State of Hawai'i
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife
Honolulu, Hawaii 96813

July 25, 2019 Meeting

Endangered Species Recovery Committee
State of Hawai'i
Honolulu, Hawai'i

Committee Members:

SUBJECT: KAWAILOA WIND POWER REQUEST FOR FINAL RECOMMENDATION ON THE JUNE 2019 DRAFT HABITAT CONSERVATION PLAN AMENDMENT

ESRC AND PUBLIC COMMENTS

Kawailoa Wind Energy, LLC (Kawailoa Wind) responses to ESRC comments provided at and subsequent to the October 25, 2018 ESRC meeting and public comments are provided in an attachment to this memo. Public comments as summarized by DOFAW are included in a second attachment to this memo.

BACKGROUND:

Kawailoa Wind operates a 30-turbine, 69-megawatt wind energy generation facility on agricultural lands in Kawailoa on the northern portion of O'ahu. Kawailoa Wind was issued a 20-year Incidental Take License (ITL) designated ITL-14 in January 2012 for the take of seven species. The Hawaiian Hoary Bat (HHB; *Lasiurus cinereus semotus*) take authorized over three tier levels is 60 HHB (after conversion of juvenile bat permitted take to adult take) over the course of the 20-year permit term. In 2017 model estimates showed that the calculated HHB take limit of 60 had been reached. Low wind speed curtailment has been implemented for increasing periods of time as an impact minimization measure, but HHB take has continued to occur at levels higher than anticipated in the approved HCP.

As of March 31, 2019 the take of HHB by the project is estimated with 80% confidence to be at or below 87. In July 2017 and August 2018 take occurred of a protected bird species, the Hawaiian petrel (*Pterodroma sandwichensis*), not included in the 2012 approved HCP and ITL. As a result, the applicant has requested in their draft HCP amendment that the Hawaiian petrel be added as a covered species for the remainder of the 20-year ITL term.

INCIDENTAL TAKE AND MITIGATION PROPOSED:

Kawailoa Wind has requested additional incidental take in three new tiers (4, 5, and 6) for the Hawaiian Hoary Bat and incidental take for the Hawaiian petrel. Table 1 summarizes the take requested for these species. Tier 6 represents a 25% projected reduction in take in years 2020–2032 with implementation of deterrents.

Table 1. Take Levels Requested by Tier
(Revisions to the take in the February 2012 approved HCP Amendment are shown with underlined text.)

Common Name	**Scientific Name**	**Tier Level**	**Requested Incidental Take Authorization**
Hawaiian Hoary Bat ʻŌpeʻapeʻa	*Lasiurus cinereus semotus*	Tier 1	20 bats
		Tier 2	40 bats
		Tier 3	60 bats
		Tier 4	55 bats
		Tier 5	85 bats
		Tier 6	20 bats
Hawaiian Petrel ʻUaʻu	*Pterodroma sandwichensis*	NA	19 adults/fledglings 5 chicks/eggs
Newell's Shearwater ʻaʻo	*Puffinus auricularis newelli*	Tier 1	3 adults/immatures 2 chicks/eggs
		Tier 2	6 adults/immatures 3 chicks/eggs
Hawaiian Duck koloa maoli	*Anas wyvilliana*	Tier 1	4 adults/immatures 4 ducklings
		Tier 2	6 adults/immatures 6 ducklings
Hawaiian Stilt aeʻo	*Himantopus mexicanus knudseni*	Tier 1	8 adults/immatures 4 fledglings
		Tier 2	12 adults/immatures 6 fledglings
Hawaiian Coot ʻalae keʻokeʻo	*Fulica alai*	Tier 1	8 adults/immatures 4 fledglings
		Tier 2	12 adults/immatures 6 fledglings
Hawaiian Moorhen alae ʻula	*Gallinula chloropus sandvicensis*	Tier 1 Take by capture by trapping	8 adults/immatures 4 fledglings 50 individuals
		Tier 2 Take by capture by trapping	12 adults/immatures 6 fledglings 50 individuals
Hawaiian Short-Eared Owl pueo	*Asio flammeus sandwichensis*	Tier 1	4 adults/immatures 4 owlets
		Tier 2	6 adults/immatures 6 owlets

Mitigation for HHB take for tier 4 would consist of the acquisition and resulting preservation of bat habitat. Mitigation for tiers 5 and 6 would consist of restoration of habitat for HHB or additional land acquisition and preservation. Mitigation for the Hawaiian petrel take would include mitigation funding, predator control, and burrow monitoring at two colony sites in Hanakapiai and Hanakoa, Kaua'i.

