

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife (DOFAW)
Honolulu, Hawaii 96813

October 23 and 24, 2014

Endangered Species Recovery Committee
State of Hawaii
Honolulu, Hawaii

Committee Members:

SUBJECT: Request for recommendations from the Endangered Species Recovery Committee on all current habitat conservation plans, safe harbor agreements, and incidental take licenses. Review and briefing from DOFAW staff: Status of the issuance of incidental take licenses for endangered, threatened, proposed, and candidate species for the period July 1, 2013 – June 30, 2014

**I. SUMMARY OF HABITAT CONSERVATION PLANS AND ASSOCIATED
INCIDENTAL TAKE LICENSES BY PROJECT TYPE**

Wind Energy Facilities and Structures

**Kaheawa Pastures Wind Energy Generation Facility (KWP I)
Habitat Conservation Plan, Maui, Hawai‘i. Approved 2006.**

ITL Licensee: Kaheawa Wind Power, LLC; First Wind

Project: Twenty wind turbine generators (WTGs) with a total 30-megawatt (MW) energy generating capacity.

ITL Duration: January 30, 2006 – January 30, 2026

Take Authorization Over 20-year Term:



Kaheawa Wind Power project in West Maui above Ma‘alaea.

| Common Name | Scientific Name | Baseline Limit ¹ | Higher Limit ² |
|-----------------------------|-------------------------------------|-----------------------------|---------------------------|
| ‘Ua‘u or Hawaiian Petrel | <i>Pterodroma sandwichensis</i> | 25 | 38 |
| ‘A‘o or Newell’s Shearwater | <i>Puffinus auricularis newelli</i> | 4 | 8 |

¹ Take authorization is delineated by Baseline and Higher limits or in some cases Tiers. These demarcations serve as adaptive management triggers to ensure that mitigation keeps pace with take. If regulatory agencies anticipate authorized take to be exceeded, then the ITL licensee is required to seek a major amendment and provide a plan to achieve mitigation. ITL major amendments require approval from the Board of Land and Natural Resources.

| | | | |
|----------------------------------|----------------------------------|----|-----|
| Nēnē or Hawaiian Goose | <i>Branta sandvicensis</i> | 60 | n/a |
| ‘Ope‘ape‘a or Hawaiian Hoary Bat | <i>Lasiurus cinereus semotus</i> | 20 | n/a |

Status of ITL: Tables 1 and 2 provide a listing of all documented wildlife fatalities during the reporting period.

Table 1. Documented fatalities of HCP covered species and species of concern at KWP I during the reporting period.

| Common Name | Dates | Total Fatalities |
|--------------------|--|------------------|
| Hawaiian Hoary Bat | 9/10/13 12/14/13 2/24/14 5/7/14 | 4 |
| Nēnē | 10/17/13 12/29/13 6/16/14 | 3 |
| Pueo ² | 12/3/13 6/4/14 | 2 |
| Hawaiian Petrel | 6/24/14 | 1 |

Table 2. Documented fatalities of Migratory Bird Treaty Act (MBTA)-listed species and non-covered species at KWP I during the reporting period.

| Common Name | Dates | Total Fatalities |
|-------------------------|--|------------------|
| Ring-necked Pheasant | 7/8/13 8/5/13 (2) 3/17/14 3/26/14 (3) 4/1/14 4/10/14 4/18/14 | 10 |
| Eurasian Skylark | 10/10/13 11/1/13 12/4/13 6/9/14 | 4 |
| White-tailed Tropicbird | 8/2/13 3/26/14 4/4/14 | 3 |
| Pacific Golden Plover | 4/10/14 (2) 5/8/14 | 3 |
| Gray Francolin | 4/4/14 | 1 |
| Japanese White-eye | 4/18/14 | 1 |
| Common Myna | 7/8/13 | 1 |
| Unknown species | 4/29/14 | 1 |

² The Pueo (Hawaiian Short-eared Owl) is considered a species of concern on Maui.

Authorized incidental take includes both observed and unobserved take, as well as indirect take that occurs when an adult individual is taken during its breeding season. In order to determine the overall status of an ITL, and thus the overall impact to threatened and endangered species, most HCP applicants are required to implement the following two components as part of downed wildlife monitoring: 1) searcher efficiency (SEEF) studies to provide estimates of how effective searchers are at finding carcasses; and 2) carcass retention (CARE) studies to estimate the average time an avian or bat carcass remains detectable to searchers before being removed by scavengers or otherwise rendered undetectable due to decomposition. SEEF and CARE data are then combined with all observed documented fatalities using the best available scientific information to determine the total adjusted take of a wind energy facility. The science behind estimating take at wind energy facilities is evolving nationwide and DOFAW continues to consult with statisticians from the U.S. Geological Survey (USGS) and USFWS to ensure the best available scientific methods are used for estimating wind farm fatalities in Hawai‘i. The statistical conclusions provided throughout this report are based on the best available scientific information at the time of writing and may change as the model and search protocols are refined. Fatality estimations are determined using one of two estimators developed by USGS biologists: either an Evidence of Absence³ estimator intended for use when less than five or six carcasses have been detected or the USGS Data Series 729 Estimator⁴ when more than five or six carcasses have been detected (pers. comm. Huso, 2014).

Table 3 provides an estimate of the overall total adjusted take that has occurred since KWP I ITL issuance.

Table 3. Total observed fatalities including those from previous years (FY 2006-FY 2013) and estimated total adjusted take covered under the KWP I ITL as of June 30, 2014. There have been no reported injuries or fatalities of the Newell’s Shearwater. All take estimates presented below are rounded to whole numbers for mitigation and ITL compliance purposes.

| Common Name | Total Observed Take | Estimated Unobserved Take | Total Adjusted Take⁵ | Statistical conclusion | Lost Productivity / Indirect Take⁶ |
|--------------------|----------------------------|----------------------------------|--|---|--|
| Hawaiian Petrel | 5 | 2 | 7 | 80% certain that no more than 9 fatalities have occurred | 10 |
| Nēnē | 17 | 10 | 27 | 80% certain that no more than 34 fatalities have occurred | 5 |
| Hawaiian | 8 | 16 | 24 | 80% certain that | N/A |

³ Dalthorp D., M Huso, D Dail and J Kenyon. 2014. Evidence of Absence Users Guide: U.S. Geological Survey Data Series 881, 34 p., <http://dx.doi.org/10.3133/ds881>.

⁴ Huso, M.M.P., N. Som, L. Ladd. 2012. Fatality Estimator. U.S. Geological Survey, Data Series (Draft).

⁵ Total adjusted take based on the mean when calculated using the USGS Data Series 729 estimator, and the 50% credible maximum when calculated using the Evidence of Absence calculator.

⁶ Assessed in addition to Total Adjusted Take.

| | | | | | |
|-----------|--|--|--|--|--|
| Hoary Bat | | | | no more than 29 fatalities have occurred | |
|-----------|--|--|--|--|--|

The total adjusted take of 24 bats (with 50% statistical certainty, or 29 bats with 80% statistical certainty) exceeds the baseline permitted take of 20 bats. The HCP and ITL state that the “take authorized by the license can be increased provided that mitigation has been implemented such that benefits to the species outweigh the losses as detailed in the HCP.” KWP I is currently in discussions with DOFAW and the USFWS to request an increase in the authorized take under the current ITL for bats in FY 2015.

In order to improve SEEF and CARE data used to calculate total adjusted take, First Wind hired an independent contractor in FY 2014 to proctor independent CARE trials and SEEF trials for one year at KWP I & II. The scope of work for the trials commenced March 31, 2014.

Mitigation Status:

Hawaiian Petrel & Newell’s Shearwater. Mitigation for the two seabird species (Hawaiian Petrel and Newell’s Shearwater) is being implemented in conjunction with Kaheawa Wind Power II. The primary mitigation entails construction and management of two approximately 4 acre predator-free fenced enclosures (one for each species), provisioned with artificial burrows and social attraction, at the Makamaka’ole site in West Maui. Construction of both enclosures was completed on September 5, 2013. Three sets of solar panels and speakers have been installed (two in Enclosure A and one in Enclosure B) and were activated on March 6, 2013. These speakers broadcast recorded Hawaiian Petrel and Newell’s Shearwater calls during nighttime hours to attract birds to the site. There are currently 32 artificial burrows in Enclosure A and 30 in Enclosure B. Eventually, each Enclosure will have 50 burrows. There are also species-specific decoys present in each Enclosure. As of the end of FY 2014, game cameras had captured images of an unidentified petrel or storm petrel near a speaker in Enclosure B. This individual was recorded three times in June 2014. While there has been no nesting activity this year, the presence of this individual bird is promising. This social attraction project is the first of its kind in Hawai‘i and will serve to inform future seabird protection efforts worldwide. DOFAW continues to work closely in partnership with First Wind staff and contractors to ensure the future success of the project.



Enclosure A at the Makamaka’ole seabird mitigation site, West Maui, completed in May 2013.

Nēnē. Mitigation for the take of Nēnē at the Baseline level consists of providing funding to DOFAW for the construction of a release pen, and to support propagation and release of 50 Nēnē. Construction of a new release pen for Nēnē on Maui was completed and the first group of

10 birds was released on May 5, 2011. Twenty additional birds were released in FY2012 and an additional seven birds were released in FY2013; totaling 37 birds released into the pen. Payments in the amount of \$264,000 were made to DOFAW from 2008-2011 in accordance with the HCP. Reproductive success consisted of two successful fledglings in FY 2012, eight in FY 2013, and eight in FY 2014 for a total of 18 fledglings. DOFAW will continue to monitor the reproductive success and movement of Nēnē on Maui.

Hawaiian Hoary Bat. Baseline mitigation for the Hawaiian Hoary Bat included providing \$20,000 in support of bat research in Hawai‘i. Bats have been monitored onsite since 2008 using acoustic detection and recording instruments. This year, all detectors but one were converted from Anabat to Wildlife Acoustics full spectrum SM2BAT+™ detectors with microphones at 6.5 m in height. There are currently nine Wildlife Acoustics monitors and one Titley™ Anabat detector stationed throughout the array. In FY 2014, bats were detected at nine of the ten detector locations for a total of 101 out of 2,700 (3.74%) detector nights.

Issues:

Total adjusted take of Hawaiian hoary bats has exceeded the baseline permitted take level. There is currently some difference in interpretation between First Wind and the agencies (DOFAW and USFWS) as to whether the higher and notably higher take levels described in the HCP are permitted under the current ITL or would require an amendment. The HCP states that, “take authorized by the license can be increased provided that mitigation has been implemented such that benefits to the species outweigh the losses as detailed in the HCP.” First Wind and the agencies are in discussions of how best to address this issue. Regardless of the procedural outcome, both First Wind and the agencies have agreed that it is appropriate to move to a higher level of take, with the caveat that certain adjustments be made to the mitigation as laid out in the original text of the HCP. The language in the HCP requires mitigation funding of \$1,000 per bat taken; however, the agencies have determined that amount is not sufficient to ensure net benefit, and is out of step with the current science and with other bat mitigation efforts currently being conducted under wind HCPs in the State of Hawai‘i. First Wind has agreed to propose alternate mitigation, and is currently in close coordination with the agencies and with their consultants to develop a proposal.

