

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

October 18, 2018

SUBJECT: DOFAW HCP STAFF COMMENTS ON THE AUWAHI WIND FARM  
SEPTEMBER 28, 2018 DRAFT HABITAT CONSERVATION PLAN  
AMENDMENT

DOFAW Staff provided Auwahi Wind comments on their September 28, 2018 draft HCP Amendment subsequent to the submission of this draft to the Endangered Species Recovery Committee (ESRC) and Auwahi Wind has agreed to address the following subset of those comments in the next revised version of the HCP amendment. Other comments for which Auwahi Wind has requested additional information or discussion are included in a separate set of comments to the ESRC.

*Section 3.8.1.1 Distribution, Population Estimates, and Ecology.* The studies cited as evidence of bats using artificial water sources are not studies of the Hawaiian Hoary Bat (HHB) as implied.

*Section 3.8.1.1 Distribution, Population Estimates, and Ecology.* This discussion is not clear whether there is also an argument that water provides a source for drinking, i.e. the reference to arid regions and the first sentence of this paragraph which says water provides “basic physiological requirements” for bats. If there is evidence HHB uses or requires open water sources for drinking it should be provided, otherwise, clarify that it is not known for HHB.

*Section 3.8.1.3 Occurrence in the Project Area.* The months that fatalities occur in are listed in Table 3-1 but for Auwahi the specific numbers taken by month should also be included.

*Section 3.8.1.3 Occurrence in the Project Area.* A summary of the previous acoustic monitoring results (beyond the very minimal data provided) should be provided for the full understanding of readers of this HCP. Even if no clear patterns are evident, the data will show what monitoring has been done which is necessary to determine adequacy.

*Section 3.8.1.3 Occurrence in the Project Area.* Additional information is needed in this section for a full description: number of detectors at ground level and nacelle level and where specifically they were (label of turbine numbers on the figure is needed); whether the average is for both ground and nacelle; the basic differences in ground versus nacelle to support the claim based on mainland studies that ground detections for HHB at this site are significantly different than nacelle detections; whether detections near

turbines/nacelles 1-4 are different in some way from others that might help explain the mention in the last paragraph of this subsection about a different fatality pattern at these turbines; temporal variations; and feeding buzz results if analyzed. As written this description provides very little helpful information.

*Section 4.1.2 Objectives.* What is provided is for an adaptive management objective. Also needed is an objective for minimization separate from adaptive management (adaptive management could potentially never be required).

*Section 4.2.7 Operational Avoidance and Minimization Measures for the HCP Amendment (New HCP Amendment Section).* This Section should analyze the patterns of fatality, i.e. the timing and locations (turbines) of fatalities. It does not describe the basic wind regime at the site as it should. In addition, to help understand site conditions and potential relation to fatalities, a targeted analysis of wind speeds prior to the previous observed fatalities (showing the date of observed fatality) and the number and timing of rotor starts/stops during the period would be a good way to show wind patterns and turbine operation at the site to aid interpretation of any relationship to bat fatalities.

*Section 4.2.7 Operational Avoidance and Minimization Measures for the HCP Amendment (New HCP Amendment Section).* Another factor that should be analyzed to help assess patterns of bat fatality is the cattle grazing in the area around the time of the reported fatalities. Todd et al. (2016) speculate based on a variety of sources that HHB may seek out and feed in areas with ungulates. Dung beetles were reported as detected at Auwahi in the USGS report that was an appendix in the Auwahi HCP FY 2018 annual report. We also know that cattle dung contains many different insect species (e.g. see Harris et al. 1982 study on O‘ahu) that could be prey for HHB.

*Section 5.1.3 Authorized Take Request for the ITP/ITL for the HCP Amendment.* Using the value of 6.45 as the highest take rate does not include indirect take for a total take of 140 (140/20 equals 7). Also there is the issue of 20 years of operation. Section 5.1 states in reference to the 25-yr term: “Assuming the authorized take limits have not been reached, legal coverage under the ITP/ITL would remain in effect during this period” which implies that if a PPA renewal is obtained the operation could continue for 25 years under the current ITL; this needs clarification.