Respectfully Submitted,

David G. Smith, Administrator
Division of Forestry and Wildlife

Kawailoa Wind Reponses to ESRC and Public Comments

Kawailoa Wind HCP Amendment		
Summary of ESRC Comments from October 25, 2018 and Kawailoa Wind Responses		
Member	**Comment**	**Response**
Scott Fretz	ESRC considered the value of HWA from the acreage amount, the dollar offset in the ESRC Bat Guidance Document. ESRC members supported the offset of HWA and supported $50,000 per bat costs as being justified at the time the agreement was made. Michelle Bogardus noted that USFWS cannot use a dollar offset but the parcel meets the biological justification.	Refer to Section 7.6.3 of how the acquisition of HWA offsets Tier 4 bat take as described in the HCP Amendment.
Scott Fretz	Tier 5/6 does not provide sufficient detail to ensure that it is consistent with guidance	Tier 5/6 mitigation was revised to include additional detail including parcels, actions, monitoring, success criteria, and adaptive management.
Scott Fretz	ESRC members express concern about the total take request for the project. Suggest removing Tier 6.	The total take request has been reduced to 220 bats. Tier 6 has been reduced to 20 bats.
Scott Fretz	Suggest installation of Deterrents	Deterrents are installed as of June 7, 2019.
Scott Fretz	a) That the lands to be acquired presently support HHB, that they are under threat of destruction of HHB habitat, resulting in loss of HHB, and that their protection will enable the present HHB occupants to persist in to the future, resulting in the protection and production of more than 55 bats (tier 4). i) The assumption that the proposed land acquisition will offset take is uncertain because the numbers of HHB present in the lands to be acquired is not known. ii) While it is reasonable to assume that the acquisition of those lands will confer a conservation benefit, it is not reasonably certain they will fully offset take of 55 bats.	The offset of mitigation by HWA is supported by USFWS and DOFAW. In addition to meeting the financial justification outlined in the ESRC Hawaiian hoary bat guidance and the biological justification of 20.3 acres per bat, the parcel is protected in perpetuity, ensuring that more than 55 bats will benefit as a result of the acquisition. USFWS and DOFAW support of the mitigation and acreage is provided in their letters dated September 26 and September 21, 2019, respectively.
Scott Fretz	b) That the restoration of presently unsuitable habitat to suitable habitat will result in the production of 150 bats (tiers 5 and 6). i) The conservation biology and recovery needs of HHB are poorly known. The factors and threats that limit populations are not known, it is not known whether suitable habitat is a limiting factor, and there are no published studies or data on HHB that have demonstrated that restoration of habitat resulted in an increase in HHB populations. ii) As with land acquisition, habitat restoration using the best available science is likely to provide a conservation benefit for bats, but, as proposed in the draft HCP, does not provide a reasonable certainty that it offsets take of 150 bats.	Refer to Section 7.6.4 for revisions to the Tier 5 and 6 mitigation and offset to take.

Kawailoa Wind HCP Amendment		
Summary of ESRC Comments from October 25, 2018 and Kawailoa Wind Responses		
Member	**Comment**	**Response**
Scott Fretz	2) It is not clear how the draft HCP complies with §195D-4(g)(1), which requires that the applicant, to the maximum extent practicable, minimize and mitigate the impacts of the take because it does not provide a commitment to include effective research, development, or deployment of deterrents. As written, the HCP could be implemented without the use of any deterrents, and result in the take of 265 bats. While further development of deterrent technology is desirable, a number of tools and applications are currently available with a reasonable likelihood of success in reducing take and yielding essential information needed to improve the effectiveness of available methods. The draft HCP acknowledges these tools and their potential, yet defers any decisions on whether to use them until 2022 and then pre-conditions their deployment on unspecified future circumstances. It is my understanding that deterrents that are likely to be effective are available now and can be procured and deployed upon approval of the HCP.	Deterrents were installed June 7, 2019.
Scott Fretz	Research is ongoing to better understand HHB population biology and to improve the effectiveness of mitigation efforts to offset take. Until that research provides better information to guide planning, I recommend that the draft HCP be amended to request a lower level of authorized take, and to include the deployment of deterrent devices on all turbines immediately. The level of cumulative take authorized should represent a level for which the department is reasonably certain will not result in a decline in the population in the project area, and thereby preclude recovery benefits.	Deterrents were installed June 7, 2019. Kawailoa Wind worked with DOFAW and USFWS staff to revise the Population impacts analysis. The cumulative impacts analysis was modified to include a range of population estimates based on the best available science and the population model mentioned above. This information is used to support a more quantitative cumulative impacts analysis which is expected to address the concerns expressed by DOFAW. Kawailoa Wind worked with USFWS to determine an acceptable means of reducing the take request that will meet USFWS requirements and address DOFAW concerns.
Scott Fretz	b) States that cut in speeds over 5.5 m/s are not economically viable. Applicant should provide additional information to indicate the minimum power production needed for viability in order to inform determination of the maximum practicable extent of minimization.	Kawailoa Wind is implementing the most advanced minimization measures practicable including: acoustic deterrents, LWSC with a cut-in speed of 5.0 m/s and a 0.2 m/s hysteresis, with 20 minute averaging.