Staff Recommendations:

First Wind and agency staff have been working with their respective legal counsel to address these issues and are approaching a resolution. DOFAW staff recommends that the ESRC provide input that staff can incorporate into the ongoing discussions. DOFAW will provide the ESRC an update on the outcome of legal guidance and whether a resolution has been reached. Or, if it is acknowledged by the parties involved that a compromise is not reachable, DOFAW will seek further input from the ESRC.

Kaheawa Wind Power II Wind Energy Generation Facility (KWP II) Habitat Conservation Plan, Maui, Hawai‘i. Approved 2012.

ITL Licensee: Kaheawa Wind Power, LLC; First Wind

Project: Fourteen WTGs with a total 21 MW energy generating capacity. Project is makai and adjacent to KWP I.

ITL Duration: January 5, 2012 – January 30, 2032

Take Authorization Over 20-year Term:

| Common Name | Scientific Name | Level of Take | 5-year Limit | 20-year Limit |
|----------------------------------|-------------------------------------|---------------|--|---|
| ‘Ua‘u or Hawaiian Petrel | <i>Pterodroma sandwichensis</i> | Tier 1 | 8 adults/ juveniles & 4 chicks/eggs | 19 adults/ juveniles & 9 chicks/eggs |
| | | Tier 2 | 16 adults/ juveniles & 8 chicks/eggs | 29 adults/ juveniles & 14 chicks/eggs |
| ‘A‘o or Newell’s Shearwater | <i>Puffinus auricularis newelli</i> | Tier 1 | 2 adults/ juveniles & 2 chicks/eggs | 2 adults/ juveniles & 2 chicks/eggs |
| | | Tier 2 | 5 adults/ juveniles & 3 chicks/eggs | 5 adults/ juveniles & 3 chicks/eggs |
| Nēnē or Hawaiian Goose | <i>Branta sandvicensis</i> | Tier 1 | 8 adults/ juveniles & 1 fledgling | 18 adults/ juveniles & 3 fledglings |
| | | Tier 2 | 12 adults/ juveniles & 3 fledgling | 27 adults/ juveniles & 3 fledgling |
| ‘Ope‘ape‘a or Hawaiian Hoary Bat | <i>Lasiurus cinereus semotus</i> | Tier 1 | 6 adults & 3 juveniles | 6 adults & 3 juveniles |
| | | Tier 2 | 9 adults & 5 juveniles | 9 adults & 5 juveniles |

Status of ITL: Tables 4 and 5 provide a listing of all documented wildlife fatalities during the reporting period.

Table 4. Documented fatalities of HCP covered species and species of concern at KWP II during the reporting period.

| Common Name | Dates | Total Fatalities |
|--------------------|--------------------|------------------|
| Hawaiian Hoary Bat | 11/5/13 2/26/14 | 2 |

Table 5. Documented fatalities of MBTA-listed species and non-covered species at KWP II during the reporting period.

| Common Name | Date | Total Fatalities |
|------------------|--------------------|------------------|
| Eurasian Skylark | 12/3/13 1/31/14 | 3 |

| Common Name | Date | Total Fatalities |
|-------------------------|---------------------|------------------|
| | 2/21/14 | |
| Spotted Dove | 10/29/13 12/9/13 | 2 |
| African Silverbill | 11/19/13 | 1 |
| Wedge-tailed Shearwater | 11/26/13 | 1 |
| Common Myna | 3/31/14 | 1 |

Incidental take authorized includes both observed and unobserved take, including indirect take that occurs when an adult individual is taken during its respective breeding season. Table 6 provides an estimate of the overall total adjusted take that has occurred since KWP II ITL issuance.

Table 6. Total observed fatalities since ITL issuance and estimated total adjusted take covered under the KWP II ITL as of June 30, 2014. There have been no reported injuries or fatalities of the Newell's Shearwater or Hawaiian Petrel at the KWP II facility. All take estimates presented below are rounded to whole numbers for mitigation and ITL compliance purposes.

| Common Name | Total Observed Take | Estimated Unobserved Take | Total Adjusted Take ⁷ | Statistical conclusion | Lost Productivity / Indirect Take ⁸ |
|--------------------|---------------------|---------------------------|----------------------------------|---|--|
| Nēnē | 1 | 1 | 2 | 80% certain that no more than 3 fatalities have occurred | 1 |
| Hawaiian Hoary Bat | 3 | 10 | 13 | 80% certain that no more than 19 fatalities have occurred | 1 ⁹ |

The total estimated take of 14 bats (with 50% statistical certainty and indirect take, or 21 bats with 80% statistical certainty and indirect take) exceeds both the Tier 1 and Tier 2 permitted take for bats. KWP II is currently in discussions with DOFAW and USFWS, and plans to submit a request to increase the take authorized by the ITL in FY 2015.

Mitigation Status:

Hawaiian Petrel and Newell's Shearwater. In addition to seabird mitigation activities underway in conjunction with KWP I at Makamaka'ole (see page 5), KWP II was also required by the HCP to conduct surveys consisting of at least 14 survey nights, and no more than 20 nights, at two sites on West Maui where in-situ colony protection might be feasible. Site surveys were initiated

⁷ Total adjusted take based on the mean when calculated using the USGS Data Series 729 estimator, and the 50% credible maximum when calculated using the Evidence of Absence calculator.

⁸ Assessed in addition to Total Adjusted Take.

⁹ Loss of productivity changes to 2 at the 80% credibility level

at Kahakuloa, Maui in June 2012, but due to terrain and other access challenges, it was determined that the area was not desirable for in-situ conservation work. DOFAW concurred and is currently working with First Wind to explore other site options. All seabird mitigation activities are conducted under close coordination with DOFAW staff and other appropriate State agencies.

Nēnē. The KWP II HCP requires that mitigation for Nēnē occur in the form of a Nēnē protected release pen before June 2015 or earlier with six months notification from DOFAW. Management of the release pen during preconstruction and construction will be the responsibility of First Wind staff. In accordance with the KWP II HCP, systematic visual observations of Nēnē were made at KWP II during FY 2014.

Data collection of Nēnē activity at KWP II will continue for the life of the project through the Wildlife Education Observation Program (WEOP). In FY 2014, WEOP trainings were given to 39 individuals who were on-site regularly for two days or more throughout the year. A total of 74 Nēnē observations were reported, and showed that while Nēnē are found infrequently throughout the facility, they are most frequently observed in certain locations including the Battery Energy Storage System facility and WTGs 1 and 2.

Hawaiian Hoary Bat. In accordance with the KWP II HCP, baseline mitigation for the Hawaiian Hoary Bat must consist of implementation of bat habitat improvement measures on at least 338 acres. A draft mitigation plan has been developed by DOFAW for a proposed 340 acre project area in the Kahikinui Forest Reserve. This plan was under review as of June 30, 2014, and it is expected that approval and implementation activities will begin in early FY 2015.

In accordance with the avoidance and minimization measures outlined in the HCP, low wind speed curtailment (LWSC) has been implemented at KWP II from April 1 to November 1 at a cut-in speed of 5 m/s to minimize the risk for bat take. However, as the level of estimated bat take at KWP II approached the Tier I take allowance, LWSC was initiated early on February 27, 2014.

Pueo. Although Pueo is not a listed species on Maui, KWP II included Pueo in the HCP and provided mitigation compensation in the form of \$25,000 paid to DOFAW in FY 2013 to be directed toward Pueo research efforts. DOFAW is currently developing a Pueo research plan by pooling several different funding sources.

Issues:

KWP II has exceeded both the Tier 1 and Tier 2 permitted levels of take for the Hawaiian hoary bat, and there is no Tier 3 under their current permit. First Wind is working in close collaboration with the agencies to submit a request for additional take, and to develop a mitigation plan to offset that take.

Staff Recommendations:

Efforts to quantify expected levels of Hawaiian hoary bat take have been challenging across the board for all wind projects in Hawai'i. As the science gets better, and as we collect more ecological data and turbine strike fatality data, we are realizing that anticipated take calculations in the HCP underestimated the amount of take First Wind should have requested under the ITL. First Wind has remained in close contact with the agencies, has continued to report fatalities, and is working with a third party to improve SEEF and CARE at the facility. DOFAW staff believes First Wind has demonstrated clear intentions to pursue an amendment to the ITL and expects that First Wind will come before the ESRC at an upcoming meeting for approval of a proposed amendment and mitigation plan sufficient to offset the requested take and provide a net benefit to the species as described in HRS 195D.

Kahuku Wind Power Habitat Conservation Plan, O‘ahu, Hawai‘i. Approved 2010.

ITL Licensee: Kahuku Wind Power, LLC; First Wind

Project: Twelve WTGs with a total 30-MW energy generating capacity.

ITL Duration: June 7, 2010 – June 7, 2030

Take Authorization Over 20-year Term:

| Common Name | Scientific Name | Level of Take | Annual Take Limit ¹⁰ | 5-year Take Limit ¹¹ | 20-year Take Limit |
|----------------------------------|---|---------------|---------------------------------|---------------------------------|----------------------|
| ‘Ua‘u or Hawaiian Petrel | <i>Pterodroma sandwichensis</i> | Baseline | 4 | 8 adults/ juveniles | 8 adults/ juveniles |
| | | Higher | 8 | 12 adults/ juveniles | 12 adults/ juveniles |
| ‘A‘o or Newell’s Shearwater | <i>Puffinus auricularis newelli</i> | Baseline | 3 | 9 adults/ juveniles | 12 adults/ juveniles |
| | | Higher | 6 | 12 adults/ juveniles | 18 adults/ juveniles |
| Koloa Maoli or Hawaiian Duck | <i>Anas wyvilliana</i> | Baseline | 4 | 12 adults/ juveniles | 16 adults/ juveniles |
| | | Higher | 8 | 16 adults/ juveniles | 24 adults/ juveniles |
| Ae‘o or Hawaiian Stilt | <i>Himantopus mexicanus knudseni</i> | Baseline | 3 | 9 adults/ juveniles | 12 adults/ juveniles |
| | | Higher | 6 | 12 adults/ juveniles | 18 adults/ juveniles |
| ‘Alae Ke‘oke‘o or Hawaiian Coot | <i>Fulica alai</i> | Baseline | 3 | 9 adults/ juveniles | 12 adults/ juveniles |
| | | Higher | 6 | 12 adults/ juveniles | 18 adults/ juveniles |
| ‘Alae ‘Ula or Hawaiian Moorhen | <i>Gallinula chloropus sandvicensis</i> | Baseline | 4 | 10 adults/ juveniles | 14 adults/ juveniles |
| | | Higher | 7 | 14 adults/ juveniles | 20 adults/ juveniles |
| ‘Ope‘ape‘a or Hawaiian Hoary Bat | <i>Lasiurus cinereus semotus</i> | Baseline | 7 | 18 adults/ juveniles | 21 adults/ juveniles |
| | | Higher | 14 | 21 adults/ juveniles | 32 adults/ juveniles |
| Pueo or Hawaiian Owl | <i>Asio flammeus sandwichensis</i> | Baseline | 4 | 12 adults | 16 adults |
| | | Higher | 8 | 16 adults | 24 adults |

¹⁰ Exceeding the Annual Take Limit (including observed and unobserved take) will require one or more of the following: adaptive management, increased mitigation, or a major ITL amendment.