*Section 5.1.3.1 Potential for Population-level Impacts.* The abundance claim for HHB that is made can be interpreted as general statement for all of Hawai‘i (not just Hawai‘i island) and is potentially misleading so should be revised and should address specifically Maui island since that is a significant consideration for this HCP under state law.

*Section 5.1.3.1 Potential for Population-level Impacts.* There is a statement made that evidence from post-construction mortality monitoring studies at wind farms on Maui suggests that the Hawaiian hoary bat occurs in higher numbers on Maui than previously thought. The information that must be provided to substantiate this statement is the “previously thought” information, i.e. information would have to be provided on previous estimates of bat numbers. A further claim is that bats appear to be distributed (somewhat

evenly) “across the leeward side of the island” which is too broad and not substantiated with only two projects in a relatively small part of all of leeward Maui.

*Section 5.1.3.1 Potential for Population-level Impacts.* “The expected level of impact falls below the standard of jeopardy as defined by the USFWS and DLNR success criteria in the ESA and HRS-195D, respectively.” This is an awkward sentence and the meaning is not clear with respect to Hawai‘i HRS 195D and should be reworded.

*Section 5.1.3.1 Potential for Population-level Impacts.* “The presence of robust populations on Maui that are critical to the recovery of the species (USFWS 1998), indicates that incidental take on Maui is not likely to impact the status of the species on other islands.” The meaning of this sentence is unclear. It should be reworded if it is still considered valid.

*Section 5.1.3.2 Cumulative Effects Associated with the HCP Amendment.* The following statement is made: “Additionally, authorized take is typically higher than actual take...” This statement has no basis and should be deleted.

*Section 5.1.3.2 Cumulative Effects Associated with the HCP Amendment.* The following conclusion is presented: “...there is no anticipated significant, adverse, cumulative impact to the Hawaiian hoary bat from the HCP Amendment.” This phrase should be deleted. Under Hawai‘i law at HRS 195D HCPs do not evaluate “significant” impacts as the term is typically used in EA/EISs. Instead it requires minimization and mitigation of impacts and net recovery and environmental benefit.

*Section 5.1.4 Tiers of Take.* 6.45 is the take rate for the direct take only. Adding indirect take the 140/20 (take rate of 7 per year) is the total take rate and the more appropriate number to use from here forward to avoid confusion. In the next sentence the 4.05 take rate does include both direct and indirect since it is the result of the 81/20 shown.

*Section 6.2.2 Tier 2 and Tier 3 Mitigation.* The discussion of HHB use of the area based on bats caught in recent studies is misleading. It does not account for a baseline population of bats in the area.

*Section 6.2.4. Tier 4 Mitigation.* The following conclusion is stated: “This mitigation project will more than fully offset the incidental take of 60 Hawaiian hoary bats and provide a net benefit”. This statement is misleading and not justified given the inherent uncertainties related to the hoary bat.

*Section 6.2.4.1 Mitigation Area: Habitat Description.* It should be explained why the parcel chosen for mitigation was identified as a “priority parcel” as stated here.

*Section 6.2.4.1 Mitigation Area: Habitat Description.* USGS has caught 11 bats at the Duck ponds. It is DOFAW’s understanding they were caught at 2 of the ponds. The ponds where bats were caught (or the pond area in general if all are similar) should be described in more detail and photos included. Other information that should be provided:

whether bats are drinking at the ponds or seems to be using it primarily for foraging; a description of vegetation surrounding the ponds (may also be supporting insects that are being used as food); and results of USGS insect trapping studies. Given the USGS research there and success in catching bats at the ponds, they should be able to provide you with detail of the ponds and how the bats are using them.

*Section 6.2.4.1 Mitigation Area: Habitat Description.* Photos of these trough and tanks and surrounding features as well as other features of the proposed mitigation area such as pasture areas, gulches, seasonal streams, existing trees/shrub patches, etc. should be added (in an Appendix as necessary) as these would help greatly to understand the current status of the parcels.

