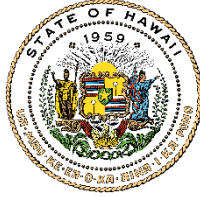


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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

ENDANGERED SPECIES RECOVERY COMMITTEE (ESRC) PUBLIC MEETING

DATE: March 11th, 2024

TIME: 9:00 AM HST

LOCATION: DLNR – DOFAW Main Conference, Kalanimoku Building 1151
Punchbowl St, Room #325., Honolulu, Hawai'i

Online via Zoom; and Livestream via YouTube recorded at:

https://www.youtube.com/watch?v=mLsALBJUu_E

DRAFT MEETING MINUTES

MEMBERS

Kathryn Stanaway
Kawika Winter
Michelle Bogardus

Lisa Spain
Karen Courtot
Melissa Price

STAFF

Kate Cullison—DOFAW
Kinsley McEachern—DOFAW
Julius Metcalf—DOFAW

Amanda Macias—DOFAW
Afsheen Siddiqui—DOFAW

OTHERS

Jenny Taylor—Tetra Tech
Troy Rahmig—Tetra Tech
Torrey Edell—Tetra Tech

Christopher Todd—Tetra Tech
Tom Snetsinger—Tetra Tech

03.11.2024 09:00/00:01:15

ITEM 1. CALL TO ORDER AND ANNOUNCEMENTS

Kathryn Stanaway called the meeting to order, reminded everyone that the meeting was being recorded, and streamed on YouTube. They then notified all participants on an update to the Sunshine Law requiring participants to notify everyone of who is in the room with them. Also, ESRC members need to have their cameras on during discussion and voting. They also

notified all present meeting participants that ITEM 2 will be removed due to the title of the presentation.

03.11.2024 09:04/00:04:54

Kawika: I've never heard of title concerns can you explain what that is?

- Kathryn: Someone didn't know what one of the terms was in the title. So, we had to remove it because it was a term of art. So, take is the term that was up for confusion and it's a term of art for the law so will we have to define that in the agenda at another time if we bring it up another time. Does that make sense?
- Kawika: I mean we always talk about take, I don't understand what the issue is, it's what we do here.
- Kathryn: Yeah, that was the advice we got.
- Kawika: So, I'm just trying to understand what exactly the problem is somebody in some office didn't understand what take means?
- Kathryn: A member of the public did not understand the title on the agenda, what the word "take" meant, so we removed it from the agenda.
- Kawika: So, what's the remedy in the future? We have to define "take" every time we put an agenda out?
- Kathryn: Yes.
- Kawika: Okay thank you.

03.11.2024 09:06/00:06:44

ITEM 3. HAWAIIAN HOARY BAT GUIDANCE DOCUMENT UPDATE

Kathryn: So, we do not have a presentation for this item. We also realized that it's been three years since the last posted update for this document. This discussion is to collect initial comments and feedback from the Committee and the Public for recommended updates to keep the document current with best available information and guidance. So again, we're not amending this document today, we are just collecting comments and feedback from everyone and then we will give a presentation of this document and of the amendments to this document at a later ESRC meeting. So, to reiterate that the purpose of this document is to summarize what we recognize as best available information regarding the Hawaiian Hoary Bat, and to provide guidance for the development for the minimization, mitigation, and monitoring plans for bats. This document reflects current science and recommendations. It is guidance and not the policy of the Agencies. Applicants and the licensees are encouraged, but not required, to utilize it when developing bat planning documents. DOFAW and the ESRC will evaluate the independent merits of each plan presented by the applicants.

03.11.2024 09:08/00:08:24

Kathryn Stanaway then led a discussion focused on the Hawaiian Hoary Bat Guidance Document.

03.11.2024 09:16/00:17:11

Questions and Comments from the ESRC

Kawika: My question is who's kuleana is it to update it [the section on technological advancements in bat deterrence]? Is that answerable now or do does that comment need to go in now, and then we'll come out with it next meeting.

- Kinsley: So, staff will be doing the updates. We'll be making the changes.
- Kawika: Okay so please let the minutes reflect that my comment is to request that DOFAW staff update the deterrent section to reflect technological advances that have happened since this has been published.
- Kinsley: Thank you, Kawika.

Melissa: I had a comment in regard to removal of any threats to bats. So, I do see in the document that it mentions barbed wire specifically, but under predators it says that predator impacts to Hawaiian Hoary Bats are largely unknown. A few meetings ago I had done a quick Web of Science search and found about 20 publications on globally known predation impacts on bats, including tree roosting bats, this is not just cave dwelling bats. I do think that should be reflected, particularly for species that have very similar habits throughout the world. We shouldn't have to prove something in the Hawaiian hoary bat for it to be true. So, if it's known globally that cats are threats to bats, rats are threats to bats, and barn owls are threats to bats it should be reflected and assumed to be true for our Hawaiian hoary bat as well. So, I'd like to see that reflected in the document. If folks don't have access to those publications, I had sent them over to the HCP office a couple meetings ago, and those can be posted/shared out, whatever needs to happen so that folks can integrate that in. We should be using best available information from wherever it occurs. Particularly when hoary bats are more broadly distributed than Hawaiian hoary bats. We should use information for those as well.

