

APPROVED

ENDANGERED SPECIES RECOVERY COMMITTEE

September 28, 2016 MEETING MINUTES

Meeting Location:

Kalanimoku Building, 1151 Punchbowl St. Conf Rm 322B; Honolulu, HI 96813

**MEMBERS:** Dr. Scott Fretz (DLNR), Dr. Jim Jacobi (USGS), Dr. Gordon Tribble (USGS), David Tessler (USFWS), Dr. Samuel Gon III (At-Large), Dr. John Harrison (At-Large), Dr. Eric VanderWerf (At-Large), Dr. Kimberly Burnett (UH)

**ABSENT:** None.

**STAFF:** DOFAW: Kate Cullison, Glenn Metzler, Emma Gosliner, Afsheen Siddiqi  
USFWS: John Sprague, Jodi Charrier, Diane Sether

**OTHERS:** Tiffany Agostini (TetraTech), Marie VanZandt (Auwahi Wind Energy), Paul Conry (HT Harvey), Mitch Craig (SunEdison), Huisheng Chen (DKIST)

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**ITEM 1. Call to order.**

Fretz calls the committee to order, and introductions. Move ITEM 5 on the agenda up to the beginning.

**ITEM 5. Update on Daniel K Inouye Solar Telescope (DKIST) HCP and discussion of completion criteria and date**

Tessler asked for clarification on the figures and maps. Chen clarified the bird strike monitoring area that includes the FAA towers, areas of intensive foot search for possible bird collisions.

Tessler asked if there is trapping going on in the construction area and in the fenced area. Cullison confirmed, and responded that currently the conservation area has active trapping for rats, cats, and mongoose. After six year time period ends, it will only be rodents. The controlled area on the left, they have tracks and tunnels, unfenced and just has rodent monitoring checking to see activity there using cameras, tunnels, and bait stations.

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Chen said that DKIST doesn't need tunnels. Instead, use trapping grid to monitor the rodents and tunnels cannot give you quantitative information that of trapping does. Rodent trappings occurs only once every three months. We do seasonal monitoring. Tessler stated that it is more of a monitoring method as opposed to management monitoring.

Fretz asked when the annual report would be distributed. Cullison said soon after making requested edits so the committee can prepare for the annual review meeting. Jacobi asked how that would be different from this current meeting. Cullison responded that the annual report gives you all the stats of the colonies of the birds from the beginning of the project. This meeting is for clarification of time limits in HCP and when it will end, and to make a determination on whether DKIST has met their obligations under the HCP. So they that can predict moving forward if they're going to end on the date that they thought they were going to end on.

Cullison said the issue is that the HCP says DKIST can end in six years provided they have done everything they said they could do and have met the net benefit requirement. However it's difficult to calculate the net benefit because the results are so odd and we're getting almost nothing by comparing to the control site, which has been consistently low. So, not a lot of variability to use to explain the large variability that we see in the conservation area. The fence didn't go in until late 2013. Right after the fence went in, we had an amazing year, but not the year after. This year, we're having a good year. Again, a lot of variability.

VanderWerf clarified that the way the HCP was written, it said a minimum of 6 years has to be done for monitoring because that will cover the time in which construction is occurring. And then there was a contingency built into the HCP that said when construction and six years is done, if DKIST still has not achieved the net recovery benefit you may have to continue it for a total of ten years. So, what the applicant is going to be asking us, upon the six years, is, even if we can't calculate net benefit, "are we done?"

Jacobi asked when construction of the project began. Cullison responded that telescope construction started November 2012 and will end November 2018. The actual mitigation project is running a year later than that (2019), based on the required 6 years from fence completion which was fall 2013.

Jacobi said that it is hard to know what's going on there, but in 2011 before any action DKIST had fairly high nesting success in the conservation area. It is not obvious from here that that there has been really a change as the result of fencing. The control site doesn't seem like it's a comparable control site. There's not much variance around zero.

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Cullison agreed, and said that John Sprague came up with an idea to calculate the net benefit using only the conservation area and using reduction of predation events. DKIST will need to either come up with a way to show the net benefit to offset the existing permit, or request an amendment to reduce the requested take amount in the permit.

VanderWerf asked if the cat trapping will end after six years or after some length of time, and if there was cat trapping in the control site. Chen responded that there was no cat management. VanderWerf said it would be interesting to see what the capture rates of rats are over time in the two areas. Chen said he had that information.

VanderWerf offered two observations. The first that the nesting success numbers in the conservation area are really not that high compared to other places where petrels nest. He also wondered if DKIST is removing rats and depleting one source of prey for cats, maybe cats are then preying on birds more than they had otherwise in the control site. It may not be enough trapping to really impact the number of rats. But nesting success in the control site is certainly very low.

