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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

ENDANGERED SPECIES RECOVERY COMMITTEE (ESRC) PUBLIC MEETING

DATE:	November 25, 2025
TIME:	9:00 AM HST
LOCATION:	DLNR – DOFAW Main Conference, Kalanimoku Building 1151 Punchbowl St, Room #325., Honolulu, Hawai'i Online via Zoom; and Livestream via YouTube recorded at https://www.youtube.com/watch?v=dSDMy4iKJmQ

DRAFT MEETING MINUTES

MEMBERS

Jason Omick
Lindsay Young
Karen Courtot
Melissa Price
Kawika Winter

STAFF

Kinsley McEachern—DOFAW
Kelli Yamaguchi—DOFAW
Cindy Young—DAG
Jesse Adams—DOFAW
Danica Patel—DAG

OTHERS

Molly Stephenson—Terraform
Madeline Damon—TetraTech
Michael Whitby—Bat Conservation Interenational
Troy Rahmig—TetraTech
Jenny Taylor—TetratTech

11.25.2025 09:01/00:00:00
ITEM 1. CALL TO ORDER

Jason Omick called the meeting to order and asked all participants not to use the comments feature in Zoom but rather send them to the DOFAW HCP e-mail address. He also provided information on where to find meeting materials. He then asked the HCP staff to introduce themselves followed by the Committee members.

11.25.2025 09:05/00:04:09
ITEM 2. REVISIONS TO THE PUBLISHED DRAFT HABITAT CONSERVATION PLAN FOR KAHEAWA WIND

Kinsley, presented on behalf of the Division of Forestry and Wildlife, information regarding the ongoing reivew of the KWP I Draft HCP.

11.25.2025 09:22/00:21:53

Molly, Troy, and Jenny, presented on behalf of KWP I, updates to the revised HCP.

11.25.2025 09:42/00:41:38
Comments and Questions from the Commitee

Melissa noted concern about the presentation slide emphasizing carbon emissions statistics rather than endangered species impacts, stating that the committee's purpose is to evaluate endangered species considerations rather than the broader climate. Melissa requested future materials focus on endangered species impacts and decision-relevant biological data.

Kawika raised questions regarding the proposed management strategies on Molokaʻi. He emphasized that while out planting efforts are important, long-term survivorship of the plants is the true measure of success. He asked the applicant representatives how they planned to ensure strong survival rates for the out planted plants and what specific survivorship criteria or monitoring strategies would be used to evaluate success over time.

Molly responded that survivorship of out plantings is included as a success criterion in the draft HCP, though exact thresholds and density targets have not yet been finalized. Kawika stated that clearer numerical success criteria are needed before being comfortable supporting the proposal. Troy added additional clarification that if monitoring shows survivorship thresholds are not being met, supplemental out planting will occur throughout the permit period to maintain required thresholds. He noted that the general success criteria are already included in the draft HCP, however, species-specific numerical targets still need to be developed before finalization.

Kawika asked whether current monitoring exists to provide baseline population data for comparison. Molly stated that monitoring is currently limited, with four acoustic detectors deployed across the project area. KWP proposed conducting baseline monitoring throughout 2026 using fixed monitoring locations that would be revisited in year five for comparison purposes.

In response to Kawika's question about whether a full year of baseline monitoring would occur before any out planting, Molly explained that out planting would likely not begin for approximately one year. This delay would allow the ranch to propagate plants onsite using local genetic stock and complete baseline monitoring within the proposed management units. However, other management actions, including barbed wire fence removal, fence replacement, and Formosa koa thinning, are proposed to begin in 2026. Kawika expressed

support for the use of local plant stock, emphasizing the importance of maintaining genetic integrity in native ecosystems. He also requested that the commitment to using local stock be explicitly included in the written plan.

Molly then reported that all four acoustic detectors have detected bat activity. When asked about detector spacing and whether detections could involve the same bat, Molly explained that the monitors are spread across different locations, including one outside the map area. Kawika noted that detecting activity at all monitoring stations was an encouraging sign.

Melissa asked whether certain tree species are more important for roosting, pregnant or pupping bats versus the rest of the bat population. She inquired whether restoration planning considers habitat features that directly support survival and reproduction rather than simply increasing feeding habitat. Molly responded that current restoration efforts focus on low-elevation areas below 1,000 meters, where roosting bats are known to occur during pupping season.