- Amanda: Okay thank you Melissa we'll go ahead and put that in the minutes, and we'll have a section primarily to talk a little bit more in depth within the document about the threats to Hawaiian Hoary Bats and what should not be tolerated at mitigation sites. We do have those publications from you from that last meeting within staff and we're working on trying to revamp our DOFAW HCP website to have a section primarily for those publications and other additional publications as well.
- Melissa: Thank you, the other thing I don't see reflected here, and I need to double check if it's in the guidance document or not. There are the new publications with the genetics that show estimates of population size on each of the islands. Which I think are important to keep in mind, particularly in comparison with the approved take to date. So particularly in the cases where the approved take far outweighs the estimated population size, for example on O'ahu, I do think that needs to be reflected in the document as the best available information. If someone wants to do the studies to show that the population size is different than those estimates, then that's fine. Those definitely need to be taken into account when considering actions to minimize future take and to mitigate for approved take.
- Karen: I mean USGS will provide some comments I think for items that can be included

from the recent genetics publications. Just to clarify that we did do effective population size and not true population size.

- Melissa: Totally fair and thank you for that clarification. I think you know it could be a much longer discussion about the implications of effective population size versus you know the true “N”, and what that means in terms of genetics and potential inbreeding, and concerns around that. Again, that's why I clarified, or I added the comment in regard to you know it's the best available information. We don't have any other estimates of population size. So, while it is an effective population size and not a true population size and it's based on genetics, and not you know some sort of density estimate or something like that, again that calls for the reason why we should be doing more thermal monitoring and not just acoustic monitoring efforts.

Lisa: Can I just add a kind of process thought here to where we're at with this document. So, in the past there was actually an ESRC subcommittee that worked on refining the document down, to you know all the details. USGS really was a big part of that and Loyal [Merhoff]. Then as we were presented with the document, we actually got roughly like a five-page cliff notes of the document that kind of summarized you know the changes. So, I don't know if we're at a point where we are bringing in the comments. Perhaps, if it's possible that there is a subcommittee that works with DOFAW to help make the changes to the document and then when it comes back to us there's you know a bit more directed kind of presentation on what those changes are. Because I kind of feel like we could spend hours today talking about all kinds of different pieces of this and I'm just wondering if that is at all a helpful thing. I recognize any subcommittee has to fall within Sunshine, but we were able to find a really nice memo that DOFAW put together in 2018 when the original guidance document was approved back in 2018.

- Kawika: Just a point of clarification, I believe it's called a working group not a subcommittee, you can bring in other external experts on working groups.
- Lisa: Maybe yeah external experts I think you can have if you do that. I recognize it isn't on the agenda today so we may need some guidance from the legal folks but that was a really helpful process.
- Michelle: I would agree Lisa there's just so much here and I was going to note for the committee that Fish and Wildlife Service is working through the document, and we'll provide written comments because we have a number of people reviewing them. I think it's too much for us to go line by line. So, to the extent that we can help DOFAW address comments in a consistent and clear way with a smaller group of people I think that that might help.
- Kathryn: I think our understanding was the last working group that updated the document, referenced by Lisa, included Jim and Loyal. So, we're wondering if there's any volunteers from either ESRC or Agency staff that would want to help out with that document.
- Michelle: We need to check with the AG, but I believe that it can only be three correct total members.
- Kathryn: Do you know who was on the committee or the working group committee other than it was DOFAW, USGS, and Loyal?
- Michelle: So, I guess we need two other people to replace them. This in no way changes the ability for other ESRC members to comment and participate in the process. They're just not part of the small group. Just so that everyone knows that it was intentional as to

if we were going to have DOFAW as one of the three, then Fish and Wildlife Service stayed out so that there were two other members that were in, because of the limit.

- Karen: I mean I think USGS can participate in that group if there's others that will also assist in that effort.
- Melissa: If there's need for a replacement for Loyal, I think I could probably contribute to that. I need to see the time commitment that would be involved. But yeah, I could consider replacing Loyal in that position.
- Kinsley: Thank you, Karen; thank you Melissa. I'll write these down as a potential.
- Lisa: Yeah, that would be great. I think as the US Fish and Wildlife Service has their comments then we can get it refined. I think this summary review of all those comments and the updated document brought to us will be kind of a better approach of us being able to manage how to move this through the ESRC for approval.

Melissa: So just one other question maybe about the document. So, I see that under the Table One that in red it's showing the things that are complete. It's a little confusing because on one of them it says ongoing in red. So, it's a little confusing as to what's meant by red on the document. Something's in blue too, I'm not sure what is meant by blue. One of the things in regard to the comment earlier for the genetics under Goal Three Research and Development it says: "Population Trend Methods and Estimate of Abundance Methods," and those are both in red. Which I assume means that they're complete. Is that actually complete research and development on population trend methods and estimate of abundance methods?

