

# ENDANGERED SPECIES RECOVERY COMMITTEE (ESRC) MEETING

January 16, 2020 MEETING MINUTES

Meeting Location: Department of Land and Natural Resources, Division of Forestry and Wildlife, 1151 Punchbowl Street, Honolulu, Hawai'i 96813

**MEMBERS:** Dave Smith (DLNR), Jim Jacobi (USGS), Lisa Spain (At-Large), Melissa Price (UH), Michelle Bogardus (USFWS), Kawika Winter (At-Large)

**STAFF:** DOFAW: James Cogswell, Lauren Taylor, Lainie Berry, Koa Matsuoka, Matthew Kier, Susan Ching  
DLNR: Suzanne Case, Linda Chow

**OTHERS:** George Akau, Matt Stelmach, Amanda Ehrenkrantz, Jaap Eijzenga, Mililani Browning, Darren LeBlanc, Chris Takena, Reginald David

## AGENDA

### ITEM 11. ESRC review of Kaua'i Lagoons HCP State Fiscal Year 2019 annual report

REGINALD DAVID: I'll start with permit history for the members that may be new on the committee. Our state and federal permits were issued in 2012. The permit term is 30 years. Our property is approximately 625 acres. The property changed hands right at the beginning of 2016 and both federal and state permits were transferred in 2016 to the new owners. So our permit's authorized take is shown above. This is our direct and indirect take since the permit inception. Obviously one number there stands out, which is the number of Common Gallinules that have been killed. We are watching that extremely closely with both the state and the federal regulators and we are basically seeing a change in the gallinule behavior with the hazing that is ongoing right now. So we are going to wait a year and then review the data. It's a little early here because this report actually is for essentially last year and the hazing only started two weeks before the end of this reporting period.

JACOBI: So the change is positive or negative?

REGINALD DAVID: With the gallinules, well it's positive, if you don't want to get run over on the road. It's a negative if you want them to do a lot of nesting. It is moving the birds and the good thing is that it is moving the birds away from the roadways which is where the majority of the take of that species has occurred, as the committee knows.

BOGARDUS: As they're crossing between the sections that have ponds.

REGINALD DAVID: Most of the time it's not even that; they just seem to play chicken with the cars. It's just the oddest thing. And for those of you that don't know, they'll sit by the side of the road. They'll watch a car coming. They'll go back and forth and then at literally the last possible

moment, they'll launch themselves off the ground and we've actually witnessed two of these takes, and the cars were actually driving at 14 miles an hour, which is our posted speed limit and they don't have a chance to avoid hitting them. But we are seeing a change in the behavior of the birds. So we're all hoping that this fairly considerable take is going to slow rapidly. Just for committee members that haven't been privy to this one, when we actually wrote the HCP for this back in 2005, we had like six gallinules on the property. We had a massive number of Nēnē and honestly, we didn't think the gallinules were going to be an issue. We were very concerned with the extremely large numbers of coots which were at that point over 400 and with Nēnē, which everybody knows got up to over to 750 birds. Gallinules weren't really on our radar screen. Okay, so our recorded take during this reporting period: we had four Newell's Shearwaters come down. They were all hatch year birds. They've all been immediately released the following day. We had four coots which was high for us and two gallinules which was a reduction from the previous year takes. As usual, the roads were the most dangerous place. One thing that we have been doing now, because a lot of these birds have become fairly territorial because they're nesting, is we can track the birds that actually have chicks when they do get taken to see whether or not those chicks actually make it or not. So you'll see on here, we actually have one where the goslings did just fine and the other one is outside of the breeding season.

JACOBI: Within the context of what you're saying, you say that the hazing has decreased the potential for take and also has decreased the nesting. So how much is that decrease happening within the productivity part of it?

REGINALD DAVID: It did not happen during this reporting period.

JACOBI: Right, but I'm just saying in terms of where we are going on this.

REGINALD DAVID: Oh where we're going here is we're hoping that we're moving birds away from the road, but that's going to reduce the productivity.

JACOBI: Is it a significant reduction and we don't know yet because we're in the middle of the nesting season right now? I think that's the key thing there because it reduces productivity, but if it doesn't it's worth the effort to do the hazing. That doesn't really make that much difference as long as your productivity is still there.

REGINALD DAVID: Right, agreed, and we are watching it very carefully.

PRICE: Sorry, remind me of what type of hazing you're doing.

REGINALD DAVID: We're not doing it. The State Department of Transportation, Airports Division has hired USDA Wildlife Services to use trained border collies to haze birds out of the property.

PRICE: So they hang out the side of the road and scare them away from the road?

REGINALD DAVID: No, most of the Nēnē are not on the roads. Most of the Nēnē are within the golf course or around the water features. There's very few birds that are actually on the roads. It's just when they go onto the roads. As an example we've never hit a Nēnē on the road.

PRICE: Sorry, I'm just trying to understand. So you're trying to reduce the number of birds on the property or are you trying to scare them away from the property or away from the road?

REGINALD DAVID: It depends on which species you are talking about and where you are in the process. When we first started this we actually were operating under an MOU which required us to make as many birds as we possibly could. By the time we got to the stage of actually having permits the task had changed to not making as many Nēnē as we could, not enhancing the habitat to produce Nēnē because of the proximity of the two runways at the airport. So we still have permits that require us to maintain and encourage production of these species. Airports has a charge now to decrease it.

BOGARDUS: There are two pieces at play. One is that Hoku'ala the resort has an HCP that is before the committee to look at whether or not they're meeting the commitments of the HCP. Secondly, on the same action area the airport, in combination with Wildlife Services, is doing this other action to reduce that BASH hazard (Bird Aircraft Strike Hazard) that Nēnē pose to the airport because the resort is located within the two runways. It's in between the two runways at the airport.

PRICE: So the hazing consists of what?

BOGARDUS: They're trying to get the Nēnē off the property and reduce their nests. They are specifically supposed to be avoiding any areas where the waterbirds are nesting to reduce the impact of waterbird nesting success. Because the waterbird nesting success is the mitigation for the waterbird take in the Kaua'i Lagoons HCP.

PRICE: Okay. I was just trying to understand because the major take is of 'alae 'ula and 'alae ke'oke'o right? That's where your major take is coming from. And you said it's coming from the road and I was just trying to connect that with the hazing, but it's not connected. So if you wanted to reduce take on the road, there's actually completely different things you would do for that.

REGINALD DAVID: Correct. And again, just to correct one thing, there the coots' major cause of death is on the golf course from getting hit by golf balls.

JACOBI: Yeah, but what you're doing is hazing for Nēnē as well as hazing for 'alae 'ula.

REGINALD DAVID: Well, they're not supposed to be hazing coots, but you've got a dog running in a field that has all three species.

JACOBI: But in terms of trying to keep the gallinules off the road you're trying to keep them off the road through some sort of hazing?

REGINALD DAVID: No, we don't have a permit to haze.

JACOBI: Okay, that's it. All right, it was said in the same sentence and that's why I was getting confused. Are they still running across the road like that?

REGINALD DAVID: Not as bad as they used to. We have this discussion every ESRC meeting.

BOGARDUS: So Reggie, indirectly the behavior of the gallinules on the property is changing and they are likely staying closer to their areas and away from the open...?

REGINALD DAVID: They're staying in the part of the property that no longer is developed basically, so we have that one golf course that was closed 12 years ago. They're up there. We maintain some wetlands in those specifically for the waterbirds and that's where they are focusing and that's where the bulk of our production of gallinules, stilts, and coots are.

PRICE: And that's far away from the road?

REGINALD DAVID: Yes. It's almost smack dab in the middle of the resort.

BOGARDUS: But big picture, if the rate of gallinule take doesn't decline—which we're hoping that it does that—we are potentially at a point where it is likely to exceed the authorized level in the HCP if it continues unchecked.

REGINALD DAVID: If it continues unchecked and at this pace, yeah, we will in the next seven years be getting close. We're going to give it two years, get the data, and then if we are not seeing a substantial decrease in gallinule take then we will initiate a major amendment to the permit.

BOGARDUS: And you're going to do this with the agencies, so I'm not going to dive into it too much here. But additionally there could be other means where you could do things that would somehow reduce that take.

REGINALD DAVID: And we have some ideas which I prefer not to talk about here because I'd like to talk to the regulatory agencies before we present those ideas.

BOGARDUS: Totally fine. Next question. Can you go back to the slide right before? Four seems high for NESH for you.

REGINALD DAVID: It was a weird year. Everybody had NESH in very large numbers. Actually two of them were in the middle of the golf course.

BOGARDUS: At the Kalanipu'u building, were there any take in those buildings this year?

REGINALD DAVID: No, none.

BOGARDUS: No? So you looked at those lights and whatever was going on here in 2018 is now fixed?

REGINALD DAVID: Correct.

WINTER: Isn't light attraction a different HCP for this applicant?

REGINALD DAVID: No we actually have coverage in this permit first. So this is one of the old ones where we got all kinds of things going on in it.

SPAIN: Can ask one more question, probably of the federal agency? This hazing by Wildlife Services at the airport: is anybody monitoring impacts of that hazing and are there any requirements on their part to do that?

DARREN LEBLANC: Since Wildlife Services is a federal agency, we did a formal Section 7 consultation with them related to the hazing actions. So they submit us a monthly report on the effects of hazing both to the target species and the non-target species.

SPAIN: And are they talking to you about the non-target species?

REGINALD DAVID: No, they're not sharing any information with us at all.

DARREN LEBLANC: Actually there's supposed to be a morning discussion between your people and their people before they go out in the field every day.

REGINALD DAVID: Yeah, that's basically telling them where the birds are and what birds to stay away from.

DARREN LEBLANC: You could also ask them if they're hazing things that are non-targeted.

REGINALD DAVID: No, they're not doing that on purpose.

BOGARDUS: I would just say that they need to be sharing information because this affects the mitigation under the Kaua'i Lagoons HCP.

REGINALD DAVID: That was the agreement, that we would get the same reports that the feds got. We have not gotten a single one.

JACOBI: Can I follow up on that? Darren, to your thing there, you're getting the information. Can you tell us what it says?

DARREN LEBLANC: The reports they have given to us say that they have reduced the number of Nēnē on property by 90% and did that within the first couple of weeks. They say they are not hazing any other species.

JACOBI: Are they assessing whether their hazing has any negative impacts on the species they're hazing?

DARREN LEBLANC: Again, the only thing they say they are hazing is Nēnē, the report says. And that's what we wanted to happen. We wanted the Nēnē to leave the property.

JACOBI: You feel confident that the situation that there is no negative impact?

DARREN LEBLANC: As far as I know, yes. The trials and stuff like that showed that the dog is very focused in on the bird and does not go after other birds, and the handlers are not supposed to send the dogs after Nēnē if there are other species sort of within the quarter of where dog needs to move. I'm assuming they're following those instructions.

JACOBI: I mean, concerns would be say if they haze a bird and it goes on the road and gets hit by a car that would be bad.

DARREN LEBLANC: We're trying to monitor that, yes.

JACOBI: Again, it is important to have that come back because that affects how we look at the HCP evaluation.

SPAIN: Especially if nesting is potentially diminishing.

BOGARDUS: I guess we're going to get into this here. But I guess for next year since this would be the first year that hazing is occurring it would be really important for you guys to look at and for us to see whether or not nesting success for the waterbird species is declining and whether or not that's a result of hazing or not. It is going to be difficult to tease out but it's still important for us to track that trend.

DARREN LEBLANC: That's just one thing the morning meetings are supposed to do. If there's another species nesting in an area they're not in your dog's area or anywhere near that.

JACOBI: I think I'd like to request at the next annual update is that we have a report also from Wildlife Services to you know, bring us up to date on what they've done in the year relative to this effort here. We would like to have that connection.

DARREN LEBLANC: That'll be good next year because again, they didn't start until recently.

JACOBI: The NESH that all fell down alive, those were all released then?

REGINALD DAVID: They were all released, so non-lethals. And as you know, I oversee the Save our Shearwaters program and have the data come across my desk. That's what it meant and two of them right just out sitting in the middle of the golf course, which was pretty weird. But it was a dark and stormy night. And I think we got something like 32 birds into SOS in two days. So activity on the resort: we had 20 nests last year. First one was found September 27th. Last

one, January 4th, 2019. We had a 66 eggs laid, 55 hatched. 83% hatching rate. We had 38 gallinules fledge, which gives us a 69% survival rate.

WINTER: Any predations on those?

REGINALD DAVID: No, we have not had a mammal predation on the property in six or seven years. We have massive predator control. I think the last time we had a predation event was, other than an owl—we have had some owl predation—I think was six or seven years ago. Not sure if people want to get into this but we track every egg pretty much and we also look at all of the failed eggs. We do analyze them to see what the causes of failure are. The recruitment and production were not quite as good as in the past. But we're also working with much younger birds now. The translocation up until this point basically took all of our old birds. So for those of you that are new to the committee, six, seven years ago a lot of our females were over 20 years old and basically the place was completely staked out and you had the alpha birds and the not so alpha birds. There was a lot of teaching going on between the very experienced birds and the younger birds. So the cohort now is very, very young. A lot of the birds are on their first nesting go around and for Nēnē that's not always very successful.

JACOBI: How do these compare with others, say like the National Park has been monitoring and so forth. Is this a similar thing?

REGINALD DAVID: Our production consistently has been significantly better than pretty much anybody's production.

JACOBI: But in terms of number of infertile eggs and things like that, you know obviously discount predation?

REGINALD DAVID: Yeah. This is a little skewed now because if you look there we have one pair that double clutches every year. And she throws bad eggs and she's been throwing bad eggs every year for the last six or seven years. When we were trying to make more birds we used her as a surrogate because we would just take her eggs and put any abandoned eggs under her because she's a great sitter. But with the number of nests we're talking about this is a little skewed because I've got one bird that's producing that many infertile eggs and they're little tiny, walnut sized eggs.

So, of course, we have a lot of waterbirds on the property. Our permit says, I think, we're supposed to do waterbird surveys once a month. We do them almost weekly. I kind of need my guys around the course to give them something to do, to keep them interested. So we've got quite a few birds there.

WINTER: Do you have a permit for snow goose?

REGINALD DAVID: We did raise that concern and it left. Actually it moved to Princeville.

BOGARDUS: Did you do anything for cattle egret control?

REGINALD DAVID: We've got a real problem with cattle egrets because what's happened now, just like every place else on Kaua'i, they're everywhere. And before the resort was really developed and during the transition period and during construction we could go out and shoot them pretty easily. But yeah, try doing that when you've got 300 people wandering around with kids and dogs and babies. And so we do have a real problem. What we're looking at now is the majority of the birds seem to have formed a colony and we are going to look into now going in to the colony and removing nests. I think it's what we're going to end up doing but the way we were controlling them was very effective. We were shooting them, but we just can't do that anymore.

BOGARDUS: High powered pellet guns?

PRICE: Is it possible to remove the roost trees? That's been effective in other areas.

REGINALD DAVID: They'll just move. I mean if we cut them down. They'd be gone for about two weeks and then they come back and start another rookery as close to the original as they could. You know this unfortunately is a high-end resort so we can't cut down all the trees.

So here's our additional waterbirds nesting on their property during the season. So we had 21 Common Gallinule nests which is pretty amazing. We produced what we believe were 62 birds that fledged out of that. So it's pretty amazing. Just for historical purposes for new people on the committee. When we started this program, we never had a coot nesting on the property and I think it was five or six years ago we started beginning to get onesies and twosies. We have a very large population of Hawaiian Coots, especially in very dry winters. There's a lot of coots on Ni'ihau and when that playa dries up on Ni'ihau we believe they fly over there. And we can have 400-500 coots on the golf course, which is something not for the faint of heart when people start to tee off.

JACOBI: Can you translate that top line there—not everybody knows the species.

REGINALD DAVID: Oh, I'm sorry. Okay. So this is a Common Gallinule or Common Moorhen depending upon the week. The Hawaiian Coot, Hawaiian Duck, and Hawaiian Stilt. We haven't had any stilts nest on the property until about five years ago and every year or two, we get a nest and they've been very productive but it's not ideal habitat. Our gallinules, they don't follow the rule book. They're supposed to be the super cryptic animal that nests in hidden floating nests, and we actually had a pair put a nest in a sand trap on the signature hole of the golf course, which had to be closed for a month and a half and they pulled out four kids in a sand trap on a golf course.

BOGARDUS: How are those gallinule nests numbers changing over time? It's fluctuating anywhere like zero to ten somewhere?

REGINALD DAVID: No, we're always over 20 or always at 15-20. This was a little bit of a low year; we had some pretty bad weather. But we always have about 15 at least. I think the year before we had considerably more but part of where those nests are in areas that the Nēnē are in and where the dogs are working. So I will say I haven't looked at the numbers yet for this season because the waterbirds are just beginning to nest.



PRICE: Yeah, so sorry my apologies. In light of the late afternoon discussion yesterday about this. This is not to you, but a commentary for the record. This is the difference that you see when you don't have mongoose, which we all know, but you know it when they're getting hammered elsewhere knowing that you can prop up your production success and get your numbers up if you control the mongoose, this speaks to that.

REGINALD DAVID: Well actually it is germane because we have had a few mongoose two years ago. I mean on property. And to put it in perspective, we ended up with six full-time people and 288 traps out there overnight.

PRICE: A worthwhile effort. I commend you for that.

REGINALD DAVID: So yeah, we're working very diligently to make sure that if one shows up there we're going to nail it. The problem of course is it's right next to the port and right next to five restaurants. So it's right next to the airport and cargo so it is the most likely spot to find a mongoose if they show up.

JACOBI: Well it's probably the best place for you guys to be doing the kind of predator control effort that you're doing. So it's important that you keep it up.

BOGARDUS: And thank you for continuing to do so.

REGINALD DAVID: So this gives you an idea of our trapping. We trap 365 days a year. I think our permit says we're supposed to have ten traps. We've got anywhere between 60 and 200 depending upon if we have a crisis going on. We continue to have the problem with people dropping cats on the property on the weekends. We took out 54 cats last season. We still don't have much of a dog problem. We took out two dogs, but suddenly we've just got a massive pig problem. And this was last year. We've already beat this number this year.

JACOBI: Where they come from?

REGINALD DAVID: The lowlands of Kaua'i are just loaded. This is the one thing I have no problem getting extra money from the resort to deal with because you should see what it does to the golf course. And we continue our fruitless attempt to control the chickens. We got a lot of chickens on the property but we do take a lot of them out.

JACOBI: And is there an impact between chickens and the other birds?

REGINALD DAVID: I'm always nervous about poultry diseases and to me when you have that kind of density and you've got nesting waterbirds that are endangered, I want to keep the chicken numbers down as far as possible. Chickens increase the number of rats, chickens increase the number of cats. So yeah, to me chickens are not a great thing to have. Fortunately, we have 200 groundskeepers that are predominantly Filipino and they will eat any chicken that we produce. None of the chickens go to waste, they get munched.

BOGARDUS: Reggie, when we visited for Kate for Marriot it was like loaded with cats, right? Do you see those cats coming over to Hoku'ala?

REGINALD DAVID: Well, they don't stand a chance if they come. I mean the word's out in the cat community: don't go there. Of course I was only allowed to watch Caddyshack once a year.

PRICE: By keeping the chickens you're at least reducing prey population that might draw them over, we're hoping.

REGINALD DAVID: So, yeah, but there's no shortage of chickens. And this number for people like Jim. This is a low number and we used to be up in the 5,000s. Right, so obviously this is not our program, but I know this is a significant interest to everybody. So Wildlife Services did come in. We helped them. We figured we have the most experience handling Nēnē and know the Nēnē. So we helped them. Pretty much DOFAW staff and I caught the birds for them to ensure that they didn't get hurt. So their efforts start on the 24th of June; as you all know our reporting period ends at the end of the month of June. They haze on a daily basis. Ten were equipped with satellite tags so that they could gather data on their dispersal when hazed. Unfortunately, 40 percent of those have died or been killed. The hazing as Darren mentioned has been very effective on the Nēnē it is also affecting the other birds, not because Wildlife Service is going after them directly, but birds are not stupid. They see a dog chasing a Nēnē and the Nēnē is reacting and you know, they're going to follow suit to some degree.