¹¹ “5-Year” and “20-year” take limits are cumulative for the respective period of years.

Status of ITL: There were no fatalities of HCP covered species or species of concern at Kahuku Wind Power during FY 2014. Table 7 provides a listing of all documented wildlife fatalities at the Kahuku Wind Power facility during the reporting period.

Table 7. Documented fatalities of MBTA-listed species and non-covered species at Kahuku during the reporting period.

| Common Name | Dates | Total Fatalities |
|-----------------------|---|------------------|
| Great Frigatebird | 8/7/13 9/3/13 10/29/13 12/2/13 12/9/13 2/26/14 | 6 |
| Cattle Egret | 7/29/13 12/18/13 3/25/14 4/28/14 | 4 |
| Spotted Dove | 3/21/14 4/22/14 5/13/14 | 3 |
| Common Waxbill | 5/22/14 6/3/14 (2) | 3 |
| Red-crested Cardinal | 12/18/13 | 1 |
| Pacific Golden Plover | 1/21/14 | 1 |
| Ring-neck Pheasant | 4/10/14 | 1 |

Table 8 provides an estimate of the overall total adjusted take that has occurred since Kahuku Wind ITL issuance.

Table 8. Total observed fatalities since ITL issuance and estimated total adjusted take covered under the Kahuku Wind Power ITL as of June 30, 2014. There have been no reported injuries or fatalities of the seven other protected species covered under the ITL. All take estimates presented below are rounded to whole numbers for mitigation and ITL compliance purposes.

| Common Name | Total Observed Take | Estimated Unobserved Take | Total Adjusted Take ¹² | Statistical conclusion | Lost Productivity / Indirect Take ¹³ |
|--------------------|---------------------|---------------------------|-----------------------------------|--|---|
| Hawaiian Hoary Bat | 3 | 2 | 5 | 80% certain that no more than 6 fatalities have occurred | 1 |

¹² Total adjusted take based on the mean when calculated using the USGS Data Series 729 estimator, and the 50% credible maximum when calculated using the Evidence of Absence calculator.

¹³ Assessed in addition to Total Adjusted Take.

Mitigation Status:

Hawaiian Petrel & Newell's Shearwater. In accordance with the Kahuku Wind HCP, the seabird mitigation plan for Newell's Shearwater and Hawaiian Petrel requires First Wind to fund seabird colony-based protection and management measures on the island of Kaua'i. In June 2013, staff from the DOFAW Kaua'i Endangered Seabird Recovery Project (KESRP), in coordination with DOFAW District staff and First Wind, deployed Wildlife Acoustic™ Songmeters at five locations on Kaua'i to determine seabird activity. Based on data collected by the Songmeters, and further information on known seabird colonies provided by KESRP, six sites were identified to benefit from barn owl control as a form of colony protection. In FY 2014, DOFAW, KESRP, and First Wind worked collaboratively to develop a scope of work and sign a Memorandum of Understanding. As of June 30, 2014, the MOU was signed, all funds were in place, and on-the-ground preparations (e.g., purchasing equipment, hiring crew, etc.) were kicking off. Work is expected to begin in fall of FY 2015.

Hawaiian Stilt, Hawaiian Coot, Hawaiian Moorhen, and Hawaiian Duck. Baseline mitigation for the four waterbird species covered under the ITL consists of payments to DOFAW to conduct predator control and wetland restoration at Hamakua Marsh, part of the State's Kawainui-Hamakua Marsh Complex. In January 2013, Kahuku First Wind provided DOFAW \$153,500 to conduct waterbird mitigation in FY 2014 as outlined in the HCP. Predator control and vegetation maintenance have been ongoing since 2011 in order to maintain and increase waterbird productivity.



'Alae 'Ula or Hawaiian Moorhen swimming at Hamakua Marsh

Since October 2012, invasive species Indian fleabane (*Pluchea indica*) and koa haole (*Leucaena leucocephala*) have been targeted for removal. Non-native Guinea grass (*Urochloa maxima*) and California grass (*Urochloa mutica*) are also targeted, so as to reduce biomass and encourage growth of native plants and non-native Bermuda grass (*Cynodon* spp.). Bermuda grass populations are encouraged on access roads, outplanting sites, and slopes, to reduce erosion and as foraging ground for native birds. Live trapping and hunting were used throughout the quarter by the US Department of Agriculture – Wildlife Services (USDA-WS), to control predators in Hamakua. A total of seven feral mallards, 11 cats, 138 mongooses, and 257 rats were removed from the marsh in FY 2014. Survey results indicate that 6, 69, and 6 new fledglings of the Hawaiian Coot, Moorhen, and Stilt, respectively were observed at Hamakua Marsh during FY 2014.

Hawaiian Hoary Bat. In accordance with the Kahuku Wind HCP, baseline bat mitigation consisted of a \$150,000 payment to DOFAW (procured on May 31, 2012) for preserving or

enhancing foraging and/or roosting habitat totaling 200 acres. A plan was developed by DOFAW, and approved by USFWS and First Wind in May 2014, to contribute to construction of ungulate-proof fencing around a 254-acre section of the State Kahikinui Forest Reserve and State Nakula Natural Area Reserve. Ungulate removal and reforestation efforts are planned after the fence is completed. The Kahuku mitigation funds are being pooled with other funding sources to contribute to collaborative, concentrated management approach in the region. Implementation of the plan will begin in early FY 2015.

In accordance with the avoidance and minimizations measures described in the HCP, curtailment of all turbines up to a wind speed of 5 m/s is being implemented between sunset and sunrise from April through November.

Pueo. Baseline mitigation for the Pueo consisted of a \$25,000 payment to DOFAW in December 2010, to initiate the first Pueo research on O‘ahu aimed at determining population status and management priorities. DOFAW is currently developing a Pueo research plan for O‘ahu by pooling several different funding sources.

Issues:

None.

Staff Recommendations:

None.

Kawailoa Wind Power Habitat Conservation Plan, O‘ahu, Hawai‘i. Approved 2012.

ITL Licensee: Kawailoa Wind Power, LLC; First Wind

Project: Thirty WTGs with a total 69 MW energy generating capacity.

ITL Duration: January 6, 2012 – January 6, 2032

Take Authorization Over 20-year Term:



Kawailoa Wind Power, O‘ahu

| Common Name | Scientific Name | Level of Take | 5-year Take Limit ¹⁴ | 20-year Take Limit |
|----------------------------------|---|---------------|-------------------------------------|-------------------------------------|
| ‘A‘o or Newell’s Shearwater | <i>Puffinus auricularis newelli</i> | Tier 1 | 3 adults/ juveniles & 2 chicks/eggs | 3 adults/ juveniles & 2 chicks/eggs |
| | | Tier 2 | 6 adults/ juveniles & 3 chicks/eggs | 6 adults/ juveniles & 3 chicks/eggs |
| Koloa Maoli or Hawaiian Duck | <i>Anas wyvilliana</i> | Tier 1 | 4 adults/ juveniles & 4 ducklings | 4 adults/ juveniles & 4 ducklings |
| | | Tier 2 | 6 adults/ juveniles & 6 ducklings | 6 adults/ juveniles & 6 ducklings |
| Ae‘o or Hawaiian Stilt | <i>Himantopus mexicanus knudseni</i> | Tier 1 | 6 adults/ juveniles & 3 fledglings | 8 adults/ juveniles & 4 fledglings |
| | | Tier 2 | 8 adults/ juveniles & 4 fledglings | 12 adults/ juveniles & 6 fledglings |
| ‘Alae Ke‘oke‘o or Hawaiian Coot | <i>Fulica alai</i> | Tier 1 | 6 adults/ juveniles & 3 fledglings | 8 adults/ juveniles & 4 fledglings |
| | | Tier 2 | 8 adults/ juveniles & 4 fledglings | 12 adults/ juveniles & 6 fledglings |
| ‘Alae ‘Ula or Hawaiian Moorhen | <i>Gallinula chloropus sandvicensis</i> | Tier 1 | 6 adults/ juveniles & 3 fledglings | 8 adults/ juveniles & 4 fledglings |
| | | Tier 2 | 8 adults/ juveniles & 4 fledglings | 8 adults/ juveniles & 4 fledglings |
| ‘Ope‘ape‘a or Hawaiian Hoary Bat | <i>Lasiurus cinereus semotus</i> | Tier 1 | 16 adults/ immatures & 8 juveniles | 16 adults/ immatures & 8 juveniles |
| | | Tier 2 | 24 adults/ immatures & 12 juveniles | 32 adults/ immatures & 16 juveniles |
| | | Tier 3 | 32 adults/ immatures & 16 juveniles | 48 adults/ immatures & 24 juveniles |

¹⁴ “5-Year” and “20-year” take limits are cumulative for the respective period of years.

| | | | | |
|----------------------|------------------------------------|--------|---------------------|---------------------|
| Pueo or Hawaiian Owl | <i>Asio flammeus sandwichensis</i> | Tier 1 | 4 adults & 4 owlets | 4 adults & 4 owlets |
| | | Tier 2 | 6 adults & 6 owlets | 6 adults & 6 owlets |

Status of ITL: Tables 9 and 10 provide a listing of all documented wildlife fatalities at the Kawaihoa Wind Power facility during FY 2014.

Table 9. Documented fatalities of HCP covered species and species of concern at Kawaihoa Wind Power during the reporting period.

| Common Name | Dates | Total Fatalities |
|--------------------|-------------|------------------|
| Hawaiian Hoary Bat | 7/15/13 | 8 |
| | 8/12/13 (2) | |
| | 9/4/13 | |
| | 9/17/13 | |
| | 9/24/13 | |
| | 10/4/13 | |
| | 6/2/14 | |
| | 6/17/14 | |

Table 10. Documented fatalities of MBTA-listed species and non-covered species at Kawaihoa during the reporting period.

| Common Name | Dates | Total Fatalities |
|-----------------|------------|------------------|
| Common Myna | 7/30/13 | 17 |
| | 8/7/13 | |
| | 8/8/13 (3) | |
| | 8/9/13 | |
| | 8/20/13 | |
| | 9/17/13 | |
| | 10/24/13 | |
| | 10/28/13 | |
| | 4/11/14 | |
| | 4/16/14 | |
| | 5/5/14 | |
| | 5/28/14 | |
| | 6/3/14 | |
| | 6/5/14 | |
| 6/30/14 | | |
| Spotted Dove | 1/7/14 | 6 |
| | 2/26/14 | |
| | 3/11/14 | |
| | 3/27/14 | |
| | 5/16/14 | |
| | 6/23/14 | |
| Zebra Dove | 7/17/13 | 4 |
| | 7/18/13 | |
| | 1/23/14 | |
| | 4/8/14 | |
| Nutmeg Mannikin | 8/20/13 | 4 |
| | 10/23/13 | |

| Common Name | Dates | Total Fatalities |
|-------------------------|---------------------------------|------------------|
| | 12/30/13 6/10/14 | |
| Pacific Golden Plover | 9/12/13 11/12/13 11/26/13 | 3 |
| Great Frigatebird | 5/22/14 6/12/14 6/20/14 | 3 |
| Cattle Egret | 8/13/13 2/14/14 | 2 |
| White-tailed Tropicbird | 10/24/13 6/9/14 | 2 |
| Common Waxbill | 2/6/14 6/5/14 | 2 |
| House Finch | 3/20/14 4/3/14 | 2 |
| Grey Francolin | 9/23/13 | 1 |
| Red-crested Cardinal | 2/6/14 | 1 |
| Ring-neck Pheasant | 3/13/14 | 1 |

Table 11 provides an estimate of the overall total adjusted take that has occurred since Kawaioloa Wind ITL issuance.