Tessler ask if 2014 was the first year that the fence was in place throughout the year. Chen confirmed. Tessler asked when trapping became active in the conservation area. Chen responded spring 2014 because DKIST had to consult with USFWS for a better grid design. Jacobi said there was essentially no management or active removal of predators in conservation area until 2013.

Jacobi asked about trampling by ungulates, and how that factors in when DKIST removed the ungulates, if there is a higher concentration of ungulates in control site than there was in the management area. Chen said he has mounted 10 camera traps to monitor the other ungulate activity. There are a lot of goats. Jacobi asked if ungulates might be a bigger issue in the control site than predators. Chen responded that most of the mortality was actually from predators.

VanderWerf asked if the HCP says that the criteria for this six year/ ten year issue is net recovery benefit, or does it say they must achieve the 35 bird target. Cullison said the HCP only says net benefit. VanderWerf said that hitting the 35 is not the criteria for terminating prior to ten years. Determination that there is a net recovery benefit resulting from the predator control and fence is the criteria that has to be met to terminate prior to ten years.

The DKIST site manager said there also doesn't appear to be a negative effect from telescope construction. There is not any evidence. We had no bird strikes attributed. No burrow collapse, and if anything the most successful burrows have been closer to the construction site.

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Fretz asked if there is zero take or a really low number, and the issue is that given the recognition that the nesting success is still very low, the question is was it extraordinarily lower without any mitigation work being done.

DKIST responded that they were doing active monitoring before activity took place on site for the whole year of 2012 and most of 2011. All of that activity is preconstruction. No mitigation measures, no construction activity on the site of any type. VanderWerf responded that in some ways that's a more appropriate control for comparison, with the same site before and after rather than the different site, where something different may be going on. It may have been before and just looking at the numbers in 2011 and 2012 compared to 2013, 2014, 2015, those are not different.

Harrison asked VanderWerf if there were other sites where reproductive nesting success was higher than that, are those sites in the same general area, and is there any conclusion you can infer in terms of other seasonal variations that seems to be reflecting environmental conditions, something other than the project itself. VanderWerf responded that similar data is getting collected in a number of sites around the State – Kauai, Big Island, and in the National Park, very close to the site. He thought that those numbers are not real high and there's certainly variation among sites and among years.

Tessler said that he would expect a difference in reproductive success when comparing between islands with different conditions. VanderWerf said that elevation doesn't bother petrels that much, they nest on Mauna Loa up to 9,000 feet. Fretz commented on what little polished data there is out there, there are questions about how it is calculated and whether it's technically comparable.

VanderWerf commented on net recovery benefit, playing with these numbers over the last 3 months, and one of the areas where you see a benefit is the rate of predation in the conservation area. There was a 10-12.5% predation rate and that includes trampling in the conservation area in 11 and 12. Once the site was predator controlled, the fence went in and it's gone down to about 5% or a little bit below. So that was one of the ways we were trying to get possible benefit that would be hidden by the variation that we were seeing – natural potential, stochastic variation that we were seeing in the nesting success.

Burnett asked about the net benefit from conservation activities. If the committee is trying to establish that there is a net benefit, it seems like it might be low but is definitely present. I don't know if the control site is appropriate but it seems, to Eric's comment about 2011 or 2012 being a control, it's not really because you're talking about kind of a counter factor without the construction. And we don't know what that is, but it wouldn't be the conservation area before construction because have to be what you are comparing to rather than before the fence went in.

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Jacobi said there definitely may be some net benefit to other species, and for the system as a whole. But again, I think it needs to move back to the target species part particularly, and this is the challenge I see right here is in. It would be very hard to say if it's going up or down for the target species. Fretz agreed with Burnett, because it is hard to imagine that DKIST went out with any rationale under which they did this work and it did not benefit.

DKIST responded that the assumption was always that the project is going to take birds. But there is no evidence that the project has a negative effect on the population. We were confused at the definition of net recovery benefit. He continued stating that the agencies are saying we have to save more than the permitted number of birds in order to have a net recovery benefit, and yet we thought it would be the number of birds over what we took and we hadn't taken any.

Fretz asked DKIST where they got numbers on predation and trampling at the sites. What other causes of loss are elucidated because there's not much change overall in nesting success so if you've eliminated or reduced trampling and predation what are the cause of loss that are compensating for that change in those later years? Chen said chicks and eggs emerging from burrows prematurely is the main cause of mortality. He thought the best DKIST can do in the past few years is to reduce predation caused mortality. Tessler asked if chicks emerge prematurely are they not fed by parents. VanderWerf responded that they may still be fed, but early emergence may be a sign that they are starving, that they are not being fed enough. Chen speculated that the high number of hurricanes last year cut through their foraging route and that it might have delayed the adult birds to come back to the burrows.

Tribble asked about data from the National Park that shows annual variation and nesting success from the baseline. VanderWerf responded that they collect it, but not sure how available it is.