Troy acknowledged that scientific understanding of bat roosting preferences remains limited and that little is currently known about differences in habitat use between males, females, or maternity colonies. He explained that restoration efforts may provide opportunities to create or enhance potential roosting habitat by out planting future roost trees, managing existing mature forest stands, and conducting targeted clearing and thinning to improve roosting conditions.

Melissa observed that each HCP review continues to highlight how little is currently known about the species and, consequently, how uncertain the effectiveness of current mitigation measures is. She stressed the importance of including stronger data collection and monitoring requirements within the HCP to demonstrate whether restoration actions are benefiting the species. Melissa urged the project team to think carefully about how to measure whether restoration efforts are truly offsetting impacts and contributing to long-term species recovery.

Troy noted that the project's anticipated 20-year duration would allow for adaptive management, ongoing monitoring, and refinement of restoration strategies based on observed outcomes over time. He also noted that enhancing existing habitat and conducting long-term follow-up monitoring could help determine whether restoration activities are creating suitable roosting opportunities during critical maternity periods.

Melissa noted that even suitable-looking roost sites could expose bats to additional threats, such as predation, and stressed that the ultimate metric should be whether the actions are truly offsetting bat losses and improving reproductive success and survival. She reiterated that current mitigation efforts still lack clear proof that they are making up for impacts to the species and emphasized the need for measurable biological outcomes rather than indirect indicators alone.

11.25.2025 09:54/00:53:56
Questions and Comments from the Public

Michael Whitby, Director of the Bats and Wind Energy Program at Bat Conservation International, addressed questions regarding whether habitat restoration has been shown to improve bat survival and reproduction. He stated that, currently, there is no known scientific link between habitat restoration and increased survival or reproductive success of any bat species, except in cases involving cave-hibernating bats where mortality is directly reduced. While noting that native habitat restoration is generally positive and commendable, he emphasized that there is presently no evidence demonstrating that habitat restoration alone increases bat survival or reproduction. He stressed that this uncertainty underscores the importance of minimization measures to reduce impacts from the outset.

11.25.2025 09:56/00:55:00
Comments and Questions from the Commitee

Karen discussed available research regarding maternity roost trees, referencing the Montoya-Aiona et al. (2023) study, which documents known roost tree species and identifies which were used as maternity roosts. Karen noted that creating suitable maternity roost habitat from out planting would occur on a very long timescale, as maternity roost trees are often large, mature trees that may take decades or even over a century to develop. As a result, she emphasized that protecting existing mature trees with maternity roost potential should be a primary management focus. She noted that maternity roosts have been documented in both native and non-native tree species, including large old ʻōhiʻa trees and African tulip trees.

Kawika discussed whether the applicant could identify potential maternity roost trees within the project area and conduct focused monitoring on those trees over time. He proposed thermal imaging as a possible monitoring tool to detect bat use of roost trees and evaluate whether restoration or habitat enhancement actions increase roosting activity.

Karen noted that broad-scale thermal imaging searches can be difficult and inefficient, describing them as “a needle in a haystack” when used without targeted locations. Kawika clarified that they were proposing a more focused methodology using thermal monitoring at identified high-potential roost trees.

Troy outlined a potential adaptive monitoring sequence: (1) Conduct baseline acoustic monitoring at selected locations, (2) Implement habitat management actions, such as thinning dense vegetation around legacy mature trees, and (3) Continue acoustic monitoring to detect changes in bat activity. He noted that if increased activity is observed, there would be targeted follow-up monitoring using thermal imaging or other emerging technologies.

Troy explained that some management units contain mature legacy trees known to be associated with bat roosting in other locations, but these trees are currently surrounded by dense vegetation such as Formosa koa. Proposed habitat management could include thinning surrounding vegetation to improve bat access to these potential roost trees.

Kawika stated that the ESRC must determine whether habitat restoration efforts are contributing to increased bat populations or whether mitigation funds are simply being spent on native forest management without demonstrable biological benefits to bats. He emphasized that, given the continued take of bats, it is critical to evaluate whether these actions constitute effective mitigation that offsets impact to the species.

11.25.2025 10:04/01:03:31

Jason asked for clarification regarding the proposed monitoring process around potential bat roost trees. Troy confirmed that the proposed approach would involve identifying large trees with potential roosting characteristics, conducting baseline acoustic monitoring around those locations, implementing habitat management activities nearby, continuing acoustic monitoring to determine whether bat activity increases over time, and using targeted thermal imaging or similar technologies if increased bat activity suggests possible roosting behavior.

