

REPORT TO THE TWENTY-EIGHTH LEGISLATURE
REGULAR SESSION OF 2015

STATUS OF THE ISSUANCE OF INCIDENTAL TAKE
LICENSES FOR ENDANGERED, THREATENED, PROPOSED,
AND CANDIDATE SPECIES; AND
THE CONDITION OF
THE ENDANGERED SPECIES TRUST FUND
FOR THE PERIOD JULY 1, 2013 – JUNE 30, 2014



Prepared by

THE STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE

In response to Section 195D-26, Hawai'i Revised Statutes

Honolulu, Hawai'i
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PURPOSE

Act 380, Session Laws of Hawai‘i (SLH) 1997, amended the State Endangered Species Law, Chapter 195D, Hawai‘i Revised Statutes (HRS), to provide for the preparation and implementation of habitat conservation plans (HCPs) and safe harbor agreements (SHAs), and to provide additional incentives for private landowners to recover and protect threatened and endangered species on their lands. Specifically, §195D-26, HRS, requires that an annual report be prepared by the Department of Land and Natural Resources (DLNR) on:

- The effectiveness of Habitat Conservation Plans and Safe Harbor Agreements issued under §195D, HRS, and the status of all species for which incidental take licenses have been issued;
- Description of the condition of the Endangered Species Trust Fund established under §195D-31, HRS; and
- Recommendations to further the purposes of §195D, HRS.

Incidental Take Licenses (ITLs) are issued in conjunction with an approved HCP or SHA for the legal take¹ of threatened or endangered species, if such take is incidental to an otherwise lawful activity. Habitat Conservation Plans and Safe Harbor Agreements are important management tools in the State of Hawai‘i by accomplishing the following:

- Resolves conflicts between endangered species protection and legitimate use of natural resources;
- Contributes to endangered species recovery efforts through partnerships and proactive planning; and
- Provides essential ecological information for Hawai‘i’s resource managers by requiring a strong monitoring component in all HCPs.

This annual report is submitted to fulfill the reporting requirement for Fiscal Year (FY) 2014 and provides detailed information for 11 HCPs and five SHAs approved under the ITL program. The report is organized by HCP project type, provides an overview of SHAs, describes the condition of the Endangered Species Trust Fund, and concludes with recommendations to further the purposes of §195D, HRS.

¹ “Take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect endangered or threatened species of aquatic life or wildlife, or to cut, collect, uproot, destroy, injure, or possess endangered or threatened species of aquatic life or land plants, or to attempt to engage in any such conduct (§195D-2, HRS).

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

Transportation Projects

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.

Funding Source and Status: Funding to implement mitigation activities was provided to DOFAW from the Hawai‘i Department of Transportation. Table 1 provides the HCP summary of revenue and expenditures. Act 328, SLH 1997 established a separate appropriation (S-97-800) for transactions related to the *Abutilon menziesii* HCP. Per Act 134/SLH 2013, Section 5, all prior General Appropriation Acts including the appropriation set-up for the *Abutilon menziesii* HCP shall lapse as of June 30, 2014. Therefore, at the end of this reporting period, funds from S-

97-800 appropriation were encumbered and revenues generated from this reporting period were placed in the Endangered Species Trust Fund.

Table 1. Summary of Revenue and Expenditures for the *Abutilon menziesii* HCP at Kapolei.

Description	Revenue	Expenditure
Beginning cash balance	\$555,352.96	
Interest earned in FY14	\$1,480.94	
Expenditures in FY14		\$135,140.57
Revenues in FY14	\$50,000.00	
Encumbrances in FY14		\$257,562.94
Interest earned rolled into General Fund per Act 134/SLH2013		\$175,790.43
Ending cash balance		\$38,339.96

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.



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

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

Take Authorization Over 20-year Term:

Common Name	Scientific Name	Baseline Limit ²	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
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 2 and 3 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. 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	Date	Location (WTG)	Carcass Distance from WTG (m)
Hawaiian Hoary Bat	9/10/13	10	48.5
Nēnē	10/17/13	15	50.5
Pueo ³	12/3/13	4	51
Hawaiian Hoary Bat	12/14/13	18	35.2
Nēnē	12/29/13	16	69
Hawaiian Hoary Bat	2/24/14	16	26.8
Hawaiian Hoary Bat	5/7/14	6	33
Pueo	6/4/14	7	63.5
Nēnē	6/16/14	5	70
Hawaiian Petrel	6/24/14	3	18

² 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.