Chen said he and Cathleen Bailey have different approaches of collecting data. The Park randomly pick 100 burrows a year to monitor them instead we monitor a fixed area. We also have density of success using per area criteria and so because her sampling approach is different, it's very difficult to have proper statistical comparison of these two data sets. VanderWerf responded that the sampling regime Chen described should be fine unless they're choosing certain burrows from certain areas over other, then it should not be a problem in comparing the data, it should still be appropriate.

Fretz said there is other burrow monitoring occurring nearby by Auwahi. VanZandt responded that Auwahi sees about the same reproductive success maybe a little higher and we have similar methods to measure reproductive success of 60 burrows, with an average of 15% active burrows. Fretz asked if the rolling out of the eggs or abandoning the nest early is a major cause of mortality at Auwahi's site. VanZandt responded that we have seen some trampling of the birds using 23 cameras, but have not seen actual

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predation event from a cat or mongoose. Fretz asked if the implication is that the threats to this population is not predation as much as food availability.

Chen said it is hard to say because VanZandt's monitoring approach uses camera traps with a fixed visual area. His crew monitors the entrance of the burrow and the whole site.

Fretz asked if a predator proof fence was installed in 2016/2017, and did a before and after with all predators eliminated, would you not then have a good test for whether or not you're dealing with the issue of predation that is simply not well enough controlled?

VanderWerf responded that the approach could be expensive, and suggested that DKIST look at capture rates over time. If you're trapping and the numbers never go down, then you know your trapping is not adequate. If you're not suppressing the predator population, then your effort is not enough. But if you're trapping rats and the numbers go down and they stay at a really low level, then you know that it is working.

Chen said DKIST has the data of rodent numbers. In the past seven seasons DKIST has not had single rodent catch compared to the control site. The control site generally has around 10 every trap period. We trap at night and we bait one week prior to the trapping night. So, we do 2 trap nights every 3 months. And in the conservation area, we didn't have any catch for the last 7 seasons.

VanderWerf asked about cat presence. Chen said only one cat has been trapped; in 2012. Jacobi asked if there have been no predators in the conservation area for the past seven seasons. Chen speculated that predators come up from the Kula Forest Reserve because the highest predation rate is near the bottom of the fence. Chen continued that DKIST uses different baits periodically. The only predation has been 20 meters from the fence, never in the core area of the fence. VanderWerf said cats can travel quite far; I think cats are more likely than rats to be there and are a bigger threat to petrels. DKIST Technician responded to VanderWerf that prior to construction DKIST used to catch rats on a daily basis around the observatory. DKIST has not caught a single rat at the site in years, but used to have to put traps out on a daily basis.

Jacobi said it is not obvious from here that the conservation measures that DKIST is using is making a difference. Two measures Jacobi was looking at are the number of active nests and monitoring nest failures in the perimeter area as opposed to the number of successful nests. Jacobi said the annual review will look at the spatial component to this and monitoring nest failures in the perimeter area as opposed to the core/central part where you're trapping and predator control is more important, but again, it doesn't sound like predators are the issue.

Tessler said that a marginal benefit to predator reduction could completely be masked by extrinsic factors. With this data set, there is no way to tell, and you have to worry about

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the fact that to this point you guys haven't had any documented take. So, you can parse out the various factors that effect this rate of nesting success and look at it year after year and having an idea of what the proportion of those causes for mortality are year to year and would help if there is marginal difference or benefit due to elimination of predation.

DKIST Technician said there have been no downed birds anywhere near any of the observatories or FAA towers. Chen said there were 3 mortalities caused by collision in early 2013, but that there were no strikes noted until DKIST started construction in December 2012. Two more birds died last year. One definitely hit the MECO power line with a broken wing and the other one was at least 170 meters away from the construction site at the north slope. The birds were sent to the USGS wildlife health center to see if it was a collision, but it was so far from any buildings. The nearest building was at the center of the other agency's communication antennas.

Gon commented that birds can collide with the mountain itself, and is fascinated by the high egg roll outs and the premature emergence of chicks observed, which suggest a mortality factor other than predation.

Jacobi asked what might cause egg rollouts; they seem to have occurred around the time of construction. VanderWerf said it is hard to know, but it could be actually be predation that was unsuccessful. A predator can surprise the bird in the burrow, spook it, causing it knock its own egg out of its nest. It could also be that a rat tried to chew it open, but couldn't, but moved it around. It could be just an inexperienced bird (poorly designed burrow). Gon wondered if an egg obviously dies, if the parent then rolls it out of the nest. VanderWerf responded that birds probably can't tell. Birds will sit on an infertile egg for weeks longer after it should've hatched.