- Kinsley: Our understanding Melissa is that it was complete back in 2021 but would need to be updated and revised to reflect the current research.
- Melissa: Okay and does complete mean that we know population trends and abundance and population size, or does it mean that the research to determine an approach to determine that has been completed?
- Lisa: Melissa as I recall from previous times is these were the projects that were funded by you know maybe Michelle you were around. These were the projects that were funded by the some of the mitigation funds that were directed by the ESRC and so I'm assuming that these are specifically tied to those research projects that were mitigation ESRC funded through the RFP in 2016.
- Michelle: So, in general I would say this this document should reflect any new best available information that we have on the Hawaiian hoary bats regardless of whether it was funded as a mitigation project through ESRC or not. That being said I do think that there is a higher onus and bar for those projects that were mitigation for the wind projects. I say that because they were funded with a specific intent that they would help to move mitigation and minimization actions forward. You know this is a little bit different under 195D, but at least on Fish and Wild Service side it is not common to allow for research to be used as mitigation. The reason why is because the research in and of itself is not offsetting the take, right? The research itself doesn't actually create more bats. We did so for the Hawaiian hoary bat because the unknowns of those species life history requirements and what constitutes appropriate offsetting mitigation is still uncertain. The intent of funding those projects was to help move those things forward so that ESRC and the Agencies had clear information to help support stronger decision making moving forward. I do think that this document needs to give voice to that that intent and where those research projects got us.

- Melissa: Yeah, thank you Michelle. I think that's in part the reason for my question is because occupancy is not the same as abundance. Modeling of occupancy is a comparatively straightforward, not saying it's straightforward, but it's a comparatively easier thing to do with acoustic data. That type of a thing can say, yeah, we detected a bat here; no, we didn't detect a bat there, and with the presence-absence data you can model occupancy. Estimating abundance and estimating population trends is a harder thing to do. If there were projects funded specifically to do that, I'd love to see the results and I'm curious about the methods they used. If the goal was to develop methods to do that, I'm also curious what they figured out. You know what are the methods that can be done. If we aren't going to use the effective population size which the genetics determined then, we need another method to know what the trends are. Was anyone around to know what those projects were and what the outputs were, or is that something we can request for a future meeting?
- Karen: I've been looking at the document a lot but hadn't gotten to that page yet. Is this table, all of the texts that are in red, are these new, I think? I'm not clear what exactly is in the red in the table. If those are areas that were identified as things that we, that ESRC wanted to see research on? Or if those are all areas that were funded? I mean at the top it has in red the word, "complete," and so I think the implication is that if it's in red it's complete, but it's not. I don't know is anyone around who wrote this document that can comment on that?
- Karen: Yeah, I mean it seemed like on the top, I guess on the top row, yeah, the "complete" is for like the title of the project that was funded, but then... I yeah sorry.
- Kawika: What page are you looking at Melissa?
- Karen: 62, at least that's the page I'm looking at.
- Melissa: Sorry I thought it was 60 on the document I'm looking at?
- Lisa: Mine says 62.
- Kinsley: This is DOFAW HCP Staff, we will update that table. we're going to have to go back and consult internally as we have had staff turn over, to kind of investigate and get to the bottom of those questions so thank you for bringing those to our attention.

Kathryn: We appreciate the comments so far. If anyone else has any more comments we're open to those being sent to staff. So that we have it in writing and stuff and can investigate further. Unless there's anything anyone wants to bring up now? Anything more from the ESRC? If any ESRC Member wants a meeting with staff to discuss this paper as well or this guidance document, please let staff know and we can set up that as well.

- Melissa: I'd like to make a recommendation. The meeting in 2020 that we had right before the shutdown, the COVID shutdown. It seems like there's been a lot of turnover since then and it might be useful to have a similar, I mean it's been four or five years, it might be useful to have a similar kind of state of the knowledge meeting. I know the last four years went really fast and really long in very different ways. It's been a while, and a lot has happened since then and it might be useful to have kind of an all-day meeting like we did that day. Where folks are in person and able you know, we have a series of presentations and we're able to kind of examine each of these portions of the document. Because everyone should be familiar with it. While it's great that we set up you know replacements for Loyal and make sure that the committee is updated, really, we need everybody on the same page. I think that might be helpful, make that happen.

- Kathryn: That's a great idea, the staff is working on making note of that. I guess we'll get back to you on the next meeting that'll take place.

Lisa: So, I assume we're at the point where if there's any other comments from the ESRC on this we would do those and then...

- Kathryn: Sorry, yeah, apologies, I was just checking on some dates in April. I guess we have a prescheduled meeting for the ESRC on April 19th. Then we're thinking about two or potentially another date, but we have three options. We could do what Melissa suggested on one of those days with the bat discussion. So, the options are April 4th or 5th. Then anytime the week of April 22nd. Does anyone have any preferences for any of those dates?
- Melissa: I'm sorry you're working on scheduling a meeting right now?
- Kathryn: Yeah, sorry I was looking at, so there's a pre-scheduled meeting on the 19th already for ESRC. So, April 19th is a prescheduled meeting. So, we're thinking about scheduling another meeting, which I thought was for bats, but I'm wrong. We're going to do KS HCP on either April 4th or 5th. Is anyone available April 4th or is everyone available April 4th or 5th to do another meeting on KS HCP. I apologize it's out of order for topics. April 4th would be preferable to five.
- Michelle: I can do either. On the fourth I might have to step away for 30 minutes, but otherwise I'm good to go and the fifth is open.
- Karen: The fourth and fifth are okay for me.
- Lisa: The fourth would be my preference over the fifth. It's Merry Monarch week as well.
- Kinsley: Thank you all for sharing this.
- Kathryn: Okay so it looks like potentially April 4th which we'll confirm with everyone again after this meeting, and then April 19th is possibly now the bat discussion day so that's on the topic now. So hopefully we can bring up what Melissa was talking about on the 19th. We'll confirm with everyone and also that agenda will be Sunshined a week beforehand so everyone will know. Just want to make sure is there any other ESRC Members that have anything they want to add for the bat guidance document before we move on to opening this up to the public?
- Michelle: Kathryn, I did just want to clarify process here. We will be opening this up to the public, correct? I believe that last time we did an approval we did send this to bat experts elsewhere and ask for their review as well. I don't have their names off the top of my head but I could probably try and find that list. I do recommend that we do that again.
- Kathryn: Yes, it's definitely it's open up for public comments now, and we can send this to bat experts, around the world too if that's necessary. Any other comments?
- Michelle: None for me, thank you.