Table 11. Total observed fatalities since ITL issuance and estimated total adjusted take covered under the Kawaioloa Wind Power ITL as of June 30, 2014. There have been no reported injuries or fatalities of the six other protected species covered under the ITL. All take estimates presented below are rounded to whole numbers for mitigation and ITL compliance purposes.

| Common Name | Total Observed Take | Estimated Unobserved Take | Total Adjusted Take ¹⁵ | Statistical conclusion | Lost Productivity / Indirect Take ¹⁶ |
|--------------------|---------------------|---------------------------|-----------------------------------|---|---|
| Hawaiian Hoary Bat | 14 | 7 | 21 | 80% certain that no more than 24 fatalities have occurred | 1 |

A total of nine Hawaiian Hoary Bat fatalities were observed during FY 2014. No incidental take of the other six covered species under the ITL occurred during the reporting period. The total estimated take of 22 bats (with 50% statistical certainty and indirect take, or 25 bats with 80% statistical certainty and indirect take) exceeds both the Tier 1 permitted take for bats. Kawaioloa Wind has entered Tier 2 levels of bat take and is currently working towards planning and implementing Tier 2 bat mitigation.

¹⁵ Total adjusted take based on the mean when calculated using the USGS Data Series 729 estimator, and the 50% credible maximum when calculated using the Evidence of Absence calculator.

¹⁶ Assessed in addition to Total Adjusted Take.

Mitigation Status:

Newell's Shearwater. Baseline mitigation for Newell's Shearwater as described in the HCP consists of, (1) providing funding for adapting a resetting trap for use in Hawai'i, (2) field testing traps at a suitable location where predators are known to occur, and (3) supporting a one-year pilot study to provide localized predator control in an area where Newell's Shearwater are known to be breeding. Components (1) and (2) were completed and reported on in FY 2013. In FY 2014, a scope of work was developed and an MOU between First Wind and DOFAW was signed to deploy song meters at six known Newell's colonies on Kaua'i. The data collected will be used to identify colonies that are good candidates for predator control and/or predator exclusion efforts to be funded with future mitigation funds related to other HCPs.

Hawaiian Duck, Hawaiian Stilt, Hawaiian Moorhen, & Hawaiian Coot. As part of baseline mitigation for waterbirds, in July 2013 Kawaiiloa First Wind contractors completed a 4-foot high fence to completely enclose 135 acres of 'Uko'a Wetland for the protection of waterbirds and bats that are known to forage in the area. As outlined in the HCP, waterbird mitigation at 'Uko'a Wetland will consist of fencing, predator control, vegetation management, and monitoring in a 40-acre portion of the wetland. A plan was developed in May 2014, and the early stages of implementation began in May and June, including selection of contractors and removal of predators including pigs, cats, mongooses, and rats.

Hawaiian Hoary Bat. Tier 1 bat mitigation as described in the HCP includes a research component and a restoration component. In May 2013, First Wind began a cooperative research effort with the USGS and BCI to intensively monitor bat activity using thermal and near-infrared video cameras at WTGs 23-26. BCI also performed daily searches of fatality monitoring plots around these WTGs. On-site field data collection continued until November 15, 2013. USGS also monitored bat detector recordings from a station located in the northern portion of the Ko'olau Mountains up until May 15, 2014. Currently, USGS is comparing this data with the data collected at the WTGs, as well as with data collected at the nearby Kahuku Wind facility, weather records, and portable ground-level monitoring station data from Kawaiiloa. A draft report is expected in early FY 2015.



Female Hawaiian Hoary Bat caught at 'Uko'a Wetland, Oahu.

As a bat take avoidance and minimization measure, the HCP requires LWSC during periods known to be highest for bat activity (March through November). LWSC was required as a result of earlier studies in other states finding that most bat fatalities occurred at relatively low wind speeds. Under LWSC, turbine operations are curtailed on nights when winds are light and variable, resulting in minimal rotor rotation. In November 2012, Kawaiiloa Wind elected to continue LWSC at 5 m/s through the winter months. Due to two instance of take recorded in the month of February in FY 2013, and high levels of bat activity recorded by detectors in late

November and early December, Kawailoa is currently implementing LWSC from February 10 through December 15.

The restoration portion of Tier 1 mitigation for Kawailoa includes managing 80 acres of the nearby 'Uko'a Wetland area to increase its habitat value for bats, and managing 40 acres surrounding the wetland to create feeding lanes and increase native tree species favorable to bat roosting. Bat activity assessments began at 'Uko'a on June 20, 2013 and will continue for the next several years. A plan was developed in May 2014, and the early stages of implementation began in May and June, including selection of contractors and removal of predators including pigs, cats, mongooses, and rats.

Pueo. Baseline mitigation for Pueo consisted of Kawailoa First Wind providing \$12,500 to the Hawai'i Wildlife Rehabilitation Center on Hawai'i Island in FY 2013, and \$25,000 for research in FY 2014.

Issues:

Kawailoa has exceeded the Tier 1 take for bats and is currently in the process of developing a Tier 2 mitigation plan with the agencies and with the Ko'olau Mountains Watershed Partnership. Ideally, Tier 2 mitigation would already be in place. However, discussions within the agencies and between the agencies and First Wind as to the current state of the science, the desirability of restoration versus research as mitigation, and how to allocate research and restoration funds if both are included in a mitigation package, led to a delay in plan development and implementation. In addition, at the current rate of bat take, Kawailoa is expected to reach Tier 3 mitigation.

Staff Recommendations:

Responsibility for delays in Tier 2 planning and implementation is shouldered by multiple parties, and First Wind has remained in close collaboration with the agencies throughout the process. The plan is currently in progress, and agency staff is pleased with the direction the mitigation proposal is going. DOFAW staff recommends that Tier 2 planning discussions remain at the staff level and an update be provided to the ESRC at the following meeting..

Auwahi Wind Energy Habitat Conservation Plan, Maui, Hawai‘i. Approved 2012.

ITL Licensee: Auwahi Wind Energy, LLC; Sempra U.S. Gas & Power

Project: Eight WTGs with a total 21-MW energy generating capacity.

ITL Duration: February 9, 2012 – February 9, 2037



Auwahi Wind Power, Maui

Take Authorization Over 25-year Term:

| Common Name | Scientific Name | Level of Take | 25-year Limit ⁸ |
|----------------------------------|----------------------------------|------------------|--|
| ‘Ua‘u or Hawaiian Petrel | <i>Pterodroma sandwichensis</i> | Tier 1 | 19 adults/ immatures & 7 chicks/eggs |
| | | Tier 2 | 32 adults/ immatures & 12 chicks/eggs |
| | | Tier 3 | 64 adults/ immatures & 23 chicks/eggs |
| Nēnē or Hawaiian Goose | <i>Branta sandvicensis</i> | Length of permit | 5 adults/ immatures |
| ‘Ope‘ape‘a or Hawaiian Hoary Bat | <i>Lasiurus cinereus semotus</i> | Tier 1 | 5 adults/ immatures & 2 juveniles |
| | | Tier 2 | 10 adults/ immatures & 4 juveniles |
| | | Tier 3 | 19 adults/ immatures & 8 juveniles |
| Blackburn’s Sphinx Moth | <i>Manduca blackburni</i> | Not applicable | 28-acres permanently disturbed habitat is an index of take |

Status of ITL: Tables 12 and 13 provide a listing of all documented wildlife fatalities at the Auwahi Wind Energy facility during FY 2014.

Table 12. Documented fatalities of HCP covered species and species of concern at Auwahi during the reporting period. Each row represents one individual. Each WTG has a unique number at each facility, and the WTG where the carcass was found is listed in the Location column.

| Common Name | Dates | Total Fatalities |
|--------------------|---------|------------------|
| Hawaiian Hoary Bat | 10/9/13 | 1 |

Table 13. Documented fatalities of MBTA-listed species and non-covered species at Auwahi during the reporting period.

| Common Name | Dates | Total Fatalities |
|----------------------|-------------|------------------|
| African Silverbill | 12/2/13 | 4 |
| | 2/13/14 | |
| | 2/21/14 (2) | |
| Common House Sparrow | 1/10/14 | 3 |
| | 2/27/14 | |
| | 3/21/14 | |

| Common Name | Dates | Total Fatalities |
|-------------------------|--------------------|------------------|
| Gray Francolin | 2/3/14 5/23/14 | 2 |
| Bulwer's Petrel | 6/24/14 6/27/14 | 2 |
| Great Frigatebird | 12/21/13 | 1 |
| Zebra Dove | 11/27/13 | 1 |
| Common Myna | 2/12/14 | 1 |
| Cattle Egret | 4/22/14 | 1 |
| Common Chukar | 4/29/14 | 1 |
| Wedge-tailed Shearwater | 6/25/14 | 1 |

Table 14 provides an estimate of the overall total adjusted take that has occurred since Auwahi Wind ITL issuance. One Blackburn's Sphinx Moth carcass was documented on February 3, 2014. However, after agency review the moth was determined to have died from natural causes, and is not considered take against Auwahi's ITL.

Table 14. Total observed fatalities since ITL issuance and estimated total adjusted take covered under the Auwahi Wind Energy ITL as of June 30, 2014. There have been no reported injuries or fatalities of the three other protected species covered under the ITL. All take estimates presented below are rounded to whole numbers for mitigation and ITL compliance purposes.

| Common Name | Total Observed Take | Estimated Unobserved Take | Total Adjusted Take ¹⁷ | Statistical conclusion | Lost Productivity / Indirect Take ¹⁸ |
|--------------------|---------------------|---------------------------|-----------------------------------|--|---|
| Hawaiian Hoary Bat | 1 | 6 | 7 | 80% certain that no more than 7 fatalities have occurred | 3 |

Mitigation Status:

Hawaiian Petrel. Mitigation for take of Hawaiian Petrel in FY 2014 consisted of continued petrel burrow monitoring at Kahikinui Forest Reserve to obtain an estimate of the number of active petrel burrows and reproductive (fledging) success. As in previous years, all monitoring protocols followed methods used by the National Park Service. New burrows located in FY 2014 were marked, mapped, and added to the monitoring dataset. Currently, 59 petrel burrows are being monitored, including five burrows that were discovered in FY 2014. In FY 2013, 10 Reconyx game cameras were deployed at active petrel burrows to document burrow activity, and an additional seven cameras were deployed in August 2013. The cameras are rotated between burrows throughout the breeding season to document reproductive success and predation events.

