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LAND
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May 15, 2026

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

SUBJECT: Division of Forestry and Wildlife Evaluation of the Kawailoa Wind Project Habitat Conservation Plan Implementation During Fiscal Year 2025 and through Q1 and Q2 of FY 2026 and request for ESRC review of the Licensee's HCP annual report

Dear Committee Members,

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW), respectfully requests the Endangered Species Recovery Committee (ESRC) to review the Kawailoa Wind Project's annual report for the island of O'ahu, in accordance with the requirements of HRS § 195D-25. This report was prepared by TetraTech on behalf of Kawailoa Wind (the licensee), as part of the obligations under the Kawailoa Wind Project Habitat Conservation Plan (HCP; SWCA 2011) and State Incidental Take License (ITL; ITL-14). This submission provides a summary of the report and includes comments from DOFAW.

BACKGROUND

ITL Licensee: Kawailoa Wind (Kawailoa Wind), LLC

Project: Thirty wind turbine generators (WTGs) with a total capacity of 69 MW, along with two meteorological (met) towers.

Amended ITL Duration: This ITL was originally issued on January 6, 2012, and reissued with amendments on February 26, 2021. It remains valid for 20 years from the date of original issue and will expire on January 6, 2032. As of the end of FY 2025, this project is thirteen years (65%) into the permit term.

Status of ITL

The Habitat Conservation Plan (HCP) for this facility requires submission of annual reports, with supplemental quarterly updates on incidental take events. Consequently, take related to

the ITL will be assessed for the period of the State Fiscal Year (FY) 2025 (July 2024 – June 2025) and the first two quarters of State FY 2026 (July 2025 – December 2025). This aligns with the approach used for other wind projects included in this annual review.

No Hawaiian hoary bat fatalities occurred in FY 2025; however, there was one fatality that occurred in Q1 FY 2026. There was no observed take of the remaining seven Covered Species during this period. The Hawaiian petrel is included in this analysis because there have been observed fatalities prior to the period covered in this annual review.

Figure 1: Total observed fatalities and estimated total take since ITL issuance under the Kawaiiloa Wind ITL as of December 31st, 2025.

Common Name	Allowed Take	Total Observed Take ¹	Estimated Unobserved Take ²	Incidental Observations ³	Indirect Take using HCP multipliers	Total Estimated Take as of Q2 FY 2026 ⁴
‘Ōpe‘ape‘a	Tier 4: 115	42	45	2	9	98
‘Ua‘u	19 adults 5 chicks/eggs	0	2 adults	-	2 chicks/eggs	2 adults and 2 chicks/eggs

¹ Excludes hoary bat takes that were incidental and not observed during systematic monitoring (incidental takes are evaluated as part of the EoA modeling software and therefore accounted for in the unobserved take).

² Based on the 80% credible maximum using the following model: Dalthorp, D., M. M. P. Huso, and D. Dail. 2017. Evidence of absence (v 2.0) software user guide: U.S. Geological Survey Data Series 1055.

³ Carcasses that were found during a routine search, but outside of the designated search area.

⁴ The installation of acoustic deterrents represents an inflection point in the bat fatality rate, reducing the risk to bats at the Project. Based on results from 6 years of monitoring, USFWS approved the use of an unbiased estimate of deterrent effectiveness in June 2024. Monitoring data through FY 2025 suggests that the unbiased estimate of deterrent effectiveness at the Project reduces the risk to bats by 89.9 percent ($\rho = 0.101$). Therefore, these values have been updated for these years in this annual report using a modified ρ value in the EoA model.

Total Projected Take at the End of the Permit Term

In FY 2023, Kawaiiloa Wind and DAPPER Stats conducted a statistical analysis to produce an unbiased estimate of the deterrent benefit. Updated results indicate that the unbiased estimate of ρ , which accounts for deterrent effectiveness from FY 2020 to 2025, is 0.101 (0.026-0.268), representing an 89.9 percent reduction in risk. Ultimately, the assessment of ρ during the post-UAD installation period is expected to incorporate ongoing fatality monitoring results and yield an unbiased estimate of the deterrent benefit. Including additional years will continue to enhance statistical rigor, enabling accurate assessment of changes in ρ . Therefore, the ρ value used during periods with the current minimization measures will be re-evaluated annually to incorporate new data.