Kawailoa Wind HCP Amendment		
Summary of ESRC Comments from October 25, 2018 and Kawailoa Wind Responses		
Member	**Comment**	**Response**
Scott Fretz	2) Section 6.3 Population impacts a) p. 26 statement that HHB has persisted with no direct intervention to preserve or protect the species is misleading. Conservation agencies and partners have been supporting research and management actions to benefit HHB for decades, including research and habitat protection measures that have included land acquisition, management, and restoration of hundreds of thousands of acres of native forests, including restoration efforts that have planted more than 250,000 native trees.	Kawailoa Wind worked with DOFAW and USFWS staff to revise the population impacts analysis. The cumulative impacts analysis has been modified to include a range of population estimates based on the best available science and the population model mentioned above. This information is used to support a more quantitative cumulative impacts analysis which is expected to address the concerns expressed by DOFAW. The analysis shows that the population is likely to continue at carrying capacity, with mitigation protecting or expanding the available habitat.
Scott Fretz	3) Section 7.6 Bat Mitigation a) 7.6.3.3 The purpose and intent of this section is unclear. The previous section proposed that the funds contributed to the Helemano land acquisition, in the amount of $2.75M, would serve as mitigation for tier 4. I am in support of that for the reasons stated in the last ESRC meeting. This section provides a confusing discussion of credit that seems inconsistent with that.	Section 7.6.3.3 was revised to provide clarity.
Scott Fretz	b) Appendix 19. As discussed at the ESRC meeting, this section is confusing. Please revise so the purpose and intent are clear.	Appendix 19 was revised to provide clarity
Scott Fretz	c) Mitigation for tiers 5-6 are only discussed in concept as a suite of conservation measures on an undetermined acreage in Helemano or elsewhere. No actual project is presented. It is not possible to determine that they will serve to offset take or comply with statute or guidance. Details are needed on the exact site, the current features of the site, HHB monitoring before and after, restoration targets in terms of biological objectives, etc.	Tier 5 and 6 mitigation section (Section 7.6.4) of the HCP amendment was revised to provide more detail as requested, including the addition of the Central Ko'olau Riparian Restoration mitigation option. The USFWS and DOFAW staff concur with the level of detail included in the HCP Amendment. The final mitigation implementation plan will include additional detail based on the best available science at the time the tier is triggered and be subject to review and approval by USFWS and DOFAW.
Scott Fretz	d) As discussed at the ESRC meeting, 20 acres per bat is not consistent with guidance.	The mitigation is designed to target protection and restoration of native ecosystems that support the bat and facilitate the recovery of the species. The use of 20.3 acres per bat is supported by peer-reviewed published literature as well as in letters provided by USFWS and DOFAW on September 26 and 21, 2018, respectively. Linda Chow verified during an ESRC meeting that the ESRC Hawaiian Hoary Bat Guidance Document should be differentiated from rules.