Troy explained that current HCP success criteria are primarily based on acoustic monitoring metrics, including number of bat calls detected, feeding buzzes, social calls, and other call characteristics. Troy stated that if baseline monitoring initially showed little or no activity, but management actions later resulted in increased activity, that would justify more focused thermal monitoring to investigate whether roosting was occurring. Discussion continued on this topic.

Melissa requested that the HCP include data collection measures that are intentionally designed to improve future mitigation efforts and help inform future HCPs. Melissa acknowledged that the committee may never be able to conclusively prove that habitat restoration improves bat survival or reproduction but emphasized that minimizing bat mortality remains critical. She then suggested shifting the discussion back toward curtailment strategies and reducing bat strikes directly.

Lindsay agreed, noting that the uncertainty surrounding habitat restoration effectiveness is a global issue and not unique to Hawai‘i. She commended the applicants for the significant effort being invested into mitigation planning, while emphasizing that reducing turbine strikes should remain a primary focus.

11.25.2025 10:12/01:11:02

Lindsay then asked to revisit the discussion of blanket versus smart curtailment and requested historical fatality trend data associated with the implementation of curtailment measures. She also questioned why fatality estimates appeared to decline initially after blanket curtailment was implemented but later increased and plateaued around 2016–2017. Molly responded that annual fatality estimates are based on extremely small sample sizes, often involving only one or a few bat fatalities per year, which can create sharp fluctuations in trend lines from year to year.

Lindsay noted that although annual differences in bat fatalities may involve only changes between zero, one, or two bats, those small differences become significant when considered

cumulatively over the life of the project. Lindsay raised concerns that the proposed smart curtailment strategy would effectively double projected bat take compared to blanket curtailment.

Michael Whitby stated that he generally supports the use of acoustic exposure metrics but cautioned that there is currently no well-established relationship between acoustic bat activity and actual bat fatalities. He questioned the reliability of drawing conclusions from relatively limited acoustic monitoring data, particularly given the acknowledged strong year-to-year variation in bat activity. He noted that the presented data showed relatively low acoustic activity in April, even though April reportedly had the highest number of observed bat carcasses in monitoring records. Conversely, he pointed out that October showed high estimated acoustic exposure levels but no observed fatalities.

He argued that these inconsistencies demonstrate the uncertainty in using acoustic exposure alone as a predictor of bat mortality. Michael emphasized that too much weight should not be placed on a limited acoustic dataset without first establishing a stronger correlation between bat activity levels and fatality rates.

Molly clarified that the acoustic exposure analysis used to support the smart curtailment proposal was based on ca. five and a half years of acoustic and SCADA operational data collected between 2019 and 2024. She stated that the three April bat fatalities referenced in the discussion all occurred prior to implementation of the 5.5 meters-per-second low wind speed curtailment measures.

Karen reiterated Michael's broader concern that the relationship between acoustic activity and fatalities remains uncertain. Michael agreed that the central issue is whether fatality patterns align with periods of high acoustic activity. He emphasized that any evaluation of acoustic exposure data must account for changes in curtailment practices over time. Michael reiterated that a stronger correlation between acoustic exposure and bat mortality needs to be established before acoustic data can be relied upon heavily for smart curtailment decisions, particularly because Hawai‘i bat behavior may differ from patterns documented elsewhere.

A request was made to display or provide the monthly mortality data so the committee could better evaluate whether the proposed curtailment timing aligns with observed fatality patterns.

Melissa suggested that DOFAW may already maintain statewide monthly bat fatality data from multiple wind energy facilities. She noted that relying on statewide data could provide a stronger basis for evaluating seasonal mortality trends rather than depending solely on results from a single project site, since in theory, bat behavior patterns across seasons may be generally consistent among sites, making broader statewide mortality data potentially useful for informing curtailment timing decisions.

11.25.2025 10:21/01:21:27

Molly responded that they would welcome using a larger dataset across Hawai‘i sites to improve sample size but cautioned that wind facilities appear to have substantially different

bat activity and fatality patterns. She noted that KWP I and KWP II data were combined because no statistically significant difference was found between those sites, but they expressed concern that other facilities, such as Auwahi, may have very different risk profiles and take rates.