03.11.2024 09:43/00:43:25

Questions and Comments from the Public

Kathryn: How about any public comments on YouTube?

- Kinsley: No comments on YouTube.
- Kathryn: At this time are there any comments on Zoom?
- Troy: This is Troy Rahmig with Tetra Tech. Could I make a comment?

- Kathryn: Sure, yeah go ahead.
- Troy: Thanks to the committee for I think taking up this important topic. I just I guess maybe echoing what I'm hearing from the discussion already. I think for my benefit, and I think benefit of my organization, we would appreciate, I guess, just anything that can be done to clarify the process and make transparent the expectations around public engagement on this. Just so that we can best be prepared to provide, you know feedback or input as appropriate. I think the main thing is you know I think Michelle just hit on this topic of engaging experts around the guidance. I think Katherine you just noted that it's open for public comment right now. I guess my thought would be that it would be updated based on the conversations that are going to happen with this group. Some of that expert engagement and then a revised version of the guidance would be circulated for public comment, at that point in time. You know any clarity that can be brought to bear, not necessarily today, but I think just as this unfolds about the timing of things. When you expect comments, deadlines for public comments, and things like that would be really valuable. Just to make sure that we can as a community of practice here I think provide the best available information we can.
- Kathryn: Great, thank you. Yeah, we plan the next time that the bat paper is brought up with the ESRC we plan to open that up for public comment again with the revised comments in it. So, thank you for that are there any other comments on Zoom?

Kinsley: Hi this is Kinsley from the HCP team. We did receive comments via email, and we will go through that document and post that on our website as well.

03.11.2024 09:46/00:46:31

ITEM 4. ESRC DISCUSSION AND VOTE ON KAHUKU WIND FARM REVISED PROPOSAL FOR BARBED WIRE RISK REDUCTION FOR THE TIER 2 HELEMANO HAWAIIAN HOARY BAT MITIGATION PLAN

On request, Tetra Tech will be presenting on behalf of Terraform. Jenny Taylor made a presentation on the Kahuku Wind Farm-Helemano Hawaiian Hoary Bat Mitigation Plan, specifically the reduction of barbed wire in that unit.

03.11.2024 10:07/01:07:29

Questions and Comments from ESRC Members

Melissa: Thanks Jenny, I have a couple of questions. One I'm just curious, these are 14 to 15-year-old presentations and reports. Did any of those turn into like a publication that we can review in the peer-reviewed literature? I say that just because oftentimes for a conference we're scrambling to put together our latest information, run an analysis, and so I really guard against citing something that was presented in a conference because things tend to change with more information or you know be more fully flushed out in a discussion that takes place in the peer-reviewed publication. I'm just curious if those have turned into anything more robust that we could spend some time with particularly as we are looking at the back guidance document.

- Jenny: Yeah, definitely it's a great question Melissa. I'm going to let Chris jump in here, but the answer is no this is the most current and up-to-date data that we have regarding this issue. It hasn't translated into publication. Which is why we're relying on this

particular information set, and so Chris, I'll let you add to that.

- Chris: I mean I think you said it. I mean no it's not. I agree with you Melissa it's not peer reviewed. It is used by US Fish and Wildlife in terms of regulation, but there's no peer reviewed documents.
- Michelle: I would like to point out that the formula has been updated based on information. The one that you have listed here is one from 2010 it has been updated at least twice since that time based on the availability of new data related to bats that had been found on barbed wire since that time. It was informed by more projects than just Pelekane Bay. I am happy to provide that.
- Chris: Yeah, that would be helpful.
- Michelle: It's not radically different, but it does have more data to be basing it off of. I would say that we use it as a general guidance because obviously not all projects that have fences with barbed wire are doing adequate monitoring to detect bats on barbed wire in the first place. So again, we're in this thing of the absence of information does not necessarily mean that take on barbed wire fences is not happening. I think that you're probably going to get some more comments and questions that have nothing to do with the formula, because I think there's some sort of fundamental things here that have nothing to do with what that risk is. So, I'll let those comments come out, but I am happy to provide that updated formula after the meeting.
- Jenny: Thanks Michelle we'd appreciate that.