Kawailoa Wind HCP Amendment		
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Scott Fretz	4) Section 8.3 Adaptive Management a) Triggers and actions are general only and vague. The triggers as written do not provide a clear and effective action that is likely to reduce take.	Tiers are meant to ensure that adaptive management and planning for additional mitigation occur concurrently, so as to make every effort to keep project within the lowest tier possible. Triggers are specific and based on objective calculated results of ongoing PCMM at the site. Revisions have been made to Section 8.3.
Scott Fretz	b) Reversion. This section appears to have the intent to relax minimization and would therefore defeat the purpose of the tiers and be inconsistent with requirements to minimize take to the maximum extent practicable. This practice should not be employed and his section should be deleted form the draft.	Reversion trigger removed.
Jim Jacobi	Jim suggested the need for additional monitoring both for acquisition and for management in the use of Tier 5/6.	Tier 5/6 Mitigation was revised to include additional detail including parcels, actions, monitoring, success criteria, and adaptive management. The USFWS and DOFAW staff concur with the level of detail included in the HCP Amendment.
Jim Jacobi	I felt that the mitigation response monitoring in this document was extremely brief and did not provide adequate details on how they are planning to assess changes in bat activity relative to management actions (either acquisition or on-ground management). Again, they might want to consider the use of the bat activity and habitat use monitoring methods described in the attached publication. I feel that the response monitoring needs to be expanded considerably in their proposal. Additionally, I question the proposed contribution to acquisition of the "Waimea forest" as mitigation to offset incidental take of HHB, given the proximity of this site to the current project where incidental take is currently occurring.	Tier 5/6 Mitigation was revised to include additional detail including parcels, actions, monitoring, success criteria, and adaptive management. Ungulate removal is included as a consideration for a site specific management implementation plan to facilitate native forest restoration, but will be addressed specifically based on the needs of the site. The USFWS and DOFAW staff concur with the level of detail included in the HCP Amendment.
Kawika Winter	Concerned that Petrel mitigation is not occurring on the island where take is occurring.	Petrel mitigation was identified in collaboration with USFWS and DOFAW. The potential benefit of mitigation at an established and known colony is likely much greater than the impacts to an unknown number of potentially transient birds on O'ahu.
Kawika Winter	The HHB occupancy study of Starcevich et al. (2018) submitted on October 16, 2018 should be included in the planning and analysis of the amended HCP. Based on that data, which indicates that the project site is located in the region with the densest HHB population on O`ahu, more stringent wind curtailment speeds should be considered, and full nighttime shut-downs seem warranted.	Preliminary results of Starcevich et al 2019 indicate that the bats occupy the majority of the island with a high proportion of detector nights recorded in both the Ko'olau and Waianae ranges. There are a complex array of interactions to consider beyond occurrence that influence the minimization regime proposed in Section 6B.

Kawailoa Wind HCP Amendment		
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Kawika Winter	Tier 4-6 mitigation: The narrative in the HCP amendment alludes to ungulate control as a viable mitigation measure for HHB, and in the presentation the applicant's representatives spoke of the potential of using ungulate fencing as viable mitigation. While these measures have been demonstrated to be affective for mitigation of ground-nesting seabirds, there is no evidence that such mitigation would be affective for the HHB, and most evidence supports the notion that such measures would have no benefit to HHB populations. Unless there is scientific justification for using ungulate control (including fencing) as viable approaches to HHB mitigation, there should be no mention of such measures.	Tier 5/6 Mitigation was revised to include additional detail including parcels, actions, monitoring, success criteria, and adaptive management. Ungulate removal is included as a consideration for a site specific management implementation plan to facilitate native forest restoration, but will be addressed specifically based on the needs of the site.
Lisa Spain	Concern was raised on overlap of mitigation credit for Tier 5/6 with Tier 3 or 4.	Tier 5/6 Mitigation was revised to include additional detail including parcels, actions, monitoring, success criteria, and adaptive management. The USFWS and DOFAW staff concur with the level of detail included in the HCP Amendment.
Lisa Spain	Concerned with how funding is applied, credited, and will be used for Petrel mitigation	All existing funding for the petrel management areas expires at the end of 2019. The results of mitigation are based on the biological benefit to the species. The mitigation actions are funded solely by Kawailoa Wind, and would not occur in future years without the funding.
Michelle Bogardus	Concerned that the effectiveness of deterrents is not known.	Deterrents were installed June 7, 2019. Additional data from Weaver et al. 2019 has been added demonstrating the effectiveness of deterrents in a rigorous before/after, control/impact study.
Michelle Bogardus/	Differences are noted between USFWS and DOFAW on the acceptability of reduced take requests. DOFAW noted the incentive to stay within permit, USFWS noted the inability to permit take that they anticipate to be exceeded.	Kawailoa Wind reduced the total requested bat take to 220 bats. Tier 6 was reduced to 20 bats.
Loyal Merhoff	ESRC members expressed concerns over the concept of a reversion trigger.	The reversion trigger was removed.
Loyal Merhoff	The project has not sufficiently justified that the impacts will not cause a decline in the Oahu bat population	Kawailoa Wind worked with DOFAW and USFWS staff to revise the population impacts analysis. The analysis shows that the population is likely to continue at carrying capacity, with mitigation protecting or expanding the available habitat.
Loyal Merhoff	Suggest LWSC of 6.5 m/s until deterrent equipment can be installed on all turbines.	Kawailoa Wind is implementing the most advanced minimization measures practicable including: acoustic deterrents, LWSC with a cut-in speed of 5.0 m/s and a 0.2 m/s hysteresis, with 20 minute averaging.