Projections were generated using EoA and the methods outlined in the HCP Amendment to estimate the likelihood of staying within the permitted take. Given the use of an unbiased estimate of the ρ value of 0.101 post-UAD for FY 2020–2025, the median take projection at

the end of the ITL term (January 2032) is 94 bats (Interquartile Range [IQR]: 92, 98). Alternatively, the HCP Amendment calls for comparing the current take estimate and the current take rate to the total authorized take over the permit term to determine if adaptive management is necessary. This approach can also be used to continuously monitor take rates. EoA estimated the take rate at the Project between FYs 2020 and 2025 as 1.23 bats per year; extrapolating from the current direct take estimate (using a rho of 0.101) and the current take rate, the Project estimates a total direct take of 95.0 bats at the end of the ITL term (87 bats estimated by EoA as direct take through FY 2025 plus 1.23 bats per year multiplied by 6.5 remaining years in the permit). This value falls within the IQR previously generated by EoA.

When an estimate of indirect take of 8.7 adult bat equivalents (9.2 percent of the 95.0 bats estimated from direct take) is added to the direct take estimate, the total estimated take is 103.7 adult bat equivalents (95.0 bats estimated through direct take plus 8.7 bats estimated through indirect take) when the ITL expires. The EoA indicates there is currently an 80 percent chance that the project will remain within Tier 4 given the current take rate. Both the EoA and HCP methods for projecting take suggest the project will stay below the total take estimates of the HCP Amendment (up to Tier 6) throughout the permit term.

'Ua'u was added as an HCP Covered Species through an amendment in 2019 following a fatality. It should be noted that there is a distinction between the Project's estimated take and the level of take authorized under the ITL and amended HCP. To address this, the estimated take during the entire Project period was analyzed first. After this analysis, a ratio was applied to determine the portion of the Project's operations during which the Hawaiian petrel was an HCP-covered species, used to estimate take for tracking purposes under the applicable regulatory permits. Total estimated take as of Q2 FY 2026 is two adults and two chicks/eggs.

As noted above, from a regulatory perspective, take of the Hawaiian petrel has only been permitted for part of the Project's operational timeline. To assess take against the authorized limit, we calculate the proportion of time the Project operated under permits authorizing incidental take of the Hawaiian petrel relative to the entire period of Project operation and round up to estimate take for tracking purposes against the authorized limit. For this analysis, the Project operated from November 2012 through December 2025 (13.17 years), with permits (ITP and ITL) authorizing incidental take of the Hawaiian petrel from September 2019 through December 2025 (6.34 years). Rounded up, the total Project take of Hawaiian petrels, compared to the authorized limit, is 1 adult and 1 chick/egg. This estimate remains below the authorized take limit of 19 adults and 5 chicks/eggs.

Avoidance and Minimization Measures Implemented in FY 2025

After receiving approval from USFWS and DOWFAW to operate under a 10-minute rolling average low wind speed curtailment (LWSC) in Q4 of FY 2021, the Project reverted to a 10-minute rolling average LWSC (from a 20-minute rolling average) on April 3, 2021. The Project continued to operate using this rolling average through FY 2025 and into Q2 of FY 2026.

Kawaiiloa Wind installed acoustic deterrents at all 30 WTGs in May and June of 2019. Since the deterrents were installed, four bat fatalities have been observed at the project—

significantly fewer than before the deterrents were put in place. The deterrent systems at each WTG were working as expected for the fatalities that occurred after installation. Deterrent functionality at Kawaioloa Wind in Q2 FY 2026 is monitored remotely to ensure the systems are operating properly.

Deterrent units (DUs) and deterrent unit controllers (DUCs) identified as underperforming are replaced as soon as possible, per manufacturer recommendations. No DUs or DUCs were replaced in FY 2025. Six DUs were replaced at three separate turbines in Q2 FY 26. Each WTG is equipped with five DUs, each overlapping in coverage within the deterred airspace. The impact of a single DU failure is less than one-fifth of the rotor swept area. If one DU is deficient, a WTG still has sufficient coverage across the rotor swept area due to redundancy from the other four DUs. Kawaioloa Wind and NRG collaborate to install replacements as quickly as possible. Based on NRG data, the total sitewide deterrent availability at the Project was 94.6 percent through Q2 of FY 2026.