Melissa: Yeah, thank you Michelle. If there's like broader just writing around that in a report or that kind of thing it would be really helpful to have that be available. Again, I think it is that broader discussion that's important. You kind of emphasized a lot of the uncertainty around exposing fences that don't have barbed wire and the potential risk there without any, you know real data for that. I think it's important to recognize that like you showed a picture of a fence that is maintained as clear. Our invasive species grow really fast in the islands the ones that you're showing as encasing the barbed wire would quickly encase a new non-barbed wire fence. I think a much broader concern that I'd like to stay focused on is that there's very little in the proposed mitigation plan that does anything to make up for the number of bats killed. So, this is only a five-year plan at which time you exit management of the site, and even though there's potential discussions underway for longer term management, those aren't in place yet. What we have under discussion right now is the five-year plan. If that plan is not showing that it's substantially making up for you know bats killed, I think that's a real concern. We know that barbed wire is a definite source of mortality. As I had brought up a couple of meetings ago cats and rats are a source of mortality shown in the global literature. I had just done a quick search for the references to show the global consensus that those are sources of mortality. But I hadn't had time to share those and so you know it's six months going on that. If we're opening this back up for discussion, I wouldn't mind having a conversation about how we can actually make up for bats killed by reducing sources of mortality. I realized that if you were to implement predator control at the site over those five years that only really takes care of those five years. I think barbed wire is a great option because when you remove it, you remove it in perpetuity. So that source of mortality is gone forever, as opposed to... While predator control, I'd really love to push for that in future plans, you're only planning on being there for five years to manage. Although I'm not really sure what happens over the five years. I do think removing source, known sources of mortality provide some sort of net benefit to the site.

- Jenny: Yes, thank you Melissa, and I understand that vegetation does change and that the potential for new fencing would have the potential to become encased over time as well. Our concern is that in the time of removing the vegetation and then allowing for regrowth we still are creating risk that didn't exist previously. We just don't have the ability to quantify what that risk minimization would be based on a lack of information around how any sort of fence might pose a risk of mortality to bats. Again circling back to where we were looking at how foraging behavior would potentially allow for interaction with that exposed fence versus the unexposed fence, jumps us into our understanding that the risk of the barbed wire when it is encased is actually potentially less than the risk of a non-barbed wire fence when it is exposed, in the time of exposure, knowing that there's a potential that it might be encased someday. I'll invite Chris to add anything on to that as well.
- Chris: I mean if you wanted some of these, I mean some of the fence lines are in like what would be considered like good foraging areas and so you know if you were to remove the vegetation you would increase the potential for strike and so a better approach would be you know a slower replacement over time as opposed to just removing the vegetation as is and putting up a fence. If bats were foraging in that area there it would be at a greater risk with a new fence than what exists now.
- Melissa: I'm sorry what research are you pointing to that them hitting a non-barbed wire fence is going to be is going to be causing mortalities?
- Chris: Okay let me rephrase that. I'm not saying that it would cause mortality. I'm saying that there's a greater risk of them hitting a fence that is clear of vegetation than what exists now in these foraging areas. These like open pockets and you know these forested gaps, or you know these gaps within the forests or along some the roadways.
- Melissa: So can you just remind me how many bats, and this is what we're talking about, take that's already occurred. Right so normally we're supposed to be setting things up ahead of take. This is actually in my understanding, making up for a take that's already occurred. Remind me how many bats you're trying to make up for here.
- Jenny: Eight.
- Melissa: Yes, okay and I mean uh the rest of the plan just involves cutting down some a one-time removal of some trees, right?
- Jenny: it's a little more complicated than that. What we are creating. We have four, what we call four mitigation parcels. Two had bat corridors cut prior to our coming in, and two are on a gradient of densely forested. So, we would be creating new lanes in the forested ones and maintaining the lanes which are already demonstrating significant regrowth in the lanes that were cut prior to our involvement. Then the second part of that is installing a water feature which is more about supporting fire suppression in the broader area rather than being a significant resource for bats. So, this is a part of the plan. Thinking about how minimizing habitat disruption through fires which may occur in the area and have recently. Having a source of water to control those fires so that's the less quantitative part of the plan but that's an important part of the plan that we collaborated with DOFAW O'ahu on.
- Melissa: In the last meeting where USGS, the bat folks from USGS were on I think they clarified that bat lanes, there's not like a gigantic amount of support for that increasing the number of bats at a site. I guess I'm just again, if we're talking about eight bats that have already been killed and trying to make up for that we just have very few tools at

our disposal to actually make up for killed bats. Barbed wire is a known source of mortality, and the risk is the barb, not the wire itself necessarily. I haven't seen any evidence of them striking a fence. I mean it'd be the same risk as them striking a tree, right? like I mean it's just a stable state, an object in space. But a barb is known to kill them. Okay, clarify, help me out.