Kawailoa Wind HCP Amendment		
Summary of ESRC Comments from October 25, 2018 and Kawailoa Wind Responses		
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Loyal Merhoff	The proposed Tier 4 Mitigation for bats does not appear to offset the expected take	The offset of mitigation for HWA is supported by USFWS and DOFAW as supported by their letters dated September 26 and 21, 2018, respectively.
Loyal Merhoff	Requests EoA inputs	The full table of EoA inputs is provided in Appendix 16 along with outputs from EoA.
Loyal Merhoff	Suggests that impacts will be greater than outlined due to turbine and/or site conditions	All take assessment is based on project specific monitoring and analysis with EoA at the 80% credible level according to USFWS and DOFAW guidance.
Loyal Merhoff	Suggest more definitive actions for adaptive management of minimization such as increased curtailment cut-in speed or full nighttime shutdown.	Kawailoa Wind is implementing the most advanced minimization measures practicable including: acoustic deterrents, LWSC with a cut-in speed of 5.0 m/s and a 0.2 m/s hysteresis, with 20 minute averaging. Kawailoa Wind is restricted in its ability to support higher LWSC (i.e., increasing the cut in speed above the current 5.0 m/s) due to wind variability at the site and the commitments required in the Project's PPA with HECO. The HCP Amendment describes full nighttime shutdown in Alternatives, Section 5.
Loyal Merhoff	Request annual bat activity at the site	Annual summaries of bat activity are included in annual reports (Kawailoa Wind 2013, Kawailoa Wind 2014, Kawailoa Wind 2015, Kawailoa Wind 2016, Kawailoa Wind 2017, Kawailoa Wind 2018)
Loyal Merhoff	Request annual bat take at the site	Annual bat take is provided in Appendix 16, and in annual reports.
Loyal Merhoff	Annual results of mitigation monitoring should be included in reporting	Annual summaries of mitigation monitoring are included in annual reports (Kawailoa Wind 2013, Kawailoa Wind 2014, Kawailoa Wind 2015, Kawailoa Wind 2016, Kawailoa Wind 2017, Kawailoa Wind 2018)
Loyal Merhoff	Annual results of adaptive management should be included in reporting	Annual summaries of adaptive management measures implemented are included in annual reports (Kawailoa Wind 2013, Kawailoa Wind 2014, Kawailoa Wind 2015, Kawailoa Wind 2016, Kawailoa Wind 2017, Kawailoa Wind 2018). Kawailoa Wind reviews the take estimate, take rate, and take projection after each fatality, and quarterly. The results of monitoring are recorded in annual reports, reviewed annually with USFWS and DOFAW.
Loyal Merhoff	The proposed mitigation will not offset anticipated bat take	The offset of mitigation for HWA is detailed in Section 7.6.3 and is supported by USFWS and DOFAW as stated in the letters dated 26 Sept 2018 and 21 Sept 2018.