¹⁷ Total adjusted take based on the mean when calculated using the USGS Data Series 729 estimator, and the 50% credible maximum when calculated using the Evidence of Absence calculator.

¹⁸ Assessed in addition to Total Adjusted Take.

To date, three instances of a feral cat investigating an active burrow have been documented, but no clear signs of depredation have been observed at any of the monitored burrows.

Auwahi Wind worked with Island Conservation and Tetra Tech to develop a predator control strategy for Kahikinui based on site-specific conditions and Island Conservation's expertise. The predator control strategy will allow predator control to be adaptively managed over time. Auwahi Wind began implementing a phased approach to predator control in FY 2014. In September 2013, tracking tunnels were deployed to assess rat and mongoose activity across the entire management area, and 59 kill traps paired with cameras were set up in the northern section of Kahikinui to evaluate trap effectiveness. Four different traps were evaluated, DOC250 traps (targeting mongoose and rats), Belisle Body Grip traps (targeting feral cats), GoodNature A24 traps (targeting mongoose and rats) and KaMate traps (targeting rats). All traps were checked and baited once a week with a variety of baits to attempt to determine bait preferences and longevity. This initial phase of deployment removed a total of ten predators, including Polynesian rats, black rats and mice. This initial testing phase allowed Auwahi Wind to collect site- and trap-specific data on predator presence, activity and other logistic factors to determine the most effective and efficient methods of predator control to be used at Kahikinui.

Nēnē. Baseline mitigation for Nēnē consisted of a payment in April 17, 2012, of \$25,000 to the National Park Service for use in building a Nēnē rescue pen and predator fence to support egg, gosling, and adult rescue efforts at Haleakalā National Park.

Hawaiian Hoary Bat. Baseline mitigation for the Hawaiian Hoary Bat consists of the restoration of approximately 130 acres of pastureland in the Waihou Mitigation Area (the Pu'u Makua parcel) to create roosting and foraging habitat for the Hawaiian Hoary Bat. This parcel was placed into a conservation easement held by the Hawaiian Islands Land Trust on December 18, 2012, and will be protected in perpetuity. Construction of an ungulate-proof fence around the parcel was completed in September 2013. In January 2014, contractors were brought in and successfully removed all ungulates from the fenced area. In March 2014, Auwahi Wind conducted baseline vegetation monitoring, with the objective of establishing conditions prior to planting and other management activities. A contractor has been hired to perform biannual invasive species removal efforts. Targeted species include tropical ash (*Fraxinus uhdei*), bocconia (*Bocconia frutescens*), black wattle (*Acacia mearnsii*), and Monterey pine (*Pinus radiata*) within the fenced area. The first removal effort took place in April 2014.

Auwahi worked with Frank Bonaccorso of the US Geological Survey (USGS) to develop a research project combining radio telemetry and acoustic monitoring to track the success of mitigation efforts at Waihou, as well as to provide more information on the ecology of the Hawaiian Hoary Bat as part of their Tier 2 mitigation requirements. The research proposal was approved in March 2014, and implementation is expected to occur in FY 2015.

Blackburn's Sphinx Moth. Baseline mitigation for Blackburn's Sphinx Moth consisted of a payment of \$144,000 to the Leeward Haleakala Watershed Restoration Partnership (LHWRP) on April 17, 2012, to restore dryland forest by planting the equivalent of 6 acres of native endangered 'Aiea (*Nothocestrum latifolium*) throughout the Auwahi Forest Restoration Project. 'Aiea is known to serve as a host plant for the endangered Blackburn's Sphinx Moth. According to LHWRP, funds were used in FY 2014 to outplant 6,284 native seedlings of 20 different native species into an 11 acre section of the Auwahi III enclosure.

Issues:

None.

Staff Recommendations:

None.

Habitat Conservation Plan for the Construction and Operation of the Lana‘i Meteorological Towers, Lana‘i, Hawai‘i. Approved 2008.

ITL Licensee: Castle & Cooke Resorts, LLC

Project: Install six 50-meter (165-foot) meteorological (met) towers to collect data on wind speeds and patterns throughout the northern portion of Lana‘i Island.

ITL Duration: October 10, 2008 – March 1, 2016

Take Authorization Over 8-year Term:

| Common Name | Scientific Name | Level of Take Authorized Over Entire ITL Duration | |
|----------------------------------|--------------------------------------|---|--------|
| | | Tier 1 | Tier 2 |
| ‘Ua‘u or Hawaiian Petrel | <i>Pterodroma sandwichensis</i> | 7 | 14 |
| ‘A‘o or Newell’s Shearwater | <i>Puffinus auricularis newelli</i> | 2 | NA |
| Ae‘o or Hawaiian Stilt | <i>Himantopus mexicanus knudseni</i> | 2 | NA |
| ‘Ope‘ape‘a or Hawaiian Hoary Bat | <i>Lasiurus cinereus semotus</i> | 2 | NA |

Status of ITL: There were no observed wildlife fatalities during the reporting period. In FY 2014, as in the previous years, no carcasses or injuries of the four ITL covered species were found during standardized downed wildlife surveys or incidentally found by searchers. Five of the six met towers were taken down in February 2010, and the last tower was removed in April 2014. Given that all towers have been decommissioned and no project activity is expected to occur through the rest of the permit term, Castle and Cooke and the current landowner have requested early termination of the HCP and ITL. It is anticipated that the request to terminate will be brought before the Board of Land & Natural Resources (BLNR) in FY 2015.

Mitigation Status:

Hawaiian Petrel & Newell’s Shearwater. Since HCP approval, Castle & Cooke Resorts has provided \$252,203 to DOFAW to conduct habitat restoration and predator control at the Lana‘ihale mitigation site. In accordance with the HCP, the two-year mitigation project was completed in March 2010. Monitoring and maintenance of the restoration area was carried out pursuant to the conditions outlined in the Memorandum of Agreement between DOFAW and Castle & Cooke until late 2013.

Hawaiian Stilt. Castle & Cooke provided DOFAW with 12 traps to be placed around the Lana‘i wastewater treatment plant to provide protection to the resident stilt population. Predator control efforts continued until March 2010 as required in the HCP.

Hawaiian Hoary Bat. The habitat restoration plan at Lanaʻihale was also implemented with the intention of increasing foraging and roosting habitat for the Hawaiian Hoary Bat, as per the requirements of the HCP.

Issues:

None.

Staff Recommendations:

None.

A Conservation Plan for Hawaiian Stilt at Cyanotech Aquaculture Facility, Keahole Point, Hawai'i. Approved 2003.

ITL Licensee: Cyanotech Corporation

Project: Commercial microalgae farming operation.

ITL Duration: December 24, 2003 – March 17, 2016

Take Authorization Over 13-year Term:

| Common Name | Scientific Name | Total Authorized Over ITL Duration |
|------------------------|--------------------------------------|--|
| Ae'o or Hawaiian Stilt | <i>Himantopus mexicanus knudseni</i> | The greater of, 45 or the number of chicks produced to offset losses ¹⁹ |

Status of ITL: Table 15 provides a listing of all documented wildlife fatalities during the reporting period.

Table 15. Documented wildlife fatalities at the Cyanotech Aquaculture Facility during the reporting period.

| Common Name | Date | Total Fatalities |
|----------------|------------|------------------|
| Hawaiian Stilt | 04/14/2014 | 1 |

In accordance with the Cyanotech HCP, surveys for incidental take are conducted twice per week during the nesting season and once per week during the non-nesting season. However, monitoring for injured wildlife is conducted daily as part of normal operations of the production raceways.

Table 16 provides an estimate of the overall total adjusted take that has occurred since Cyanotech ITL issuance.

Table 16. Total observed fatalities since ITL issuance and estimated total adjusted take covered under the Cyanotech ITL as of June 30, 2014. All take estimates presented below are rounded to whole numbers for mitigation and ITL compliance purposes.

| Common Name | Total Observed Take | Total Adjusted Take ²⁰ |
|----------------|---------------------|-----------------------------------|
| Hawaiian Stilt | 18 | 55 |

¹⁹ From 1999-2003, 66 Ae'o were found injured or killed at the facility due to the basin tanks also being used as foraging habitat. The tanks were netted in 2004, resulting in a significant decline in Ae'o fatalities.

²⁰ Total adjusted take based on the survival rate of 2.17 fledglings with respect to incidental take of adult as described in the 2006 Cyanotech Amendment.

Mitigation Status:

Hawaiian Stilt. According to the 2006 minor amendment, Cyanotech mitigation obligations include funding and implementing predator control at an off-site location. ‘Opae‘ula pond is a 3.24 hectare coastal wetland located in the North Kona district of Hawai‘i Island and has been identified as a viable location for predator control efforts. In accordance with the Cyanotech ITL, take must not exceed “the greater of, 45 or the number of chicks produced to offset losses.” Cyanotech is currently working with the private landowner to fund predator control efforts at ‘Opae‘ula pond to meet mitigation obligations.

Issues:

Cyanotech has exceeded permitted levels of take for the Hawaiian Stilt, without the mitigation actions in place. Cyanotech has assured the agencies that they are working closely with a private landowner to provide predator control mitigation funds to cover efforts from 2006 to offset the take levels.

Staff Recommendations:

DOFAW staff believes Cyanotech is committed to the fulfillment of outstanding mitigation obligations under the 2006 amendment, and has informed Cyanotech of the imperative to solidify these obligations in order to remain in compliance. DOFAW staff recommends that discussions remain at the staff level and an update be provided to the ESRC at the following meeting.

Habitat Conservation Plan for Construction of the Daniel K. Inouye Solar Telescope²¹ at the Halekalā High Altitude Observatory Site, Maui, Hawai‘i. Approved 2011.

ITL Licensee: National Science Foundation

Project: Construction of the Daniel K. Inouye Solar Telescope (DKIST) within the 18-acre University of Hawai‘i Institute for Astronomy Haleakalā High Altitude Observatory site at the summit of Haleakalā.



DKIST Facility on Haleakalā summit.

ITL Duration: December 1, 2011 – December 1, 2021

Take Authorization Over 10-year Term:

| Common Name | Scientific Name | Total Authorized Over ITL Duration |
|--------------------------|---------------------------------|------------------------------------|
| ‘Ua‘u or Hawaiian Petrel | <i>Pterodroma sandwichensis</i> | 30 fledglings and 5 adults |

Status of ITL: A total of nine Hawaiian Petrel carcasses or remains were discovered on the project and Conservation Area during the reporting period. After agency review of fatalities documented at the DKIST site, it was determined that none of the fatalities could be proven to be attributable to project activities, and therefore are not counted against DKIST’s ITL.

Birdstrike monitoring has occurred annually during seabird nesting season, February 1 and November 30, since 2011. In accordance with the HCP, areas around the two Federal Aviation Administration (FAA) towers, the telescope construction site, and, as of 2014, the conservation fence are monitored. No collisions were reported in FY 2014. Noise and vibration monitoring is also conducted to determine if the burrows nearest the construction site are impacted by construction activities. As of June 30, 2014, no construction activity has produced vibrations meeting or exceeding the threshold of 0.12 in/sec established in the HCP, and noise levels have averaged 56 dBA which is not above ambient environmental levels.