PRICE: Is your feeling that that's representative of the hazed population, that 40% are experiencing mortality?

REGINALD DAVID: That's not 40%, that's four of the ten birds they put satellite tags on.

DARREN LEBLANC: Right and those birds since they have tags, we're able to look at that information and only one of those died within two days of being on the resort. So three of the birds did get killed, but it had nothing to do with the hazing.

PRICE: Right, but I mean like when you move things out of their element, they might go places that they're likely to experience higher mortality. So I'm just curious whether you think this is representative of the outcome of hazing or not?

REGINALD DAVID: It's a high rate of death for satellite tagged Nēnē or any goose. They are a very strong, very large bird and you do not usually see that mortality. So that and once again it's not our program and it's not for us to opine on it. I think it is interesting. We're still in the nesting season, we have had 15 active Nēnē nests on property. That's down from 20 last year. We have another three that in all probability are going to nest so we're going to be very close to numbers that we had last year. The one thing that has been disconcerting is that we had at least two, possibly three gravid females that have been scared and dropped eggs in the middle of a golf course, so we probably would be at 17 nests by now. If those birds did not go on to nest they're known birds. But they dropped eggs in the middle of the golf course.

JACOBI: Because they were scared by hazing?

REGINALD DAVID: I would assume.

JACOBI: I mean, so that is an impact of hazing.

REGINALD DAVID: Yeah. I mean, basically my opinion is that we know enough about Nēnē that you can tell when they are about ready to pop and that we should not be chasing birds that are that gravid. One of the problems with that is that they are most effective with their hazing when they do it right at sun up. It's dark. It is hard to determine which birds are which. They're not taking band numbers. We give them the information on which birds to be careful of because they're gravid but it's something that probably needs some kind of a procedural change.

JACOBI: Is that something that Fish and Wildlife is considering and the impact?

DARREN LEBLANC: This is new information to us.

JACOBI: Okay. It's something that I would really recommend you try to look into it right now.

DARREN LEBLANC: Reggie said it's assumed that it is related; I don't know if it's related or not.

JACOBI: We don't know but it's worthwhile to follow.

BOGARDUS: Once Nēnē have nested and there's a documented nest they are no longer allowed to haze those birds, is that correct?

DARREN LEBLANC: Once they are starting the nesting process and Reggie's crew tells the dog handlers they are in that process they're not supposed to haze them.

BOGARDUS: Yeah, this needs to get solved in time for next year.

REGINALD DAVID: There's another issue coming up, right now of course Nēnē are one of those waterfowl that shed all of their primaries simultaneously, so when they are molting they cannot fly. We do have birds now on the property that are not our birds oddly enough. We get a large influx of birds post breeding, especially failed breeders, that come in early and molt and we have a fair number of birds on property right now that cannot fly, and we should not be hazing those birds because they have to run and can't jump up in the air. That's pretty stressful on them.

JACOBI: So is that part of the hazing protocol?

REGINALD DAVID: I don't know.

JACOBI: Is that part of something that is being considered? So yeah, that's something I think it would be worthwhile to follow up on.

REGINALD DAVID: This number of birds coming in from other locations to molt usually doesn't happen till later in the year. I think what's happening, of course is that our resident birds are being hazed very effectively. So other birds are going, oh, wow, there's a nice place to go and empty space. So because of course, they're very susceptible to predation when they can't fly and we've got a big pond. They can just run into the pond and go out in the middle of the pond and get away from a predator if there was one.

BOGARDUS: Darren, it's a pilot project right, and then after one year, they're going to be assessing to see what modifications might need to be made and whether or not they continue and at that point the regulatory agencies, both us and DOFAW would be sitting down and determining how we were going to deal with this long term?

DARREN LEBLANC: And Wildlife Services and the FAA.

BOGARDUS: All right, but that is on the docket to do. Yeah.

REGINALD DAVID: And they basically started in middle of June, so they're not even a year in. That's all I had but any questions that the committee has?

JACOBI: Are there problems or concerns that you have in terms of where things are going?

REGINALD DAVID: I think I would mirror what Darren is saying in that it's early days and I don't like to make prognostications unless I have a full season of data because there is a fair amount of variability. And once again, we're having a pretty snarky year weather-wise on Kaua'i. We've been getting a lot of rain, a lot of heavy winds. That does always affect our production. But the dialogue between their ground crews and mine have been very amicable. Everybody's working just perfectly. I mean Al used to work for Wildlife Services. So basically, they know that our guys know what they're talking about. So that has been no issues there, which I'm very grateful for.

JACOBI: Is there a plan from the state to remove any more Nēnē?

SMITH: No, not at this time.

JIM COGSWELL: And the alternative to the hazing program is the relocation program that we were doing at a million dollars a year.

DARREN LEBLANC: So, you know, the FAA is very serious about reducing the hazard risk of birds including on the airport interfering with their current operations. Yeah, it's if something is going to be done this was the least invasive we came up with.

SMITH: Yeah, we'd rather move them to other areas. Kaua'i seems to be a really productive place for them where you're looking at land acquisitions that could support Nēnē as an alternative.

REGINALD DAVID: The ones from Kaua‘i really like Waikoloa, they’re very happy. I had 95 of the Kaua‘i birds around one 1-acre pond at Waikoloa this season.

JACOBI: It begs another question and I know this is the thing that came up probably 15 years ago when there was a consideration for a Safe Harbor over at Pu‘u Wa‘awa‘a. Is to whether there is a need for Safe Harbor or HCP on any of the other facilities on Kaua‘i particularly as the population increases and they are on the golf courses and so forth. Are they in jeopardy for getting taken? In those cases, we're just not seeing it.

REGINALD DAVID: Well one big question obviously is with the federal down listing and Section four rule, you know, it changes things, but I'm not totally sure what the state's position is going to be under their statute.

SPAIN: That question we were discussing earlier. What is the state going to do with the federal changes?

SMITH: Yeah, we're going to look at that. I mean my preference would be to stay in alignment with the feds.

DARREN LEBLANC: And we did give the state a grant, what was it two years ago now, to study developing a sort of a programmatic HCP on Kaua‘i related to that.

REGINALD DAVID: The nice thing with the four rule is that your basic hazing, you could do it at a golf course would then be legal, you know? Basically shooing the birds away from areas they shouldn't be in, which they don't mind.

BOGARDUS: As long as they're not breeding.

JACOBI: Part of the concern that came up with the Pu‘u Wa‘awa‘a proposal which never came to the table—it was something we went on a site visit and so forth and never developed—but part of the concern that the ESRC had at that time was concerns from other factors. It's not a Safe Harbor kind of a thing. It was more of an HCP kind of an issue in terms of take, right, as a result of both direct impacts from you know, either golf balls or irate golfers or herbicides or fertilizers and so forth. When those issues were brought up they decided to withdraw their proposal. So I think these are considerations that we need to think about in terms of other potential impacts. Is there take happening in these other areas that need to somehow really be addressed in a more positive, proactive way?

PRICE: As far as being in line with the federal government. I mean we are as the ESRC, we're looking at the state statute. One advantage of the state level is that we can go island by island and listings of they need to be listed. So there may be some islands that it still warrants listing for Nēnē and other islands that it really doesn't warrant, you know, the down listing would be appropriate. So I think there's some nuance that we can have at the state level that's more difficult at the federal level.

SMITH: For instance the state lists but doesn't automatically delist.

REGINALD DAVID: And the state has state listed species that are not on the federal list.

PRICE: So Pūeo, which is only listed on one island.

REGINALD DAVID: And White Tern.

BOGARDUS: To answer the question about other resorts that are having take of endangered species, we're aware of at least one in Waikoloa that has extremely low level take but we were able to work with them to avoid that take and minimize the risk wherever possible. We don't have any evidence of ones that are having take without immediately then seeking to find ways to avoid that. As Nēnē continue to drop down into Waikoloa that's definitely a possibility that certainly more resorts and golf courses in that area may struggle with that. We're aware of it and have been reaching out to them. If anyone's aware of any more that are having problems then we should be talking to them.

REGINALD DAVID: Basically every golf course on the Kona side has Nēnē now as well.

BOGARDUS: They all have them, it just hasn't risen to the level where we're seeing high level mortalities or anything unusual. You know Kaua'i Lagoons originally came in because you had a breeding population of like 250 birds at one time on the property as well as all the other species involved and we haven't gotten anywhere close to that anywhere on Kona side yet.

REGINALD DAVID: But we are getting breeding and nesting all the way to the coast line.

BOGARDUS: Agreed.

JACOBI: Yeah, I bring this up not so much in terms of a compliance, enforcement issue. It's trying to be more proactive in trying to deal with issues that may be solvable through some of the lessons learned through Kaua'i Lagoons and those like that. So that's just the reason.

REGINALD DAVID: I mean the nice thing about Nēnē on golf courses is from our experience, at least, it's a very low level take from golfing, they can easily outbreed it. I think in the whole time I've been working there since 2005 I think we've only had two Nēnē hit by golf balls.

WINTER: Can they take a hit better than a smaller bird like a coot?

REGINALD DAVID: Yeah, presumably, I mean, it's a very large bird.

SPAIN: I have a question. It wasn't exactly clear to me and I haven't been able to do a site visit. Are the golfers given a lot of information or context of what they're golfing amongst?

REGINALD DAVID: It's actually turned into part of the selling point for the resort. They get a briefing when they get their golf cart. So we give lots of information and in the golf carts, I'm not a golfer, but apparently you have this GPS unit when you get in. You know, they press the thing, it comes up and says, you know, 497 yards whatever like this. So twice during the round of golf

you actually have to go through an endangered species awareness training to be able to go on to the next hole. And around the golf course we have good sensible locations, close to restrooms or the restaurant, big placards with all the information on Nēnē that is repeated across the golf course. So it's almost impossible for you not to know what's going on. The whole time I've been there we've never had a malicious incident. We've also now, because we've taken over half of the resort and turned it into a very community-based thing, we have an organic farm that's sourced to get the vegetables for the restaurant. We have jogging trails and all this other stuff. We're now also doing bird awareness walks for people staying there and locals once a week. So people can go on a bird walk with one of our techs.

BOGARDUS: Thank you. And please send our thanks to Al too.

SMITH: Okay, next up will be the *Achyranthes splendens*.

**ITEM 12.** [ESRC review of Round-Leaved Chaff-Flower \(\*Achyranthes splendens\* var. \*rotundata\*\) Habitat Conservation Plan \(HCP\) Kenai Industrial Park Project State Fiscal Year 2019 annual report](#)

JAAP EIJZENGA: Happy New Year to everyone. I guess I'll try to keep it short. I know it's already been a long day and then some for everyone. So this is just an update on the annual report for the *Achyranthes splendens* HCP. Just a little bit of background for those of you are not aware, the project currently is owned by AKC Leasing Corporation. In 2013, I believe the HCP was approved to offset take of three *Achyranthes splendens* on a small 3/4 acre industrial lot at Campbell Industrial Park. The main goal of this HCP to create a new population of *Achyranthes* at the Kalaeloa unit of the Pearl Harbor National Wildlife Refuge in collaboration with the U.S. Fish and Wildlife Service Refuges. And we've used genetic stock of the individuals at the KIP project as well as from an additional adjacent source. That's the population that I believe is managed by the county. So that happened back in 2013, I guess and we're currently in the fifth year of monitoring of the outplants. The year before last I believe or maybe it was last year we were here talking about the longevity of the original outplants at the time when the HCP was approved. There were still in general people thought that they were a little bit more longer lived than it turns out. They die a lot sooner. They just produce a lot of seeds, especially in drought stress situations and then they don't live particularly long and we're seeing that at the site. So this is a graph showing the original outplants at the sites have dropped during the monitoring period covered in this annual report from 71 down to 51. That is less than a third of the original outplants at that point that are left and of course currently there are even fewer. So they're really starting to die off. On the other hand, the recruits are all coming up really strong and of course, they're also reproducing. During the monitoring period covered in this report we went from 46 to 79. So that is a pretty nice jump and that more than offsets the loss that we've seen in the original outplantings fortunately. At the end of the reporting period that would bring the total tagged plants at the mitigation site to 129.

JACOBI: So when you say these recruits are mature, they've matured to reproductive age?

JAAP EIJZENGA: Yes, they've matured to reproductive age. So reproduction is somewhat seasonal and it's a little bit plot dependent. Some plots, 100% of the plants during some periods

will be either flowering and fruiting. In some plots, it can be 75-80%, but for the most part we tag them when they're six inches tall.

JACOBI: So just to clarify, recruits are ones that have gotten to mature stage versus seedlings which are just seasonal, it's gonna come and go and so forth, correct?

JAAP EIJZENG: And so in addition to these plants there are seedlings that are not yet tagged, because they haven't grown up to be in that stage.

PRICE: And they take a year to reach maturity and produce seed or it's a height thing?

JAAP EIJZENG: Yeah. It's a height thing. They can reach maturity in much less than a year. They grow pretty fast. It appears to be somewhat water dependent. So at the end of the dry season there's a lot fewer that are actually reproducing. Later on in the wet season and earlier on a dry season they're more productive.

PRICE: I'm sorry, yes that makes sense that the reproduction is water dependent, but is the growth rate is water dependent?

JAAP EIJZENG: I don't know that we have data to reflect that but based on our observations. I would say yeah. Especially germination is related to rainfall.

JACOBI: Yeah but quick growing whether wet or small, small plants could be as productive as bigger plants too.

JAAP EIJZENG: Yeah, they'll reproduce at six inches. No problem.

PRICE: Yeah, I think what I was interested in is time to maturity. So I'm thinking about how quickly your population is going to grow.

JAAP EIJZENG: Yeah that can happen within a season. Yeah, and I should mention that when the HCP was approved there was a lot of concern about whether recruitment would actually happen based on, you know, prior experience with the species and similar environments and there wasn't a lot of concern about the original outplants surviving and you know concerns have reversed. The outplants are actually dying more quickly because they're just not that long lived and we're seeing a lot of progeny actually in most of the plots.

JACOBI: Losing the original percentage of outplants you lost isn't unusual.

JAAP EIJZENG: It isn't, no, but it's higher than what was predicted when the HCP was written at the time.

JACOBI: Or hope for is probably the better word.

JAAP EIJZENG: It was more than hoped for because it was at the time part of the success criteria.



PRICE: And so just thinking of this in terms of like reproductive rate per plant. You're still only getting kind of one recruit per outplant. You had like 70 outplants to start with and you've got like 79 recruits. Am I reading those numbers correctly?

JAAP EIJZENG: No, we started out with 120.

PRICE: It's, so, still a lower number of recruits than outplants so if you continue to lose things at that rate, you wouldn't necessarily be replacing the plants at the rate that you're losing them.

JAAP EIJZENG: We're seeing the increase in recruits at a higher level right now than we're seeing the mortality. So it is sort of a critical mass thing too. Once you have that population established where you have multiple age groups, it's going to be more stable. And you're going to have more stable growth. And now what we're seeing is we just have one cohort and they're all basically dying at a very similar rate. You know, the recruitment is happening so it's possible that at some point those lines cross and we would have a little bit of a dip before it goes back up. But we're seeing quite a bit of progeny survive, reproduce, and then again produce seedlings.

JACOBI: What do you think is different now from when we first started this project because it seemed like there was a real limited amount of recruitment and you know, they're seedlings but they weren't lasting and so forth? Things have obviously changed to some degree. Do you have any idea what's happening there? Is there a different kind of management? I know you've been weeding around them and so forth, or is there mulch put on the ground that helps it or is there anything that's changed that sort of gets it in a better direction?

JAAP EIJZENG: If anything, the frequency of monitoring and frequency of maintenance has decreased since the earlier stages of the project. I can't point to any kind of activity or change in the conditions that would describe that.

JACOBI: I mean this is encouraging, it doesn't meet the criteria yet, but it's encouraging.

WINTER: Which criteria are you referring to Jim?

JACOBI: In terms of the threshold of 120.

JAAP EIJZENG: So we are at the end of this reporting period meeting all the success criteria.

BOGARDUS: And then the question would be at the end of next year whether or not you'd still be able to maintain that level of recruits relative to the remaining plants. Okay, good.

WINTER: Are those success criteria reiterated in the report?

JAAP EIJZENG: Yeah, they're all mentioned in the report, page 25. So, you know again just to reiterate I think that at the time when you look at the success criteria, the intent was really to make sure that recruitment was happening, and it clearly is. And based on how the success

criteria were written, I would say that the recruitment is actually happening at a higher rate than at the time was hoped and anticipated. So, we're feeling really good about that.

Okay part of the monitoring that we perform out there is to look at plant vigor. There's four categories of plant vigor: healthy, moderate, marginal, and dead, which is interesting. In general, the percentage of plants that would be marked healthy is very low, but that's not unexpected. It's a very challenging environment for any plant. Even drought adapted plants and the standard for healthy is really high. So we see the majority of the plants in the moderate and marginal categories but there's not a huge amount of fluctuation, which is encouraging.

JACOBI: Are those categories directional? I mean in the sense that if you've got a healthy plant it'll stay healthy and if you've got a moderate plant the next time you monitor it's probably going to be marginal or dead like a directional thing.

JAAP EIJZENGA: Not really, we've seen bumps where we had a reversal of marginal and moderate as you can see. So you can have plants that are marginal that end up in better condition in later life stages. That can be because there was a pest infestation and the infestation was reduced or there was rainfall that helped vigor. I mean, there's two main factors there. There's drought stress and there's stress from pest infestations.

JACOBI: But if the plant is marginal the chances are pretty good it's going to head down to dead in the near future; it is directional in that sense. I'm just wondering if you might want to consider lumping those first two categories there, if they're both functionally reproductive and actually adding to the population. We can lump them together, but I'm just saying in terms of what's really happening there.

JAAP EIJZENGA: Yeah, well the plants can live on in marginal condition for a really long time. It doesn't necessarily mean that they're near death.

PRICE: So the fungus introduced by the beetle. Are you going to get into that or is it because that's kind of wrapped into this?

JAAP EIJZENGA: Yeah, not necessarily. So the pest infestations aren't necessarily directly related to the success criteria. So it's covered in the annual report on another slide so I can cover it now. Yeah, so there's mealybugs; that's one of the problems. That's not necessarily fatal unless the plant is relatively old and severely drought stressed. But we have the Bostrich Beetle that bores into mostly dead wood, but it facilitates fungal infections that can then affect healthier parts of the plants. And that's one that we're maybe more concerned about. I don't know that we have data that can show that will actually kill the plants but it definitely doesn't help and it might speed up the process.

PRICE: I was just concerned that as your population grows and your density increases if you have something like that that at low densities it's not going to be a problem. But once you reach a certain threshold, a certain density of plant, that pest or particularly if it introduces a disease that tanks the plant you could have total wipeout if you reach a threshold. So that was kind of my reason for asking.

JAAP EIJZENGA: We'll keep an eye on that. I'll pass that back to the team as well. And then another part of the success criteria is plant cover. It's actually focused on non-native plant cover and I'm showing a graph of course of native plant cover, but that's just to show that it's relatively stable. There's some seasonality, of course, to the level of the native plant cover. The success criteria on record regarding the plant cover is that all the plots should have less than 25% non-native cover and that's consistent. Every time we monitor that's the case, so that's not a huge concern. But of course, the non-native cover can interfere with seedlings growing up to reproductive stages. So that's something that's targeted for the maintenance activities. Maintenance activities currently are on a quarterly schedule and that seems to be working.

JACOBI: So something which has got 55% in your plot there. Does that mean that you have 45% alien, or it could be bare?