Karen asked whether the applicants had evaluated bat activity patterns by night as part of the smart curtailment analysis. Molly stated that they had conducted some analysis but explained that more complex time-of-night curtailment regimes can be difficult to implement.
Troy noted that the existing turbines are approximately 20 years old and have limitations in the complexity of SCADA programming they can support. Molly did note that bat activity appeared to decline near sunrise, suggesting that curtailment reductions near sunrise could potentially be considered in the future.

Kinsley cautioned that fatality patterns remain highly site-specific and that comparisons between projects should be interpreted carefully.

Melissa suggested a possible compromise approach that would expand the increased curtailment period to include August in addition to September and October, given the data across the island. She stated that using the best available regional Maui data, while continuing to collect additional information over time, may provide a reasonable path forward for decision-making. Jason reminded the committee that DOFAW's recommendation is to remain at a 6.5 m/s curtailment regime year-round.

11.25.2025 10:30/01:28:02
BREAK

11.25.2025 10:40/01:38:27
RETURN FROM BREAK

11.25.2025 10:40/01:38:48
Comments and Questions from the Commitee

Discussion continued regarding 6.5m/s curtailment year-round.

Karen raised concerns about the approval process and timing of mitigation planning. She asked whether the committee would be asked to vote on an HCP before Maui mitigation details were finalized, how mitigation plans would later be reviewed and approved if not fully developed before HCP approval, and what role ESRC and DOFAW would play after permit issuance. Jason provided clarifyng information. Discussion continued regarding the feasibility and timing of developing detailed Maui mitigation plans prior to HCP approval.

11.25.2025 10:50/01:48:42
Questions and Comments from the Public

There were no further questions or comments from the public.

11.25.2025 10:51/01:51:22

Molly then provided updates for minimization measures for all three seabird species and the proposed ‘ua‘u mitigation location.

11.25.2025 11:01/02:00:43
Comments and Questions from the Commitee

The discussion focused on carcass distribution modeling, ballistic models, and the use of site-specific data in determining Downed Wildlife Probability (DWP) correction factors for turbine search areas.

Jenny provided details regarding this modeling. Madeline was introduced to provide additional clarification regarding available modeling approaches and the rationale for selecting the DWP methodology as the most appropriate model.

Kawika requested clarification regarding a figure displayed on the screen, asking whether the percentages shown in the different search areas were based solely on area size. Jenny confirmed that the original plots were rectangular because they included an additional 20-meter extension on the downwind side of the search area to account for possible carcass tossing caused by stronger winds.

Kawika further questioned whether the orange search area represented only 24.6% of the original 100% area. Molly clarified that the figure represented the percentage of carcasses estimated to fall within that area, rather than a simple proportional area reduction.

Additional clarification was requested regarding which site-specific data were being used in the modeling. Jenny explained that the data consisted of actual carcass locations, including both direction and distance from turbines. Sample sizes used in the analysis included 41 carcasses for nēnē between the two sites, 39 seabird carcasses, and 17 bat carcasses.

Kawika recommended that figures showing the actual carcass distribution data and directional patterns be presented during future discussions to help the committee better understand the information being described by staff and consultants. He also expressed concern about wind direction and whether the model assumed equal likelihood of carcasses falling upwind and downwind. He noted that during site visits, prevailing winds appeared to make forward carcass movement unlikely and questioned whether the search areas adequately reflected wind-driven distribution patterns.

Jenny responded that because the modeling relies on site-specific carcass data collected, the observed carcass locations inherently account for wind patterns and directional distribution. She explained that the software modeling incorporates these observed distributions rather than assuming equal likelihood in all directions.

11.25.2025 11:12/02:11:39

Kawika asked how turbine distance data are incorporated into the model and specifically questioned whether the model accounts for both distance and directional factors such as upwind versus downwind carcass movement.

Madeline explained that the current model inputs include carcass distance from the turbine, but direction is not directly incorporated into the Hawaiian hoary bat model. She noted that some mainland studies and ballistic modeling papers include bearing or carcass drag coefficients; however, those approaches are not currently considered applicable to Hawaiian hoary bats because the necessary species-specific drag coefficient information has not been developed or published for Hawai‘i. Madeline stated that, for now, the best approach is to use turbine distance data combined with the larger historical search areas to better account for carcasses potentially carried farther by wind patterns.

