Endangered Species Recovery Committee
1151 Punchbowl Street, Room 325
Honolulu, Hawaii 96813

May 31, 2018

MEMORANDUM

TO: Endangered Species Recovery Committee

FROM: Scott Fretz, Chair

SUBJECT: Interim report on assignment to review the Hawaiian Hoary Bat Guidance Document

At its April 26, 2018 meeting, the Endangered Species Recovery Committee (ESRC), pursuant to its authorities under chapter 92-2.5(b)(1), assigned members Mehrhoff, Jacobi, and Fretz (hereinafter referred to as the task force) to work with staff to review the Hawaiian Hoary Bat Guidance Document (2015) and make any recommendations for revisions or amendments to that document. The task force met with staff on April 30 and May 9 to review a selected set of issues related to the assignment and expects to continue its work in the coming weeks. In an effort to keep the ESRC apprised of its progress and communicate its findings and recommendations to the ESRC in a timely manner, the task force submits here an interim report for consideration by the ESRC at its July 17 meeting.

The purpose of the Hawaiian Hoary Bat Guidance Document (2015) is to provide guidance and recommendations for the development of Habitat Conservation Plans (HCPs) that are intended to accompany requests for incidental take of the Hawaiian Hoary Bat (HHB) pursuant to Chapter 195D, Hawaii Revised Statutes (HRS). The interim report that follows provides recommendations in partial fulfillment of the assignment. These recommendations are not meant to be comprehensive and final. Additional recommendations may be provided for all topics.

Any and all revisions to the Hawaiian Hoary Bat Guidance Document (2015) are subject to the approval of the ESRC pursuant to its official duties as advisory to the department, and in compliance with Chapter 92, HRS.

The task force recommends that the Hawaiian Hoary Bat Guidance Document (2015) be amended to include a discussion of the following items and associated recommendations.

1. Requirements under Chapter 195D, HRS, including, but not limited to, that the HCP shall:
    a. Contain sufficient information for the board to ascertain with reasonable certainty the likely effect of the plan upon any endangered, threatened, proposed, or candidate species in the plan area and throughout its habitat range.
    b. Take into consideration the full range of the species on the island so that cumulative impacts associated with the take can be adequately assessed.
    c. Increase the likelihood of recovery of the endangered or threatened species that are the focus of the HCP.
    d. Minimize and mitigate all negative impacts, including without limitation the impact of any authorized incidental take, with consideration of the full range of the species on the island.

    e. Be consistent with the goals and objectives of any approved recovery plan on listed species within the HCP area.
    f. Provide net environmental benefits from the cumulative impact of the activity described in an HCP.
2. Identification of provisions for avoidance and minimization
    a. Take should be minimized to the maximum extent practicable. A range of alternatives should be considered to evaluate projected take and supported with detailed data and reasoning; ceasing operations and feathering of rotors from one hour before sunset to one hour after sunrise would likely avoid take of HHB; other potential alternatives are specific nighttime periods of curtailment, and curtailment at higher wind speeds that have been shown to be effective at wind energy sites on the US mainland.
    b. Avoidance/minimization efforts should have a robust adaptive management strategy (see below for specifics on adaptive management) and include minimization and deterrence technologies.
3. Analysis of impact to bat population(s), including, but not limited to:
    a. Cumulative impacts associated with take and the timing of take relative to mitigation.
    b. Impacts to bats on an island-by-island basis.
    c. The projected potential impact of the project on the bat population in the project area both with and without mitigation, using the best available information.
4. Determination of take
    a. Evidence of Absence (EoA) is the software that should be used for calculating direct take of birds and bats.
    b. For mitigation and compliance purposes, the amount of unobserved HHB take should be based on the output of the EoA model at the 80% probability level.
    c. When using the EoA model to calculate the on-going take, a rho value (factor by which an adaptive management action, such as additional curtailment, changes a fatality rate) should not be applied unless a baseline from site-specific monitoring is first established at a site.
    d. Detailed information should be provided on how site-specific or other data were used to determine requested take; specific topics include: average wind speed at site, pre-operational monitoring of bat activity, rotor diameter, nacelle height, and minimization methods (i.e., low wind speed curtailment and/or deterrence).
    e. Treatment of incidental finds should follow the most current standardized protocol provided by the agencies.
    f. Determination of indirect take should follow the most current standardized protocol for calculation provided by the agencies.
5. Fatality monitoring
    a. Canine assisted searches are desired; search strategy and methods should be detailed and justified.
    b. Search zones should be justified considering the most recent research and implications for EoA modeling and take projections and estimates; they should include consideration of blade tip at max height and wind speed and direction.
    c. Searcher efficiency and carcass retention trials should be designed to represent site conditions; there should be assurance provided of non-biased testing and details on implementation.
    d. Acoustic monitoring at the nacelle and ground level should occur throughout the permit period or until a clear and consistent pattern of HHB activity in the project area is established.

e. Fatality reports should include an analysis of bat take to include an estimated age of the bat, and temperature, precipitation, wind speeds and directions, rotor speeds, moon phase, and any other relevant factors for the two previous monitoring periods prior to the fatality being found.