- Chris: Well, it's a lot different than striking a tree. I mean bats echolocate you know. They're able to see you know some of their surroundings, and so as you know echolocation is bouncing off something. It's visual, and some of it's you know through acoustics. So, you know as bats foraging there's multiple things going on that enable it to detect its surroundings. So, if you are looking at the aperture and the intensity of the sound that's coming back. Also, you know how fast they're moving. You know how much time they're able to get reflective calls back. So, you know all these things are things that bats are calculating very quickly when they're maneuvering. You know the area objects that are you know have a larger surface area, so like the edge of a forest. It is something they're either one visually able to see, or you know they can get a sense of it from echolocating. If you have something like a fence where there's obviously less surface area and structure for sound to bounce off, and you're combining it with being within a foraging, potentially a foraging site or a foraging area, the potential for a strike you know increases dramatically or could potentially increase dramatically. You know we don't know. There's some situations now I wouldn't say necessarily in a direct foraging corridor the bat is using, or foraging pocket, you know foraging gap the bat is using its most likely echolocating, but there are circumstances bats are not echolocating when they're moving. They are maybe you know using different things that they're seeing you know from a distance to kind of guide them in a direction. So, you know when bats are flying in open areas that can put them more at risk of hitting fences. Especially if it's something they can't see well especially if you know they happen to not be echolocating during that period. I don't know you know; I would assume that bats are you know not echolocating at higher elevations, or you know higher heights from the ground. But you know the conditions of what the bat is doing at the time of the strike is not known. Also, you know the photo that was you know provided by Frank of you know taking a bat off of a knob on a wire fence demonstrates that they still hit you know fences. Their ability is still there to hit a fence, but a bat is not likely to just fly into a tree. You know there are circumstances of bats flying into buildings, but that is a different context in terms of echolocation how that reflects that surface reflects echolocation calls, but there's a big difference between hitting a tree and hitting fence.
- Kawika: Are there any publications about the mortality of hitting non-barbed wire fences?
- Melissa: I think Karen was gonna comment.
- Chris: One thing I want to point out really quick. Is that I don't recall USGS saying that there was no evidence of them using foraging corridors. That was one of the things that was actually recommended by USGS, I think when the foraging corridors were implemented at COA. There is indirect evidence of you know bat activity, I want to say there's evidence of bat activity at sites where foraging corridors have been implemented. If it's directly related to the foraging corridor, I can't say that. However, it leads you in that direction that maybe this is something that's has potential and the way that we've set up this mitigation to try to provide more information on that. So this foraging, creating foraging corridors you know have potential to you know bring in bats. You know are they going to start utilizing them if making them accessible.

- Karen: Back to the fencing issue I mean all of our you know almost all of our conservation areas are fenced. It's hard to preserve anything without putting a fence around it. Those fences that we install around conservation areas don't have barb wire. I'm having a hard time I guess making that leap to that if we put in non-barbed wire fence that we're putting in a hazard. If we're removing vegetation and then putting in a non-barbed fence that's potentially creating a hazard for bats. It seems like that is the argument or sort of the case that's being made. The reason to not do this, to not remove the barb, is because the new fence would be a bigger hazard.
- Jenny: Chris, could I jump in for one second just to offer a clarification. Apologies for my voice, we are definitely talking about removing all exposed barbed wire. So, I want to make the distinction between removing that exposed and not removing the encased at the onset of the plan that the encased doesn't pose a risk to the bats in the way that the exposed does do. So, the exposed has you know a range of vegetation around it and that is what we would like to replace. The concern that we have is removing all the vegetation and then having exposed other type of fence being more of a risk than leaving the barbed wire encased in vegetation. The way that we think about this is over the course of the plan, as we adaptively manage it and if the mitigation continues beyond five years, which it's being considered, there is the opportunity to replace more than just the exposed part that exists right now it would you know we have the opportunity to replace more than that so the I guess the two points that I wanted to make before I turn it over to Chris. Is that we're talking about the encased, versus exposing new non-barbed wire replacement. If we replace all of it, we do believe that the exposed non-barbed wire offers some level of risk that the encased barbed wire currently does not. Chris, do you want to, sorry I interrupted you.
- Chris: I mean Karen kind of. The bottom line is we don't know how bats interact with fences and so if you put a fence into a foraging corridor, even if it's you know a conservation area, if a bat is foraging within there and it's an exposed fence there could be you know strikes. We don't know.
- Karen: We don't have evidence that those fences are an issue. Well, the only thing that I have is a photo of a non-barb wire fence with a bat stuck on it. Which demonstrates that they're hitting fences and they the only reason we're finding them is because they're getting caught on the fence and they're remaining there. Their carcasses are remaining there.
- Jenny: So, we are using evidence that exists and extrapolating from that evidence to understand what we see as the risk of non-barbed wired fencing.
- Melissa: So, the vegetation around the encased stuff. I mean you're kind of talking about it like it's cement and it's never going to move. This is vegetation, it could be removed at any time and expose that barbed wire fence. I think again the broader concern is, are we actually making up for the losses that are taking place due to the wind turbines? While any object can form some level of risk, the risk of a non-barbed wire fence is much lower than the risk of a barbed wire fence. I know your argument is that it's encased in vegetation right now, but that vegetation could be removed. This is a restoration site, there could be vegetation removed at any time. Are you actually providing net benefit through your mitigation activities? I think it's really hard to make the argument that there is a clear net benefit without full removal of known sources of mortality. There's a much higher risk with a barbed than a non-barbed fence. While there might be some you know rough edges, and effort should be made in the description to minimize any sharp edges

on the newly constructed non-barbed wire fence. I think that could be written into the plan that you minimize any sharp edges on the new non-barbed wire fence. In that case then the risk would be very minimal to them. I would like to just hear from the rest of the ESRC Committee about whether you've heard any new information that really changes the calculus for you, or whether you're kind of in the same boat of being really clear about what we had discussed previously. If folks want to you know open this up for broader discussion, then I'd like to talk about rat control, or cat control, or other things at the site that also have a clear reduction in mortality, if we're opening this back up for discussion. Before kind of kicking it in that direction I just want to check with the committee whether we'd like to just confirm the previous vote. Whether you've heard anything new and would like to change the description or kind of where folks are at.