Tessler asked if vibrations may cause the movement of eggs. DKIST Technician responded that the initial vibration limit is 0.12 inches per second in movement as potentially damaging to burrows and/or harassing nesting burrows. Fretz asked if there is a duration that's coupled with that measurement. DKIST Technician responded that it would be over several seconds at a time, but that the construction activities have never approached that threshold even during the excavation near the never anything larger than 0.08 inches per second. At that point we ask the construction manager to stop construction because that was closer to the threshold than we wanted to be. We've been recording both noise and vibration for three years of construction, any time there is ground disturbing activity, DKIST still monitors noise and vibration.

Jacobi asked about the 35 birds to be produced. If DKIST management resulted in the production of 35 birds in 2012 Jacobi asked if anything above that is an increase. He is not sure how to interpret what the 35 threshold is, and its relationship to the conservation actions. Fretz said the way the 35 was to be achieved was laid out using models from the HCP. It was partly through the establishment of new burrows, and then through an achievement of higher reproductive success. So, the latter one would be difficult to tease

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out here, but the more burrows would seem to be a part that you could find. Jacobi asked if there is an established baseline of active and successful that was being produced above that is where you start counting from. Fretz confirmed.

Fretz asked DKIST how the unsearchable area is being dealt with. Chen said every part is searchable, we search every part of that conservation area in our control site. Fretz said there is a potential collision area that DKIST does not search. Chen said walks are done every 2-3 weeks and we'll come through that area.

Fretz asked if it would be appropriate for DKIST to use the evidence of absence estimator due to the number of zeros. The committee needs to be certain that take is really zero. Fretz said he only saw one reference in the HCP to the 10 year term, but it only said if necessary, so that wasn't helpful. DKIST Technician said there is no definition on what actually triggers the extra 10 years. Fretz responded that "if necessary" really leaves it to the discretion of the committee.

Tessler asked the committee about determining net benefit and if it would be possible to find that there has been a net benefit even with no change in overall nesting success over a certain time if you show that predation has declined as a proportion of the causes of mortality. However, he continued that there are other things that increase over that monitoring period (like chicks wandering out, or eggs rolling out) that could be occurring elsewhere, so that the activities that they have undertaken have actually benefitted the population, even if net productivity hasn't changed.

Cullison said DKIST wanted to know if the committee is going to be okay with the 6 year term provided they can come up with just some alternate method of calculating net benefit. If it does have to hit 35, can they bring the Committee a minor amendment, which is allowed in the HCP, for approval to lower the take.

Fretz does not think an amendment is necessary. The committee has the discretion to determine whether or not it is necessary to continue it beyond six years and we can discuss what we think the criteria are to make that decision. Jacobi agreed and said that the committee cannot make that decision today. However, they can discuss whether that control site is worth putting more effort into or not.

Tessler ask if there are terms in the HCP for the activities that you undertake within the fenced area, in terms of predator control and ungulate control that have a timeline on them. He asked how the maintenance of the fence handled in the HCP. Fretz said this area has been approved by the board to be set aside as a wildlife sanctuary. So it is now being managed as a wildlife sanctuary for all practical purposes we need to process the paperwork to get the executive order from the governor to do that, but it is for all practical purposes now a wildlife sanctuary, so it falls under DOFAW.

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There were no public comments on this issue.

### **ITEM 2. Review status of Hawaiian Hoary Bat research proposals**

Fretz reminded the committee that the committee asked the staff to put together an RFP to create a rigorous process for soliciting and evaluating proposals to do bat research with the funds available for oncoming HCPs consistent with the bat guidance that the committee approved. They formed a task force made up DOFAW staff Cullison, Metzler and Vetter. FWS staff was Charrier and Sether, and members of the committee were Tessler, Jacobi, and Fretz. Staff is going to present the results of that today and with any recommendations and follow up if needed.

#### Hawaiian Hoary Bat Conservation Biology: Movements, Roosting Behavior and Diet (USGS)

VanderWerf asked why a large portion of the budget was for subcontractor. Jacobi responded that it is subcontracted to the University of Hawaii, and that they are not federal employees, but they've been working with USGS for a little over a decade. Fretz clarified that the RFP and the ranking form required that subcontract items be identified.

#### Basic research of the home ranges, seasonal movements, habitat utilization, diet, and prey availability of the Hawaiian hoary bat on the island of Maui (HT Harvey)

Cullison said this proposal was sent back for clarification. Fretz commented that HT Harvey responded with changes and then the subcommittee reviewed those changes.

#### Proposal for Hawaiian hoary bat (WEST)

Fretz commented that WEST wanted to talk with ESRC to finalize their sampling and study design. The committee and the taskforce felt that was a lot of merit into those options and need to work with them to clarify with them. VanderWerf noted that WEST wanted the ESRC and not the taskforce to work with them. A follow up is needed because they presented some optional approaches. VanderWerf is in support delegating to the subcommittee, but thinks that since this is one of the top selected proposals, they should come to the committee and do that with the committee because there's going to be interesting technical stuff.