Mitigation Status:

The mitigation plan for the 'Ōpe'ape'a in the HCP/amended HCP includes six tiers, with the Project currently in Tier 4. The actions outlined in the HCP/amended HCP involve habitat maintenance, predator control, monitoring, research funding, and land acquisition funding. The initial tier of mitigation actions at 'Uko'a Wetland in FY 2025 and the first two quarters of FY 2026 focused on invasive vegetation removal, predator control and monitoring, fence monitoring and maintenance, bat acoustic monitoring, and bat lane maintenance.

In FY 2025, Oahu Tree Works LLC performed maintenance on six bat lanes along the eastern side of 'Uko'a Wetland. Kuahiwi Fencing and Wildlife Services conducted quarterly maintenance visits to remove invasive species. These included water hyacinths (*Eichhornia crassipes*) and other invasive plants that regenerated in previously cleared open water areas, such as broadleaf cattail (*Typha latifolia*), California grass (*Urochloa mutica*), and 'aka'akai or bulrush (*Schoenoplectus* spp.). Invasive vegetation removal and control remain ongoing through Q2 of FY 2026.

The Project contracts Grey Boar Wildlife Services, LLC (Grey Boar) to perform predator and ungulate removal at 'Uko'a Wetland, as well as to monitor and repair the fence. In FY 2025, a total of 171 predators were removed from 'Uko'a Wetland, including 40 pigs, 105 mongoose, and 26 rats. During Q1 of FY 2026, 55 mongoose and 3 rats were trapped. In Q2 of FY 2026, 30 mongoose and 6 rats were trapped.

During FY 2025, no sections of the fence needed repairs. It is noted that one small section was repaired in Q1 FY 2026. Tracking tunnels are typically set out quarterly to monitor the presence of rodents, mongooses, and cats in the wetland. In FY 2025, tracking tunnels were set in July, September, and December 2024, with 24 to 25 tunnels placed during each session. Additionally, tunnels were deployed in March and June of 2025, with the results to be included in the FY 2026 Annual Report. Overall, tracking tunnel data since 2014 shows a general decline in predator presence since the predator program started.

Grey Boar conducted fence inspections while checking predator control traps. The fence was visually examined for signs of ungulate disturbance, damage, or vandalism. During FY 2025, no fence sections were repaired.

There are a total of 16 bat lanes within 10 zones across 'Uko'a Wetland. During FY 2025, maintenance was performed on six lanes in November and December 2024. Oahu Tree Works, LLC carried out this maintenance on six bat lanes along the eastern side of 'Uko'a Wetland. In 2025, Kuahiwi Fencing and Wildlife Services maintained five bat lanes along the western side of 'Uko'a Wetland on November 7, 14, and 21.

Bat acoustic monitoring takes place at 42 sites (30 turbines at ground and nacelle, and 12 gulch detectors) across the project. During the 2025 Bat Sampling Period (June 2024 – May 2025), Hawaiian hoary bats were detected on 337 of 1,392 detector-nights sampled (24.2 percent). The yearly detection rate during this period was slightly lower than the previous year (25.3 percent), but this difference was not statistically significant (Tukey's HSD: $P = 1.000$). Detection rates in 2025 peaked during the mid-lactation reproductive period (July), followed by a decline through the late lactation and post-lactation periods (August to November). The lowest detection rates occurred in November during the post-lactation reproductive period, and then detections increased again around mid-December at the transition between post-lactation and pre-pregnancy reproductive periods. A smaller peak appeared in February during the pre-pregnancy reproductive period, with detections rising again in April and May during the pregnancy reproductive period.

According to the HCP, monitoring bat activity at the mitigation site is required for 3 years after restoration, then every 5 years thereafter. The Project has almost 7 years of post-restoration bat acoustic data at the wetland (June 2017 to May 2024). Acoustic monitoring was paused here on June 1, 2024, and is scheduled to restart in 2029. Other mitigation tiers have been completed in previous years.

Some waterbird mitigation actions overlap with those designated for the Hawaiian hoary bat, such as invasive vegetation removal, predator control, and fence maintenance. There is also an additional monitoring component focused on fledgling production. Comprehensive weekly waterbird surveys started at 'Uko'a Wetland in January 2017 after invasive vegetation removal in the open water area and have continued annually through FY 2025. In FY 2025, waterbird surveys were conducted weekly from July 2024 to August 2024 and again from December 2024 to June 2025. A total of 40 waterbird surveys were completed during FY 2025. A qualified biologist conducted surveys at nine point-count (PC) stations located near the open water and in areas with previous waterbird sightings. Independent waterbird observations were also recorded while walking between stations.