- Lisa: Melissa thank you. From a perspective of seeing lots of conservation fences installed and then also working with several ranchers across you know a multitude of landscapes, in general encased fencing is never a good idea for management purposes. Whether you're trying to keep cattle in or pigs in or out, vegetation management is always going to be a key part of fence maintenance. I think for the long-term benefit of this piece having a fence installed that does not include barb wire would be a general best practice that I would expect. I think it is very concerning to lean on non-native vegetation to be your reason for bat safety on a barb wire fence. I just can't get beyond that. I do know when conservation fences are installed there is a general effort on inspections which can happen regularly when you have fence lines that are maintained any wires that are poking out, they generally try and spin them with wire cutters or you know cover them with like a piece of plastic or something. So, there's ways to be sure that your fence fabric that goes in minimizes those kinds of exposures.
- Kathryn: When we think about our vote for this issue too, we have to remember that this is the proposal on the table. This is a five-year proposal. We can't assume that there's going to be a mitigation project beyond that or not. We don't know at this point, so we have to consider what is here now.
- Jenny: I just want to ask a point of clarification. So, in terms of the vision Lisa that you were naming, for new fencing it does not include encased vegetation as throwback occurs.
- Lisa: I mean it's difficult to exactly know what that's going to look like. I guess you know some input from DOFAW O'ahu would be helpful in terms of you know what is there. It's DOFAW land and it's their cattle grazing lease. So, understanding their needs on the ground. Encasing a fence, there's just so many things that can happen with the potential of the fence falling down you know as vegetation weighs down on it, it doesn't even fall down it just kind of gets pressed down. I can't imagine that that's a practice if there's a fence installed it should be able to be inspected top to bottom.
- Michelle: So, I'm happy to pipe up but I also want to make sure Kawika and Karen you have a chance to jump in.
- Kawika: No go ahead.
- Michelle: I am not happy, and I just find this to be very faulty logic on so many different fronts. I'll reiterate everything that Lisa just said about just general fence maintenance. I think it's faulty to say that we think that a different fence is potentially more problematic than a barbed wire fence in an area where we're trying to attract bats to. We are trying to attract bats to this spot, we already know that O'ahu is problematic for trying to assess that risk, and take, and mitigation value. We have had two ESRC votes on this. We have

had multiple agency discussions on this. I appreciate you trying to bring this back around to the ESRC, but I just want to be honest here. This is a huge amount of time on something that I think we've given you a pretty clear picture on. Jenny please don't take this personally this is not directed towards you you're lovely and we appreciate you trying to bring this back around on behalf of the project. I want to be honest we've got a lot of things to work on, this is not one of the things that I think that we left a lot of doubt on. I think that the logic is pretty clear. I think that standards of management dictate that relying on fencing being encased in vegetation is not an appropriate conservation measure for endangered species. I'm on the road of if we need to reiterate our vote then let's do it but let's move on.

03.11.2024 10:37/01:37:29

MOTION

Kathryn: I'd like to make a motion to vote. Is there anyone who wants to second that?

- Lisa I'll second.

Jenny: Can I chime in; we have one more slide which is supporting a motion to vote. I just wanted to put that up there just to state what we were hoping that the vote would be. I understand the feedback that you all have given, but I did want to say that the last thing that we were requesting was a consideration on the vote of removing all exposed barbed wire fencing, rather than all barbed wire fencing. And then I'll stop there, thanks Kathryn.

- Melissa: So just as a point of clarification then if we're having discussion. I'd like to be really clear and maybe Lisa and Katherine can repeat it. We are clarifying that the proposed vote on the table is to affirm the previous vote to remove all barbed wire fencing at the Helemano mitigation area. Whether it is exposed or not, whether it is encased or not, all barbed wire fencing be removed.
- Lisa: Yes, that's correct based on my wanting to second that motion.

03.11.2024 10:39/01:39:04

Questions and Comments from the Public

Kathryn: Before we take a vote, I wanted to ask if there's any public comments. Are there any comments on YouTube or Zoom?

- Amanda: No comments on YouTube from the public.

Kathryn: Okay so now I can repeat your vote, Melissa. So, we want to affirm the previous vote to remove all barbed wire whether it's encased or not at the Helemano mitigation area. Do I have a second?

- Lisa: I'll second that.
- Kathryn: All ESRC do you want to take a vote now? Raise your hand if you're in favor, please turn your camera's on too.
 - Vote is unanimous

03.11.2024 10:40/01:40:26

Karen: I guess a process question. When these fences are installed or replaced in terms of what the inspection process is, or how do you know the fence is installed well and does not have any preexisting hazards? Is it part of the annual review at the end when we get an update from the licensee?

