBlanc asked about trends in fatalities. VanZandt replied there is one turbine that's worse, but not by much. We also look at weather, since the worst year so far was associated with hurricane and storms. Interested in learning the risks bats at turbines in the nacelle areas. Currently implementing 5 m/s year round. Auwahi site is very high-wind, and maybe our bats here are adapted to fly in higher wind speed. So we are working on studies to see at what wind speed the bats are or are not flying. There will be a thermal and acoustic component.

Fretz said Auwahi is implying there are additional things to curtail and reduce take, and seems like you are waiting for something when you could have been doing this already. How come you haven't done anything now that Auwahi is seriously behind on their permit. Marie said she did not see an effect with the curtailment we implemented, so why do more? Fretz said more might be needed at a higher level. VanZandt said it may be the opposite, before curtailment we had low takes, then once curtailment we started taking more. Fretz asked if Auwahi is concerned about racking up all this unauthorized take. All we hear is that you're working on it. VanZandt said they are talking to three different entities about deterrent technology, and Siemens is exploring technology, and we don't want to move forward with technology until the ESRC and the

agencies are comfortable with it. Fretz said that the committee did not know because it has not been brought up before.

Bogardus and Sether discussed the limitations of the model when dealing with such rare events. Sether pointed out that the PPA often don't want immediate curtailment, so she suggested that cut-in speed be a little higher than cut-out speed. Fretz asked why not increase both cut-in and cut-out. Sether replied that the wind-regime speed at each site is different Mehrhoff suggested examining the wind profile. Metzler suggested exploring the changing in rolling average time.

Fretz asked Auwahi to identify appropriate management actions for petrels at DKIST site. Start with new plan on what needs to be done. Bogardus asked what would happen to the 70 burrows Auwahi is currently monitoring. VanZandt said it would be a more strategic view on predator control not abandoning but decreased level of management at the lower site, and continue target burrow monitoring/predator control at the upper site. Fretz suggested forming a working group.

LeBlanc pointed out that Auwahi is drastically over permitted take, mitigation plans for amendment so far behind permitted take all take going to have to be mitigated at the time amendment is issued. Setting aside funds to do that. VanZandt said Auwahi has made asset management aware of it, and they've incorporated it into their budget models.

Fretz asked Auwahi to get back to the committee on what you will do to minimize take unanimous consensus of full committee and may include anything you've done to research curtailment and smart deterrents. Fretz asked if there were any public comments.

Maxx Phillips representing Keep the North Shore Country:

Phillips stated that since Auwahi is over the authorized limits, it's very troubling that there's been no more effort to reducing the take. The curtailment you're doing is the standard, but what more is being done? She suggested that they look at other alternatives quickly. VanZandt said that they aren't required to curtail, this is a voluntary action on our part. Phillips agreed that we need to see the model results and assumptions for each wind farm. She suggested that each annual report should include those assumptions/model results. Phillips recommended independent third party post-construction monitoring. LeBlanc clarified that on the federal side we can't require who does the work, we can just set the requirements of the monitoring protocol itself. Metzler said the searches are done by whoever wind farm hires, but then there are the proctors who do the SEEF trials. Terraform hires proctors separate from the searchers, but did not know how Auwahi does it.

Mehrhoff wanted the bat white paper document updated to include curtailment, document template and address tiers. LeBlanc wanted the ESRC to individually notify him of what changes they want in the white paper; LeBlanc volunteers Vetter to do the work.

Jacobi suggested reconvening the bat subcommittee to discuss a possible new RFP, whether to revisit the white paper, and also to work on a model.

#### **ITEM 4.      Adjournment**