Kawika expressed concern that common sense and field observations suggest carcasses are more likely to fall downwind rather than upwind, yet the existing search areas appeared weighted more heavily upwind. He stated that he was concerned the model effectively assumes similar probabilities for carcasses falling against prevailing winds compared to them.

Karen sought clarification regarding whether site-specific directionality was being accounted for in the model. Madeline confirmed that directionality is not a direct input into the current Hawaiian hoary bat model. Instead, the methodology assumes that the larger historical search areas from 2006–2010 helped capture carcasses dispersed farther by wind, indirectly accounting for directional effects.

Karen then asked whether they had plotted the actual carcass locations to compare upwind versus downwind findings. Madeline responded that while they had produced numerous plots showing carcass distances, they had not created the type of circular directional plot shown in the earlier example slide.

Karen also asked whether carcass data from different species were combined within the same model. Jenny explained that species are modeled separately by size class rather than as a single combined carcass distribution. Nēnē were modeled independently, seabirds were grouped together using available data from species such as wedge-tailed shearwaters and white-tailed tropicbirds to increase sample size, and ‘ōpe‘ape‘a were modeled separately.

Jenny clarified that although there is one physical search area on the site, each species group receives its own carcass distribution model and corresponding DWP correction factor. As a result, each size class is weighted differently based on its modeled carcass distribution and the proportion of the expected distribution captured within the search area.

11.25.2025 11:20/02:19:15

Jenny then presented on KWP I covered species carcass fall distributions, a site-specific data analysis using the Dalthorp et al.

11.25.2025 11:33/02:32:43
Questions and Comments from Comittee

Kawika stated that he still had concerns that the current carcass distribution model does not adequately account for wind directionality. He argued that basic physics and field observations KWP I suggest carcasses are more likely to fall downwind than upwind, yet the current model does not explicitly incorporate that directional bias. Kawika asked how the modeling process could better incorporate the higher likelihood of downwind carcass movement into a more accurate carcass distribution model.

Jenny responded that the available site-specific data does not definitively demonstrate a higher percentage of carcasses falling downwind. She reiterated that the DWP correction factors are specifically intended to account for carcasses that are not found during searches, including carcasses outside searched areas. Kawika reiterated that it is unlikely that carcasses would travel equally far upwind and downwind.

Madeline responded and explained that directional effects are indirectly incorporated into the model through the inclusion of carcass data collected during earlier years when larger search areas extended farther downwind.

Kinsley then asked why the project was not simply developing entirely new DWP correction factors using the complete dataset through FY2025 instead of primarily demonstrating that the 2018 DWP values remained valid. Jenny clarified that the updated modeling used all site-specific data collected through FY2025 and applied the newer Dalthorp model to calculate revised DWP values, while also comparing those revised values to the earlier FY2018 results to demonstrate consistency and evaluate whether the earlier assumptions remained reasonable.

Molly acknowledged that the current HCP draft only generally referenced the possibility of updating the DWP values in consultation with DOFAW and the U.S. Fish and Wildlife Service because the analysis had not been completed at the time the draft was prepared. She noted that the HCP language could be updated before finalization to explicitly reflect the newly proposed DWP values.

Karen then raised broader concerns regarding the ongoing statewide discussion surrounding wind direction and ballistic modeling assumptions at wind facilities throughout Hawai‘i. Karen stated that wind facilities are intentionally located in areas with high winds, making directional carcass movement an important issue for search area design and searcher efficiency analyses.

Karen questioned whether the inclusion of large upwind search areas may artificially inflate the amount of area considered “searched” despite those areas potentially having lower probabilities of containing carcasses. She asked what progress had been made statewide regarding efforts to incorporate wind direction into carcass distribution modeling.

Karen concluded by asking whether the discussion effectively meant that no further efforts would be made to explicitly incorporate wind direction into carcass distribution modeling, or

whether Tetra Tech and other researchers were continuing to explore methods for integrating wind directionality into future modeling approaches. Madeline stated that the project team continues to monitor emerging scientific literature and developments in carcass distribution and fatality modeling.

11.25.2025 11:44/02:43:54
Comments and Questions from the Public

Micheal then added that there are some methods in development that take into account wind direction, though it is difficult and requires custom metircs and codes. He notes that hoary bat ballistic model metrics may be reasonably comparable to Hawaiian hoary bats despite some size differences and suggested that metrics from similarly sized bat species could potentially be adapted for use. He then questioned whether the DWP values presented during the meeting represented simplified metrics for presentation purposes or whether DWP calculations were being performed individually for each turbine search area as intended under the methodology. Madeline provided clarifying information.