Mitigation Status:

Hawaiian Petrel. In accordance with the HCP, DKIST constructed a 4.23 km ungulate-proof fence enclosing a 313 acre Conservation Area adjacent to Haleakalā National Park. Fence construction occurred between September 1 and November 8, 2013. As a result of the fence construction process and the intensive monitoring activities that were being implemented during the fence construction, all ungulates left the area before the fence was completed. Based on footage from sixteen camera traps, no ungulates have been detected within the Conservation Area since September 12th, 2013.

²¹ Formerly the Advanced Technology Solar Telescope; name officially changed on December 15, 2013.

In addition, a 125 m predator control grid in the northern portion of the Conservation Area consisting of 18 Havahart traps (targeting cats) and 19 A-24 automatic traps (targeting mongoose) was completed on September 16, 2013 and was operational until the petrels left the colony on November 18, 2013. In order to improve efficiency, the grid was rearranged and expanded to include 40 Havaharts and 42 A-24s covering the entirety of the Conservation Area. The expanded grid was completed on June 19, 2014. No cats or Indian small mongoose have been caught since the predator grid became operational. The A-24 traps killed three roof rats and the Havahart traps caught two roof rats.

Issues:

None.

Staff Recommendations:

None.

Kaua'i Lagoons Habitat Conservation Plan, Kaua'i, Hawai'i. Approved 2012.

ITL Licensee: Kaua'i Lagoons, LLC

Project: Oceanfront resort encompassing approximately 600 acres.

ITL Duration: April 11, 2012 – April 11, 2042



Kaua'i Lagoons, Kaua'i.

Take Authorization Over 30-year Term:

| Common Name | Scientific Name | Type of Take | Total Authorized Over ITL Duration |
|--------------------------------------|---|-------------------------|------------------------------------|
| 'A'o or Newell's Shearwater | <i>Puffinus auricularis newelli</i> | Life of permit | 29* |
| Koloa Maoli or Hawaiian Duck | <i>Anas wyvilliana</i> | Mortality or Non-Lethal | 36 |
| Ae'o or Hawaiian Stilt | <i>Himantopus mexicanus knudseni</i> | Mortality or Non-Lethal | 38 |
| 'Alae Ke'oke'o or Hawaiian Coot | <i>Fulica alai</i> | Mortality | 110 |
| | | Non-Lethal | 180 |
| 'Alae 'Ula or Hawaiian Moorhen | <i>Gallinula chloropus sandvicensis</i> | Mortality | 40 |
| | | Non-Lethal | 30 |
| Nēnē or Hawaiian Goose | <i>Branta sandvicensis</i> | Mortality or Non-Lethal | 17 |
| 'Ua'u or Hawaiian Petrel | <i>Pterodroma sandwichensis</i> | Life of Permit | 1 |
| 'Akē'akē or Band-rumped Storm Petrel | <i>Oceanodroma castro</i> | Life of Permit | 1 |

*Authorized level of take changed from 27 to 29 as processed under the September 2013 Minor Amendment

Status of ITL: Table 17 provides a listing of all documented incidental take during the reporting period.

Table 17. Documented incidental take at the Kaua'i Lagoons site during the reporting period.

| Common Name | Date | Condition Notes |
|---------------------|-----------|--|
| Hawaiian Duck | 10/7/13 | Carcass appeared 4-5 days old, found near Kalanipuu condos |
| Newell's Shearwater | 11/6/2013 | Alive and retrieved by Kaua'i SOS Program |
| Newell's Shearwater | 11/7/2013 | Alive and retrieved by Kaua'i SOS Program |
| Hawaiian Coot | 1/21/2014 | Carcass was moderately fresh on golf course |
| Nēnē | 2/14/2014 | Carcass found on golf course |

Table 18 provides the observed mortalities that have occurred since Kaua'i Lagoons ITL issuance. DOFAW and USFWS are working with Kaua'i Lagoons to determine if mortalities listed in Table 23 are directly attributed to project activities or due to natural or other causes.

Table 18. Total observed mortalities since ITL issuance under the Kaua‘i Lagoons ITL as of June 30, 2014.

| Common Name | Total Observed Mortalities |
|-----------------------|----------------------------|
| Nēnē | 12* |
| Hawaiian Coot | 5 |
| Hawaiian Duck | 3 |
| Hawaiian Moorhen | 2 |
| Newell’s Shearwater | 2 |
| Pacific Golden Plover | 1 |

*Includes goslings that did not survive.

In accordance with the Kaua‘i Lagoons HCP, the Kaua‘i Lagoons Resort (Resort) implements the following minimization measures year-round:

- On-site predator control;
- Comprehensive endangered species awareness training to all Resort employees;
- Deployment of construction monitors and biological monitors during construction operations to prevent harm to ITL covered species;
- Education program to inform golfers of the presence of endangered species and implement measures to avoid harm to such species while golfing; and
- Program to minimize light-induced attraction of seabirds to Resort facilities by installing appropriate lighting fixtures, and implementing appropriate seasonal restrictions and practices.

Over the past ten years, the Resort has assisted in efforts to increase the Nēnē population. However, due to the close proximity of the Resort to Lihue Airport, Nēnē from the Resort pose a bird-strike hazard to aircraft. In 2009, wildlife agencies determined that the Kaua‘i Lagoons HCP would solely address endangered species impacts from Resort construction and operation, as applicable FAA regulations require that the airport operator address aircraft-wildlife hazards. Thus, this HCP does not include or cover any specific Nēnē management measures designed to address aircraft safety issues. Instead, this HCP explicitly identifies and acknowledges aircraft safety issues, and commits the Resort to cooperate with the airport agencies and the wildlife agencies in their separate efforts to address these concerns in accordance with applicable FAA regulations. DOFAW will continue to work with the Resort and other state and federal agencies on the best approaches to minimize impact to wildlife while maintaining public safety.

On September 11, 2013, DOFAW processed a Minor Amendment to address seabird mitigation and authorized take levels. During the 2013 fiscal reporting period, two Newell’s Shearwaters were found downed in the vicinity of the Kaua‘i Lagoons existing Kalanipu‘u buildings. The original Kaua‘i Lagoons HCP/ITL authorized take of listed Hawaiian seabirds due to light attraction expected with the completion of new buildings, anticipated to occur in 2015. In order to include take associated with light attraction on existing infrastructure, a minor amendment was

processed to change the authorized take from 27 Newell's Shearwaters to 29 Newell's Shearwater beginning in 2013.

Kaua'i Lagoons' minimization measures during this reporting period included adding window blinds to the Fashion Landing Fitness Center adjacent to Kalanipu'u Building A, replacing Fashion Landing exterior lights with shorter and lower wattage bulbs, and replacing the ten light fixtures at the Kalanipu'u Building B & C elevator lobbies.

Mitigation Status:

Nēnē, Hawaiian Stilt, Hawaiian Coot, Hawaiian Moorhen, & Hawaiian Duck. Baseline mitigation for waterbirds consists of providing and maintaining approximately 35 acres of lagoons on the property that are an important habitat for endangered waterbird species, including predator control trapping and wildlife monitoring. In addition, Kaua'i Lagoons has provided DOFAW with \$85,000 to be used to conduct predator control and/or manage Nēnē at a translocation site(s) after the completion of the State's five-year translocation project ending in 2016.

Newell's Shearwater, Hawaiian Petrel, & Band-rumped Storm Petrel. The Minor Amendment also directed mitigation funding for seabird take, in the amount of \$10,000 annually, to the National Fish and Wildlife Foundation account, to be held until such time a Kaua'i seabird island-wide HCP (currently in the planning stages) is finalized and approved.

Issues:

None.

Staff Recommendations:

None.

Round-leaved Chaff Flower (*Achyranthes splendens* var. *rotundata*) Habitat Conservation Plan, Kenai Industrial Park, Kapolei, O‘ahu, Hawai‘i. Approved 2014

ITL Licensee: CIRI Land Development Company

Project: Industrial development on a 0.75-acre parcel

ITL Duration: February 10, 2014 – February 9, 2024



Achyranthes splendens var. *rotundata*.

Take Authorization Over 10-year Term:

| Common Name | Scientific Name | Total Authorized Over ITL Duration |
|---------------------------|--|------------------------------------|
| Round-leaved Chaff Flower | <i>Achyranthes splendens</i> var. <i>rotundata</i> | 3 individuals and their seed bank |

Status of ITL: No plants were removed during this reporting period.

Approximately 23,000 seeds were collected during the reporting period. Roughly 400 of the seeds collected were used to germinate plants at Hui Ku Maoli Ola native plant nursery, the remainder are in storage at the Lyon seed facilities. The seeds at Hui Ku Maoli Ola were propagated during the reporting period and will be used for outplanting at the mitigation site.

Mitigation Status:

Round-leaved Chaff Flower. In accordance with the HCP, seeds have been collected from the project site and have been either stored or propagated for future out-planting at the mitigation site located at the Kalaeloa Unit of the Pearl Harbor National Wildlife Refuge. A planting plan for the mitigation site was submitted to DOFAW during this reporting period.

Issues:

None.

Staff Recommendations:

None.

Habitat Conservation Plan for *Abutilon menziesii* at Kapolei, O‘ahu. Approved 2004.

ITL Licensee: Hawai‘i Department of Transportation

Project: Development of 1,300-acre East Kapolei Master Plan project and construction of the North-South Road arterial highway planned to bisect the 1,300-acre property.

ITL Duration: March 18, 2005 – July 31, 2021

Take Authorization: All plant individuals of *Abutilon menziesii* within the 1,381-acre project area.



*Ko'oloa'ula (Abutilon menziesii),
Island of O‘ahu.*

Mitigation Status:

Abutilon menziesii. The goal of the HCP is to initiate and sustain a program that will result in an overall net gain in the number of endangered *Abutilon menziesii* plants on O‘ahu. The end goal is the establishment of three protected self-sustaining populations of *A. menziesii* from the single degraded Kapolei population. Populations of *A. menziesii* have been successfully established at the following sites: 1) Diamond Head State Park; 2) Koko Crater Botanical Garden; 3) Honouliuli Refuge part of the U.S. Fish and Wildlife Service (USFWS) O‘ahu National Wildlife Refuge Complex; 4) Pouhala Marsh on City and County property in Waipahu; and 5) Ewa Villages Golf Course in close proximity to the project site. From an original founder population of 93 plants on the project site in 2002, outplanting efforts have resulted in establishment of 348 mature *A. menziesii* plant individuals throughout the five off-site mitigation areas and an additional 64 mature *A. menziesii* plant individuals on the on-site contingency reserve area. A Division of Forestry and Wildlife (DOFAW) Horticulturist and Botanist are working to ensure successful natural regeneration of outplanted individuals. Current monitoring data indicate that a total of 41 seedlings from outplanted individuals have survived beyond four years. The goal in the next fiscal year is to increase the survival of seedlings from natural generation through weed management, education, outreach, and site maintenance.

Issues:

Significant set-backs and challenges have occurred since the implementation of the mitigation under the HCP. See separate submittal document.

Staff Recommendations:

That the ESRC provide comments on the proposed change to the existing *A. menziesii* HCP to include new success criteria that still meet the required net benefit criteria under HRS Chapter 195D-4.