- Melissa: Kathryn, I think that's a question for you. So when the HCP, when the mitigation plan is written, based off of this vote for this tier, can this be specified in regard to the fence maintenance ensuring that there were concerns raised regarding exposed sharp edges being a potential source as well as concerns that the newly built fences may be a source of bat mortality. So, monitoring should be included to ensure that there's no impalement on any sharpened edges on the new fence as well as if there's concern that they may be hitting the fence and dying. Can that be written in, or how is that addressed?
- Kathryn: I believe the applicant had monitoring in their HCP for vegetation, but I don't know about monitoring for bats. So maybe that's a question for them while they're here.
- Jenny: We have vegetation monitoring and at that time, you know we can consider this. The process that we had envisioned for vegetation monitoring was walking the fence line and so that can also be a time to look for mortality along the fence, those two can be done and accomplished together.
- Kathryn: And a second question is: what's your timeline for implementing the removal of the barbed wire?
- Jenny: Well because this is new as of, you know final as of today, I don't have one for you right now. That is something we can certainly circle back on once we have the chance to discuss internally.
- Melissa: Just to follow up on that, and maybe this is a question for the broader ESRC, for Kathryn in particular. Since this is mitigation for take that's already occurred, it's really concerning the timeline is very important because each bat that's killed could have been pupping a couple of pups each year. So, it's really concerning that we're talking about take that's already occurred and there's an uncertain timeline. This was a vote that you know is a few months old. I'm interested I guess from the ESRC perspective in upcoming tiers and how we handle this when there's a vote on mitigation for take that already took place. I think the timelines are really important and we hadn't included that in the vote. So, from an ESRC process perspective how are timelines determined, and how do we handle it when this is for take that's already happened?
- Michelle: So, I can answer that to some extent on a regulatory perspective Melissa, but I'll let DOFAW I think you need to probably speak to how it works under 195D, and Danica may need to weigh in. In general, though we ESRC cannot approve a project unilaterally, right? It's an applicant driven process. So, you know the applicant here always has the right to say well we're not going to take that vote as this is what we have to do. They could come back and provide something else, but if they do that there's no guarantee that ESRC or the Agencies would approve it as such, right? For the timeline that could potentially put a permittee or a licensee out of compliance with their permit. Then we have a role in determining whether or not that has been met. I'm tripping over my words here because I just want to make sure that I'm getting our roles right. But we can't go back and add in an analysis of take because of the way that the HCP was worded. So, we can't assign them a higher bar if it takes longer, but we can say that they are not in compliance with their permit or license if they do not get their mitigation plans in place and implemented on the timeline that was identified in their HCP. We'll turn it to DOFAW and ask for them to add or edit.

- Kathryn: Apologies for the delay. We know that the applicant is on Tier Two for their mitigation plan. We may have to consult internally for our process for how we deal with take that's already taken place and the ESRC's role. I don't know off hand, all I know, all I can talk about I guess is the vote that we just took place.
- Melissa: I guess I would just take issue with you know if we voted on this a while back and if they just wanted to bring it back to us for a discussion again and are saying the clock starts now when we took an additional vote to affirm the previous one. It just seems to set a bad precedent. This is the third time at least that we've had this conversation and, in the meantime, the barbed wire's out there killing bats. So, I'd just love to see a quick implementation of this. I'm just concerned about you know if things just keep getting brought up to us over, and over, and over again delaying the implementation of a mitigation plan; it's not a great look. I'm just wondering what's available to us. So yeah, being out of compliance, I understand everyone wants this to get done right, everyone wants the plan to be put into place. I don't know if any other committee members have a comment, I know Lisa you were unmuted at one point.
- Lisa: I just wanted us to remember you know we're advisory to BLNR. So, if there was to be a situation where we see an HCP falling out of compliance, we would then advise, or I think it would be the role of DOFAW to then take that to the Board of Land and Natural Resources to let them know that. One of the applicants, or an HCP, is out of compliance.
- Kathryn: DOFAW is concerned about that too and we strongly recommend that the applicant contact DOFAW staff to reflect what was voted in this meeting and work on a timeline for implementing removal of the barbed wire, and monitoring including vegetation and bat take on the fence.

03.11.2024 10:51/01:51:13

MOTION

Lisa: Okay so DOFAW in terms of agenda items, or if there's any other discussion on this, but we've taken our vote. Item Five is adjournment. Do we want to move to adjourn? Is there further discussion?

Kathryn: Yes, we can move to adjourn. So okay apologies I thought you were doing the motion, but I guess I did the motion. I motion to adjourn. Is there a second?

- Kawika: Wait before we adjourn, could I just clarify what we're going to go over tomorrow, making sure that the agenda as posted is going to be followed with nothing removed because it says take or anything like that.
- Kathryn: The posted agenda for tomorrow is accurate.
- Kawika: For that one that got kicked off today there's no way to add that on to another since we're meeting three times this week, are we too short of a timeline?
- Kathryn: No because of Sunshine we have to post a week in advance.
- Kawika: Got it.
- Melissa: Also, just, I mean I know it's not my job to make the agenda, but we do try to review them ahead of time. You said take is a term of art, but it's clearly defined in 195D and under the ESA. I'm confused? How is something a term of art if those are publicly posted definitions in the law.
- Kathryn: It's a legal term, it's not a term that's used in regular speak. I guess so it's a

legally defined term so that we have to also put that legal definition in the agenda so that people know what it means.

Kathryn: Okay, so now I motion to adjourn.

- Lisa: I second.
- Vote passes unanimous.

DRAFT