6. Mitigation: General
    a. The strategy and implementation framework for mitigation should be described using biological goals and objectives. The HCP should document how mitigation efforts will benefit HHB, to include offsetting permitted take.
    b. Habitat management or acquisition is the preferred mitigation approach.
    c. Habitat management or acquisition should occur on the island in which the take is occurring.
    d. Mitigation should include alternative options which should be evaluated and which can be applied if necessary through adaptive management; therefore the biological goal(s) should be broad enough so that several options could be implemented if needed, to achieve the same goal(s); measurable success criteria should be established for all mitigation projects based on the biological goals and objectives.
    e. A mitigation monitoring program should be established to evaluate the progress of achieving success criteria.
    f. Measures of success should be based on biological goals and objectives; expenditure of funds for habitat management or acquisition should not serve as a measure of success in lieu of successful achievement of biological goals and objectives; for example, the recommended cost for research of $50,000 per bat should not be used as a measure of success for habitat management or acquisition.
7. Mitigation: Habitat management
    a. The goal should be restoration, to the greatest degree practicable, of suitable habitat, where suitable habitat is assumed to be native forest ecosystems composed of natural levels of species richness and diversity appropriate for the mitigation site.
    b. Projects should clearly show how the proposed work will add HHB habitat with measurable success criteria based on biological goals and objectives.
    c. Forty (40) acres is considered the minimum amount of HHB habitat that should be added for each bat taken; this amount assumes the baseline at the start is a habitat that does not support HHB.
    d. Credit for creating HHB habitat will not begin to accrue until it is shown that HHB use is occurring where before there was none, or use is increasing in the area.
    e. Restoration efforts should start immediately upon approval of an HCP and focus on adding roosting and foraging habitat for bats and ideally would be a component of a landscape-level strategy for conservation of high-value resources; restoration should include controlling ungulates (fencing), removing key invasive species, and planting or otherwise encouraging the establishment of native vegetation.
    f. Bat occupancy or other appropriate monitoring should be included to monitor changes in bat presence at the mitigation site(s).
    g. Sufficient monitoring using a combination of acoustic monitors, thermal imaging, and/or abundance of favored insect prey types, should occur prior to restoration and for the duration of the mitigation project at a minimum of 5-yr increments and in a manner that can statistically detect changes in activity.
8. Mitigation: Acquisition
    a. Habitat to be acquired should have documentation that it currently supports bats and it should be clearly shown that there is a potential threat in the foreseeable future to that habitat if not acquired.

b. Forty (40) acres is considered the minimum amount of HHB habitat that would need to be acquired per bat taken; this amount assumes optimal HHB habitat and for which the threat would likely eliminate its use as habitat.
c. Land title of habitat acquired or a permanent conservation easement held by a qualified conservation organization should be in place and sufficient to ensure its protection and future management as bat habitat.
d. Prior to acquisition, there should be documentation of habitat quality and a plan to ensure that once acquired, the habitat will not degrade or lose its viability as bat habitat into the future; habitat to be acquired should have planned activities consistent with, and not detrimental to (e.g. timber harvesting, fencing with barbed wire, etc.), protection of bats and suitable habitat.

9. Research as mitigation
    a. Research approved through an ESRC Request for Proposal process is the preferred method for conducting research as mitigation.
    b. Review of additional research needs is ongoing.
10. Tiers
    a. Further consideration by the task force is warranted before providing recommendations to the ESRC.
11. Adaptive management
    a. Adaptive management should have clearly defined triggers for action.
    b. Rate of take should be monitored and a trigger and schedule for responding to prevent take exceedance should be described.
    c. Adaptive management triggers should be developed for mitigation, based on monitoring, and should include triggers for mitigation success and for schedule adherence.
    d. The specific response planned for exceedance of each trigger point should be explained.
    e. Additional curtailment and bat deterrence technology should be strongly considered as responses to adaptive management trigger(s) for rate of take.