JAAP EIJZENGA: A lot of it is bare. There's not a ton of soil there.

JACOBI: Are there other native species out there or is this just *Achyranthes*?

JAAP EIJZENGA: It's a mix but there's just a natural population of things like 'ilima. So you can see here there's some seedlings, there some 'ilima. That's probably the largest native plant that grows in between that.

JACOBI: The open area is just because of clearing or is it because that's just natural?

JAAP EIJZENGA: A lot of is naturally open too. Yeah, because there's just pockets of soil and there's a lot of limestone. It's too dry for guinea grass. Yeah, the most prominent grass—that would be buffelgrass—which is more drought tolerant. Well and then you can see the blue tag over there on the mature plant. So you'll have seedlings and they can hang out underneath a mature plant and once the mature plant dies out you'll have multiple seedlings growing up underneath it

JACOBI: Just to clarify, so much of the sort of gray-green is 'ilima and the more green-green is *Achyranthes*.

JAAP EIJZENGA: Yeah, exactly. It's not a monoculture for the most part.

JACOBI: And the 'ilima is all natural recruitment?

JAAP EIJZENGA: Yeah, we don't do anything with them. But that's all I had for this and I will be happy to answer any questions you may have.

WINTER: Question, so, you know our purview for 195D which essentially states that HCPs are supposed to maintain the genetic integrity and make sure there's no loss of genetic integrity. I don't really see anywhere in your report that indicates monitoring that. Are you guys not? Or I'm just trying to figure that out.

JAAP EIJZENGA: So now we're not able to tie seedlings and then recruits to the parent plant.

They produce a lot of seeds.

WINTER: And so with the initial take those plants are no longer with us?

JAAP EIJZENGA: The original plants of the project site? Yeah, the project site's been developed. So the seeds were collected from those and those were germinated and so a good portion of those plants that were outplanted were germinated.

WINTER: You guys aren't tracking parentage to ensure maintenance of genetic diversity?

JAAP EIJZENGA: We're not able to track seedlings to which outplants they came from.

JACOBI: And I think to clarify again. I think the attempt was to make sure that at least outplants were made from progeny from those original plants. But again, those were through seeds and so forth. You don't what kind of crossing happened there. And then also as you said you brought in some other founder individuals from closely related populations. Yeah, that's important because to me I would be concerned if you only worked with those three and that was all you did.

JAAP EIJZENGA: That was the idea.

JACOBI: I think that makes things good. I think for F1 you could say okay here's the founders that we started with but after when you get into your next generation we can't really do anything with it.

JAAP EIJZENGA: Yeah, and we're well beyond that stage where the F1s are reproducing and we'll see recruits from that. So we're getting into multiple generations down from the original.

JACOBI: There was never a requirement to do actual genetic testing specifically, it was more of making sure that there are enough founder mixes in the starting population and go from there. If the population completely crashed and that would be a how we think in terms of how to go about it.

WINTER: Well, I think hopefully we have a plan before that and not just dealing with this applicant specifically, but we have *Abutilon* very soon. That's another issue where genetics hasn't been maintained. My understanding and we'll see what the report says but I think in general we need to have a common understanding on the committee about how we're protecting the genetic integrity of these populations, and it seems like that may have been overlooked on this particular HCP. But I wasn't here.

PRICE: How many source plants were the seeds started from? You had 120 plants you started with, which is a decent founding. Those are very decent founding members from a genetic perspective, but how many do those 120 plants represent? So how many different populations or plants did 120 come from? Does anyone in the room have that knowledge?

SPAIN: Is the recovery plan for *Achyranthes* written?

JAAP EIJZENGA: So there were three plants on the property which is a fairly small number. I do not know. I'm going to go to the records for how many other plants from the adjacent site were seeds collected from.

WINTER: Does anyone know how many plants are remaining of this species? Is this a PEP species?

JACOBI: No.

PRICE: Matt, do you know beyond the three plants they collected from that site or collected seeds from at that site, how many other source plants may have provided the 120 source plants that ended up at this site?

MATTHEW KIER: I'm not sure how many additional founders were used besides the three that were used in this project.

JACOBI: I'm sure it's not a 120 founders; it's a 120 outplants from a certain number of founders.

PRICE: Right, effective population size, because 120 is a great number but if they only came from three founders you're looking at some long-term genetic problems.

JACOBI: As I recall, before this project started weren't there some *Achyranthes* at Kalaeloa that they were managing too? But they were put in separate places. So those are existing plants on site. I don't recall what how many of those were natural and outplanted but there is another set of *Achyranthes* too that these were not mixed into. These were sort of separated towards the back part of the refuge but the potential we hope is that they're going to continue to mix across that whole area there. So it goes beyond that.

PRICE: From a philosophical perspective, for inbreeding there's two things that you look at, one you look at the genetics is your homozygosity increasing, your heterozygosity decreasing. But secondly, you also pay attention to reproduction, survival. Right? So if your recruitment is still good, your fecundity is still good, your survival to maturity is good. Then you should be okay even without actually without doing the genetic testing, could be good. I think you should be okay as long as your survival and reproduction are okay, but as long as you're monitoring that because if you see that start to tank, based on the history the first thing I would suspect is you've got an inbreeding problem and it's now finally showing up after a few generations or something.

WINTER: Well, maybe we can just have to ask the state botanist if he's concerned about the genetic integrity of this species.

MATTHEW KIER: I think that from what I've seen of the project the contractor that grew the plants was not directed to track the lineage. So I think at this point it is undetermined how many original founders are part of that group. But within the context that at this refuge there are hundreds and hundreds of other *Achyranthes*. And so these are not the only plants that are at that site.

WINTER: Okay. Thank you.

JACOBI: Right now you as a contractor are managing those plants, is that right? At some point the Refuge is going to include that into their management scheme I presume. When is that transition?

JAAP EIJZENGA: Well when we close out the mitigation requirements for the project. After year five. Yeah, we have five years of monitoring requirements.

JACOBI: I mean generally you think things look good? You're not sure, you're still waiting... holding your breath? You know, what is your feeling in terms of where things are going? Are you fairly comfortable with the directions that you can meet those?

JAAP EIJZENGA: Based on this annual report it's looking good. I think the reality is that we're going to see a faster decline in the original outplants because they're now reaching 5 years old, which is pretty old for these things. And so we may have an acceleration of mortality. Like I said, we're probably going to see those lines briefly cross before they come back up. Then recruitment, you know, is happening at a certain pace. And that might not keep up. And so I think that would be temporary based on what we've seen in terms of the recruitment that we see happen there and the seedlings. So I overall as far as the success of the project goes, I think it looks great. They're reproducing, the regeneration is increasing, and so recruitment is increasing. I think that those are all really good signs of this site being a good host site for population of *Achyranthes*. To have looking at 120 or so plants to offset three plants I think is a pretty good deal.

JACOBI: How management dependent is this population?

JAAP EIJZENGA: Currently management activities happened quarterly. So it's not a ton. There's no watering happening or anything like that. So I think with relatively low maintenance the Refuge should be able to maintain that population. It's primarily weeding and keeping an eye on the pest infestation. So when they get too bad applying some pesticide can benefit as well.

JACOBI: Has that been done? What's being applied?

JAAP EIJZENGA: I don't remember off the top of my head.

JACOBI: But is that is that part of the Refuge's plan? Also are they doing the same thing or is this just for this project?

JAAP EIJZENGA: That's for this project. I don't have I don't have specifics of what the Refuge's plans are specifically for the Refuge or for the species or for this population. All we have is that letter, sorry that's an appendix of the HCP, from the Refuge in which they commit to maintaining the population.

BOGARDUS: I know the Refuge is doing actually through Ecological Services a restoration work and species outplanting at a different portion of the Refuge. I don't know the numbers for *Achyranthes*. I can try and get them if you'd like them but probably at a break.

JACOBI: It's not a huge area. Right? It's pretty small. And so it's you know, the potential for mixing is there.

BOGARDUS: The potential for mixing is there. Matt do you know where they got the plants? I mean, it's all through Greg, right?

MATTHEW KIER: There was a contract that came through the State and we've just completed it. So there are over 2,500 *Achyranthes* that were planted out for the Refuge. The feedstock is coming from the Refuge and from adjacent populations.

JAAP EIJZENGA: South Barbers Point area.

BOGARDUS: So there's plenty. Yes. There's plenty out there for them to interact, for them to cross over.

JACOBI: Yeah. I mean, I'm feeling really good about how the direction this project is going. I mean the biggest concern I've got is over a long period of time with sea level rise and coastal inundation, those kinds of impacts. Those are things that are potentially a problem because there's no room to move in the back beyond this. But it's a very good site at this point. It's got potential and I'm thrilled that the Refuge is managing it the way they are now.

JAAP EIJZENGA: That's great to hear.

LAUREN TAYLOR: For your reference we are adjusting the criteria. I think it came to the ESRC before is my understanding, and staff's taking it to the Board to adjust the language in the HCP.

JACOBI: About five years was the presumed lifespan. Yeah the first success criteria became clear after a couple of years that we weren't going to be able to meet that and there was a really no way to course correct on that. Which was the percentage survival of the original plant, which is kind of a bizarre success criterion. ESRC agreed to take that out of the HCP and then for the staff to take that to the board and that's still in progress. That's part of what the annual review is and seeing what the information is and making those adaptive changes as we learn new things. It makes sense biologically.

BOGARDUS: For reference sake, the *Achyranthes* recovery plan was from 1994 and I haven't read it, but it's one of the older ones.

JAAP EIJZENGA: I haven't read it in a while.

SMITH: Okay, anything else? Okay good.

JAAP EIJZENGA: Thank you so much.

**ITEM 13.** ESRC review of *Abutilon menziesii* at Kapolei, State of Hawaii Department of Transportation HCP State Fiscal Year 2019 annual report

SMITH: Okay, Item 13 is review of *Abutilon menziesii* in Kapolei, State Department of Transportation HCP.

LAUREN TAYLOR: Still no contact with DoT.

JACOBI: DoT just walked in the door.

CHRIS TAKENA: Sure, nothing to report.

JACOBI: Do you have much of a background on this project besides the conversations we've had in the previous meetings?

CHRIS TAKENA Yeah, that's all I've had. I've tried to coordinate, I believe like talk to you Dave Smith to get a meeting with Deputy Director Ed Sniffen. I don't know, they were supposed to coordinate some kind of meeting. I don't know what happened after that.

LAUREN TAYLOR: It's been a couple months now.

SUSAN CHING: Okay. My name is Susan Ching, Branch botanist for O'ahu. This is just a quick update plus a little more information since it was submitted in August of last year. We're currently in year 18.5 of a 20-year HCP for this project. So the review of the implementation side which is what DOFAW is responsible for was implementation of the take license. It covers a 20-year period and so we have until July 31st of 2021. So that's 1.5 more years. The license was issued to DoT and the East Kapolei development partners, which includes a lot of different organizations. The implementation of the HCP was given to DOFAW to manage. The funds totaled approximately \$1.45 million over 20 years. So this this number was actually just recalculated recently and it was under reported in the past, but it does break down to about \$75,000 dollars per year over that 20-year period and it's supported the building of a greenhouse, two vehicles, propagation supplies, field working supplies, and salary and fringe of one employee. It's been a long period of time that the money has come. It's trickled in over many different years and different organizations. And so some of the interest funds were lost but then that was temporary so they were recovered and then given the amount per year and the spending that was required. The funds have had to have been supplemented because otherwise our project would have been finished in 2017. So from 2017 to 2019 our one employee was subsidized and working 50% time at the Kalaeloa project for USFWS. So he's working 50% time on the *Abutilon* since 2019. To continue, over the past year this main development that occurred was our April 2019 ESRC meeting where you folks determined that the CRA could not be developed because the minimum success criteria had not been met within the specified time frame. But the take license is still open until you know, 2021 and then recently as of last week, there are no funds left in this HCP project including the subsidized funds from the other project. So there's



currently no dedicated funding or staff to support the project and then over the past year a 100 new plants were grown and have started to be outplanted because we wait for the wet season to put them in the ground.

BOGARDUS: There's been no change to moving towards the success criteria since the last time that we met and talked?

SUSAN CHING: Correct, we are still not on target to meet any success criteria for survivorship of seedlings to replace adult plants that are adjusting. Some of that was written into the HCP. As you know, it has to occur within a certain time frame and we've passed that time frame. So even if we didn't meet that time frame, we might not technically meet the survivorship criteria either but I leave the interpretation of that to you guys.

BOGARDUS: How did we end this on our last meeting? Because I had thought that we had gone so far as to say we want to clearly put in the record that it has not met the success criteria. There is no way now for it to meet its success criteria. And then I don't even remember.

WINTER: If I remember correctly we kind of hit a dead end because the DoT rep stated that he had tried to connect Dave Smith with Ed Sniffen with no success and we're just waiting until that happens to have some kind of update.

JACOBI: We've been waiting for that for over five years.

BOGARDUS: So I think we're in 'Umikoa land.

WINTER: Right that was my point last time. It continues to be my point with this, it is in non-compliance.

JACOBI: I think it's really important to for both you to recognize it. You know, you're the messengers. This goes beyond you individually. So I just want to make sure you don't feel that we're putting you in the hot seat. I've said the same thing to Susan too. But it's very frustrating on this project. This was one of the very first HCPs that the ESRC considered and we had high expectations that it would be carried through and then it languished. Only in the past five, almost 10 years a few of us on the committee have been really pushing hard to try and get it back on track and we still have gotten nowhere. To me the frustration comes from both in terms of implementation of the management, but also the taking some degree of responsibility by DoT. I think that's the part that I'm most concerned about and the precedent we potentially could set by what happens. When this ends do we just sort of say goodbye and that's the end of it or you know, it didn't meet any biological expectations. And so we've got some real concerns about precedent we need to address. Maybe let's go to the biology where we stand right now and then let's go back to these issues.

SUSAN CHING: This is an overview of all the sites that we currently have. They're supposed to have each of the wild sites which are actually all reintroduction sites, but the HCP language calls them wild sites. All of those are supposed to have 80 mature individuals or three are supposed to have 80 mature individuals. So there are more than three of them because of the lack of success

and trying out different sites. The other sites that are listed is this CRA, kind of like a standalone site. As we've discussed in the past it's sort of like held in the balance by the success of the wild sites. The Koko Head site in situ site for genetics. They're like living collections to show the genetics of the wild sites.

JACOBI: That was really primarily for any material from that would be vegetative rather than receive reproduction because the concern in terms of mixing; that was always that the case with the Koko Head one.

SUSAN CHING: Okay, so I didn't know that.

JACOBI: There are other *Abutilon* species out there. I think there's one other species out there. At least there was one when we started, I know that.

SUSAN CHING: Anyway, the Hāmākua Marsh was added later because of DOFAW's interest in working on these species at the locations. They are interested in creating a dry forest shrubland next to the marsh. Then the Waianae Kai site also has a lot of DOFAW input and funding available for the habitat that's appropriate for the species. And Mākua/Kea'au was also recently added.

JACOBI: Of the ones that is up there, the three that I think have got the greatest potential and I wish we'd gone to them earlier is Mākua/Kea'au and Waianae Kai. Those are ones that are certainly within its historic range. They are in manageable types of areas and so forth. And then the third one is the CRA. I always felt that that was an area that really could be manageable if managed properly and I just think we failed as far as the management on that site. The other ones, I think Honouliuli has potential but it's got a real small area but it seems to behave reasonably well. Pouhala Marsh I just don't feel is an appropriate site. Koko Head is again a vegetative. Hāmākua Marsh at least where it is above that area has great potential in terms of a real site. But I'm so excited about Kea'au and Waianae Kai. I think those are really good sites at present. I really wish we'd look to those earlier.

SUSAN CHING: I think the project is so old that it's you know, it's a lot of these sites might not have been available to this project in the past. So for whatever reason Branch might not have been interested in this project. So I know that Greg said that he did try to make contact with some people in those areas and they weren't interested.

JACOBI: So it sounds like a similar thing in terms of trying to get DOT to come to the table and talk about this project. So anyway, this is where we are.

SUSAN CHING: So over the next year we have no funding and no staff. But you know, it is an endangered species. We do manage those and we have projects that are DOFAW funded and organized and we tentatively committed to working with the species into the future, but we can't make huge promises because we don't have dedicated staff and funding. So maintaining the site even at what was being done at 50% time over the last two years is going to be almost impossible to maintain it at that level. We've got so many other species on our list to worry about so if we can get out and do minimal visits per year. I'm not sure exactly how much that is.

Some sites are easier to get to than others and then I wouldn't like to see what happens with the license holders.

PRICE: So a technical question. What happens with an HCP where the money runs out before the term is out? Just for the committee. I'm new.

BOGARDUS: Typically, an HCP is required to commit to the success criteria, not the money. So this one is written oddly because it's one of the oldest in our books but at the end of the day, they haven't met the success criteria and therefore the mitigation obligation still stands.

PRICE: Okay, as a baseline. It's not right to ask a program to upkeep. The burden is falling on DLNR. It's not right to ask a program to upkeep an endangered species without any funding. You can't just have it fall under their other responsibilities, especially when plants are so underfunded to start with.

SPAIN: I mean, I would imagine if at the end of the 20-year period they haven't met the success criteria we need to go back to the ITL holders and basically renegotiate a whole new agreement moving forward.

PRICE: But if there's no funding going toward it are they not in compliance at this point today? So their renegotiation needs to happen now right?

WINTER: I don't think the applicant is claiming to be in compliance.

PRICE: Well, they're in non-communication, right?

WINTER: Well, I mean, thank you for coming today (points to Chris).

SPAIN: But it's DHHL, HART, UH West O'ahu and DOT. So there's four players that need to come to the table to commit funding so the success criteria can be met.

WINTER: I mean can't we just simply as a committee vote on a recommendation to the Board that the Board recognize the applicants are not in compliance with their HCP and request further action?

SPAIN: I would turn to the lawyer and see with the agenda says.

LINDA CHOW: Well let me pull up the agenda.

SMITH: We can't vote on it since it's not on the agenda.

WINTER: This is what happened last April. We tried to make a vote but we couldn't because it wasn't on the agenda and now it's not on the agenda again and now we're going to get pushed back another year.

SMITH: No we can put it on the agenda again. We can note that we feel they're non-compliant and DoT has been unresponsive and the other applicants are not at the table. We can vote to take action at the next meeting, you know, we could have staff consult with our attorneys.

WINTER: This is pretty much exactly the same thing I asked for last time but it hasn't happened, I hope this time it does.

JACOBI: Yesterday, we had a project that we didn't vote on but he had a similar kind of situation that we made a request to DOFAW/USFWS to contact the license holder and let them know this is an issue that's going to be on the agenda next time and please come because we need to figure out where we're going to go on it. That would then be a decision making one. So if we can have the same request for our next meeting. So we would have both the 'Umikoa and potentially this one as being on the agenda for decision.

WINTER: It's just so the minutes reflect it. There is a DoT representative here, Chris, who I think the third time that he's come to one of our meetings. So DoT is present they're just not effectively communicative.

JACOBI: So you're not representing DoT, you are, but?

SMITH: But you don't know anything about it, right? But DoT sent someone who knows nothing about it.

CHRIS TAKENA: I wasn't here to represent in this particular case, you know I was trying to do more research but it's hard. It's very different.

WINTER: Okay, but we appreciate you being here.

BOGARDUS: Can I ask a fundamental question? In any other HCP if we get to the point where they're not in compliance and we revoke their permit then the taking can no longer occur. And that's what that means, right. But in this case that take has already occurred. So revoking their permit at this point is not going to save us anything on the plant side. So they are in non-compliance. We want to find a workable solution, but in my mind the workable solution is trying to find a better outcome for the species and the plants and trying to keep them under the permit if we can. Rather than going down the road of revoking a permit that's not going to do anything to the take of the species anyway.