Kawailoa Wind HCP Amendment		
Summary of ESRC Comments from October 25, 2018 and Kawailoa Wind Responses		
Member	**Comment**	**Response**
Loyal Merhoff	The project will not increase the likelihood of bat recovery.	Kawailoa Wind reduces the impacts of climate change on covered species. Additionally, the cumulative actions of the HCP Amendment: protect, manage, and restore habitat for covered species, thereby increasing the likelihood of survival and recovery of the species.
Loyal Merhoff	The project is not consistent with the intent of bat recovery, but is consistent with the stated objectives in the outdated bat recovery plan.	Kawailoa Wind reduces the impacts of climate change on covered species. Additionally, the cumulative actions of the HCP Amendment: protect, manage, and restore habitat for covered species, thereby increasing the likelihood of survival and recovery of the species.
Loyal Merhoff	Impacts on the bat are neither adequately minimized nor mitigated.	Kawailoa Wind has used the best available science to develop a plan to minimize and mitigate for potential impacts to the Hawaiian hoary bat. Additionally, Kawailoa Wind has worked with the USFWS and DOFAW to develop take estimates and a take request that complies with both the ESA and HRS 195D. Finally, the conditions and monitoring at the site have been used to guide this strategy and take estimation.
Loyal Merhoff	I do think that habitat restoration or preservation may be a viable option for offsetting bat take.	This is consistent with the HCP amendment.
Loyal Merhoff	Since bats have been observed using both native and non-native forests as habitat, mitigation could involve the creation/enhancement of native or non-native forests.	This is consistent with the HCP amendment.
Loyal Merhoff	The restoration/protection of native forests requires the control of key invasive species, including ungulates (e.g., pigs, goats, deer, and cows). Consequently, when mitigation aims to create, restore, or protect native forests the control/eradication of ungulates should be a requirement.	The restoration of native habitat for Tier 5 and 6 will include provisions for ungulate control as needed to achieve the habitat restoration and bat activity targets. The control of ungulates will be addressed based on the needs of the mitigation site in the Site-specific Mitigation Implementation Plan (SSMIP).
Loyal Merhoff	Ungulate control would not necessarily need to be undertaken when non-native forests are the goal of habitat creation for bats. Some data shows that grazing by cows (an ungulate) is correlated with increased bat activity.	The restoration of native habitat for Tier 5 and 6 will include provisions for ungulate control as needed to achieve the habitat restoration and bat activity targets. The control of ungulates will be addressed based on the needs of the mitigation site in the Site-specific Mitigation Implementation Plan (SSMIP).

Kawailoa Wind HCP Amendment		
Summary of ESRC Comments from October 25, 2018 and Kawailoa Wind Responses		
Member	**Comment**	**Response**
Loyal Merhoff	I feel that native forests are a better option for bat-related restoration because they are the forests these bats evolved with and, additionally, native forests provide habitat for other endangered species that are dependent upon native forests. When habitat restoration/protection occurs in endangered species critical habitat (or areas where critical habitat was not designated because of landowner conservation efforts) the end target should be native habitat restoration, not the creation or perpetuation of non-native forests.	The Tier 5 and 6 mitigation will focus on restoration of native forest, increasing available foraging space, and increasing available insect prey. Native species and native forest provide a benefit to many species, and will be utilized. Many studies have found the Hawaiian hoary bat and the mainland hoary bat are associated with edge habitat and abundance and activity are correlated with increasing edge habitat. It is possible that native forests could be improved, through management, to better benefit the Hawaiian hoary bat.
Kim Burnett	p. 39: Is there a breakdown of costs for the mitigation funding activities, including monitoring activity of nesting seabirds and predator activity in Hanakapiai and Hanakoa, focused removal of predators, and controlling non-native barn owls?	A funding breakdown for the petrel mitigation was provided in Appendix 18 of the HCP Amendment.
Kim Burnett	p. 50: Can a measure of success be provision of funding and ownership transfers? Shouldn't these be biologically-based measures of success?	The measure of success for Tier 4 is the acquisition and protection of the parcel, and transfer of ownership to DOFAW. The mitigation is considered complete with the acquisition and transfer to DOFAW. Protection of habitat prevents future loss of viable habitat that could have a negative impact on the bat population. Text has been clarified in the HCP Amendment.
Kim Burnett	pp. 5, 45, Appendix 19: the $2,750,000 includes the purchase of the 2,900-acre HWA, but what is the funding plan for DOFAW management into the future?	The mitigation is considered complete with the acquisition and transfer to DOFAW. The funding for future management is outside of the scope of responsibilities by Kawailoa Wind for Tier 4 Mitigation.

DOFAW Summary of Public Comments

Summary of Public Comments on the Kawailoa Draft HCP Amendment

Published at in The Environmental Notice on Oct 23, 2018 and republished Dec 23, 2018 for a 60-d comment period. Public hearing held Nov 29, 2018.