Troy noted that historical data from earlier years, when larger search areas were utilized, might allow for additional evaluation of carcass distribution patterns relative to wind direction. He also stated that alternative mainland bat models could potentially be explored further, though he stated that the applicant is proposing moving forward with the updated DWP modeling approach presented during the meeting while remaining open to additional recommendations or analyses that could improve understanding of directional carcass distribution.

Kawika expressed concern that the current model effectively treated carcass distribution as occurring “in a vacuum” and suggested incorporating a percentage-based adjustment reflecting the greater likelihood of carcasses falling downwind rather than upwind of turbines, even if based initially on best professional judgment. In response, Jenny suggested that one possible next step would be development of additional figures or visualizations showing carcass positions within search plots to better understand directional distribution patterns.

Kawika suggested an alternative approach by introducing a percentage-based factor representing the likelihood that carcasses are found upwind versus downwind of turbines. Madeline noted that the current code does not allow for any directionality in that respect but that could add to our understanding to adjust for directionality.

Melissa then discussed broader questions regarding which uncertainties and modeling assumptions were most important in evaluating species impacts and permit decisions. Melissa noted that the committee had spent significant time discussing mitigation effectiveness, minimization measures, and carcass discovery rates, and questioned which metrics ultimately mattered most for species persistence and decision-making under Chapter 195D.

11.25.2025 11:56/2:55:09

Kawika responded that carcass discovery and take estimation represented the most important issue because all mitigation calculations and conservation planning ultimately depend upon accurate fatality estimates. He stated that if models overestimate search effectiveness by including areas with low likelihood of carcass occurrence, then overall take estimates could be substantially underestimated.

Several committee members agreed that accurate fatality estimation is foundational to evaluating minimization effectiveness and determining appropriate mitigation levels. Jason stated that the issue of search area adequacy and carcass discovery had also been identified as a major concern by agency staff. Jason also questioned whether earlier models may have shortened carcass distributions by assuming carcasses fell only within defined search plots. Molly and Madeline provided clarifying information.

Karen emphasized that improving fatality estimation methods is important not only for KWP I but for wind facilities statewide, where carcasses may not be adequately accounted for. She stated that incorporating additional information known to influence carcass distribution would improve understanding of fatalities across Hawai‘i facilities.

11.25.2025 12:05/03:04:58

Troy revisited the discussion regarding carcass distribution and search limitations across facilities, noting that the issue is not unique to KWP I and varies by site due to differing topography, land use constraints, and ecological considerations. Troy questioned whether additional distribution data would materially change take estimates or mitigation obligations, suggesting that the applicant may ultimately arrive at similar conservation requirements regardless of expanded study efforts.

Molly added that previous larger-radius search plots required intensive vegetation management to maintain searchability. Given current native vegetation and listed species presence onsite, she stated that expanding search areas could create greater impacts to the species the HCP is intended to conserve.

Jenny emphasized that fatality estimation methods already account for incomplete search coverage and reduced detectability in vegetated or inaccessible areas. Adjustments within the modeling framework are intended to account for site-specific search limitations and topographic variability. It may not be feasible or ecologically beneficial to search all areas potentially associated with carcass distribution.

Karen stated that the additional context was helpful and requested time for further internal discussion with the committee before reaching conclusions. She also requested directional distribution data or plots to assist with future discussions.

The group agreed to move on to the yellow-faced bee discussion.

Melissa then noted concern that several requested revisions related to yellow-faced bees did not appear to be fully implemented in the current materials presented earlier in the meeting. Kinsley suggested using the comment matrix during the meeting to guide discussion efficiently and help identify unresolved issues prior to any anticipated vote on the 18th.

11.25.2025 12:15/03:14:04

Kinsley reiterated that DOFAW suggested adding counts of nesting aggregations as part of monitoring and success criteria and developing mitigation budgets and actions in coordination with entomologists.

Molly stated that the current mitigation plan is based on a September site visit with entomologists, revisions to the HCP were also made in response to written comments received from the entomologists. However, the revised materials had not yet undergone formal review by the entomologists. Kinsley clarified that updated limits-of-disturbance information had only recently been provided to the entomologists and that additional time was needed for them to evaluate impacts and further develop the mitigation package. She also noted that the entomologists likely would not be available to meet until the week of December 8th.