In FY 2025, Hawaiian gallinules were observed on every survey date and were recorded at eight of the nine PC stations. No gallinule breeding events were observed during FY 2025. The outcome of the second breeding event, reported at the last Annual Review meeting, was deemed a failure. No new gallinule breeding efforts were documented in Q1 or Q2 of FY 2026.

In FY 2025, Hawaiian stilts were observed on 23 of the 40 survey dates. Ae'ō detections have increased compared to previous fiscal years. Although their numbers remain low, the average number of adults detected per survey and the proportion with at least one detection were relatively high in FY 2024 and 2025 compared to earlier years. These birds were seen in five of eight surveys during Q1, and in one of four surveys during Q2 of FY 2025. Although no stilt nests were observed during the first two quarters of FY 2025 at 'Uko'a Pond, a juvenile stilt (between 5 and 8 weeks old) was observed near PC 4 on August 8, 2024. This is the first juvenile Ae'ō observed at 'Uko'a since surveys began in January 2017. Based on the bird's age, the habitat present, and the consistent territorial behavior shown by the adult pair of Hawaiian stilts over the past two months, it is believed that this juvenile fledged here. No new nests were observed in either Q1 or Q2 of FY 2026.

'Alae ke'oke'ō were observed on 27 of the 40 survey dates, with all sightings recorded in the open water area near PC stations 1, 3, and 8. A coot nest was found near PC 3 on May 29, 2025. On June 9, 2025, three eggs and two coot chicks were noted, with a third chick observed on June 17, 2025. One of these chicks successfully fledged on August 23, 2025, about 75 days after hatching. This marks the first observed breeding activity for this species since the survey started in January 2017. No new nests were seen in either Q1 or Q2 of FY 2026.

Mitigation for 'a'ō, pueo, and 'ua'u has been completed in previous years. In response to a contested case settlement, Kawaihoa Wind provided \$250,000 to Pacific Rim Conservation in FY 2022 to conduct research related to Hawaiian petrels on O'ahu. These funds were used in 2023 and will also be utilized during breeding seasons from 2024 to 2026. No Hawaiian petrel nests were found in 2023.

Last ESRC Review:

The ESRC made the following recommendations at the FY 2024 annual review meeting that were incorporated into the FY 2025 actions.

- 1) Share specifications for deterrents in the annual report.
- 2) By Q4 FY 2025, Kawaihoa will present the following to the ESRC:
 - a. A timeline and plan for lowering the take request.
 - b. Potential options for alternative sites for coot mitigation.

Issues and Concerns:

Waterbird mitigation issues: Unable to produce significant numbers of ae'ō and 'alae ke'oke'ō

Current and past annual reports through FY 2021 indicate that there has been consistent production of 'alae 'ula fledglings at this site, but only a single ae'ō and one 'alae ke'oke'ō fledgling have been observed so far. The Project is required to mitigate for 20 Hawaiian coot and 24 Hawaiian stilt fledglings. It is important to note that there is no recorded take, to date, of any waterbirds at this facility.

Since 2022, the Agencies have encouraged Kawaioloa Wind Project to relocate mitigation sites. Although the Project and DOFAW have identified and actively evaluated alternative mitigation sites, Kawaioloa remains hesitant to pursue this option. Another recommendation from the Agencies is for the licensee to reduce their take request. Ongoing dialogue continues among all parties involved. In consultation with the Department of the Attorney General, the Division has determined that this request will constitute a minor amendment. Before the issuance of the Additional Review for Wind and Solar Projects Memo, the Project was working with the Service to determine if a reduction in the take request requires a minor or major amendment.

Agency Recommendations:

- 1) Waterbirds: As of FY 2025 the project has seven years left on their ITL. The licensee's mitigation actions are not leading to significant production of both ae'o and 'alae ke'oke'o. To date only one fledgling for each species has been produced. The Agencies have encouraged the licensee to explore other options, such as 1) conducting mitigation actions at a new site, or 2) requesting a reduction in take for these species. Although dialogue between all parties has continued, no resolution has been reached. DOFAW urges the Project to continue conversations and seek resolution during the remainder of FY 2026.

If you have any questions, please contact Habitat Conservation Planning Program Associate Jesse W. Adams at jesse.w.adams.researcher@hawaii.gov.

Respectfully Submitted,



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