*Section 6.2.4.1 Mitigation Area: Existing Legal Protection.* The following statement is made: “Bat habitat quality, and the use of the Mitigation Area by bats, would likely diminish over time in the absence of the proposed Tier 4 Mitigation. These lands are not managed for bat habitat purposes, and property features (trees, water features) which provide habitat benefits for bats are not required to be maintained.” This statement is not substantiated. There are very few trees now on the parcels such that there would be further damage and this plan does not propose any maintenance of the existing ponds. Also, under the Reforestation of Hedgerows section it is argued that grazing is beneficial to bats which can occur without the proposed mitigation.

*Section 6.2.4.2 Mitigation Actions: Reforestation of Hedgerows.* Some additional information to support the benefit of hedgerows could be added. Hedgerows could help concentrate insects in areas protected from the wind and that would promote bat feeding. Additional supporting information could be added in other subsections on dung insects as a source of food such as from Whitaker and Tomich (1983), personal communication with USGS researchers on diet, and insects in dung from Harris et al. (1982).

*Section 6.2.4.2 Mitigation Actions: Reforestation of Hedgerows.* There is no reason stated why only the “beginning of the first peak” from the Jantzen (2012) paper is selected as the forest cover target, which is only slightly above a 0 response on the Jantzen curve. It should be at the highest peak of response, approximately 35% (545 acres).

*Section 6.2.4.2 Mitigation Actions: Water Feature Management.* The description in this section should clearly indicate that the recommendations cited are for rangelands on the U.S. mainland and not specific to any species of bat.

*Section 6.2.4.2 Mitigation Actions: Fire Prevention.* Replenishing the ponds is an important feature since they are also proposed as sources of water for bats. The method and timing to replace water that evaporates should be described.

*Section 6.2.4.2 Mitigation Actions: Legal Protection.* A description of the schedule for obtaining legal protection should be added. Language should be added that the conservation easement must be approved by the State Attorney General’s Office, DLNR, and USFWS and must be in place within a given amount of time (as determined based on

past experience). Access for agency evaluation of compliance for the duration of the ITL also needs to be included as an item in the easement.

*Section 6.2.4.4 Measures of Success.* The Gorresen et al. (2013) research does not seem to have a recommendation regarding the use of feeding buzzes for monitoring as stated here. Gorresen et al. (2015) recorded few feeding buzzes and they state “The very low incidence of terminal phase calls may... be simply an artifact of the generally low emitted intensity and limited detectable range of this type of call (Surlykke & Kalko 2008)”. The detectability of feeding buzzes should be further evaluated (we suggest M. Gorresen as a contact) and a backup criteria using other acoustic data results should be considered.

*Section 6.2.4.6 Adaptive Management: Water Availability.* The following statement is made “If the quarterly monitoring of troughs finds that the troughs are consistently (3 consecutive quarters, or the same quarter for 3 years) not supplied with sufficient water to keep them above 80 percent full, Auwahi Wind will investigate the cause and make attempts to rectify the problem.” The response seems too late and not definitive.

*Section 6.2.5.1 Land Restoration/Management: Take Offset/Net Benefit.* The following statement is made: “For example, if water features are added to a parcel where none were present previously, it would be assumed that the density of bats would increase up to seven-fold as documented from Ukoa Pond or other nearby ponds.” There is no known information to support this claim so it should be removed.

*Section 6.2.5.1 Land Restoration/Management: Measures of Success and Monitoring.* The following statement is made: “The Tiers 5 and 6 mitigation will expand the Tier 4 Mitigation to encompass additional lands; the success criteria will match the criteria outlined in Tier 4.” This statement seems to commit to expanding the tier 4 mitigation lands but this is not clear in the Prioritization and Selection Criteria subsection. Suggest revising.

*Section 7.2.1 Non-Fatality Monitoring, Hawaiian Hoary Bats.* This should state that non-fatality acoustic and thermal imagery monitoring will be conducted and is described in Section 7.4.1.2. It is important it be referenced here because it is non-fatality monitoring (evaluating activity patterns) being done to inform what adaptive management is needed or the appropriate timing, as well as to gage effectiveness of minimization.

*Section 9.4 Funding and Assurances.* Estimated compliance operating funds in addition to mitigation need to be listed so that it is understood by all parties the full obligations required and therefore ensure compliance with HRS 195D-21 and HRS 195D-4.