Troy proposed to provide ESRC members sufficient review time before the December meeting. He suggested that additional meetings with entomologists could continue afterward and any resulting mitigation refinements or modifications could either be presented at the ESRC meeting or distributed through supplemental written materials. His intent was to balance adequate committee review time with the need to continue refining mitigation details.

Melissa emphasized that while habitat restoration at an equivalent acreage may be feasible, there is insufficient information to confidently determine whether such mitigation offsets impacts at the individual population level.

Troy responded, stating that DOFAW entomologists would conduct surveys in spring within the disturbance areas and surveys would identify the presence and density of nesting burrows or nesting aggregations. He explained that the HCP framework is currently structured so that mitigation implementation and success criteria would be informed by survey findings, and mitigation areas would be evaluated for stable or increasing nesting and foraging resources over time. Melissa reiterated that significant uncertainty remains regarding species ecology and habitat needs, making it difficult to confidently predict whether mitigation actions fully compensate for losses. However, she emphasized the importance of using available data and future monitoring to improve understanding over time.

Melissa then highlighted the potential value of using burrow density observations from comparable locations as an initial predictive framework or hypothesis for estimating impacts.

11.25.2025 12:26/03:24:57

Jason then noted that one unresolved item raised by both the committee and DOFAW was the need to incorporate turbine strike research into the HCP. Discussion continued on this topic. Melissa noted that the impacts from vehicles disturbing nesting burrows were considered relatively direct and observable, whereas turbine strike impacts involve substantially greater uncertainty. She stated support for including turbine strike research as a future area of investigation, particularly if additional wind energy projects overlap with rare, yellow-faced bee populations.

Kinsley noted that the current draft HCP references commitment from Puʻu O Hoku Ranch does not include supporting documentation such as a memorandum of understanding (MOU) or similar agreement as an appendix.

Molly explained that the HCP currently references the existence of an MOU and associated commitments, but the document itself had not been included because it is a signed legal agreement among parties and inclusion had not yet been discussed with the ranch.

Discussion was then shifted to distinctions between landowner-based agreements under federal Safe Harbor frameworks, and HCP requirements necessary for issuance of an incidental take license.

The discussion then shifted to mitigation for ʻUaʻu. Kinsley explained that if mitigation responsibility transfers to the Alpine Sanctuary, DOFAW would enter into an MOU documenting the relationship and mitigation commitments. Additional future reporting requirements discussed included annual status reports from site managers and accounting for allocation of mitigation funding across projects.

Linsday then asked whether mitigation success would be measured through an increased reproductive success, or increased numbers of nesting sites. Molly clarified that the mitigation area receiving funding is located outside the existing enclosure and discussions with Pūlama Lānaʻi indicated that additional predator trapping outside the enclosure could improve reproductive success for birds nesting there.

11.25.2025 12:37/03:35:05

Kinsley raised an additional DOFAW concern regarding adult survival outside fenced areas. She questioned whether adult survival could be adequately ensured for birds nesting outside fenced areas.

Lindsay provided background on the Pulama Lānaʻi mitigation site, explaining that predator control efforts at the site achieved near-biological maximum reproductive success even prior to fence construction and predator management had historically been highly effective. She also noted that predator concentration immediately outside fences can sometimes create localized risks, but overall confidence remained high in the effectiveness of predator control at the site.

Molly added that previous mitigation activities on Lānaʻi occurred before fence construction and stated that existing management experience suggests mitigation benefits may still be significant outside fenced areas, particularly if predator concentrations are effectively managed.

The discussion then returned to annual reporting and mitigation accounting requirements for seabird mitigation projects. Kinsley highlighted the need to track and distinguish mitigation funding across projects as well as documenting what additional conservation benefit is attributable to project-specific funding.

Molly stated that she could add clarifying text to the HCP describing how existing artificial burrows and fenced areas at Makamakaʻole would allow mitigation contributions to be distinguished and how project funding impacts could be separately identified. Kinsley agreed that additional explanatory context in the HCP would be helpful.

Lindsay noted that the Newell's shearwater colony at Makamakaʻole has a highly skewed sex ratio, with ca. two-thirds females. As a result, reproductive output from the colony is substantially lower than would be expected under a balanced sex ratio. Therefore, calculations should not assume standard male-to-female pairing ratios.