Fretz suggested to include as a future agenda item for WEST to come in and present.

Fretz said of the 17 proposals, staff wants the committee agree to recommend these 5. These 5 do not accomplish all of the research goals that the committee wants to see get done and they also do not use up all the money that's available to be used. So, after these

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5 what the subcommittee wants to do is to continue to explore additional research. Some of those can be done by inquiring on some of the proposals received. The subcommittee wants to follow-up and come up with a final recommendation after this, recommend any more for selection, and then make a final recommendation as to whether another RFP is warranted.

VanderWerf said that there is a little bit of overlap for some of these proposals too. As they are right now, just as an example, the HT Harvey and the West Maui one, don't want them both doing the same thing. If that's the case, one or both requires some modifications. Jacobi agreed that there is overlap in terms of some of our approaches on the H.T. Harvey and the USGS Big Island one. We talked about that quite a bit and we felt that that was a benefit to having a replication and also expanded capacity looking at similar kinds of issues because of how little understanding there is about bats and methodologies. This would be a good way to approach it and so we did build that on purpose actually. One of the proposals brings in videography in addition to acoustic, which is a different kind of tool for a different kind of question, but this will sharpen up our ability to better detection and better information that can be analyzed for status and trends.

VanderWerf said he favors proposals that help fill in an information gap, even basic national history over proposals that would just expand our surface. He would rather see proposals that answer some question that right now we have no answer to.

Gon said he is excited about the conservation genetics project. It could answer really important questions like how important are the Oahu populations are, or if they're essentially homogenous with the rest of the archipelago, then you worry a bit less about them.

Burnett suggested to have a matrix for the research questions and compare how much budget is remaining. So that with the next phase of proposals, Committee can compare. Gon agreed, and said that the matrix Burnett mentioned was for the study that had possible permutations of islands.

Fretz announced that any proposal that is recommended, will give a detailed presentation to the committee before anything gets going, so the committee can interact with them and make modifications and comments. The total amount of dollars that are available now connected to take that's being requested is something like \$6 million. And the proposals that are being recommended here will use it about \$4 million of that, so there's still about \$2 million left that is not mitigated.

Craig asked if the money may not even be sent until late this year or early next year. Fretz clarified Craig's question about the timing of the expenditures to pay for mitigation that will go into the contract that the applicant establishes with that research entity. Fretz

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continued that it needs to be finessed by Craig and the staff to figure out how to make that work. Craig asked if any of the RFP money will be spent this year. Fretz responded that the committee expects to recommend that a particular 5 proposals be supported. The staff needs to go work with the applicants to find out who's going to fund what, who's going to establish what contractual agreements within the applicants.

Jacobi said that Craig is asking two questions. One is, to sit down with the permittees or the applicants in terms of working out what happens, and the second one is when actually money has to be put on the table. Fretz responded if the committee recommends those 5 proposals it is possible in principle that permit holders can proceed to contact these project proponents.

Jacobi asked Craig if he needed to spend money right away. Craig responded that given the circumstances and given the resources this year, it would be more beneficial that it start on January 1<sup>st</sup>. Fretz said that some of this take is already permitted and already behind in terms of what is supposed to be mitigated and some are coming in with amendments that are not done yet so there's a mix of timing on these.

Fretz talked about sharing the proposals. He said the Committee wants to be careful about sharing confidential information and proposals from entities that are not being selected. Tessler suggested that entities who submitted the proposals can request their ranks were. Procedurally, he asked if the committee is waiting for a motion to vote on whether or not we move these proposals forward. Fretz responded that the committee is asked to formally approve the subcommittee recommendations.

Tessler motioned for the committee to approve staff's bat proposal recommendations. Gon seconded the motion.

Fretz asked if there were any public questions or comments on the motion or otherwise.

Agostini asked if there is going to be a phase two approach beyond the top 5 recommended, and if there is a timeline on it. Fretz said the subcommittee is bound to complete it in 30 days. Jacobi clarified that Agostini was asking about a second RFP.

Fretz responded that the second RFP would be different. There are a few proposals that the taskforce was not prepared to support right now because there were questions. So, the taskforce or the staff is going to follow up with those entities and address those questions to try to see if they can come to a resolution that would pin that rank and allow that to be recommended. If that's unsuccessful, then we're going to finalize the whole thing and let people know what the final decision, which are supported and which are not. And whether we go out for an RFP would be after that.

Conry asked what the next step is for the 5 proposals that are getting recommended. Fretz responded that the next step is that staff is going to contact applicants to let them know

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the recommended project. The staff may look through all the different proposals and figure out what they think the best fit is for each project. It's just a recommendation. So, you can expect to be contacted by a license holder or an applicant seeking to be a part of a contractual agreement with you.