SUSAN CHING: Well, there are still plants at the CRA. So it is a valuable piece of real estate in an area that's being developed.

JACOBI: Yeah, they wanted to develop the whole thing and there's some discussion but we never really got to the point of having a discussion in terms of what was feasible.

SUSAN CHING: They requested to have the property split. We only are required to have the CRA be 18 acres and I think it's currently 23. So they were going to chop it down to 18. And then also they wanted to know if it was possible to utilize all of it.

BOGARDUS: Okay in that case I retract every comment I just made.

SPAIN: When you say they you mean DHHL?

SUSAN CHING: I'm not sure... I think it was Glenn that was meeting with them.

JACOBI: So we're not sure who's who?

SPAIN: The CRA site, is that DHHL?

LAUREN TAYLOR: It was DLNR and there was an agreement at a Board meeting to transfer it. I think was a trade with some other land parcel to DHHL and we haven't been able to get confirmation from Land Division or DHHL if the title is in DHHL's name yet, but the intention is so they can develop it. I don't know if DHHL is aware that there's an endangered species on that plot that they might wish to develop because again, we haven't been able to make contact. So in reference to your previous, you know about going in circles. So we did do that. That's exactly what happened at the last meeting. Glenn tried to reach out to them, over months, was unable and so I had to go to a higher level and that's where it's at right now. Dave can't get ahold of them either.

PRICE: Seems like potential revoking of a permit if that's what you're saying is the only option if they're not showing up and if they're not in compliance.

WINTER: I think the major action is to prevent the land trade and then we have no course of action to protecting the main genetic diversity.

SUSAN CHING: I think they're still operating off of the take license for other development in the area because it goes quite a ways but they ask for surveys and stuff all the time when they want to develop farther up the road beyond the CRA. So I'm assuming they're still operating under the take license if there are any plants that pop up outside of the CRA.

BOGARDUS: So there are people that are communicating with you?

SUSAN CHING: Yeah, every time they want a survey done for a new development. They asked us to come out for free and I say, I'm sorry, we don't do that. You're gonna have to hire somebody else to do a botanical survey. It had been like a freebie in the past that employees had gone out and done surveys for development as part of this project.

JACOBI: It seems like we have two issues. One is a compliance and negotiation kind of issue and the CRA stands right in the middle of that because I recall one of the configurations that was presented as a rough draft that came from I forget whether it's DHHL or DoT that I remember Glenn presented. It showed that a portion of the CRA would be partitioned but that included take of some plants. It wasn't just in that the vacant areas. And so that's one thing because that's a take event right there versus, you know taking the whole thing and take of the plants that are in there. I think that's our leverage point that we have in terms of getting them back to the table in terms

of discussion, but that's only relative to the status of that land. To me I think what I'd really like to pursue just for a few minutes here with you know, particularly Susan and Matt and others is the feasibility of actually being able to accomplish something positive with the *Abutilon* in the direction of what we were trying to do in the beginning. I've long felt and I've been pushing this issue for about almost 10 years now in terms of we've got to get back on this thing and so forth is that the gardening effort that's been done so far has not worked. The thing that has worked was the original plants that were in the entire project area before any take was there was a collection of genetic material through cuttings and that part worked very well. I know Bill Garnett was the lead on that at first and they continued on through various other people doing that. So that genetic part was very good and that was tracked in terms of the founders and then those were tracked in terms of what was outplanted in different places. What happens with you know F1 and F2 and so forth is out of the question.

WINTER: Jim, you earlier mentioned that there were cuttings made and put in Koko Head. Does that represent 100 percent of the population?

JACOBI: No, we do have in past reports that break down in terms of what percent of those was put in different places.

WINTER: On your side, I didn't see anything that said a hundred on there.

JACOBI: So I think there were 89 or 87 original plants and cuttings were taken from all of those are put into the Nike site in the Waianaes. And that was you know, where things were kept and then from there they've been dispersed out into different places and as they were brought out the founders were tracked in terms of what was introduced but not any secondary generations after that could be tracked other than it came from that group. So at least we have that. But what hasn't been done is otherwise the effort has been to plant a whole bunch of plants in a place and cross your fingers and turn around three times and hope it's going to work and it has not. This stimulated, I think it was in 2017, I made a request to the committee and then followed up with a site visit. We had Rick Barboza and Butch Haas both, you know, very recognized horticulturalists who have been working with low land restoration, come out on a site visit with a number of folks with DOFAW and I think there's one other person. I can't remember who else on the ESRC was there, but I was there. We went around to all the different sites that were in action at that point and talked about potential for restoration. The first one we visited was sort of a diversion area, which I have no idea why it was ever done. It was up in Kahuku and it was just the wrong place. It was never within any historic range; it's much wetter kind of habitat. It was more like it was sort of available and I'm not sure why it was chosen. Even when it was first brought up, I raised an objection to that and it still was pursued and a couple other places including Hāmākua Marsh. But Butch and Rick Barboza went to different sites and particularly went into the CRA said yeah, this can be done and you don't do it by planting a whole bunch of the *Abutilon*. You have a mix of different community species, a'ali'i and other things in there and *Abutilon* is part of that community and then you can have the regeneration that can actually happen. They were actually pretty optimistic in terms of how that could be accomplished. Despite that there seemed to be no movement in that direction at all in terms of doing other than putting more plants out. I'm encouraged with the new sites because I think those do have potential for *Abutilon*. They're within the potential range. So I think there is a possibility. So I

think biologically we do have an avenue to go forward whether the DoT is part of that or not, I don't know, but I feel that the CRA should be a viable site and should be pursued and can be actually restored.

WINTER: So Jim, do you have a recommendation on how we move forward?

JACOBI: I think the first thing we need to do is we need to ensure that we can get on the agenda at our next meeting and representation from the DoT and DHHL or whomever the key go to's are on the license at the table. Then recognize, you know, the concerns that we have and then have them be able to subsequently work with both DOFAW and Fish and Wildlife but particularly DOFAW staff in terms of how to proceed to bring something back to the ESRC in terms of a solution and that aspect of the licensing and whether any additional support is needed.

BOGARDUS: So if DOFAW reaches out to everyone and says, hey this is on the next agenda and they do not respond.

JACOBI: It'll be on the agenda and we will vote in terms of what to do.

BOGARDUS: I think that's what happened last time as we said, let's put this on the agenda next time, everyone tried to reach out, then it didn't get on the agenda and so here we are.

JACOBI: Yeah exactly, so it'll be on the agenda next time.

WINTER: It's on the agenda today. So in light of what we've seen in the annual report can we say that we feel that this applicant is in non-compliance and vote on that? No? What does it have to say it for us to be able to vote?

SPAIN: Look at item 15 on the agenda.

JACOBI: It has to say vote. So we can recommend that it's on the agenda for the next meeting for a vote. And I agree with you. I thought we actually had that on here, but it turned out that this was actually a review meeting.

LAUREN TAYLOR: Okay, so you can provide the recommendation that like Susan said at the previous meeting that CRA shouldn't be taken because the criteria has not been met. But I've met with HART they approached us on a couple occasions when I had meetings with them about the viability of taking that site and we said it's not been met. So under this HCP, although you are a license holder under it or a party to it, it can't be taken at this time and probably foreseeably not for the future of this ITL and when it ends then you would have to start a new process to apply for a new HCP and ITL if that was your desire to take that site. Then it has to go through staff, ESRC, and Board for approval.

SPAIN: So it sounds like it's at the point where basically they want it but they're not being told what's needed to make that happen. So we basically need to tell them that there needs to be funding and a commitment to restoration of the species for you to even...

LAUREN TAYLOR: I think once we talked them through an HCP process, they were less interested but that's just the one issue for that particular portion, and then there's non-compliance of this current HCP.

JACOBI: Well, the concern I've got is now that DOFAW doesn't have any funding or staff to be able to continue on here what potentially could happen if this continues to slide for the next couple of years and so forth is the plants on the CRA disappear and then it's no longer a take issue. And then our leverage is completely gone.

WINTER: So can I make a formal request to staff that this be an agenda item for decision making at the next ESRC meeting?

JACOBI: I concur with that.

LAUREN TAYLOR: Just clarifying, are you asking for decisions for staff to perform?

SMITH: Yeah, it's just asking we bring it back. What do you want staff to do exactly?

WINTER: The AG says we need to have the word vote or decision making in there to actually take action on it. So I'm just requesting that we have an agenda item that allows us to take action on this.

JACOBI: Well to evaluate the current status of the CRA and future direction it needs to fulfill the requirements of the original HCP. I mean something like that would work.

SMITH: I would have staff work with the AG and come back and report on the legal status of the situation and I'd request the same of the USFWS. It seems like the take already happened and it was never mitigated. So you're in violation of take at this point, right?

BOGARDUS: So we can't do anything on the USFWS side because it was never an HCP on the USFWS side. It was a biological opinion that allowed for the take and what I mean, it wasn't a take statement, but there's no prohibition of take on anything that's non-federal lands, right? So it was a jeopardy analysis. It's just a different compliance mode and documentation under the federal side than it is for what DOFAW did.

SMITH: So then I think it's limited to the State. So staff would consult with the AG to get an opinion as to the legal status at this point based on the take that's already happened and the fact that it was not mitigated for.

JACOBI: Yeah, but I think it's important to make sure that at that same meeting that we have get the input from the AG you but also be able to evaluate the status of the HCP and the lack of compliance and make recommendations in terms of future directions. We don't want to just get a report.

SPAIN: Can I just ask? If administrative rules existed for HCPs, I'm imagining this would be a piece that would be addressed in the administrative rules. Non-compliance of an HCP equals



X,Y, Z in an administrative rule and we wouldn't be sitting here having this kind of circular discussion.

PRICE: Who's responsible for that?

SPAIN: DOFAW staff.

LAUREN TAYLOR: It's underway. It's under research and development with our legal fellow.

SPAIN: Which will be fantastic because it will clarify these issues. It'll be in the administrative rule of what the procedures are for non-compliance which it now sounds like we have two.

WINTER: So I have an AG question. It is, are non-compliance and violation the same thing basically or are they two different things legally speaking?

LINDA CHOW: Well non-compliance is a violation of the HCP. The question is what is the consequence of that? And that's one of the things under the statute, there is very limited options as to what the Board could do for that. They can rescind the ITL but as Michelle pointed out where does that get us?

BOGARDUS: Well it turns out it does actually get us something.

LINDA CHOW: For the CRA only. See the thing with CRA is there was what I'm legally going to describe as some funky deal that occurred in regards to that particular property. I'm not sure what the exact status of that property is.

BOGARDUS: You mean the land transfer from DOFAW to DHHL? Is it DOFAW or DLNR?

LINDA CHOW: It'll always be DLNR because DOFAW if anything at best has an EO over the property.

SMITH: It's probably State land. It wouldn't have been DOFAW because it would either have been a forest reserve or wildlife sanctuary and we would not transfer probably like that.

LINDA CHOW: I thought there was some sort of a deadline? You know if by a certain time it transfers. I have to look at it better because a lot of the reasons why the deals were made was not captured in the HCP itself. If the legal status of the title has changed that would give us a little more insight into what the consequences and violation are in regards to the CRA.

SPAIN: I think given the scrutiny and status of DHHL land transactions, I think it would behoove us all know what the status of that is.

LINDA CHOW: And you know, the thing is DHHL they have a particular mission, which is not necessarily in the same vein as what we would like to do, which is to keep this in conservation. That's not their mission.

BOGARDUS: Well, they don't have to adhere to conservation, but they also still have to not remove endangered plants.

PRICE: Whose responsibility is it for getting surveys done to determine the presence or absence of endangered species on the property?

LINDA CHOW: If they're proposing development on the property they would as part of the EA/EIS process have to do a surveys for endangered species or other species.

PRICE: But it sounds like they used to call a friend and would call up Susan and say hey can you come out and do this for us for free?

LINDA CHOW: Because they were usually State agencies. If it's State agencies that's perfectly fine.

JACOBI: But it's still a responsibility for that lead agency to make sure it gets done and done properly.

PRICE: The lead agency is responsible for making sure it gets done. So that'd be DHHL, HART or whoever is developing no matter who they asked, and obviously DLNR has the right to say sorry, that's not under our purview to get that done or it will cost you this much to do it.

SPAIN: I mean, I think what you're kind of raising and it's challenging is when DOFAW is put in the position of implementing HCPs for other agencies. Yes, and I get phone calls for can you come out and see if there's a Pueo here, this kind of thing. I mean if there's just a whole lot of like I know this person, they know what this looks like, can they come out and document it, but then you're sucked into the middle of a legal process. So I'm just curious about what the requirements are and how this works. It sounds like it is a grey area of it has to be done, but it's not specified who has to do it.

JACOBI: So are we set in terms of those issues? I would make a recommendation to the ESRC that we create a task force that addresses the issue of restoration of three lowland sites that include *Abutilon menziesii* in a way that would meet the objectives of what we're trying to do here and particularly focusing on the three areas that I feel the most important relative *Abutilon* which are the CRA, Makua/ Kea'au, and Wai'anae Kai. As we've done with the Bat Task Force is develop a task force that would involve up to potentially three people on the ESRC, because that's how many we can have, and other expertise facilitated by DOFAW to explore the feasibility of developing a strategy for this. That's not a costing thing it's just a planning issue and that can then lead to recommendations that may say okay to implement its going to do this. But to at least try and develop feasibility of a strategy to see if that would be a workable solution. And I would volunteer to be on that.

BOGARDUS: So I like the idea, but I just want to make sure that we're not doing the same thing that DOFAW has already done or is doing. Is the effort that Jim just posed value-added or is it an effort that DOFAW has already done and already has that sort of conceptual plan? Then it doesn't make sense to start from where Jim started at.

WINTER: I don't get the impression that they have a plan. I think this would be a really great opportunity for Me, Susan, Jim, and Matt to sit down and think of some out of the box solutions.

SUSAN CHING: I mean, it's definitely not a master plan as a lot of its kind of like well, what's not working? And let's try this. I just like to say that there's no money. Yeah, I'd love to make more progress.

JACOBI: Matt does that sound fine?

MATTHEW KIER: Sounds fine. I follow Susan's lead on this project.

JACOBI: We definitely want to have you involved but I would recommend also trying to bring in people like Butch and or Rick Barboza into that discussion to and other expertise and I see this as not just simply an *Abutilon* issue it's one which is in that type of habitat that includes other than *Abutilon*. I think that would fit into some of your management strategies anyway in terms of your other needs.

WINTER: Susan, is this a PEP species?

JACOBI: No.

WINTER: Am I remembering correctly that this is only discovered after that development project like the 90s or something?

SUSAN CHING: Yeah, it wasn't actually known to be on O'ahu before the survey and was presumed extinct prior to its discovery in the 90s.

WINTER: What's its range?

JACOBI: There are currently populations on Lāna'i, Hawai'i Island, and on Maui. That we have documentation for right now. We have DoT's on the map.

PRICE: And it's not PEP because it's not less than 50.

JACOBI: Right, the most viable population is the one that's over on Maui.

BOGARDUS: I think actually the one on Lāna'i is significantly bigger.

JACOBI: I haven't seen that one and it might be worthwhile to try and get to some of those sites.

PRICE: It's conservation reliant everywhere that it exists?

SUSAN CHING: No, I don't think so at a lot of the sites on O'ahu, I mean this area is a great example. I mean, it's where humans want to live. So we're taking its habitat in order to develop.

JACOBI: What you're asking is that management is needed to keep surviving?

SUSAN CHING: Some of those other locations are not being managed.

BOGARDUS: It's like grass removal, ungulate browsing, fire, development pressure.

PRICE: It's going to survive forever and gardens. It's just as long as it doesn't have deer around or goats or something.

JACOBI: The other thing I was really excited about seeing your report was that picture of the one in Lualualei. That's a huge plant. That's really amazing, that's fantastic. We know that there have been plants there before but that one seems like it's, you know, I was pretty pleased to see that picture.

SUSAN CHING: So that was not known when this population was discovered.

JACOBI: But there are one or two others in Lualualei?

SUSAN CHING: Yes, there's several.

JACOBI: So I think I think there's some potential there. I mean again, it's not a species that's going to go extinct because it's hard to propagate, but that's in cultivation. It's the wild part that we've had the challenge with and I think this gives us an opportunity to try and come up with more out-of-the-box kind of approaches to restoration as a whole and not just a single species as has been done so far.

BOGARDUS: So, I think the suggestion is a good one.

SMITH: Sounds good. We can't vote on it now so the question is can we set up the task force without voting?

SPAIN: Yes, we have to do that at the next meeting. So we'd have two votes next time.

JACOBI: Let's consider the feasibility of having a task force and we'll vote on it the next meeting, but potentially we can have some ideas scratched together before then. If you know between Susan, Matt and DOFAW to facilitate that initial thing I'd be very willing to sit in and I'm sure Kawika would be too. And possibly one or two other people.

LAUREN TAYLOR: As long as you don't have quorum when you're talking about that.

JACOBI: So I'm looking straight at Linda. Not until the task force is established. Well, I do want to say is I recognize that this was a real lead weight that was dropped in in Susan's and Matt's laps and Chris's too. He walked in blind here. He didn't know he was going to be sitting up here in the front. Susan didn't know that but I'm you know excited that you are helping to lead the charge now from DOFAW perspective. I think we have some real potential to actually make this work. So thank you.

SMITH: We have a lot more capacity of the Branch for botanists and what not and statewide, so we're better setup than we were when this all started in terms of capacity and in terms of expertise, and so hopefully we can move it forward. But it is going to enter a new phase and that task force can help us decide what that phase is going to be.

JACOBI: Then the question in terms of funding support and so forth. I mean, I think partly the discussion with DoT and DHHL relative to the CRA is really first of all focused on the fate of the CRA and what's happening there. Then tied into that, once that discussion gets going is bringing the non-completion of the requirements for the HCP overall and whether there's an additional funding that can help me brought into here. That gets to the phase 2 part of the restoration effort in terms of what we can find some fuel for that effort. If not, we're going to have to find other sources but having a having a strategy first I think it's is where we need to go first.

SUSAN CHING: So I guess I have a question. What do you want us to do for the next meeting? Until you meet again to make some decision on this. So we have no funding but we said that maybe we could do some seed collections and try to do like maintenance level which you know would be extremely minimal.

JACOBI: When's our next meeting?

LAUREN TAYLOR: April, after the bat workshop.

JACOBI: I think you got your hands full with other things, you've done things to get this report finished and so forth. I would say is potentially, you know, that field effort can go on hold. I think what is really important for that next meeting is to facilitate bringing together a meeting of a few potential ideas, include maybe a couple of us to talk about what we're going to do if we can get this task force authorized. So if you could lead the facilitation of that I'd be very glad to help out with that and I don't need any travel support or anything. It'd probably be best to have an in-person discussion.

WINTER: I think it's important to recognize Susan's the expert on the species and I think you should do whatever you think is best in the best interest of the species that's within your abilities and power to do so.

SUSAN CHING: We have plants in the greenhouse that still need to go out. So finish that up.

LAUREN TAYLOR: Can you document the hours of effort that you put towards this project if we can get the funding?

SPAIN: DHHL has dealt with endangered dry forest plants at Kealakehe on the Big Island. This isn't something so crazy for DDHL to be thinking about the implications of endangered plant species on sites that they're interested in.

SMITH: Thank you very much. We'll have Pakini Nui next it sounds like, so we'll take a break.

**ITEM 14.** ESRC review of Pakini Nui Wind Farm Draft Habitat Conservation Plan (HCP) dated December 2019

SMITH: So we'll call to order and final couple items for the day. The ESRC review of Pakini Nui Wind Farm draft HCP. Just a recap, this is a 10-year incidental take license for Pakini Nui Wind farm on the Big Island of Hawai'i. They presented to us on the October 23, 2019 meeting and the ESRC made three recommendations. Those recommendations were incorporated by the applicant; our staff reviewed it and thinks they addressed the concerns of the ESRC.