Molly responded that mitigation projections already incorporate the historic productivity rates observed at Makamakaʻole, including the effects of the skewed sex ratio, therefore, expected mitigation timelines already reflect those constraints.

The meeting then transitioned to unresolved comments related to Hawaiian hoary bat mitigation. Kinsley specifically asked ESRC members whether they considered prior comments resolved regarding alignment with the bat guidance plan and requests to demonstrate changes in bat numbers or estimate density as part of mitigation evaluation.

Karen noted that the bat guidance document currently recommends that mitigation occur on the same island where take occurs. Melissa stated that thermal methods may also offer future opportunities for estimating bat density because acoustic monitoring alone does not currently provide reliable density estimates. She notes that there have been several HCP discussions encouraging the continued exploration of thermal approaches. However, Karen raised concern regarding the current validation status of thermal methods, noting that no fully validated methodology currently exists.

Melissa stated that the committee should avoid establishing firm requirements regarding thermal monitoring until additional scientific discussion occurs. She suggested placing the issue on a future ESRC agenda to review the current state of the science, evaluate available methods for estimating density and population size, and determine whether future HCPs should incorporate such methods consistently.

Troy suggested inviting a technical expert or service provider to present on thermal monitoring and its current state of scientific development. Melissa broadened the discussion to emphasize that the larger issue is understanding population size and density overall, noting that current uncertainty regarding bat population numbers remains a major challenge.

11.25.2025 12:47/03:45:43

Discussion began with clarification of recommendations concerning low wind speed curtailment. Melissa asked what difference in estimated bat take existed between year-round blanket curtailment and the currently proposed seasonal approach. Molly explained that the comparison between 6.5 m/s blanket curtailment and 6.5 m/s smart curtailment resulted in an estimated reduction of ca. 0.7 bats over the permit term, excluding August, and noted that inclusion of August would further reduce that number.

Karen emphasized that continued evaluation of additional minimization measures remains important, particularly given ongoing discussions regarding off-island mitigation and uncertainty surrounding future on-island mitigation opportunities. She stated that low wind speed curtailment represented a mitigation measure that could be implemented immediately and therefore warranted additional consideration.

Discussion continued regarding unresolved recommendations related to bat minimization measures, including seasonal curtailment and smart curtailment strategies. Karen discussed whether August should be considered for additional curtailment measures, noting that August appears to be among the higher months for both fatalities and activity and consideration of broader seasonal curtailment may align with previous DOFAW recommendations.

Jason suggested using language such as “consider” additional curtailment measures rather than prescribing a specific operational requirement. He explained that due to ongoing uncertainty regarding bat population dynamics and mitigation effectiveness, he would currently support consideration of a blanket curtailment year-round, unless future data demonstrates such measures are unnecessary. He noted that if future mitigation and monitoring research provide stronger evidence regarding bat population response and mitigation effectiveness, he would be more comfortable narrowing or relaxing curtailment recommendations.

11.25.2025 13:01/03:59:04
LUNCH

11.25.2025 13:35/04:33:08
RETURN FROM LUNCH

11.25.2025 13:35/04:33:19

The committee revisited a prior recommendation to include site-specific wind speed and wind direction data in fatality modeling. Committee members acknowledged that the recommendation may not be reflected in the December version of the HCP but agreed it should remain a long-term objective moving forward.

Jason recommended including some form of turbine strike research, given the project’s proximity to one of the species’ largest populations. He suggested taking advantage of turbine decommissioning activities to conduct blade swabbing, scraping, or eDNA sampling while blades are on the ground to see if the bees are being affected by the wind turbines.

Melissa stated that this HCP represents the first to include yellow-faced bees and viewed the research as an opportunity to better understand potential impacts for future HCPs involving the species. She emphasized that the intent of the recommendation was to determine whether turbine strikes are occurring and to better distinguish turbine-related impacts from ground disturbance impacts.

Discussion then returned to bat mitigation. Molly requested clarification regarding whether the recommendation was to maintain the current mitigation plan while requiring a more detailed plan describing how Maui-based bat mitigation would be developed. Jason confirmed this understanding, specifically noting the need for a more detailed framework for developing bat mitigation measures on Maui.

11.25.2025 13:42/4:40:03

The committee then agreed to move forward with approving the recommendations presented on the slide.

11.25.2025 13:44/4:42:22
ITEM 3. ADJOURNMENT

Jason made a motion to adjourn.

- Melissa Price: Second
- The motion passes unanimously.