Jacobi stated that it was explicit in the RFP that the resulting data is available at the end of the project to be integrated again with other studies and made available. It can be used by subsequent studies and things like that fairly easily. I just want to make sure that there's a clear understanding right from the start. Conry asked if that integration is included in the current proposals. Fretz said the RFP reference the map guidance and the bat guidance makes recommendations on how data are handled.

Jacobi said that the deliverables are not only a summary report with the results, they can do more like publications, but also that the data that are generated or used are documented, so metadata documentation, and they are available in a way that they can be brought into a database. As far as the integration process between different things, now that's above and beyond that, but the datasets need to be available so they can be integrated into that.

Fretz asked if there are any further discussion or comments. The motion is on the table to concur with staff's recommendation to support those 5 proposals. All in favor say Aye.

The Committee approved the staff's recommendation with one recuse and six in favor.

### **ITEM 3. Committee Discussion of August 29 Site Visit to Hawaii Island**

Fretz announced that Item 3 is a discussion of the site visit to the two projects, Lalamilo and Pakini Nui on Hawaii Island that we did a few weeks ago. Up for committee comment.

Gon said there was a lot from a geographical perspective, and even though ESRC did not spend much time at the second site, glad that we were able to get to both.

#### Discussion on Search Area

Jacobi commented that there are challenges involved with finding carcasses in certain areas, and was concerned about monitoring at the first site, less so at the second site.

Tessler said that it will not be successful with their SEEF trials, and that doing a really good job at carcass searches without dogs is going to be exceedingly difficult along with tallying up actual mortality.

Gon commented that the applicant almost needs some sort of mist net thing underneath within the wind oval pick up a couple of bodies, though admitted it was not a very

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reasonable suggestion. Fretz wondered about the effective search area of Pakini Nui must extend further down. Searching only the edge of the cliff and the wind is blowing hard it makes that whole potential landing area shift in that direction which is far more of an unsearchable area. The way that those turbines are configured down the ridge is that they start in an area that is reasonably searchable and you go down this cliff and the edge comes right along the turbines. So the turbines down at the end are right on the cliff, and that cliff just drops off. So if a bat hits, it's going down the cliff, and it's going to be very hard to search it. As you go up you have more and more searchable area on that downwind side.

This one has the most unsearchable area I've seen at any set of turbines.

### Discussion on using dogs

Jacobi said he knows there have been trials with dogs and was not really aware of how successful it's been in the context of working with the ESRC. A month or so ago we had a trainer from Australia who was trained dogs for among other things for wind farms in Australia. It sounded really promising but it's going to take some adjustments so it may be a thing we can figure out how we can do it more than just opportunistically, not just for bats. Harrison agreed that the cost is not a lot different than doing it for humans. They can go through the process pretty quickly, and with humans it costs more and takes longer so it comes out pretty even. Tessler agreed and said it is more efficacious to use dogs. Jacobi said he thinks you can have comparable efforts with humans, and humans with dogs and you'd find probably higher success rates with the dogs.

Jacobi recommended to have a session at an ESRC meeting on dogs and have a discussion with groups that have been working with them to talk about how that works, costs and effectiveness to get started up and so forth. That may be a tool that would really help us a lot more. Tessler agreed that the discussion is great, not just related to dogs but about methodology for take monitoring more broadly. I understand that the information at the second site wasn't necessarily accurate in terms of search monitoring but a discussion of what is adequate would be useful.

Jacobi suggested that discussion would be good to have, and we have had sessions or workshops dedicated to monitoring methodology. He would rather have the discussion sooner and then have a follow up on that because moving to dog efficiency searches would be beneficial.

Cullison asked the committee if there is recommendation for the Pakini Nui site to recalculate the target search area because it seems a little unrealistic. Fretz responded that he would like to go back and read the HCP carefully and figure out what that area is and how it's being searched and how difficult is it going to be to search it.

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Jacobi asked if the met tower is actually part of the search zone, seems like they are being too opportunistic that things are really consistent. Fretz said the site needs to have a standard.

Fretz asked for staff's insights, if they shared similar comments about the difficulty to search of the area.

Sether indicated they do look at percentage of loss for the search area so that is addressed in the offset turbine area.

Fretz asked if the searchable areas are not searchable and that requires that we have data in areas that are searchable. Sether agreed and said that we're looking at an advantageous approach of percentage of likelihood that a carcass would fall, along with the extent of the surface mid to downwind section so we get the carcass in the strong wind section likely to fall downwind. Absence increases the uncertainty if a piece of the entire unsearchable area falls in the ocean. So that is unsearchable and increases uncertainty in our estimates so that has to be taken into account both in the requested take amount and in the way that would be managed.

Fretz said the more unsearchable areas you have, the higher the uncertainty and therefore the higher the take adjustment is going to be. He continued to ask if there is anything they could do like send dogs into those areas that would reduce some amount of unsearchable areas to their benefit, or if the applicant is willing to live with it.