AMANDA EHRENKRANTZ: Great, thank you for that summary. So we're hoping we can just breeze through this presentation. Although, I guess we should probably just stop for comment as we go through because we just kind of address the issues one at a time so we might as well just address them all at the same time. And I do have just a couple recap slides in here. Just that we are back as one of the final steps for approval of the ITL. And like you just said Dave we came in October of last year and were given a short list of things to fix and so now we're back seeking a recommendation for approval. So I was planning to just breeze through the project location and kind of the project components really quickly, but Melissa, I was wondering if you wanted me to go into a little bit more detail about the project itself? Just since you haven't really sat through the whole process with us.

PRICE: If you want to go ahead and talk about the amendments first and then if there are questions that would be important to go back to, just in the interest of time. Maybe we could be efficient that way. Is that okay with the rest of the committee?

AMANDA EHRENKRANTZ: Okay, I'm pretty sure that the rest of you know the project itself fairly well. You've been out there and so I just threw this one slide in here about the project location just to kind of get us all in the same place about exactly what project we're talking about.

PRICE: So maybe just one question while you have the map up. So, where is it in relation to the known breeding colony on Hawai'i Island for Band-rumped Storm Petrels?

JACOBI: But there have also been sightings documented even on the rift zone above this site here. That was the Banko sighting from 30 years ago or something like that and I'm not sure how much follow-up there's been on all that.

BOGARDUS: They're hoping that they would get them within the cat-proof ones that benefit Hawai'i Volcanoes National Park on that mauka portion, but I don't think they've had any documented breeding within the fence.

JAAP EIJZENGA: We've talked to them about that earlier on when we were developing the HCP about their plans with the Band-rumped Storm Petrels because they mentioned that and they basically at that time were making the assumption that it would also benefit the Band-

rumped Storm Petrels, but they don't have any documents of burrows and they expect even if they were to start nesting there, or were nesting there now, or if they started nesting there later, once the cats were removed that might happen without them detecting it because it is a fairly large and difficult to traverse area.

BOGARDUS: There's no documented burrows on the slope but they certainly have been heard.

WINTER: There seems to have been a sighting of an offshore raft of birds somewhere offshore close to the project area; do you guys know exactly where that is?

JAAP EIJZENGA: No, I don't know where that is. But yeah, we read and they have included that account in the HCP, I believe, but they've been spotted offshore in the general area. But yeah, you know, I've been offshore and seen them in different areas off Ni'ihau area. Whether that's where they would go inland or not that's all speculation.

PRICE: Maybe I'll put a philosophical question to the group that doesn't need to be discussed right now. Okay. So again, I'm new to the committee and I want to make sure that I'm understanding how we perceive things. So when something is critically endangered or in very low abundance. Obviously the likelihood of an incidence is low just because the numbers are low. But the impact is potentially high because it's a greater proportion of the population every time one gets killed. Yes. So just putting that out there as a framing issue as far as thinking about this particular thing. So anyway, carry on since I don't know the situation and talk about things and then that might be something for us to discuss once we're into the weeds or the thick of it.

AMANDA EHRENKRANTZ: Okay, so now we're just getting into the HCP updates one at a time. Starting with the acoustic monitoring, we were asked to provide on-site acoustic monitoring and so we have a kind of a framework for that included in the newest version of HCP where six acoustic detectors would be mounted on the nacelles on the turbines and continually monitor for the operational life of the project including annual reports and coming in at the tune of about \$40 thousand a year.

JACOBI: Does that include analysis?

AMANDA EHRENKRANTZ: Yeah, based on a lot of assumptions.

BOGARDUS: That's great.

PRICE: Sorry, is six for the project area pretty typical or is that high or low compared to what's normal for this size of a project area? I don't know.

BOGARDUS: It's a lot higher than many. It is smaller than a few. Jim, do you have any comments on this? I don't know where you and Loyal left off on your conversations about the on-site monitoring component.

JACOBI: It's on the low side. I think our recommendation was somewhere between 10 or so but this is, like you said, more than many and less than a few and this is one of those.

BOGARDUS: This is a smaller site than many.

JAAP EIJZENGA: It's 14 turbines, total 21 megawatts.

PRICE: Okay, and the high low numbers is the trend that historically we didn't ask for as many because we didn't know we needed as many and now we ask for more—is that why there's the spread or why is there a difference between HCPs?

BOGARDUS: So what we're trying to do now is address the consistency issue, but historically it was not required because it was not historically feeding into adaptive management. The proposal on the table now is to have this consistency solidified to have formal recommendations to provide to applicants about on-site monitoring within HCPs and then to have that more clearly defined of how that information informs the adaptive management within the permit.

JACOBI: And how it relates to you know, the observed take and so forth. And you know, in other words, what is the context with impacts that they think is happening.

PRICE: So is six in line with the intended trend I think is what I'm trying to understand. So you said that now we're trying to move toward having enough monitoring so that we can do adaptive management. Is six getting us where we need to be and where we want to be?

JACOBI: I know this came up in our last discussion. Acoustic monitoring got some real limitations in terms of its value both in terms of the analysis and in terms of its scope. I know that I'd have to look back at our notes and I'm very sure that Loyal and I were recommending a combination of acoustic and thermal because thermal gives you a comparison that you can go to and published results show that, at least in some cases, the acoustic is missing up to 75% of the detections in there. And so it was just to expand out a bit more.

PRICE: I'm just trying to understand if six is on the lower side of the trends that we're aiming for and are what we're aiming for moving forward is that there's always some thermal component because that gives you actual numbers as opposed to an index or a relative measure of activity?

BOGARDUS: Okay, but in order to acquire anything like this you have to tie it back to either take monitoring or mitigation. Like it can't just be an arbitrary recommendation. It has to be what are we trying to accomplish with that information? And I think that's the part that we know it conceptually in our heads but it hasn't ...well and Jim it could be in the updated back items. I haven't fully read that section yet.

SMITH: Well, this'll give you an index. You know, we're basically just looking for an index of activity. So you just want to see if activity is similar: trends over time. The only concern would be well is six enough or you're not going to pick up enough signals or is six enough to pick up signals and establish an index.



BOGARDUS: So the big question is, I'm going to butcher this but is there a, reliability between the take and the activity at the site and then b, as your take occurs, are you resulting in a localized extirpation of the species in that location? Those are I think the two biggies.

JACOBI: Also potentially is triggering to some of your minimization efforts in terms of low speed curtailment. I think that's one of the issues, you know, as far as six, I mean in terms of detectors, you know, we know that if you do an analysis on  $n=2$ , you don't really get a variance, it doesn't mean anything. Thirty is sort of the rule of thumb that everybody tries to get but there's concern that depending on what the nature of the data that are being analyzed which you know with acoustic it's a real challenge because again, you don't know, it's an index of activity and that's why thermal is we feel strongly a very important piece to bring in there because it gives you at least more discrete numbers to work with. But you know six, you can get a variance on there. It's gonna be pretty fuzzy for sure. We know that. But probably even with 30 it can be fuzzy with just activity.

PRICE: Not to get too nerdy but what you're looking at is it comes down to sample size, right? So here you can either stay at this detector and does it change over time? So you've got like a repeated measures, ANOVA type of thing, right or you're saying you take an average among years. And so I think if you're pulling an averaging then yeah, your six is probably not enough from a statistical perspective.

JACOBI: And again, it depends on what the number is. If you're talking about nights that have any detection that's one thing, that's a very discreet number. If you're talking about number of detections per hour, how we define what a detection is, you know, that's another number that you can work with and so forth; so it gets into those things. And so the intent was to have something that you could actually be able to have some sort of a variance on but recognizing that there are limitations in terms of how many samples you can put out there.

PRICE: I think eight or more is kind of your absolute bottom from a statistical perspective. Is that where you guys' data came from?

AMANDA EHRENKRANTZ: I think it matters on the kind of data that you collect?

JACOBI: The cleaner the data the smaller number you can have and that's what a power analysis would give you. I will guarantee this is not clean data; having this is going to be very challenging data to work with in terms of that. That was a concern. That's why there was a push for that.

BOGARDUS: The other trend that was happening is some sites have on-site monitors but they're on the ground or they're on the edges of the project but we're trying to have them on the nacelle height within the main turbine area. And so thank you for addressing that, that's great.

SPAIN: So I would be hopeful there's the existing white paper and come March will be looking at the revision of the bat working group white paper to create this consistency because once you start piling on all the projects and seeing the differences between them and how they monitor it's really challenging and especially, you know, in an acoustic situation. You can have one bat

flying past it multiple times. And it's hard to know what your numbers are. So it's impossible; it's just an index of activity.

JACOBI: In looking at the revised draft bat guidance it does talk about sample size and also the combination of thermal and acoustic.

PRICE: So that's the new standard from the bat guidance.

JACOBI: It's not an accepted one, this is the draft. This is the new draft so it has not been finalized. Again, this is a guidance and we're working with an old guidance which isn't a rule. It's just a guidance. And so, you know, this is being updated based upon the discussions, the deliberations, the thinking that we've had relative to projects and recent meetings in terms of how to better do it and so a revised guidance is trying to put much more emphasis on on-site monitoring in addition to mitigation monitoring.

AMANDA EHRENKRANTZ: A couple of project specific things too is that six acoustic detectors were out there pre-construction so that's something that we've already done on-site and guided us this far. And also some of the other projects that have considerably more acoustic monitoring are actually getting tier one mitigation credit. These were the older age HCPs and at this point, you know, Pakini Nui would not be gaining any credit per say. It's sort on an icing on the cake.

JACOBI: This is a new era in terms of how we look at what gets credit and so forth. So I mean maybe this is what was done in the past but we're trying to move forward from where we are right now. Did you consider adding thermal detectors for this?

AMANDA EHRENKRANTZ: The cost is prohibitive.

JACOBI: That's why you're not doing it, or because I know that was among the discussion that several of us brought up the last time terms of trying to add that on?

BOGARDUS: I'm sorry Jim. Can you repeat the question here? We didn't hear any of the beginning actually.

JACOBI: No, my question was did they consider adding thermal detectors also in addition to just acoustic because I know that that was a thing that was discussed at our last meeting in terms of the sampling design. And there were a couple issues.

AMANDA EHRENKRANTZ: There was a couple of issues there just in terms of what that would actually be used for, what the results would gain from something from that protocol, and also just the costing. So I guess there's this \$40,000 a year; should some of that go towards the thermal and less for acoustic or vice versa?

PRICE: So for example if we're talking plants that don't move. You would expect that we're doing regular surveys to see if they're on the property or are they increasing or decreasing in number. The bats move around, sometimes there are pups and sometimes there aren't. But this is

your way of determining are they there or are they not there and are the numbers increasing or decreasing over time in response to the actions that we're doing.

AMANDA EHRENKRANTZ: Aside from compliance monitoring that we're doing weekly.

PRICE: Right, but the compliance monitoring has to do with the number of things you kill not the number of things that are left. And because what I'm going to keep coming back to, I don't know if you guys were here yesterday, I think you were, what I'm going to keep coming back to is just like when we're talking about predators. I realize this is different from take but from the predator standpoint it almost doesn't matter how many you kill, it matters how many are left. And that has to do with reproduction. It has to do with things moving in from other areas. And so yes, there's take that's occurring and you have mitigation measures for that take. You have things to reduce the number of things you're killing and you have things to make up for the number of things you're killing. But at the end of the day what really matters from a species perspective is is this population stable or are you tanking it? Because of the actions that are taking place at this site and the only way to get at whether the overall population at your location is increasing or decreasing is with some sort of monitoring of the population and for bats that's thermal and acoustic. So that's my thought. Sorry. I didn't mean to yell it, I meant it in a much more relaxed way.

SMITH: It doesn't have to be at the site either. The mitigation is not just the activity at the location.

PRICE: Yeah, but just like when we're talking about the plants earlier, if there used to be bats at this site and there are no longer bats at this site. I would think we would want to take that into consideration as ESRC. If you're killing so many at a particular site that there used to be bats and now there aren't, I'm talking about an extreme case that you know, you used to pick up a thousand detections a year on your monitors, and now there are none and there have been none for three years. You know, I would think that would raise an alarm for all of us. But how are you going to know that if you're not monitoring at the site.

SMITH: But the question is is this adequate to tell you that or not? Is this adequate to provide a baseline that you can use to compare going forward?

PRICE: Yes, but I think what I was responding to was the comment that you know, they're not getting any credit for doing acoustic monitoring. That's what my comment was in response to is I don't think it comes down to credit, it comes down to the fact that if you're tanking a species at your site, that's a problem and the only way to tell whether you're doing that is with something like this; that's monitoring.

SMITH: Regardless, what we're talking about is is this adequate to provide that level of baseline knowledge and what's happening at the site in terms of activity.

JACOBI: I wanted to follow up, we don't have minutes from my last meeting at this point, but just looking at the end of the draft revised. Do we have minutes?

LAUREN TAYLOR: Well, Loyal provided the applicants with a write-up of a monitoring scheme to summarize.

JAAP EIJZENGA: Well, that was a bit more than just a summary of what we discussed. It was not consistent with specifically what was discussed at the meeting. So I would I would not advocate for using that as a substitute for the minutes.

JACOBI: Oh, no, I'm not suggesting.

SMITH: No we don't have minutes for the meeting. It doesn't matter what Loyal said because you can only go on the minutes. Loyal can say whatever he wants but as per the minutes, what did we say in the last meeting? We apparently don't have minutes for that.

LAUREN TAYLOR: I don't.

JACOBI: So I know that discussion carried into the task force discussion in terms of revision to the draft and the revision of the draft does recommend, you know, inclusion of both thermal and acoustic.

AMANDA EHRENKRANTZ: He's talking about the white paper revision?

JACOBI: The new draft one right and you know, so that discussion carries into even though we don't have the minutes, you know here because I do know that was a discussion we had. So anyway, the question I really wanted to ask you though is you said that you felt that because of various reasons you decided not to go to thermal. Can you just elaborate on what your decision points were, besides the cost not effective? I thought you said that it was because you didn't think it would give you anything additional and I guess I'm not sure that's what we were thinking.

AMANDA EHRENKRANTZ: Okay. I mean we can talk about it for sure. Some of the reason that we're thinking of keeping six acoustic detectors was also because that's what we had done for pre-permit.

JACOBI: So the question isn't to remove or replace that but it's in addition to that.

AMANDA EHRENKRANTZ: I might throw that back in your court. If you could tell me what that does necessarily gain, you know, because I think that some of the thinking is that...

SMITH: Seems consistent with what you had before. It started out with six and now you have six and they're nacelle mounted. Seems like you have a comparable sampling effort. We're not trying to determine abundance. We're just trying to determine activity.

AMANDA EHRENKRANTZ: And that this would essentially get us some level of risk.

SMITH: Your six prior, were you getting detections off that? I mean is that showing activity? Do you have a baseline you can use these to compare against?

AMANDA EHRENKRANTZ: Yeah.

BOGARDUS: They weren't on the nacelle though, were they?

AMANDA EHRENKRANTZ: We had two on the nacelle and four on the ground.

JACOBI: Yeah, well getting back to what your question is and you know, it's been referenced many times. I'm sure you have the reference in terms of comparison between thermal and acoustic monitoring and a worst-case scenario 75% of thermal detections weren't detected through acoustic. And so that's really the concern that comes in having a sharper tool in addition to the acoustic. So it never was a suggestion to replace the acoustic with something else, but it's add another dimension into their monitoring right? That's right.

AMANDA EHRENKRANTZ: But you're still coming out with an index there. You're still not counting, you know, you can say that you've got two or three at the same time, but you can't necessarily still come up with a population.

JACOBI: No, it's not. It's an index, it just seemed to be a finer index in terms of how you are working the two of them together. I think that was the crux of that more recent paper was the combination of two at least and a third they brought in, also in terms of insect sampling led to a better index that you could have in terms of potential activity in an area, so that that's really the foundation for and that's what again it gives you a sharper tool.

AMANDA EHRENKRANTZ: I guess we also spun out a little bit on some of the discussion about trying to track population trends. It was really difficult to come up with something feasible and doing that at a statistical level. So kind of a broader question is what ultimately is done with these data. You know to get a finer activity index; where is that really taking us?

JACOBI: Part of the logic and again, we don't have the minutes, but this is the discussion that I know that we had the last time. Along these lines, which is a combination of things, it gives you a background at your site and how that would change over time and seasonally and so forth. Secondly, it potentially would be a trigger. If you see an increase you may consider other minimization techniques, and thirdly is if you do deploy things such as adding deterrents on the units that would give you a comparison in terms of is your background still the same and how the deterrents are actually working. So those are some of the reasons for including that.

AMANDA EHRENKRANTZ: Just at a finer point than the acoustic but basically accomplishing the same thing.

JACOBI: Just trying to come up with a more sharp index on it. So then we made the same recommendation for the mitigation monitoring in terms of having those and so you'll get into talking here in a minute. So maybe let's come back to this issue and continue through your presentation here and we will come back to this after you've talked about on-site mitigation monitoring.

BOGARDUS: Can I make a statement just before we move on and it's more for us than it is for them. But as we're going through the revision of the bat guidance document, to me it would be really helpful as we're going through, any suggestion or requirement or recommendation for the applicants about what they should or should not do for all of these things. I want to be clear about how we expect them to use it within adaptive management. If they're compiling information I want it clear in the document about what they're going to use it for, how they're going to use it, how that is analyzed, how that informs structural changes within the implementation of the project. Because at least on the federal side it's hard for us to recommend or require an applicant to do something unless it very clearly forms actions within the document. So having that all spelled out is helpful for the applicants but it's more helpful for us in terms of how are we looking at this and how are we tracking compliance and implementation of these projects long-term.

JACOBI: And that's definitely something as we review the revised bat guidance that we make sure that we have those in there because again this is meant to be a guidance document that gets clarity in terms of these issues.

BOGARDUS: I think in your head, and Loyal's head and maybe others of us, like some of these information components have very clear triggers for adaptive management, but rather than leave that up to interpretation I'd rather write them down. Thank you, guys.

AMANDA EHRENKRANTZ: Next topic: on to compliance monitoring. So essentially those 50-meter bat-only plots have been eliminated and we're looking at searching the 60-90 meter ellipse for all species.

JACOBI: Was that a hard change? Because I absolutely wiggled back and forth on that in the discussion. Seemed like it was a fairly easy thing to do since you'd be searching there anyway?

JAAP EIJZENGA: Yeah, it took some internal discussions, but we got there.

JACOBI: I mean again you're searching with canines for your search area, right?

AMANDA EHRENKRANTZ: Yes. We're searching with canines.

JACOBI: Yeah, and so they were searching the whole area. How do you say only find bats within 50 meters?

BOGARDUS: It's the timing right. I'll let you guys explain.

AMANDA EHRENKRANTZ: We might be beyond this discussion at this point because, you know.

JACOBI: Okay, right.

AMANDA EHRENKRANTZ: Just a note that it does make the state HCP more restrictive than the federal HCP. I don't think that's gonna be an issue. But just a note for all of us.

BOGARDUS: That's fine and in your annual report just report on the provision from this date one and we'll track it.

AMANDA EHRENKRANTZ: Okay on to the Band-rumped Storm Petrel; we did add a changed circumstance, which I have put on the slide verbatim. I don't know if you want me to go ahead and read it. It's also in the document or I guess for the record maybe I should since it since we've got the recorder. So the changed circumstances reads in the extremely unlikely scenario a Band-rumped Storm Petrel is discovered at the project and it's determined it was struck or otherwise killed due to the presence of the project Tawhiri will initiate an amendment with USFWS and DOFAW. This amendment will document a plan to mitigate for the observed take as well as for any future predicted take.

JACOBI: So I guess the question is, I mean the whole reason for doing the HCP is to give you protection from that or permit to be able to take and if you don't have that permit to take and you take it's kind of lost in terms of the compliance part there.