³ The Pueo (Hawaiian Short-eared Owl) is considered a species of concern on Maui.

Table 3. Documented fatalities of Migratory Bird Treaty Act (MBTA)-listed species and non-covered species at KWP I during the reporting period.

Common Name	Date	Location (WTG)	Carcass Distance from WTG (m)
Common Myna	7/8/13	12	25
Ring-necked Pheasant	7/8/13	13	35
White-tailed Tropicbird	8/2/13	14	69
Ring-necked Pheasant	8/5/13	8	65
Ring-necked Pheasant	8/5/13	11-12	106
Eurasian Skylark	10/10/13	14	73.3
Eurasian Skylark	11/1/13	8	49
Eurasian Skylark	12/4/13	17	15.6
Ring-necked Pheasant	3/17/14	7	89.2
White-tailed Tropicbird	3/26/14	5	49.4
Ring-necked Pheasant	3/26/14	9	3.2
Ring-necked Pheasant	3/26/14	5	30
Ring-necked Pheasant	3/26/14	6	55.5
Ring-necked Pheasant	4/1/14	2	0.61
Gray Francolin	4/4/14	6	0.3
White-tailed Tropicbird	4/4/14	6	31
Pacific Golden Plover	4/10/14	6	70.8
Pacific Golden Plover	4/10/14	6	42.6
Ring-necked Pheasant	4/10/14	9	43.7
Japanese White-eye	4/18/14	18	22.5
Ring-necked Pheasant	4/18/14	19	38.5
Unknown species	4/29/14	11	43
Pacific Golden Plover	5/8/14	Phase I Substation	113 from WTG 11
Eurasian Skylark	6/9/14	6	37.5

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 Absence⁴ estimator intended for use when less than five or six carcasses have been detected or the USGS Data Series 729 Estimator⁵ when more than five or six carcasses have been detected (pers. comm. Huso, 2014).

Table 4 provides an estimate of the overall total adjusted take that has occurred since KWP I ITL issuance.

Table 4. 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 Take⁶	Statistical conclusion	Lost Productivity / Indirect Take⁷
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 Hoary Bat	8	16	24	80% certain that no more than 29 fatalities have occurred	N/A

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.

⁴ 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>.

⁵ Huso, M.M.P., N. Som, L. Ladd. 2012. Fatality Estimator. U.S. Geological Survey, Data Series (Draft).

⁶ 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.

⁷ Assessed in addition to Total Adjusted Take.

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.

Funding Status: First Wind is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. Below is a breakdown of revenue and expenditures related to DOFAW’s implementation of mitigation efforts associated with the KWP I HCP.

Table 5. Summary of Revenue and Expenditures for the KWP I HCP.

Description	Revenue	Expenditure
Revenue rolled over from previous years	\$139,419.79	
Total revenue in FY14	\$0	
Expenditures in FY14		\$3,997.56
Ending cash balance		\$135,422.23

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 6 and 7 provide a listing of all documented wildlife fatalities during the reporting period.

Table 6. Documented fatalities of HCP covered species and species of concern at KWP II 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	Date	Location (WTG)	Carcass Distance from WTG (m)
Hawaiian Hoary Bat	11/5/13	7	25.8
Hawaiian Hoary Bat	2/26/14	2	34.1

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

Common Name	Date	Location (WTG)	Carcass Distance from WTG (m)
Spotted Dove	10/29/13	7	0
African Silverbill	11/19/13	2	<1
Wedge-tailed Shearwater	11/26/13	5	38.2
Eurasian Skylark	12/3/13	12	27.4
Spotted Dove	12/9/13	5	<1
Eurasian Skylark	1/31/14	4	4
Eurasian Skylark	2/21/14	11	31
Common Myna	3/31/14	3	4.2

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 8 provides an estimate of the overall total adjusted take that has occurred since KWP II ITL issuance.

Table 8. 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 ⁸	Statistical conclusion	Lost Productivity / Indirect Take ⁹
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 ¹⁰

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.

⁸ 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.

⁹ Assessed in addition to Total Adjusted Take.

¹⁰ Loss of productivity changes to 2 at the 80% credibility level

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 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.

Funding Status:

Kaheawa Wind Power II, LLC is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. Below is a breakdown of revenue and expenditures related to DOFAW's implementation of mitigation efforts associated with the KWP II HCP.

Table 9. Summary of Revenue and Expenditures for the KWP II HCP.