Commenters included the following:

- 36 students, 8th grade and 4th/5th grade, all opposed except 1
- 10 members of the public with written comments, all opposed
- Keep the North Shore Country written comments, opposed
- 8 members of the public with oral comments at the public hearing, all opposed (1 partial support)
- 662 petition signatures gathered through Change.org, opposed

Students opposed cited cultural considerations, that the Hawaiian Hoary Bat (HHB) has an important ecological role, and that the species can control harmful insects (see table below).

Members of the public in oral and written comments cited a large range of issues they questioned or were opposed to. The most comments were related to minimizing take and how HHB take should be reduced by curtailment of wind turbines at wind speeds greater than the proposed curtailment of 5.0 to 5.2 m/s or complete shutdown of the turbines at night when HHB are flying. This comment was also a major topic for *Keep the North Shore Country* and the petition statement. Several members of the public and *Keep the North Shore Country* cited the unknown population of HHB in Hawai'i and therefore that the take proposed would cause a reduction in population or even extinction. Numerous commenters stated that mitigation necessary to compensate for take and increase recovery of HHB was not known or proven. Several members of the public, *Keep the North Shore Country*, and the petition specifically stated they did not think the Helemano purchase as mitigation for tier 4 take was adequate and comments from most of these also noted that there was a lack of detail in the mitigation proposals for tiers 5 and 6 of HHB take.

Several commenters, *Keep the North Shore Country*, and the petition also addressed turbine operations and specifically cost considerations and how this could affect HHB take. Comments stated that this should be evaluated as part of the permitting process.

Take of the Hawaiian Petrel was also addressed by one commenter who argued that curtailment of turbines should occur at a higher wind speed and that mitigation for the species should be done on O'ahu.

Kawailoa draft HCP Amendment Comment Summary

	In Favor	Opposed																	
	Energy	General		Cultural	Bat Benefits or Vulnerability					Cost Considerations			Fatality Estimation			Minimization of Bat Take				
Commenter	Energy needs are most important and its renewable; economics should be considered	General opposition; not enough data; should explore alternatives that do not have take	No accountability as take has already been exceeded	Cultural importance (Kumulipo Ref or Aumakua)	Species has important ecosystem role	Bats provide Insect Control - less pesticides	Low population and low reproductive rate	Population unknown, extinction possible	Reduction in genetic diversity and resilience with take	Need specifics of PPA to evaluate contractual obligations and profit	Consider cost basis and profitability	Need independent audit of financial aspect for minimization	Fatality search area of 35m not adequate	Injured birds and bats may be flying away and not accounted for in take	Analysis of impact from various cut-in speeds needed	Steps to minimize-mitigate missint or not clearly Identified	Minimize with curtailment at night to a higher wind speed or shut-down	Maximum extent practicable standard for minimization not shown	Lack of details for each tier, e.g tiers time of deterrence	Deterrent system could be harmful
Students	1	35	0	21	14	14	4	17	1	0	0	0	0	0	0	0	1	0	0	0
Public written and oral (not students)	0	15	1	2	1	0	0	4	0	1	2	1	0	1	0	1	10	1	0	1
Keep North Shore Country		X						X		X	X		X		X	X	X	X	X	
Petition statement (662 people)*		X										X					X	X		

*662 signatures at comment deadline; 823 as of March 19.

Kawailoa draft HCP Amendment Comment Summary (continued)

	Opposed															
	General Mitigation						Tier 4 Bat Mitigation (Helemano)				Tiers 5/6, Mitigation			HI Petrel Issues		
Commenter	Mitigation benefits should accrue prior to the taking	Bat core use area used (20.3 acres) not supported by recent research or sightings	Mitigation to improve bat recovery not known or proven	No evidence mitigation will be successful to increase recovery	Not adequate measures of bat mitigation success	More research needed on bat habitat-diet	Helemano purchase does not offset bat take	Helmano site too close to turbines	Native forest management proposed not shown to help bats	Should be no reserve of right to sell Helemano interest if no ITL	All mitigation should be done up front	Not enough detail for Tiers 5/6	Adaptive management strategy proposed not enforceable	Have seen Hawaiian petrels for years in the Wiamalu area	Petrel mitigation should occur on O'ahu	Should be curtailment for a wind speed of 5.5 m/s for the petrel
Students	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Public written and oral (not students)	1	1	3	1	2	1	1	1	2	1	1	2	1	1	1	1
Keep North Shore Country		X					X					X				
Petition statement (662 people)*	X	X					X	X								