WINTER: My concern expressed the last time the applicant was before us was it seemed like we were a broken record repeating the situation that we were with bats a decade ago or whatever this was that the standard statement was they're extremely rare and won't get hit. We're not going to take them. We'll make a plan if they do. Then they took a bunch of bats and there was no ramification of that. So that's the situation I was trying to avoid. I don't know that this changed circumstance wording alleviates that concern but I'm open to being convinced that it does.

PRICE: My question is how is this different? This is what would happen anyway, right, if something got hit that you weren't expecting to get hit this is what would happen anyway? So how does having it in here change what would normally happen?

WINTER: How does this make any difference I guess is my question?

BOGARDUS: So from a regulatory perspective the bar is if take is likely to occur. We assess likelihood based on you know, where the species is, what the passage rates are for seabirds anyway, but the passage rates are how often that species occurs in that area and any evidence in that general vicinity that would lead us to believe that take is likely to occur under the ten year permit. Then we run whatever models that we have with the passage rate data in order to try and inform that. Anything that we have, especially for seabirds, what we have learned, especially coming off of Kaua'i projects is that flight height likely has more to do with collision risk than passage rates do. In this area, passage rates are extremely low for all seabirds based on what we've got. Is it the best information available? It's the best information available. Is it like perfect information? No, but it never is.

WINTER: Which scientific study are you referring to?

BOGARDUS: I need Diana or Lasha or somebody else here to start quoting studies.

JAAP EIJZENGA: There were two or three studies in the vicinity that were done on seabird passage rates, and at least one of them included flight heights and no targets flew within the flight height below the tip of the rotor swept zone. You know combined all of those were pretty consistent in that the passage rates were extremely low and then we have the flight heights from that study from which we determined that the risk of any seabird that's detected using the radar at night would fly through the rotor swept zone is extremely small. We extrapolated what take risk would be over a 20 year period of all the seabirds combined. I don't recall the exact number but it's somewhere less than a 10th. It's very, very small based on the best available science. And so the most common of those seabirds in that area, as far as we know, is Hawaiian Petrel?

WINTER: Can you just start that sentence again to make sure I understood you.

JAAP EIJZENGA: Out of the three listed seabirds that might occur in the area, the Newell's Shearwater, Hawaiian Petrel, Band-rumped Storm Petrel, Hawaiian Petrel, based on what we know, is most likely the most numerous. So you know in conversations with the agencies we decided to seek coverage for that because even though the likelihood of a take occurring is significantly smaller than one over the course of the permit period, but nonetheless just ought to be on the safe side we will seek coverage for that one. And then the other two species that take is even lower by a bit so that risk is discountable. We don't think that risk is high enough. At the time both, you know talking to DOFAW and Fish and Wildlife Service we all agreed that was a very reasonable approach. So when we talked about it in October Kawika brought up the concern that well, you know, what happens if, I know right now we're saying look the risk is really small, that's fine, but what happens if a take does occur? Does the project get away with it and then you seek coverage? And you only mitigate for those that are then permitted. We wanted to make it abundantly clear that the project will cover mitigation for the take even though we really don't think it's going to happen. But if it were to happen as like a fluke incident, stochastic event, that the project would provide mitigation for the take that would occur and then seek an amendment to include it, just to be clear about that. It was our understanding that that was the concern that you expressed and we want to make sure that it was addressed this way in changed circumstances. We do not include it as a covered species because still based on the conversations and what we know, the risk is sufficiently small.

PRICE: Just wanted to touch on the history a little. So the colony at a Pōhakuloa Training Area was only discovered in what 2017 or 16 or something, right?

BOGARDUS: They had heard them up there, but they had never identified it to the burrow level.

PRICE: Until 2016 right?

BOGARDUS: Right.

PRICE: Okay, and so in these discussions was it not included because that hadn't been confirmed yet? So it's a changed circumstance?

BOGARDUS: These conversations have occurred after the point where we knew that the birds were at Pōhakuloa.



JACOBI: And there has been documentation but not very thorough documentation or surveys of band-rumped calls in various other places including this side of the island here too. So they're known to be flying over the island. That was the first time we found burrows. It was suspected that they might have or it was presumed that there might be burrows but nothing's been documented until they're up at PTA. That doesn't say they don't occur elsewhere, but there has been documentation of calls in various parts around Mauna Loa.

PRICE: I am very familiar with this species because I had a Masters student work on it. So we've got the nest site selection paper that was based on the PTA site that I think I sent around to you guys. She's just finished, just finally accepted for publication that genetics study that includes all samples from all the different islands. So I'm very familiar with where they have and have not been detected and you know, the limitations that it is really hard to get to them because they're on the cliffs and so you just can't actually get to them to get a transmitter on them. And yeah, I'm very familiar with all of that. So one question that I don't know the answer to is have they been found under any other wind farm?

BOGARDUS: No.

JAAP EIJZENGA: No, thanks for asking. That is one of the things I want to bring up to contrast that with the Hawaiian Hoary Bat which obviously there's been some fatalities, take of bats at all of the wind farms that have done monitoring.

JACOBI: As I recall, the only downed band-rumped was at Kūlani brought down by light and that was a long time ago.

BOGARDUS: We had a couple but they've all been on Kaua'i. There's more than just one but they've all been on Kaua'i.

PRICE: We've had some on O'ahu because we have the genetic tissue from them, right, so I know there were a couple on O'ahu and Maui.

BOGARDUS: Just in recent years though, and I think on Kaua'i it averages one every other year right now. And then we have had at least one or two at the O'ahu airport.

SMITH: But none associated with wind farms so therefore the likelihood is extremely low and it seems to me like it's at the discretion of the applicant. They would be liable if they did take; applicant's discretion whether they want to apply for that permit or not.

BOGARDUS: So to be very clear if the applicant was choosing not to include a species that the agencies did think was going to be taken as a result of the action we are not allowed to issue a permit or a license to the applicant for the other species. So like if they were coming in and they said, we want to do take of the seabirds, but we don't want to address bats and some other sort of ridiculous scenario, but just bear with me for a second. We are actually not allowed to issue a permit or a license for that situation because at that point we would know that take of another species is likely to occur. And therefore they would be in non-compliance with their permit

because that take of that other species is going to occur and that has happened to us before and in fact it happened with Kaua'i Lagoons now known as Hoku'ala where they had come in and they were seeking coverage for Nēnē and the waterbirds and simply didn't want to address the seabirds. And we said no, take was likely to occur for those seabirds from these buildings. We cannot give you a permit or a license under these conditions. You need to include those in your permit and your permit request. So it has happened before we have addressed it before. If we felt like it was likely to occur we would have a mechanism by which to say you must include it.

PRICE: Okay, and let me understand the potential precedent again, just trying to understand the way the system works. If we say it's extremely unlikely at this far southern tip of Big Island, even though there are known colonies on the island and someone else were to come to us from the Big Island and say well they don't have it in their HCP you simply say well, yeah, but they're at the far end tip away from it. So we thought it was highly unlikely. But you got to do it. Is there any kind of a precedence or concern?

BOGARDUS: No, I'm requiring PTA to address them like right now and anywhere within the flyway that were you doing a project. Yeah, absolutely. And now we know about the slightly more specific location of the Hawaiian Petrels in the Kohalas and if there was a project that was being proposed for the Kohalas, absolutely, that would be a thing.

WINTER: But you just said anything in the flyway, but there's been an offshore observation of them. So why is that not considered? Why is this project area not considered to be in the flyway?

BOGARDUS: We've got to use the information that we've got.

WINTER: The information is that they're right offshore. So why is that not valid information?

BOGARDUS: If you can use that as a way to assess take I'm all for it. But thus far none of the agencies have ever used birds offshore to determine what the likelihood of them passing by that would be. We've never done it that way.

WINTER: What do you use if not presence in proximity to the project's site?

BOGARDUS Flyways and flight height.

JACOBI: Documentation using radar and things like that have been used in terms of documenting flyways and I think that's been addressed on Kaua'i certainly.

SMITH: I think Jaap said they did analyze that here.

JAAP EIJZENGA: Yeah. There are several studies in the area that used radar and at least one of them used vertical radar and so that's the data that we're using as best available science here.

WINTER: I don't see these studies cited in here. Which ones are you referring to?

JAAP EIJZENGA: I don't remember where in the HCP.

PRICE: Can you tell the difference between a Band-rumped and anything else using radar?

JAAP EIJZENGA: It depends, but no. For those studies they did not distinguish between the species. But as I said none of the targets using the vertical radar were low enough to be at risk within the rotor swept zone; they were all higher and the passage rates of all of the studies that have been done in the area were so low for all of the species combined, not looking at individual species, that even the risk of any of the species colliding with a turbine or a project component over 20 years was a lot less than 1. So the likelihood of any one of the three species having take at the site is extremely low. And so looking at Hawaii Petrels we know from the information currently available that those are the most abundant on the Big Island. So based on our conversation with the agencies we decided to seek coverage for that one. But with the other ones the risk is so low and I'm sure you could do tons more studies, but that number is so low that that's not going to really make much of a difference.

BOGARDUS: I mean, so if take did occur the question would be whether if it would be found and I think because of that work, yes, it would be found. Normally how it works is that if take of an endangered species occurs that is not in the permit and at that point the applicant needs come back to DOFAW and the ESRC and USFWS to propose a major amendment to include that species under the permit, then it goes out for public review again and all that other kind of stuff. Typically what ends up happening with those is the mitigation plan that goes along with that permit request is only for the future take of the species from that point forward and doesn't address the individual that was found that precipitated the amendment and that's what happened with Kawaihoa. So Kawaihoa did not have Hawaiian Petrel?

LAUREN TAYLOR: They still don't have Hawaiian Petrel on their permit.

BOGARDUS: I'll deal with that in a second. Alright, so the project didn't have it under the permit and had a take of Hawaiian Petrel and then they needed to come back in and get an amendment to address Hawaiian Petrel from that point forward right? But they don't typically, that cannot include the take that they observed. What they're trying to get at with the language in the changed circumstance, if I'm understanding this correctly, is that they would not just mitigate for the future take if they came in for a permit amendment, but they would also mitigate for the take that they had documented that precipitated this whole thing.

PRICE: Is that super clear in here? Okay, if that's super clear to everyone that to me is a little bit different in that you're saying this is an extremely unlikely event but if it happens though we're still going to back pay for it?

BOGARDUS: Yes. That is what they're trying to say. My question to you guys, well actually I have two questions, one is for Darren, which is that can we even do that? Second of which is that you know, if this occurs in year nine of the permit term because this is only a 10-year permit, there's not even the time to get an amendment. There's not gonna be time for you to do an official mitigation, like a whole set up on this. So did you guys have any internal discussions on this, do you I mean, obviously we're talking about potentially repowering after that ten year. And so I just don't know what that looks like.

AMANDA EHRENKRANTZ: Have you had any similar situations? Like what would that look like for any project?

JACOBI: Yeah, I don't know and it doesn't matter if it's a 10, 20 or 50 year if it happens in the N minus 1 year you still have the same situation.

BOGARDUS: No, I agree. It's just typically we don't have a commitment to it and to our circumstances. So I'm thinking about it within the commitment of changed circumstances.

AMANDA EHRENKRANTZ: So maybe the predicted future take is extremely low. So the mitigation is just for the one observed.

JACOBI: Well, I think the other option would be is if there's an amendment it would be like you said a major amendment and that amendment may extend the time longer to be able to deal with that properly; that may be the best way to do it.

BOGARDUS: That would address it absolutely. The one thing that I will tell you in doing this though, is that while we can mitigate for the take that is observed we cannot retroactively permit that take that was observed.

JAAP EIJZENGA: Yes, we understand that.

BOGARDUS: And that's true for both agencies.

JACOBI: But what is the consequence of that? That's where I'm confused.

DARREN LEBLANC: Somebody could challenge us in court, at least us on the federal side, I'm not sure about the state side. For having that take or they can actually challenge them for not having coverage for the take ahead of time.

BOGARDUS: It's unlikely that it would ever happen that way but yes just because they are mitigating for that take that occurred does not mean that it was legal. Then we cannot provide them retroactive legal coverage for that take that occurred. Even if they mitigate for it.

PRICE: How much are we really talking here? When you look at the mitigation plans for the rest of the seabirds that are in here like how much of a monetary difference are we really talking if you say you could kill one band-rumped over the next 10 years? Like is it just a pretty small potatoes kind of thing, because we've spent a huge amount of time arguing over this, I'm just curious?

JAAP EIJZENGA: It is not just cost, it is even just finding any kind of conservation action being taken right now that could be used as mitigation that doesn't exist. And you know since it is such small likelihood of that happening if we consider there to be a chance of it happening, it could happen at any time, could happen next week, or in nine and a half years. And so if we have nothing right now that we can point to that we could possibly call the mitigation project, that is

one of the challenges there for talking about that. But then also we have no idea what that would look like in nine years either. So it is beyond cost. There's nothing right now that we can say well we can do this because there are so few of them and there's only a couple that we know where they even are specifically. So these specific mitigation measures at the moment, they're not available. But really the reason why it's not included as a covered species is because the risk is, as you say, discountable.

PRICE: Yeah, I just think I wanted to understand what was at stake on your side because from the endangered species side there were 11 suspected nests at PTA and I think they all failed due to cats. There's like one cat that went around killing everybody. And so, you know, you're dealing with small numbers so low, the likelihood of killing something but you've got really small numbers and so everyone counts and so from an endangered species perspective the numbers matter, but yeah, I just wanted to understand from the business side and from the option side. And I hear you that there's not much you can do about it.

BOGARDUS: Well, what I'm saying is that there's not much the Fish and Wildlife Service could do and that based on the requirements of the law that we're allowed to do. So like it's not written in stone for what the ESRC can discuss. I'm gonna let Kawika talk.

WINTER: What I had hoped to see in this was some sort of mitigation plan on the chance that there's a take of the species that we're talking about. I don't see that. I'm not quite sure I understand the logic behind not including it. So let's hold that thought. So previously you were talking about like rates and heights. I don't remember seeing a discussion of that in here, which I think is relevant information. Did I miss it? Is there a place in there where you guys talk about the flight heights or if that's the proper term?

AMANDA EHRENKRANTZ: Somewhat, I think that I started looking into this and then I kind of got distracted by the rest of the conversation, but I think that there is part of that discussion and under the known occurrences for the Hawaiian Petrel discussion, so it's kind of a little muddled where we kind of talked about the Hawaiian Petrel and the data.

JAAP EIJZENGA: Then it's covered I think in more detail in the risk assessment for like the take calculation for the Hawaiian Petrel.

WINTER: Is that in here somewhere?

AMANDA EHRENKRANTZ: So there's known occurrences in Section 3.2.4 and then Section 3.4 goes into more detail on the Band-rumped Storm Petrel and then the take calculation for Hawaiian Petrel is 4.2.3.

WINTER: I guess maybe you think of a different way to ask the question. So on page 7 it lists the three seabird species and says they may transit this site in route to and from their nesting grounds during respective breeding seasons based on Day et al. 2003; these passage rates are expected to be very low. So I'm not quite understanding the logic behind why two species are discountable and one isn't. What's the threshold that made two count and one didn't? What's the science and logic behind that?

BOGARDUS: For the Newell's Shearwater, Hawaiian Petrel and Band-rumped Storm Petrel? I think the risk assessment on our end for what we did was really low on all of them.

WINTER: And what's the threshold that made two count and one didn't?

BOGARDUS: That was the applicant's choice because all of them we would have probably have said were discountable.

WINTER: What does discountable mean?

DARREN LEBLANC: Highly unlikely to happen. And the calculation or when we ran it through Evidence of Absence for the one that they are covered for came in at a low one. It was increased to 1 because you can't kill less than one bird and then Evidence of Absence actually added two more birds for the uncertainty, undetected stuff and so in our permit it's for three. But technically it's for one and the likelihood of one is even less than 1.0.

WINTER: So why can't we just include all three endangered seabirds under that category and say if any one is taken we follow this mitigation plan?

JAAP EIJZENGA: Well we actually had some discussions about this early on especially because we're talking to the Park Service about their petrel enclosure and that was going to be part of the petrel mitigation and originally they had said, well, it will benefit the Band-rumped Storm Petrels. And so we're like, well, that's great. We should mention that and when we continue talking to the Fish and Wildlife Service and DOFAW about this they said well unless you can show that you're creating additional Band-rumped Storm Petrels it's not going to be sufficient for mitigation. And so we're like, well that's not going to happen based on a conversations with the Park Service. So that's not even an option. So I like that concept but that's been shot down.

WINTER: So what about even if you had something in here about if there would be take we would support predator control around known breeding colonies on island or something like that. Why wouldn't that be a super easy thing to do?

JAAP EIJZENGA: Because we don't know. The only ones that we know on the Big Island are PTA and I mean, they're going to be on the hook for you know, protecting those themselves; there's no way for the project to contribute to that. Right now there really aren't any options. There's nothing I can put on paper that says specifically this is what we would do. If that existed we'd be happy to provide a description but it just doesn't exist.

SPAIN: Because Michelle, the birds at PTA would be double because they're going to have to mitigate for that?

BOGARDUS: They have to protect them. Yes. It's not mitigation. But they're on PTA land and they're in an area where PTA is required to manage them and we're working with them to up

their management. But in terms of whether that would be a mitigation site for a wind farm. No, because it's PTA's responsibility to manage that site.

AMANDA EHRENKRANTZ: Kawika, what if we added another sentence that works like this, may include but is not limited to some of your ideas just so that then we can make that decision at the time.

WINTER: I'd be more comfortable with that. Channeling Loyal five years from now none of us might be here and it might all be new people and they could just say well no there's nothing in here about this. So what about just another idea, it's not that I like this because I don't believe in it, but some of the O'ahu projects have mitigation on Kaua'i. So there's a precedent for that. Why can't we say if there's a take you guys will contribute to predator control on Kaua'i around known populations? Is that something that's not viable somehow? Is that unreasonable?

AMANDA EHRENKRANTZ: I'd throw back that back to the agencies' court because usually we're asked to mitigate on the same island.

WINTER: I don't like that, but I'm just trying to think of some way to make sure we have coverage here.

BOGARDUS: If you really want to include language I would leave it to where they are known to occur and then the preference would be on island. And then if it couldn't be on island at that point it could go off island. Because I mean Alex is looking for them on whatever NAR that is that bumps up against PTA.

SPAIN: Pu'u o Umi I thought in Kohala. So I think they could be out there, we could find them, or we could find them relatively soon. I don't know what that looks like. So yeah the preference is always going to be on island. But at least for a species that is such a limited known occupancy at the burrow level I would leave it open-ended.

WINTER: Yeah to Melissa's point you lose one, it's a big deal for the species.

BOGARDUS: Yeah, the risk tolerance is extremely low because the species is so limited.

JACOBI: I recognize the challenges from the agencies in terms of how do you deal with things retroactively and so forth. I do actually like this kind of a language and you know what you'd also suggested in there too. Because if this unexpected event does happen say five years from now, we may be a whole lot better off understanding what mitigation would be meaningful at that point than we do now, and I'd rather not put a definite mitigation in now because we don't really have something to grab onto with that. So if they truly are going to be able to you know, go back and mitigate for that take as if it were part of the permit realizing they still have to go through an amendment, it's more up to how the agencies view that and whether there's a legal liability to the agencies or to the permittee to deal with that.

WINTER: When you say there's not a lot to grab on to do you mean as far as...?

JACOBI: Management options, mitigation options for Band-rumped Storm Petrel.

WINTER: But remember there's enough for other HCPs to be considering the species. So I don't understand.

JACOBI: But even those for Band-rumped Storm Petrels is pretty...

WINTER: But it's something. I'm just asking for something. I don't want nothing to happen.

JACOBI: I'm not suggesting that either I'm just saying we may have better options; it is the same thing as when we were dealing with seabirds in the beginning. We didn't have really anywhere to go and many opportunities have now come up that we've been able to work with.