Sether responded that Pakini Nui is willing to look at other monitoring types whether its humans or dogs. The limitation of dogs up there is in super high wind they are not efficient and she is not sure if dogs can adapt to that ridge.

Fretz added that these comments are helpful to me to understand how that unsearchable area is being dealt with.

Jacobi mentioned public comments too. Sether said they have not gone out for public comment, since the HCP and EA will go out together for public comment.

Fretz asked if there are any public comments on this item.

Conry stated that he would like to reinforce confidence about how the dogs can do more and dogs might actually be relatively cheaper than the humans may be.

Fretz asked if that information is published. Conry confirmed that it was. Fretz said that this information would go into the collection of bat papers in terms of new information or improving what we wrote into it. If you have better language we can put into it, we can update it.

## APPROVED

Jacobi reiterated his point to have a discussion on the success and ramifications for using dogs to search and use that as a starting point for the committee to decide what other recommendations we might make in terms of the monitoring protocol on that. Conry said the smaller area you can search the more you have to require dogs to use. You can always search a quarter of the total searchable area and the distribution area and the applicant is the one that suffers if they don't. But they're going to pay in the mitigation because of the same variance required and it's farther out in the tails with a considerate estimate at best really at least similar point out that it saves a lot of money, the cost of having a dog do the searches for the whole year.

### **ITEM 4. Update on Abutilon HCP Contingency Reserve Area**

Metzler said that DOT now wants to designate 18 acres as the CRA, and right now we don't know how we want to designate that, if we want to retain the 18 acres with all of the plants. A maps was shown with the 18 acres split out of the current 26 fenced acres and it was based on a designated cluster C3 of the original plants.

Jacobi asked what DOT is going to use the area for. Metzler said that DOT may want to build a parking area related to the rail. VanderWerf asked where the rail runs. Metzler responded that it runs along the northwestern edge. Fretz asked if it's possible to come up with a configuration that does not result in take of known plants.

Jacobi asked who is in the decision making role. Fretz said that once the HCP criteria are met DOT can take the contingency area. However, if the criteria are not met then they're bound to preserve an 18-acre contingency area as stated in the HCP.

Fretz stated that the committee covered this topic at a recent meeting that the criteria had not been met and concluded that they should not take the contingency area, and asked has anything changed since then. Metzler responded that DOT has re-evaluated and have a different conclusion.

Fretz said the question is, does the HCP authorize take for this area. He continued to say that it authorizes a whole lot of take.,which includes in that area too.

Conry said to go back and look at the contingency reserve of the 18 acres to protect and salvage populations and that DLNR had the data on distribution. Specific plots were drawn but it was not with a GPS or anything like that.

Metzler said he could not find any figures, or details. Jacobi asked if the area is mapped out.

Jacobi said that this species is on the brink of extinction in the wild, and it has not gotten any better over the years, it's gotten worse. He is anxious to see with confidence that the species is able to maintain itself in wild conditions without a heavy hand of man.

## APPROVED

Fretz asked Metzler why the state does not just say no to DOT. Asked where the 26 acres came from. Metzler responded that nobody seems to know why. The State does not know why. Jacobi said he does not see any success or establishment of a wild population even close or any semblance of the criteria and expressed frustration at the project.

Fretz said the applicant has come and asked if they can use the reserve now and we say no but you can use this part. I think we should interpret the HCP a little broader and say no you can't use any of that 26 acres because it was meant to cover cluster C3, like how it was fenced. He continued that this requires a careful reading of the HCP because it is going to come down to the interpretation of what does the 18 acre and any proposed parking lot boil down to.

Jacobi said the committee needs to come up with a way of managing the reserve area that will allow Abutilon to stand on its own without human intervention. The whole intention of it was the trajectory was from knowing that there was ultimately a total take on the corridor there. The trajectory that at least three wild populations established that were self-maintained that's the main goal. There are not really any wild populations that are working. The closest site is Honouliuli, but still not certain whether it is in a long term agreement with Fish and Wildlife Service for that in place. Metzler confirmed that it is now in place

Fretz said the idea is you see a few dots along the road that are in the general contingency area they drew that to encompass all of the plants. He does not think the HCP necessarily says DOT can take whatever plants anywhere they want and make a road corridor and then this proposed parking lot may be next.

Jacobi said originally the plan did not have a road corridor. There was a community center, housing, and all of those things were basically alongside of that corridor too, that was a whole part of it. Part of the official mitigation planning was that in the little zones in between the houses they're going to plant abutilon. There were two of us that had reservations on it and that also led to that contingency reserve, otherwise it wouldn't have been there. To hold onto that until there was some confidence of mitigation success.

Metzler said this was not intended to be a decisional item, but asked the committee to provide recommendations as to how can respond to DHHL.