II. SUMMARY OF SAFE HARBOR AGREEMENTS AND ASSOCIATED INCIDENTAL TAKE LICENSES

Safe Harbor Agreement for Pu‘u o Hōkū Ranch, Moloka‘i. Approved 2001.

ITL Licensee: Pu‘u o Hōkū Ranch, Limited

Project: Reintroduce Nēnē (*Branta sandvicensis*) to Pu‘u o Hōkū Ranch, Moloka‘i.

ITL Duration: September 4, 2001 – unless rescinded ²²

Take Authorization: Incidental take of Nēnē on lands owned or otherwise controlled by Pu‘u o Hōkū Ranch, Limited.

Baseline Condition²³: No wild Nēnē on Pu‘u o Hōkū Ranch property or documented use of suitable habitat. At the time of agreement execution, there was no wild Nēnē on Moloka‘i.

Status of ITL: This SHA allows Pu‘u o Hōkū Ranch (Ranch) to reintroduce Nēnē on their property, construct a release pen, provide habitat for Nēnē grazing and breeding, and control predators in the release pen and breeding areas. A total of 74 birds were translocated to the Ranch from 2002-2005. Table 19 provides survey data over the past 13 years for the original 74 birds translocated to the Ranch. The percentage of the original 74 birds that were re-sighted is a factor of survey effort, and may not necessarily be a measure of translocation success.

Table 19. Record of Nēnē translocated to Pu‘u o Hōkū Ranch from 2002-2013, including fate and re-sighting information.

| Year | No. of Birds Translocated | No. of Known Fatalities | No. of Birds Sighted | Percentage (%) of Translocated Birds (minus known fatalities) Sighted |
|-------------|----------------------------------|--------------------------------|-----------------------------|--|
| 2014 | 0 | 0 | 6 | 9 |
| 2013 | 0 | 0 | 6 | 9 |
| 2012 | 0 | 0 | 6 | 9 |
| 2011 | 0 | 0 | 7 | 11 |
| 2010 | 0 | 0 | 8 | 13 |
| 2009 | 0 | 0 | 18 | 28 |
| 2008 | 0 | 1 | 33 | 52 |
| 2007 | 0 | 0 | 38 | 58 |
| 2006 | 0 | 5 | 29 | 45 |
| 2005 | 11 | 2 | 47 | 67 |
| 2004 | 8 | 1 | 42 | 69 |
| 2003 | 41 | 1 | 54 | 100 |

²² The SHA expired in 2008 and DOFAW is currently in discussion with Pu‘u o Hōkū Ranch to enter into a new SHA in the next Fiscal Year.

²³ Baseline Conditions describe endangered or threatened species population estimates and distribution, or the habitat characteristics that sustain seasonal or permanent use by such species. Safe Harbor Agreements must achieve a net conservation benefit above Baseline Conditions.

| | | | | |
|------|----|---|----|-----|
| 2002 | 14 | 0 | 14 | 100 |
|------|----|---|----|-----|

Observations from surveys throughout the reporting period resulted in a total of 104 banded birds and one unidentified²⁴ bird were seen. Annual data and survey observations indicate an estimated population of 105 individual Nēnē, including those from the original translocation efforts.



Nēnē, official bird of the State of Hawai'i, resting in the foreground.

A total of 30 mongooses and one cat were removed around the open-top release pen at the Ranch. No rats or dogs were trapped this year.

During the August – April nesting season, a total of eight nests were recorded within the open-top release pen at the Ranch. Of the eight nests, six nests were successful and resulted in a total of 13 hatchlings, with 12 successful fledglings banded.

Issues:

The original SHA expired in 2008 and DOFAW is working with the landowner to enter into a new agreement for next fiscal year.

Staff Recommendations:

None.

²⁴ The unidentified bird was a fledgling from last year that was subsequently banded this year.

**Programmatic Safe Harbor Agreement for Nēnē on the Island of Moloka‘i, Hawai‘i.
Approved 2003.**

ITL Licensee: DOFAW to issue Certificates of Inclusion under authority of §195D-22, HRS, to landowners signing Cooperative Agreements.

Project: Encourage private landowner management activities to benefit Nēnē and provide regulatory assurances if Nēnē occupy or breed on their property.

ITL Duration: April 7, 2003 – April 6, 2053

Take Authorization: Any Nēnē or Nēnē habitat above Baseline Conditions, as defined in respective landowner Cooperative Agreements

Baseline Condition: Not Applicable

Status of ITL: During the reporting period and to date, there are no landowners enrolled under this SHA; however discussions with interested landowners are ongoing.

Issues:

None.

Staff Recommendations:

None.

Safe Harbor Agreement for the Introduction of Nēnē to Pi‘iholo Ranch, Maui. Approved 2004.

ITL Licensee: Pi‘iholo Ranch, LLC

Project: Establish a Nēnē population on Pi‘iholo Ranch.

ITL Duration: September 21, 2004 – September 20, 2054

Take Authorization: Incidental take of Nēnē on lands owned or otherwise controlled by Pi‘iholo Ranch, LLC.



Pi‘iholo Ranch on Maui.

Baseline Condition: Following Nēnē reintroduction efforts on Maui that began at Haleakalā National Park in 1962, DOFAW began establishing a population in west Maui through a reintroduction program at Hanaula in 1995. However, prior to the development of the SHA, there had been no known Nēnē sightings at Pi‘iholo Ranch premises by DOFAW staff or Ranch personnel. Therefore the baseline condition was determined to be zero.

Status of ITL: Under this SHA, Pi‘iholo Ranch is maintaining or improving approximately 600 acres of Nēnē habitat for a period of 10 years. In cooperation with DOFAW, Pi‘iholo Ranch is undertaking the following activities: (1) construction of a Nēnē release pen; (2) predator control activities around Nēnē nesting and breeding sites; and (3) out-planting native plant species known to be Nēnē food sources.

Nēnē monitoring was performed on a weekly basis by Ranch and DOFAW personnel throughout the reporting period. A total of 48 birds were released to the Ranch from 2005-2008. There were no additional birds released from the Maui Bird Conservation Center after 2008. A total of 10 of the original released birds were sighted on Pi‘iholo Ranch during the reporting period. Observational survey monitoring for Nēnē on Pi‘iholo Ranch throughout the reporting period resulted in a total of 26 banded birds and two unidentified birds observed. Table 20 provides survey data over the past 10 years for the original 48 birds released to the Ranch. The percentage of the original 48 birds that were re-sighted is a factor of survey effort, and may not necessarily be a measure of release success.

Table 20. Record of Nēnē translocated to Pi‘iholo Ranch from 2005-2014, including fate and re-sighting information.

| Year | No. of Birds Translocated | No. of Known Fatalities | No. of Birds Sighted | Percentage (%) of Translocated Birds (minus known fatalities) Sighted |
|------|---------------------------|-------------------------|----------------------|---|
| 2014 | 0 | 0 | 10 | 23 |
| 2013 | 0 | 0 | 11 | 25 |
| 2012 | 0 | 0 | 11 | 25 |
| 2011 | 0 | 1 | 16 | 36 |
| 2010 | 0 | 0 | 23 | 51 |
| 2009 | 0 | 1 | 26 | 58 |
| 2008 | 10 | 0 | 30 | 65 |
| 2007 | 25 | 2 | 26 | 72 |
| 2006 | 8 | 0 | 12 | 92 |
| 2005 | 5 | 0 | 5 | 100 |

Annual data and survey observations indicate an estimated population of 33 individual Nēnē at Pi‘iholo Ranch, including those from the original translocation efforts. Additionally, 5 birds (2 parents and 3 offspring) were relocated to the Pi‘iholo Ranch pen from the Olinda Bird facility during this reporting period.

Nine nests were observed at Pi‘iholo Ranch during the reporting period. Eight of these nests were located in the open-top release pen and one was located on Ranch property but outside of the open-top release pen. The nest located outside the pen was depredated. A total of 26 goslings were sighted during the reporting period, and twelve fledged successfully.

At Pi‘iholo, a total of 46 acres were mowed annually both in and around the open-top release pen. Approximately 4 acres of alien vegetation were removed this season from the Ranch.

Predator control efforts resulted in a total of eight mongooses trapped and removed around the open-top release pen at Pi‘iholo Ranch. No rats, cats or dogs were trapped during the reporting period.

Issues:

The SHA expired in September of 2014 and the landowner has requested an extension with modifications to the agreement. DOFAW staff is working to finalize the amendment and extend the SHA.

Staff Recommendations:

None.

Safe Harbor Agreement for the Reintroduction of Nēnē to Haleakalā Ranch, Island of Maui. Approved 2012.

ITL Licensee: Haleakalā Ranch Company

Project: Establish a Nēnē population on Haleakalā Ranch, Maui.

ITL Duration: May 22, 2012 – May 21, 2062

Take Authorization: Incidental take of Nēnē on lands owned or otherwise controlled by Haleakalā Ranch.

Baseline Condition: There had been no Nēnē sightings at Haleakalā Ranch by DOFAW staff or ranch personnel, prior to execution of the SHA. Therefore the baseline condition was determined to be zero.

Status of ITL: Haleakalā Ranch is creating or improving approximately 1,600 acres of Nēnē habitat for a period of 10 years. In cooperation with DOFAW, Haleakalā Ranch is undertaking the following activities: (1) construction of a Nēnē release pen; (2) predator control activities around Nēnē nesting and breeding sites; and (3) maintenance of access roads leading to the Nēnē release pen.

DOFAW conducted weekly monitoring during the reporting period at Haleakalā Ranch. Data and observations indicate an estimated population of 40 individual birds. Of the 40 birds, 20 were identified as birds originally translocated or released at the site. Additionally, 15 translocated birds from Kaua‘i to Maui were observed at Haleakalā Ranch and a total of 30 of the Kaua‘i translocated birds were resighted throughout the island of Maui during this reporting period. Table 21 provides survey data over the past 4 years for the original 37 birds translocated to the Ranch. The percentage of the original 37 birds that were re-sighted is a factor of survey effort, and may not necessarily be a measure of translocation success.

Table 21. Record of Nēnē translocated to Haleakala Ranch from 2010-2014, including fate and re-sighting information.

| Year | No. of Birds Translocated | No. of Known Fatalities | No. of Birds Sighted | Percentage (%) of Translocated Birds Sighted |
|------|---------------------------|-------------------------|----------------------|--|
| 2014 | 0 | 2 | 23 | 72 |
| 2013 | 7 | 1 | 31 | 91 |
| 2012 | 20 | 2 | 30 | 100 |
| 2011 | 10 | 0 | 10 | 100 |

A total of 37 birds have been translocated to Haleakalā Ranch from 2011 – 2013. Annual data and survey observations indicate an estimated population of 40 individual Nēnē at Haleakalā

Ranch, including those from the original translocation efforts and released birds. During this reporting period, one bird originally translocated to the Haleakalā Ranch pen was found at Makena with clipped wings. This bird was recaptured and returned to the Haleakalā Ranch pen. Additionally, a pair from Horner Reservoir was released to the Haleakalā Ranch pen.