BOGARDUS: The plus side with seabirds is that we know what they need. Yeah, I mean they need predator control and they need Barn Owl control. I mean that's what band-rumps would need and wherever they occur that is what they need. That's a recovery strategy for the species and we know that that's like priority one and two. The third is probably habitat management.

WINTER: But right at the end of the day, we need to be looking at 195D and cumulative net benefit and I'm not seeing cumulative net benefit for something I think is maybe low risk but if it happens, it's a really big impact. It's beyond my comfort zone.

PRICE: So my earlier question was what's at stake for who you represent? If you were to put something in there for it and the response was there isn't really anything that we can do for it. If there is an option to be able to provide some mitigation to other sites where band-rumps are managed on a different island does that change the calculation or is that still a really big thing?

WINTER: We're just trying to ask how hard is it to actually put something in there because that's what I'm wondering.

SMITH: Is there language that we could put in like is there something specific. From the agency standpoint we look at this as highly unlikely. So, you know just to move this along. Is there something we could put in that would make you comfortable? Is there some specific language?

WINTER: I don't have anything in my brain but there's some other HCPs that deal with Band-rumped Storm Petrels that have mitigation on Kaua'i so if we imported similar language to here then I think there'd be something where I wouldn't be so uncomfortable. I'd hope there'd be something that has cumulative net benefits.

BOGARDUS: You're talking about the ones on Kaua'i.

WINTER: The O'ahu projects that have mitigation on Kaua'i.

BOGARDUS: For Hawaiian Petrels and Newell's Shearwaters. Because no permitted projects have band-rumps right now.



WINTER: That's a shame. So the presentation that Lindsay did she talked about benefits to three species. So she was just talking about Band-rumped Storm Petrels?

BOGARDUS: She's talking about the future Kaua'i Seabird HCP, which we haven't permitted yet. But in theory, yes, it has take of one Band-rumped Storm Petrel every third year essentially in the framework.

WINTER: Is that language somewhat solidified?

BOGARDUS: For the whole island. For that project they are doing Barn Owl control at areas where they are fairly certain that band-rumps occur, but they don't know where the burrows are.

WINTER: Is that something that you could put in?

AMANDA EHRENKRANTZ: Are you saying in the absence of any take or if take were to occur?

WINTER: Is take were to occur you would initiate Barn Owl control at a known breeding site.

JAAP EIJZENGA: We can add it as long as it doesn't restrict... to Jim's point. Say if a take happens in eight years, again, this is all very speculative. Right? We still think it's not going to happen. But let's say in eight years we don't know what the situation is like then so if we describe based on our best knowledge what it might look like and restrict it to that then I think we're unnecessarily restricting ourselves. So if we say we will add some language to say that potential mitigation would include but not be restricted to and then some of the things that we discussed, barn owl control, cat control on the Big Island or Kaua'i depending on known nest sites, something like that. Would that be good?

WINTER: Yeah, but at the end of the day I'm just trying to avoid the mistake that happened with the early wind HCPs and bats and say we don't think this is going to happen. So we're not going to put it in here and then so days later we have a whole different perspective. I want to learn from our mistakes of the past and not end up in that situation again

JAAP EIJZENGA: I acknowledge that that was definitely a situation in which we had HCPs based on best available information that resulted in an under estimate of impacts of the bats but a very big difference between this situation and the situation with bats was that at the time the HCPs were developed for bats, because there was a likelihood of bats being impacted by the projects the problem was estimating the level of impacts and so the level of impacts turned out to be higher and that's why we've had these amendments. This is very different from that. We have a situation where operational wind farms have been operational for a really long time. They haven't had any fatalities of Band-rumped Storm Petrels and we're considering the risk of take of storm petrels to be discountable. So it is a very different situation. I see the parallel but I do want to highlight that it is a very different situation to underestimate take versus considering something discountable based on best available information, which is in my opinion fairly well supported.

SMITH: And we do have experience in operating turbines now and we've never taken band-rumped. And to the agency is considered highly unlikely. So the combination to me is like we have experience it's never happened, the likelihood here is shown to be very, very low. So again, I mean would you be comfortable if we added some language in?

WINTER: Yes, Michelle's drafting some right?

JAAP EIJZENGA: Oh, yeah. I was going to write it down and double-check them because if you can put it to bed by saying you know, at least incorporate these management activities as options, that would be totally great.

JACOBI: So just to clarify though right now. I just want to make sure we're all on the same page here. I mean, it seems like there's two options, one is to include it as a covered species and identify mitigation right now, which is sort of that one extreme that's enough, which is not what you would do.

JAAP EIJZENGA: No, it's a hard no.

JACOBI: The other option is to have the kind of language you have in here, but more specific in terms of if this does occur here are the kinds of things that should be considered for mitigation. Being a little bit more specific. I just want to make sure you're there as opposed to the first option.

WINTER: Well, I guess I wasn't expecting you to say that that's a hard no. Help me to understand why that's a hard no?

JAAP EIJZENGA: So the reason I'm saying it's a no is because if we still really think that it's discountable and the applicant has decided that it was but mainly when it comes to how we've been setting up these HCPs and what the agencies have been requiring for mitigation. We could not develop a mitigation plan that would be acceptable to either Fish and Wildlife Service or DOFAW. Of course, you know, we're having a discussion now which may make that a little bit different but I don't think that we'd be able to come up with a mitigation program just because they're not there.

BOGARDUS: Well, I think we could but I also think that it would take a year and you guys would have to go back out for public comment again because it would be adding another species to your permit. So in terms of our license anyway.

WINTER: So it'd have to go back to public review because it wasn't listed before and that'd be a change significant enough to require public comment?

BOGARDUS: It'd take about a year. We'd need a fully developed mitigation plan with commitments and the success criteria associated with that.

JAAP EIJZENGA: Yeah, and it's going to take a longer than a year.

AMANDA EHRENKRANTZ: And we're five years in.

SPAIN: Am I correct in thinking that if there's any take in bats going on right now that those aren't being counted right? Correct? Because we have no license.

BOGARDUS: They have the federal permit now. So I would counter I think it could be done but I also think that that is not a one meeting, pull it together kind of thing, that is a year process.

JAAP EIJZENGA: We have been talking about this and the Band-rumped Storm Petrel has been mentioned as a species specifically not as a covered species in the HCP for a solid five years.

PRICE: Given the low likelihood, which it sounds like the data are there to show there's a little likelihood—it is a high risk but a low likelihood—and as long as there's good language so that we know it's not going to take five years, you know a really long extended time to get the mitigation in place following it because we've already put some thought into it. We already have this language in it and so it could quickly switch around and it will cover retroactively the thing, that's a different situation. That's better than it was the last time you guys met.

WINTER: So Michelle's drafted some language. Why don't you read. I'm feeling better about it with that language in the report.

LINDA CHOW: That may be more appropriate when we get to item 15, when we get to the approval of it as opposed to item 14 when we're just reviewing the status.

BOGARDUS: Can we wordsmith the language just to make sure people are comfortable with it enough that when we get item 15 we can approve it without wordsmithing it there?

AMANDA EHRENKRANTZ: Will we have input on item 15?

LINDA CHOW: You have approval to input on any item in the agenda.

WINTER: Just one more comment on this. The applicants are supposed to be using best available science. Just want to point out that one of the committee members has published a paper on this Band-rumped Storm Petrel that is not included in here and it should be in light of technology and making decisions on best available science.

AMANDA EHRENKRANTZ: The nest site selection paper?

PRICE: I can send that to you.

WINTER: It's the "Nesting Ecology and the Hawaiian Population of the Endangered Seabird the Band-rumped storm petrel" 2019, Wilson Journal of Ornithology.

SMITH: We can probably add that, okay. We'll add that in the next one. We're going to lose quorum if we don't get this done by 2:45. I guess in the next item we'll add in that language.

We'll add in the request to add in the paper and the revised language that will cover some of the concerns. Okay, next.

JACOBI: The question was on the mitigation site monitoring. That was one of the changes that we've requested.

JAAP EIJZENGA: So we had a discussion about that. But the ask was specifically for adding monitors to the project site.

AMANDA EHRENKRANTZ: It had gone around and having clarified a number of times and I recall specifically asking for what the purpose was what we're trying to accomplish with the monitoring and received clarification on that from Loyal.

JACOBI: That didn't come to the committee though.

JAAP EIJZENGA: Yes, that was at the meeting. I asked exactly what is the purpose so that we have a better understanding of what the committee is asking us to include in the amendment or in the revision. And yeah, as Amanda mentioned it was clarified several times because there was a lot of discussion about the monitoring that we were talking about monitoring at the project site.

AMANDA EHRENKRANTZ: Yeah, we definitely went in many circles.

DARREN LEBLANC: I can read you the three things that were required. They were to add a statement that if a Band-rumped Storm Petrel was taken the HCP would be amended to add band-rumps to the HCP and mitigate for the take. They were required to amend to make bat and bird search areas the same, and include site specific monitoring at the wind facility.

SMITH: So it sounds like they've added a statement regarding band-rumps. They did amend to make bat and bird the same, and they did add monitoring.

AMANDA EHRENKRANTZ: And then just one last item, just to bring to your attention that the dispute resolution section was removed from the state HCP although it remains in the federal HCP.

WINTER: Okay, what's the reason for that?

AMANDA EHRENKRANTZ: Staff request.

LAUREN TAYLOR: Yeah, there was a clause in the HCP that outlined a process for the agencies to disagree with the applicant about aspects of the HCP. Because it's a regulatory document there are processes already in place for working with the agencies. They can bring stuff to the Board. There's a process already in place in the regulations, it doesn't need the clause.

SMITH: Okay, I would like to move to public comments here from the public. I do need to say that there was a written notice regarding the citizen suit under the Endangered Species Act that

came in; we will take that into consideration. Anybody have any comments on that? Nobody's here to testify on that.

LAUREN TAYLOR: I've got to just read it out loud because that was the request. I'll read the email, so it's to the ESRC yesterday.

BOGARDUS: You should recognize the name but it's the woman who participated in the public meeting in Na'alehu.

LAUREN TAYLOR: "To the ESRC, there are many statutory requirements that have been not been met by the December 2019 Pakini Nui windmill draft HCP. For example, the current HCP does not have a funded research or even funded bat/ insect on-site monitoring (except for 50,000?) component. The H.T. Harvey Maui study says bats fly over the forest for the edges of gulches (January 2019 ESRC minutes). So even the current pilot plot with heavy shade may actually drive bats away. The 1200 acres may help all the endangered species except bats, but without any research, we will never know. This is a golden opportunity to develop a school-based community bat monitoring system to work with a real bat researchers and utilize both National Parks and USGS federal assistance to educate our children and our families. Otherwise, I will continue to finish up my notice of a lawsuit filed tomorrow when the ESRC votes to approve recommendation of the current Pakini Nui wind mill HCP. Sincerely Sandra Demoruelle." And then attached is her draft of a 60-day notice to follow under the ESA.

SMITH: We're all listed as defendants.

LAUREN TAYLOR: I'm not going to read out the entire draft 60-day notice of citizen suit, but I will attach it to the documents that were presented at this meeting's minutes under the public testimony since everyone's been provided a copy here.

AMANDA EHRENKRANTZ: Can we get this electronically?

LAUREN TAYLOR: Yeah, I have the email and I can forward it.

BOGARDUS: I have it open. Do you want me to send it?

WINTER: I'm not sure I understand what this is saying. Can any of my Big Island colleagues help to understand the point is that we need to consider?

SMITH: We just consider it as public comment to us.

WINTER: I'm wondering if there's anything substantive that we need to consider.

SMITH: No, we'll take it into consideration when the suit's actually filed, but I mean we can't just be paralyzed because people threaten to sue us. We've just got to move forward and if somebody sues us then we'll deal with it at that time. Okay, so that's the extent of public comment.

LINDA CHOW: I'll put another layer on that. Their decision is not actionable. Their decision is only a recommendation to the Board. It's only when the Board votes on it that it becomes actionable in any way.

SMITH: Okay, I'd like to move on to item 15. There'll be chance for discussion on the vote. It seems like we've gone through the three points brought up earlier and how they were addressed by the applicant. Is there anything else on item 14 that I'm missing? Good.

JACOBI: Yeah, I'd just like to express I do have serious concerns about the adequacy of the mitigation site monitoring and I feel that the best tools that are available right now are not being employed for that. So I do have concerns about that. I just want to have the record reflect that okay.

BOGARDUS: Speaking to the lack of use of thermal?

JACOBI: And sample size. There's various things that we talked about in our previous meeting.

SMITH: Okay, so we had some recommendations for language regarding the Band-rumped Storm Petrel issue to be added.

BOGARDUS: So to your discussion of Band-rumped Storm Petrels and the changed circumstances paragraph, include a statement that says develop a mitigation plan that would include predator control and/or Barn Owl control at known breeding locations and associated monitoring to ensure the efficacy and species benefits of such mitigation.

SMITH: Can you can pass that on to Lauren?

AMANDA EHRENKRANTZ: Do you want to limit it to known breeding locations? What if there's habitat without known breeding?

BOGARDUS: So we know that there are areas with breeding locations, that would always be the priority. So that doesn't constrain us in any way.

JAAP EIJZENGA: So in this case it would be develop and implement mitigation.

PRICE: I'm sorry, again, just because I wasn't here last time. The three changes that were requested in the last meeting was to increase the monitoring, the number of detectors, and add thermal.

SMITH: Wait let's have Darren read it.

DARREN LEBLANC: 1. Add statement that if a Band-rumped Storm Petrel is taken the HCP would be amended to add band-rumps to the HCP and mitigate for the take. 2. Amend to make bat and bird search areas the same. 3. Include site specific monitoring at the wind farm.

JACOBI: Those three did not include the mitigation site monitoring which we also discussed but it didn't get recorded as being one of the three things. I was assuming that was incorporated in there so I'll address that.

BOGARDUS: So Jim, to me that's a bigger discussion. I don't think that's the end of the discussion. This is the beginning of us discussing that on how we want to provide consistent guidance to all applicants about incorporation.

JACOBI: Yes, and that is being incorporated into the revised draft.

WINTER: So I have a question about the proposed language. So if this happens in the future at the point where none of us are here and people are just going off what the document says. Could they just buy ten Good Natures and call it a day?

BOGARDUS: No because they would have to submit a mitigation plan associated with their major amendment and they would have to meet the success criteria. They would have to show how their mitigation is going to offset the impact of their taking whatever that may be.

AMANDA EHRENKRANTZ: And working with the agency requirements.

BOGARDUS: It would have to meet the bar that we've just done for everything else that we permit.

SMITH: Document the plan to mitigate for the observed take as well as any future predicted take based on that one incidence.

WINTER: Okay, and then so can I address Jim's point that you brought up a while ago? I'd like to hear the applicant's response again about what you said previously, but why wouldn't you use the thermal monitoring as well? Because that's the sharpest tool we have.

AMANDA EHRENKRANTZ: I guess there's no really clear answer to that. There was a number of internal discussions about the protocol and getting the best information out of what they could possibly fund. So, I think that there are lots of tools in our tool belt. We were feeling that this would be, first of all the most comparable to what we've already done, and second of all most relatable to risk in measuring activity in the rotor swept area. We had the most relatable to actual risk.

PRICE: I'm sorry. Can you tell me what you mean by that? What do you mean relatable to actual risk?

AMANDA EHRENKRANTZ: If the bats are actually flying in the rotor shaft area.

PRICE: But the acoustic only picks up if they call and a lot of times they fly and don't call. So I don't understand how. I'm sorry. I'm just trying to understand how is the acoustic better than the thermal? Because the thermal will detect it whether it calls or not.

AMANDA EHRENKRANTZ: Right, and I think there's potential to do a combination of the two. This is just kind of how we landed in our internal discussion.

SMITH: You're just trying to provide an index of activity, right? That's we're looking for. In other words one of Lauren's comments. Like one time she said one of the projects had changed some adaptive management and their numbers went to zero and she goes well, does that just mean they killed them all? So you know, it was kind of an offhand comment, but it goes to what we're trying to show here is that no, we didn't just kill them all that, you know, we still have the same little activity or what not or if the activity does go to zero then you know, we got a problem here, we used to have X number amount of activity and now it's gone to zero. So we're trying to provide an index that shows that if there's other changes say in the take and then you can go back and compare that against an index of activity. So that's what we're trying to do, I think my inclination is to say is that adequate to provide an index of activity or is it inadequate to provide an index of activity?

PRICE: I think my concern is it's close to zero seven months out of the year and then you get these spikes a couple months of the year. The thermal doesn't necessarily show the same thing, right? So during those times of year that they're not calling they're still around in places, right? So zero doesn't necessarily mean zero, so you could actually under report and show their tanking when they're not, they're still there. They're not calling. I don't know. The problem with acoustic is zero doesn't mean zero right.

JACOBI: You have a similar problem with the thermal too because you got a narrow scope with any sampling method.

SMITH: Is extremely variable and we have extremely low numbers. It's really hard to do statistics.

PRICE: Which is why a combination of the two is nice because then you know, you saw them and you heard them.

JACOBI: I will note here that they do include should new technology for monitoring activity levels become commercially available through the monitoring period and so on and so on they may deploy this you know, so that's in there. Our recommendation is that you know, it is already available and this would be appropriate to deploy it. That's what our recommendation has been pretty consistently.

PRICE: And as a point of process again, so I understand because I'm early in this learning curve. If we've made a recommendation based off of best practice and my understanding is the only one regularly incorporating this up till now has been USGS with Marcos's work and stuff, but we're moving towards saying this is kind of a standard. In the case where an HCP comes back and says, yeah due to financial reasons we don't think that we can do that is that adequate reason not to do stuff?



BOGARDUS: It depends on if it's tied to their ability to meet their insurance criteria. So if they don't include it, does it still meet the requirements under 195D and the Fish and Wildlife Service's issuance criteria? If it does then we still issue the license or the permit.

PRICE: I mean to her earlier comment, the whole point of monitoring is you can answer that question. If you're not monitoring adequately then you can't answer the question of whether they've met net benefit, right?

BOGARDUS: And if it does not meet 195D.

PRICE: It doesn't allow you to show whether or not you met it.

BOGARDUS: Same, right, then we could potentially not issue the permit or license based on that.

PRICE: Again, I think from the precedent standpoint. I'm just asking if they come back and essentially what I'm hearing is the reason we're not doing this is basically a financial reason.

AMANDA EHRENKRANTZ: That's part of it. It's one of the considerations.

PRICE: It's not necessarily because it's not best practice. It's more of a cost issue.

SMITH: I think if we have specific things we want to see we should request that and we did and we asked that they include monitoring and they did. So part of my thing is I just don't want to keep going back and forth on these things forever and you know, they did what we asked them to do in the last meeting and so we were not specific about that. Maybe we could put a statement in about you know, if this monitoring doesn't prove to be adequate that we could add additional monitoring going forward, but I think we need to be specific. We can't just keep telling people, you know, go back and bring us something and then not.

PRICE: It sounds like there's disagreement though from Jim and Kawika as far as the understanding of what was requested last time and then it wasn't necessarily reflected in the note-taking as far as what was actually requested of them. And so now we're in the situation where part of the committee thought it was requested and part of the committee didn't think it was.

SMITH: No, it wasn't requested; it was discussed but not requested.

JACOBI: But I think there's two parts. There is you know, until I saw the email saying here are the three points. I didn't realize that the mitigation site monitoring was not included. I was making the assumption from the discussion that we had, and Loyal was a part of that, is even on the on-site mitigation there was a combination of acoustic and thermal, we're pretty clear on that. So when we were requesting monitoring to be part of that assuming that both those tools are going to be employed. So that's my assumption of what it was. And so I think it was specifically as far as that component, the mitigation site monitoring do not get captured in that statement so that's true. So I think that's what we're left with. So I've got at least one pathway in terms of how we can get to that.