Fretz asked if there was a request for the committee in this item. Metzler said no. Fretz said it would help to have one so the committee can understand the request. VanderWerf said that a written request seemed important because if DOT is not requesting to take the whole contingency area, then the committee does not need to talk about it.

## APPROVED

Metzler asked if it was alright if DHHL/DOT wanted to take the area outside of where the plants are, is that acceptable. Fretz asked if DOT's request is to use the orange parcel pictured on the map. Tessler asked if the request was for the committee to identify 18 acres that are the 18 acres of the contingency reserve.

Scott suggested that the committee handle this issue by reviewing the annual report and seeing if the criteria are being met for the long term. He continued to recommend that everyone go read the HCP very carefully.

Tessler asked if Fretz meant to go back to DOT and have them figure out what it is they're asking the committee to set it aside. Fretz responded that if DOT is not asking for it now, that this will come up in the future.

Harrison requested for an update on December 8 by DOFAW staff on the implementation and status of the HCP for Abutilon.

### Discussion on Plant Sanctuary

Fretz asked Metzler what he is referring to as plant sanctuaries. Metzler responded that there is no official designation process for plant sanctuary, it's not an official name as a designation. Jacobi asked if the Kahuku site is going to be an Abutilon farm. Gon clarified that it would be an outplanting site and asked if the area would be fenced.

Metzler believed that there would be minimal fencing.

Fretz said the logical way to deal with the plant sanctuary is just to modify the wildlife sanctuary rules because they're very good for the kind of protection that they do. Metzler said in the most recent version they took out plants.

Fretz said when the wildlife management plan was written it was careful to explain that as far as that plan was concerned the definition of wildlife included plants.

Jacobi suggested the committee circle back and decide how we're going to move ahead on this. He wondered if the committee is at the point where we say we give up on this project rather than keeping the nose held above water. He continued to say that he was not comfortable letting the project go on as is and we need to see where we are on it. He suggested going out in the field and recognizing that there may be challenges there's absolutely no question.

Gon thought it would be worthwhile if there's any chance at all of making modifications and to document them and tend to the plants. He also suggested that switching up the sites is one strategy, and that the Kahuku site is wetter so it might be worthwhile for us to take a look and see what possible management adjustments to make.

## APPROVED

Jacobi asked about the resources to make changes, because it sounded like funding had dried up. Fretz agreed that the project is going to run out of money before it's successful.

VanderWerf asked if in the alternate management strategy is predation on seeds or seedlings by mice or rats a problem. Jacobi responded that insect predation was a problem both on plants and on seeds. VanderWerf said that management at Honouliuli refuge has wanted to build a predator fence around the whole refuge and that would definitely help abutilon.

Fretz asked if we have wildlife that requires constant maintenance in order to persist, is that the issue or is it different in the kind of management. Jacobi said the focus has been on plants and sites for plants to breed. Jacobi thought a different approach to management might be the only way to work.

Harrison would like to hear what Rick Barboza would recommend.

Jacobi said the committee has a couple of things to consider, one is figure out what DOT is asking for, and how to respond to that. The other is where do we go from here with this project as a whole. How can we look at a better way to approach this project, or alternatively throw down the gauntlet and say we cannot do this and maintain the diversity but the expectation of having wild populations just isn't going to happen. Should we be thinking about salvaging three wild sites and doing more experimentation in different areas to see what works?

Fretz asked if the contingency site is a wild site. Jacobi responded that he thinks there are still wild plants in it. Fretz said an alternative is to invest in more ecological restoration to keep it perpetuity. Jacobi also suggested to try other sites, although even if contingency reserve is whittled down to 18 acres, it's bigger than Honouliuli population.

Fretz said it was certainly the intent technically the way the HCP was written allows DOT to put a parking lot there, but clearly the intent was yes you can take one of the few or only wild populations of the species as long as you establish three self-sustaining ones. If we're all in agreement that that's failing the intent of the HCP then that reserve is to be an insurance policy in case of that failure. 18 acres is a huge investment of time to bring in the ecological elements that will help suppress the weeds in place.

Harrison asked what the original term of the HCP was. Fretz responded five years. Metzler asked if it is possible for the Chair to amend the permit. Fretz did not think the chair would agree to that. Jacobi did not know what Fish and Wildlife think of this project in terms of the jeopardy category.

APPROVED

## ITEM 6. Announcements

Fretz reminded the committee that the next meeting will be reviewing annual reports. One of the committee's most important roles is review these reports and look at what's working and what's not working and make recommendations for things like adaptive management.

The committee decided on November 1 and 2 for the annual review meeting. December 8 is determined for a second meeting date for upcoming amendments.

Need to schedule site visit date for Kamehameha Schools and related 'Alalā. Pick a date after draft is submitted to OEQC. The committee will try for mid-November, but will be determined through a doodle poll.