In FY 2014, five nests were found inside the Haleakalā Ranch open-top release pen and two nests were found outside the pen but on Haleakalā Ranch property. Four of the nests were successful with 12 goslings and eight successfully fledging.

Two Kaua‘i translocated birds brought to Haleakalā Ranch were discovered dead outside of the Haleakalā Ranch property. One adult was hit and killed by a car in Kahalui and one adult was found dead at Kanaha Pond. Additionally, one incidental take of a fledgling occurred at the Haleakalā Ranch pen during this reporting period (Table 22).

Table 22. Documented incidental take at the Haleakalā Ranch site during the reporting period.

| Common Name | Date | Condition Notes | ITL Covered Species (Yes/No) |
|--------------------|-------------|---|-------------------------------------|
| Hawaiian Goose | 9/18/13 | Fledgling carcass found caught in Nēnē release pen fence. | Yes |

Satellite transmitters are being placed on selected Nēnē from Kaua‘i prior to release at Haleakalā Ranch. The satellite transmitters will be used to track Nēnē movement and habitat use on Maui to better inform management approaches. A total of 6.5 acres on Haleakalā Ranch property was mowed to maintain Nēnē foraging habitat. Additionally, a total of 1.5 acres of alien vegetation were removed this season within the open-top release pen. Predator control efforts occurred around the Haleakalā Ranch open-top release pen. A total of seven mongooses, 30 rats, and three mice were removed. No cats or dogs were trapped at the ranch during the reporting period.

Issues:

None.

Staff Recommendations:

None.

Safe Harbor Agreement and Habitat Management Plan for the Koloa Maoli or Hawaiian Duck (*Anas wyvilliana*) and the Nēnē or Hawaiian Goose (*Branta sandvicensis*) on Umikoa Ranch, Island of Hawai'i. Approved 2001.



Koloa Maoli or Hawaiian Duck, endemic to the Hawaiian Islands.

ITL Licensee: Umikoa Ranch

Project: Establish a Koloa and Nēnē population on privately owned lands of Umikoa Ranch in the Hamakua District of Hawai'i island.

ITL Duration: December 5, 2001 – December 4, 2100

Take Authorization: Incidental take of Nēnē and Koloa, including their progeny, on lands owned or otherwise controlled by Umikoa Ranch, provided that such take is above established baseline conditions.

Baseline Condition: The Baseline Conditions for Koloa and Nēnē were determined from monthly biological surveys conducted between January and October 2000. During this time there were five existing ponds ranging from 0.12 to 0.30 acres, providing approximately one acre of open water habitat, in addition to 5 acres of adjacent upland habitat. Surveys indicated that the Umikoa wetland area was frequented by a single pair of wild Koloa. Therefore, the baseline for Koloa was determined to be two individuals, 1 acre of open water habitat, and 5 acres of adjacent upland habitat. The baseline for Nēnē was determined to be zero.

Status of ITL: Umikoa Ranch is creating or managing up to two acres of wetland ponds and 150 acres of riparian and associated upland habitat. Ten individual ponds, totaling 2.01 acres and an additional 151.3 acres of ponds and upland habitat have been fenced, and are being managed to support Koloa and Nēnē conservation efforts. DOFAW will continue to work with Umikoa Ranch in the next fiscal year.

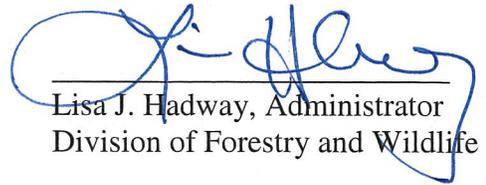
Issues:

DOFAW staff has been in discussions with the land manager to arrange an annual site visit but due to scheduling issues and staffing constraints has been unable to secure a visit this fiscal year.

Staff Recommendations:

DOFAW staff plans to conduct a site visit this year, and will report to the ESRC with an update at a following meeting.

Respectfully Submitted,



Lisa J. Hadway, Administrator
Division of Forestry and Wildlife

Attachment I: Status of Mitigation and Funding for all HCP/ITL Holders

Attachment I

Status of Mitigation and Funding for all HCP/ITL Holders

Key

On track Behind

| Abutilon | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|-----------------------|--|----------|--|--|--|---|
| | <i>Abutilon menziesii</i> | 1 | Outplanting to Establish Self-Sustaining Populations | Five locations on Oahu | Current, all paid to DOFAW | Short term goals met, long term goals not yet met; success criteria challenging |
| Kenai Industrial Park | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
| | <i>Achyranthes splendens</i> var. <i>rotundata</i> | 1 | Seed Storage, Propagation, and Outplanting | Kalaehoa Unit of the Pearl Harbor National Wildlife Refuge, Oahu | Procured by CIRI | Planting plan reviewed and approved by DFOAW, In compliance; ongoing |
| KWP I | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
| | Petrel & Shearwater | Baseline | Predator Exclusion & Social Attraction (joint w/ KWP II) | Makamaka'ole, West Maui | Procured by First Wind | In compliance; ongoing |
| | Nene | Baseline | Construction of Nene Release Pen | Haleakala Ranch, East Maui | Current, all paid to DOFAW | In compliance; ongoing |
| | Hawaiian hoary bat | Baseline | Research Funding | N/A | Current, all paid to DOFAW | In compliance; ongoing |
| | Hawaiian hoary bat | Higher | Currently in discussion w/ agencies | N/A | First \$20,000 paid to DOFAW - DOFAW has returned check until final cost is determined | Plan not yet developed |

| KWP II | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|---------------|---------------------|--------------------|---|--------------------------------|-------------------------------|--|
| | Petrel & Shearwater | 1 | Predator Exclusion & Social Attraction (joint w/ KWP I) | Makamaka'ole, West Maui | Procured by First Wind | In compliance; ongoing |
| | Nene | 1 | Construction of Nene Release Pen | Undetermined | Cost not yet determined | Must be completed by June 2015 |
| | Hawaiian hoary bat | 1 | Restoration of 340 Acres of Habitat (Tier 1 & 2) | Kahikinui Forest Reserve, Maui | Current, all paid to DOFAW | In compliance; implementation began at the beginning of FY2015 |
| | Hawaiian hoary bat | 2 | Restoration of 340 Acres of Habitat (Tier 1 & 2) | Kahikinui Forest Reserve, Maui | Current, all paid to DOFAW | In compliance; implementation began at the beginning of FY2015 |
| | Hawaiian hoary bat | 3 – to be proposed | Not yet developed | N/A | Final cost not yet determined | Plan not yet developed |

| Kahuku | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|---------------|-----------------------------|-------------|--------------------------------------|---------------------------|----------------------------|--|
| | Petrel & Shearwater | 1 | Predator Control in Seabird Colonies | Multiple locations, Kauai | Current, all paid to DOFAW | Currently hiring for tech positions |
| | Stilt, coot, moorhen, koloa | 1 | Hamakua Marsh Wetland Restoration | Kailua, Oahu | Current, all paid to DOFAW | Mitigation targets for all species except coots met, on target to complete by FY 2015 |
| | Hawaiian hoary bat | 1 | Ungulate-Proof Fence Construction | Kahikinui, Maui | Current, all paid to DOFAW | In compliance; implementation began at the beginning of FY2015 |
| | Pueo | 1 | Contribution to Research | N/A | Current, all paid to DOFAW | DOFAW currently developing project scope of work combining pueo funds from multiple wind farms |

| Kawailoa | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|-----------------|-----------------------------|-------------|--|--|--|--|
| | Shearwater | 1 | Seabird Colony Monitoring | Multiple locations, Kauai | Current, all paid to DOFAW | In compliance; ongoing |
| | Stilt, coot, moorhen, koloa | 1 | U'koa Pond Restoration | Haleiwa, Oahu | Procured by First Wind | In compliance; ongoing |
| | Hawaiian hoary bat | 1 | U'koa Pond Restoration | Haleiwa, Oahu | Procured by First Wind | In compliance; ongoing |
| | Hawaiian hoary bat | 2 | In development | Proposed restoration of 300 acres in the Mauka Kawailoa unit of the northern Koolaus; \$100k toward bat research | Final cost not yet determined | Plan currently in development and review process |
| | Pueo | 1 | Pueo Rehabilitation & Research Funding | Hawaii & Oahu | Current, all paid to DOFAW and Hawaii Wildlife Rehabilitation Center | DOFAW currently developing project scope of work combining pueo funds from multiple wind farms |

| Auwahi | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|---------------|-------------------------|-------------|--|---|-----------------------|---|
| | Petrel | 1 | Burrow Monitoring | Kahikinui Forest Reserve, Maui | Procured by Sempra | In compliance; ongoing |
| | Nene | 1 | Contribution to Nene Pen and Pedator Fence | Haleakala National Park, Maui | Procured by Sempra | In compliance; complete |
| | Hawaiian hoary bat | 1 | Restoration of 130 Acres of Habitat | Waihou Mitigation Area, Maui | Procured by Sempra | In compliance; complete |
| | Hawaiian hoary bat | 2 | Telemetry & Acoustic Monitoring | Waihou Mitigation Area, Maui | Procured by Sempra | Implementation to begin in FY2015 |
| | Blackburn's sphinx moth | 1 | Dryland Forest Restoration | Auwahi Forest Restoration Project, Maui | Procured by Sempra | In compliance; ongoing |

| Lanai Met Towers | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|-------------------------|---------------------|-------------|--|-------------------|----------------------------|---|
| | Petrel & Shearwater | 1 | Habitat Restoration and Predator Control | Lanaihale, Lanai | Current, all paid to DOFAW | In compliance; complete |
| | Hawaiian stilt | 1 | Predator Control at Lanai Wastewater Treatment Plant | Lanai City, Lanai | Current, all paid to DOFAW | In compliance; complete |
| | Hawaiian hoary bat | 1 | Habitat Restoration and Predator Control | Lanaihale, Lanai | Current, all paid to DOFAW | In compliance; complete |

| Cyanotech | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|------------------|----------------|-------------|---|--------------------|--|---|
| | Hawaiian stilt | 1 | Predator Control at Opaeha Pond or other wetland site | North Kona, Hawaii | Cyanotech is working with the private land owner to fund predator control efforts since 2006 | Currently mitigation is behind permitted take |

| DKIST (ATST) | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|---------------------|-----------------|-------------|--|---|-----------------------|---|
| | Hawaiian petrel | 1 | Monitoring, Fence Construction, & Predator Control | Adjacent to Haleakalā National Park, Maui | Procured by DKIST | In compliance; ongoing |

| Kauai Lagoons | Species | Tier | Project | Location | Payment Status | Mitigation Milestones & Status |
|----------------------|-----------------------------|-------------|---------------------------------|--|-----------------------------------|---|
| | Petrels & Shearwater | 1 | \$10,000 Annual Funding to NFWF | N/A | Current, ongoing payments to NFWF | In compliance; ongoing |
| | Stilt, coot, moorhen, koloa | 1 | Monitoring and Predator Control | Kauai Lagoons, Kauai | Current, all paid to DOFAW | In compliance; ongoing |
| | Nene | 1 | Monitoring and Predator Control | Kauai Lagoons, Kauai and a nene translocation site TBD in 2016 | Current, all paid to DOFAW | In compliance; ongoing |