PRICE: So what's our way forward to avoid back and forth back and forth?

SMITH: Be specific and stick to what you recommended.

SPAIN: It would be helpful to get the meeting minutes. It would be helpful for us to get any minutes.

SMITH: Well regardless of that moving forward is helpful for us. I mean how are we now? Are we okay with moving forward with it as is? Or are we not? We can talk about it forever. I'm just curious is this a deal killer or is this like no we can live with this moving forward or is there something which we can put in.

SPAIN: Can I can I clarify something? So the federal government has issued a federal HCP for this project? Is it my understanding that the typical ideal process is that the federal and state process move together at the same time and ideally we have a document that equals both? In this scenario, we've strayed off of that and you're demanding more out of the state process than of the federal process.

PRICE: Because 195D requires net benefit. Yeah. So there's reason for it.

JAAP EIJZENGA: Well when we do these joint HCPs, we always take both statutes into consideration and design the document to meet the standards of both statutes.

BOGARDUS: So there's oftentimes more things in the document to meet this, 195D, than from the federal side. But what you were getting at was the timing and yes, our goal is always to get to the point where they start off on the same timetable so that there's not a disconnect between the timing of the license and the timing of the permit. So the applicant has regulatory certainty and it's not reporting on different years for the permit versus the license.

SPAIN: And the other thing that as I understand it, this is when Scott was here, was kind of this constant shift of the white paper never quite landing on a new version of the white paper and so applicants were going off of the old white paper.

JAAP EIJZENGA: And over time the discussion changes too and so you're continuously tinkering with different parts, just like we're having a discussion about one thing. We think it's been solved but there's always something else that seems better and bigger but you know, that's how the process continues to creep on.

JACOBI: Yeah, I think what we've tried to do because recognizing a lot of unknowns and confusion and new information coming in with bats particularly, which is why we put together the guidance paper in the first place, but we recognize right from the start that each edition of the guidance is a snapshot of what was considered up to that point there but in the interval in between there, there's new thinking that comes on and so this is meant to be a guidance and so it's a combination of that document but that's not the rule of law. It's a guidance is what it is. And what's more important particularly on a project-by-project basis is those kinds of discussions that

are in between those times there. And like I said, the new draft does reflect a lot of the changes that include things such as combination tools for monitoring and so forth. But this is not new, it's something we've discussed over several meetings on this project and so those discussions are most important.

DARREN LEBLANC: As a common observer and occasional participant, to speak to Jaap's point there is oftentimes issues brought up that were ignored in the comments, that were originally provided to the applicants through the original discussions that come up three meetings later that kind of catch the applicants by surprise and they go, wait a minute, we thought this was solved. That tends to delay the entire process because then they have to go back and start looking at things that they thought were done and that there was a couple of things that have come up since we issued our permit that were brand new issues that could have been one two years ago when this originally came in the door. That isn't a service to the applicants.

BOGARDUS: Or to the species.

JIM JACOBI: Likewise there's been issues and this has been a frustration that at least, you know, I as a member of the committee have felt. I'm not talking about your project. This is in a broader statement. Is that there are discussions and expectations that come from the committee to the applicants and then those changes are essentially ignored and other things come in and so we had that same thing going on both directions. And so, you know, the more we can clarify, the more we can document, in terms of what is needed at each step is really critical. So I think that's a very important piece there and I think we're getting closer to that. I mean it is a challenge and I'm not faulting, you know, staff or anything like that but having you know, more timely turnaround on minutes would be very useful but I realize that that's been very difficult because of the staff loading. I'm not faulting by any means but I think that's where we want to get to so that we can actually have a clear pathway in terms of where we're going on both sides of the table.

BOGARDUS: Can I offer a suggestion of perspective which is to say is I think the nature of the beast with bats is that we have had so many unknowns, but we've also learned so much and we as a committee have tried to keep up with the information that is coming in so that we can make the best decisions that we can in the time that we've got. But it's simply not feasible for us to provide consistent clear guidance to everyone when the information continually is changing and we want it to change. We want it to change two address unknowns. I think what I'm struggling with is that what we know now is very different than where we were a year ago. That's a good thing. But within the last year we have permitted four projects. For all four of those other projects we felt like not having thermal included in their monitoring was still sufficient. I'm struggling with this one that we would make the official change that is no longer sufficient to meet that bar. My recommendation is that this is the last of the echelon of projects that are in development right now. I would like to see this move forward with the monitoring that we've got. I would like for us to invest in spending time and energy on developing clear consistent guidance to all future applicants about what mitigation monitoring and on-site monitoring looks like. Why that is important and how it would be factored into adaptive management with clear adaptive management triggers in that guidance document. That way every other project that comes through the door has the same guidance it's moving for it. I expect for us to have issues with the upcoming version of the guidance document too because I expect for us to have new

information about bats in the next five years that continues to up our information on the needs of species and life history requirements in the monitoring techniques and mitigation techniques. But at least we start with a clean slate of this is what we're recommending to applicants to include. And this is why we think it is absolutely necessary for them to include it in order for them to meet the Fish and Wildlife Service permit issuance requirements and the 195D bar for lack of a better word. How do people feel about that?

JACOBI: I think is a good summary in terms of where we are and where to go. With regard to this project. I still am uncomfortable in terms of the monitoring scheme. I have said that and then we said that last several meetings. From our standpoint with USGS with the expertise that we've tried to provide and so forth. I mean our intention is to abstain from this vote. We want to see it move forward. But you know, I just want to make sure there's an understanding that we are not comfortable with the monitoring and the way that we will continue to evaluate, this is similar for the on-site and the mitigation site, is the null hypothesis is that bat activity will not change in restoration or over time for the other site there and making sure that we have adequate monitoring to be able to address that properly and so at our next annual review assuming that this does proceed we are going to be very seriously trying to examine whether the amount of training is adequate to be able to address that properly.

BOGARDUS: Agreed.

JACOBI: Okay and anticipating to proceeding on this with the USGS vote.

BOAGARDUS: If it's not adequate to answer the questions that are coming up and we have more solidified recommendations about monitoring of mitigation sites and on-site locations at that time, then we can formally provide them to applicants and say hey you're not meeting the bar. We can't answer the questions that need to be answered.

JACOBI: Yes, and to that end in terms of the you know, the workshop. Monitoring is a topic that is really essential to be covered properly in the workshop. We're not going to come up with all the answers there. But one of the things I'm hoping that will come out of that will be a consolidated desire to develop a clear protocol framework in terms of monitoring both on-site and mitigation site that will describe design, tools, analysis and interpretation methodologies. I think that's going to be useful for everybody because it's going to give a lot more consistency. How that gets developed is something that we need to work out in the workshop.

PRICE: To be clear. This doesn't affect take and this doesn't affect mitigation; what this affects is the ability to evaluate whether the mitigation is adequate for the take, right?

JACOBI: Yeah, and also the on-site issues that come up in terms of triggers.

SMITH: This is specific to on-site.

JACOBI: But they're slightly different questions on site versus mitigation site.

**ITEM 15.** ESRC vote to recommend to the Department and Board of Land and Natural Resources to approve, amend, or reject the Pakini Nui Wind Farm Draft HCP

SMITH: Okay, are we good to have a motion?

SPAIN: I would do a motion to approve this HCP with the addition of the language that was developed in item 14 and recognizing the changes that were made on the three items that were brought up in the last meeting. Future issues will be addressed at the yearly updates through adaptive management which allows for updates if needed.

SMITH: Do you have a second, any discussion? Okay all in favor?

IN FAVOR: SPAIN, BOGARDUS, SMITH, PRICE.

ABSTAIN: WINTER, JACOBI.

SMITH: Okay four in favor, two abstain. The motion carries. Okay. Thank you.

**ITEM 16.** Adjournment

**From:**

**To:**

**Cc:**

**Subject:** Pakini Nui Wind Mill Draft HCP

**Date:** Wednesday, January 15, 2020 12:18:57 PM

**Attachments:** [HHB\\_NOTICE OF CITIZEN SUIT UNDER THE ENDANGERED SPECIES ACT\\_1\\_14\\_2020.docx](#)

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To ESRC:

When considering approval of a Habitat Conservation Plan ("HCP"), there are many statutory requirements that have not been met by the Dec. 2019 Pakini Nui Wind Mill Draft HCP.

For example, the current HCP does not have a funded research or even funded bat/insect onsite monitoring (except for \$50,000?) component. The HT Harvey Maui study says bats fly over the forest for the edges or gulches (Jan 2019 ESRC minutes) so even the current pilot plot with heavy shade may actually drive bats away! The 1200 acres may help all the ES EXCEPT bats - but without ANY research, we will never know.

This is a golden opportunity to develop a school-based community bat monitoring system to work with the "real" bat researchers and utilize both NP and USGS federal assistance to educate our children and their families.

Otherwise, I will continue to finish up my Notice of a lawsuit and file it tomorrow when the ESRC votes to approve recommendation of the current Pakini Nui Wind Mill HCP.

Sincerely, Sandra Demoruelle

**FIRST DRAFT**

**SIXTY-DAY NOTICE OF CITIZEN SUIT UNDER THE ENDANGERED  
SPECIES ACT, 16 U.S.C. 1540 (g)(1)(A) and (2)(A)(i)**

**FOR THE DRAFT STATE HABITAT CONSERVATION PLAN FOR  
PAKINI NUI WIND FARM**

**Date of Notice: January \_\_, 2020**

**Date of Filing Complaint: March \_\_, 2020**

**PLAINTIFF GIVING NOTICE:**

Sandra Demoruelle

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**DEFENDENTS GIVEN NOTICE:**

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## **NOTICE**

**Location: District of Ka’u, County of Hawaii, State of Hawaii, U.S.A.**

**Date of commencement: January 16, 2020 ESRC Recommendation for Approval of December 17, 2019 Habit Conservation Plan for Pakini Nui Wind Farm**

### **Parties:**

#### **Defendant**

Defendant Tawhiri Power LLC proposed HCP fails to conform with federal and state statutory Hawaiian hoary bat mitigation requirements as defined herein.

Defendants who are government officers also failed to perform their duty under the Endangered Species Act of 1973 and “knowingly” caused “take” of a resident listed endangered species through destruction of Hawaiian hoary bat foraging, breeding and pupping habitat.

#### **Plaintiff**

Plaintiff SANDRA L. DEMORUELLE, natural-born citizen of the United States of America, is and, at all times relevant, was a resident of the County and State of Hawaii.

Plaintiff, a resident of the District of Ka’u since 1980, has used Kahuku Unit of the Hawaii Volcanoes National Park for religious, recreational and vocational activities and will continue use it for the purpose of seeing and otherwise enjoying the presence of the resident endangered species within their native habitat in the future.

Plaintiff and her spouse, Joseph L. Demoruelle live at 94-1523 Kaalualu Road in Waiohinu, approximately 10 aerial miles from the site of the Pakini Nui Wind Mill Project and 11 miles Kahuku Unit of the Hawaii Volcanoes National Park, which is the area of the listed endangered species habitat affected by the ESA habitat mitigation activities of the Defendants, which was allowed acceptance of the

Habitat Conservation Plan (“HCP”) and by the issuance of the Incidental Take Permit/License (federal “ITP” and state “ITL”).

Living in close proximity to the habitat mitigation activities, Plaintiff is a stakeholder who frequently uses the affected area and is a person “for whom the aesthetic and recreational values of the area will be lessened” by the harmful effects to the bat foraging and breeding habitat.

Plaintiff and her spouse have often used Hawaii Volcanoes National Park Kahuku Unit as it is one of two non-beach recreational areas within 40 miles of her home.

Plaintiff and her spouse have engaged in recreational activities Hawaii Volcanoes National Park Kahuku Unit, including family picnics and birthday parties and will continue this recreational use in the future.

Plaintiff intentionally chooses recreational activities including nature walks at Hawaii Volcanoes National Park Kahuku Unit because it is said on the HVNP website to be the habitat of Hawaiian hoary bats so sightings are possible in this area.

But persons interested in Hawaiian hoary bats do not necessarily go out of the house on walks or drives purposely “looking for bats” because even experts cannot predict a given time and place with a higher level of bat activity because foraging is based on wherever insect “blooms” show up. As H.T. Harvey bat research principal investigator David Johnston said: “If you were to go at a time of year where you think there would be a lot of bat activity, it could be that a termite or beetle [they like to eat] chose not to go there.” (*Environment Hawaii*, Maui Study Finds Bat Core Ranges Are Larger Than Previously Thought, Vol. 30, No. 2, August 2019, p. 5).

In this case, sighting bats is like finding a “lucky penny” that you eagerly pick up, if as superstitious as Plaintiff. But Plaintiff doesn’t leave her house on a “penny watching” expedition, as she can do for predictable species like whales or butterflies. Instead, Plaintiff and her spouse and family feel the joy of seeing the species incidentally to religious, recreational and social activities as well as nature walks at HVNP.

Choosing to live in the midst of the Ka’u endangered species ecosystem enhances the chances of seeing the bats when the Plaintiff walks or has a picnic at Hawaii Volcanoes National Park Kahuku Unit, but like finding a penny, seeing bats and hawks is miraculous and makes her feel “lucky.” Like any zen activity, one finds that for which one is not searching.

The Defendants' Pakini Nui Wind Mills have killed bats which directly impact Plaintiff's ability to see endangered species in their natural and the habitat mitigation in the HCP cannot assure that it will not actually harm the foraging and breeding ecosystem for the area.

Plaintiff has professional, academic, aesthetic, cultural and recreational interests in the conservation of resident imperiled species, including the Hawaiian hoary bat, on Hawaii Island, and, especially, those resident to the Hawaii Volcanoes National Park Kahuku Unit which is nearby her family residence within the District of Ka'u.

Plaintiff has doctoral training from Northern Arizona University and professional expertise in environmental policy and public administration and so has a special concern for effective implementation and enforcement of the ESA statutes and regulations.

Plaintiff is a Registered Nurse who, as a health professional, has a special concern with the health and welfare of the individual members of the listed species, and is similarly interested in the health of the endangered species' habitat as part of the ecosystem that impacts human health.

The Plaintiff's interests in the Hawaiian hoary bats and their habitats is necessarily dependent upon the persistence of healthy and sustainable populations of, and ultimately Plaintiff desires the recovery of, the bats in the wild, within Ka'u-area habitat where populations have already been identified such as affected by wind mill kills.

Over the forty years of her residence in Ka'u, Plaintiff has observed a decline in the numbers of the affected bats and the species will continue to decline and may even go extinct without the requested research into habitat and other mitigation measures that will actually help increase the Ka'u bat population.

Plaintiff realizes this is not a complete action to save bats in Ka'u, but it is an important first step to further action.

The injuries complained of herein are actual, concrete injuries that are presently suffered by the Plaintiff and are directly caused by the Defendants' acts and omissions, and will continue to occur unless the Court grants relief. The relief sought herein would redress the Plaintiff's injuries and Plaintiff has no adequate remedy at law.

### **Basis for Jurisdiction and Venue:**

As this action arises under 16 U.S.C. 1540(c) and (g)(1)(C) (action arising under ESA citizen suit provision), the district courts shall have jurisdiction to enforce any such Endangered Species Act provision or regulation, or to order the Secretary to perform such act or duty, as the case may be.

This Court also has jurisdiction over this action pursuant to 5 U.S.C. 702 (review of agency action under the Administrative Procedure Act (“APA”)), and 28 U.S.C. 1331 (federal question jurisdiction).

The Court may grant the relief requested under the ESA, 16 U.S.C. 1540(g), the APA, 5 U.S.C. 701-706, and 28 U.S.C. 2201, 2202 (declaratory and injunctive relief).

Plaintiff is prepared to file its Complaint because of the need to cease HHB habitat destruction and stop harming the resident endangered species habitat which impairs Plaintiff’s aesthetic, spiritual, recreational and healing benefits from observing Hawaiian hoary bats and hawks in their native habitat within the Kahuku Unit of the Hawaii Volcanoes National Park.

Venue in this case is proper in the United States District Court, District of Hawaii pursuant to 16 U.S.C. 1540(g)(3)(A) and 28 U.S.C. 1391(e)(1)(B) because Plaintiff resides in the State and County of Hawaii and a substantial part of the events and omissions giving rise to this claim occurred in the State of Hawaii.

### **Argument:**

- 1) The use of \$1,463,728.00 allotted for HHB mitigation to simply provide 1,200 acres (of the 330,000 acres of the Hawaii Volcanoes National Park Land) of “habitat restoration” may not be the best use of resources. Obviously, when viewing maps of the area, 1,200 acres amidst a million forested acres is truly a drop in the bucket. As well, just because that 1,200 acres is not presently good HHB habitat, does not mean that by natural progression over 20 years projected as needed for this instant proposed mitigation project, the HVNP property would not naturally become good bat habitat without any intervention.

The nearby Manuka Natural Area Reserve (*see* Manuka NAR map, attached) is known for its bat habitat and HHB sightings. It begs the question, if they (pay to) plant the trees, will the bats come? There is

absolutely no guarantee that if you change 1,200 acres that a single bat will roost there – or that any bat will otherwise benefit from a heavy canopy forest of all-native species.

- 2) Do bats really like a solid forest canopy as shown in the 8 year after planting picture in the HCP/EIS Page 50, Figure 6.3? According to scientific evidence – no. Nor do HHB care if the forest has invasive species.
- 3) Moving into scientifically unsupported habitat mitigation without any knowledge of baseline HHB populations in Ka’u is placing the cart before the horse. Just monitoring that particular small site being planted will not contribute to the body of knowledge being developed with other wind farm funded Hawaiian hoary bat mitigation-supported research (by researchers with USGS and UH-Hilo Hawaii Cooperative Studies Unit).
- 4) The Pakini Nui HCP should have tiered mitigation wherein there are 5 years of monitoring the entire Ka’u area to develop the HHB baseline population assessment and the current availability of suitable critical habitat in the area before moving ahead to the HVNP project.
- 5) Pakini Nui has had 12 years (May 2007 to May 2019) of penalty-free unpermitted incidental take while other wind farms have been in active ITP/ITL compliance, so it would be just for the Pakini Nui HCP to provide the additional expense of \$1,750,000 for 5 years of Ka’u HHB Population and Habitat monitoring as a Tier 1 mitigation measure in order to provide the scientific information that would support the commitment of \$1,463,728.00 to the Tier 2 - HVNP habitat restoration project.
- 6) The design and coordination of the monitoring and research projects should include community participation to increase species awareness and provide actual sight count. As well, the Ka’u CDP supports community-outreach to apply for additional research funding. The Naalehu Elementary School IT students could provide a “bat-count” awareness and bat sighting web-site. The FWS can facilitate this community-based support with meetings to coordinate activities with the Hawaiian hoary bat mitigation-supported

professional research teams, government agencies, the wind farm business and other stakeholders.

- 7) In addition to the Pakini Nui mitigation budget, the County of Hawaii DEM is facing penalties for failure to consider incidental take for their Ocean View Transfer Station and Recycling Center (OVTSRC) construction and operation. I recommend that the COHDEM MOU settlement include a 5 year District of Ka'u HCP for all Ka'u transfer stations and sewage plant projects to include \$1.3 million per year for the research priorities affecting on-going DEM capital improvement facility operations which are bat food availability and the species limiting factors of predators, pesticide and disease.
  
- 8) By working with the local schools the implement a pilot "Community Bat Monitoring Research Program," the Pakini Nui Wind Farm mitigation measure of monitoring and research of the Ka'u HHB Population and Habitat Suitability can offer a golden opportunity to work with the Ka'u community to expand awareness of this endangered bat species and to obtain their cooperation in raising additional matching funding to expand the conservation activities.

I declare under penalty of perjury that the forgoing is true and correct.

Dated: January \_\_, 2020, at Naalehu, Hawaii

SANDRA DEMORUELLE