Description	Revenue	Expenditure
Revenue rolled over from previous years	\$25,000.00	
Total revenue in FY14	\$375,000.00	
Expenditures in FY14		\$0
Ending cash balance		\$400,000.00

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.

Funding Status: Castle & Cooke Resorts, LLC is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. No funds were spent or received in FY 2014.

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 ¹¹	5-year Take Limit ¹²	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

¹¹ 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.

¹² “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 10 provides a listing of all documented wildlife fatalities at the Kahuku Wind Power facility during the reporting period.

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

Common Name	Date	Location (WTG)	Carcass Distance from WTG (m)
Cattle Egret	7/29/13	4	1
Great Frigatebird	8/7/13	9	94
Great Frigatebird	9/3/13	8	90
Great Frigatebird	10/29/13	8	27
Great Frigatebird	12/2/13	2	61
Great Frigatebird	12/9/13	12	42
Cattle Egret	12/18/13	10	5.5
Red-crested Cardinal	12/18/13	6	2
Pacific Golden Plover	1/21/14	1	26
Great Frigatebird	2/26/14	12	83
Spotted Dove	3/21/14	8	13
Cattle Egret	3/25/14	9	Not recorded
Ring-neck Pheasant	4/10/14	7	5
Spotted Dove	4/22/14	11	1
Cattle Egret	4/28/14	3	66
Spotted Dove	5/13/14	11	1
Common Waxbill	5/22/14	2	51
Common Waxbill	6/3/14	11	35
Common Waxbill	6/3/14	12	15

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

Table 11. 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 ¹³	Statistical conclusion	Lost Productivity / Indirect Take ¹⁴
Hawaiian Hoary Bat	3	2	5	80% certain that no more than 6 fatalities have occurred	1

¹³ 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.

¹⁴ 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.

Funding Status: Kahuku Wind Power, LLC is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. Below is a breakdown of revenue and expenditures related to DOFAW’s implementation of mitigation efforts associated with the Kahuku HCP.

Table 12. Summary of Revenue and Expenditures for the Kahuku HCP

Description	Revenue	Expenditure
Revenue rolled over from previous years	\$391,943.11	
Total revenue in FY14	\$294,455.00	
Expenditures in FY14		\$106,563.50
Ending cash balance		\$579,834.61

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



Kawailoa Wind Power, O‘ahu

Take Authorization Over 20-year Term:

Common Name	Scientific Name	Level of Take	5-year Take Limit ¹⁵	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 &	48 adults/ immatures &

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

			16 juveniles	24 juveniles
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 13 and 14 provide a listing of all documented wildlife fatalities at the Kawailoa Wind Power facility during FY 2014.

Table 13. Documented fatalities of HCP covered species and species of concern at Kawailoa Wind Power 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	Date	Location (WTG)	Carcass Distance from WTG (m)
Hawaiian Hoary Bat	7/15/13	10	36
Hawaiian Hoary Bat	8/12/13	5	18
Hawaiian Hoary Bat	8/12/13	14	34
Hawaiian Hoary Bat	9/4/13	19	45
Hawaiian Hoary Bat	9/17/13	30	35
Hawaiian Hoary Bat	9/24/2013	29	55
Hawaiian Hoary Bat	10/4/13	25	53
Hawaiian Hoary Bat	6/2/14	1	54
Hawaiian Hoary Bat	6/17/14	30	21

Table 14. Documented fatalities of MBTA-listed species and non-covered species at Kawailoa during the reporting period.

Common Name	Date	Location (WTG)	Carcass Distance from WTG (m)
Zebra Dove	7/17/13	23	1
Zebra Dove	7/18/13	11	1
Common Myna	7/30/13	18	55
Common Myna	8/7/13	28	30
Common Myna	8/8/13	4	1
Common Myna	8/8/13	12	20
Common Myna	8/8/13	13	75
Common Myna	8/9/13	28	5
Cattle Egret	8/13/13	20	110
Nutmeg Mannikin	8/20/13	19	5
Common Myna	8/20/13	17	45
Pacific Golden Plover	9/12/13	14	87
Common Myna	9/17/13	20	5
Grey Francolin	9/23/13	19	1
Nutmeg Mannikin	10/23/13	23	1
White-tailed Tropicbird	10/24/13	7	41.8
Common Myna	10/24/13	6	5
Common Myna	10/28/13	2	5
Pacific Golden Plover	11/12/13	2	69.4
Pacific Golden Plover	11/26/13	22	90
Nutmeg Mannikin	12/30/13	5	7
Spotted Dove	1/7/14	23	3

Common Name	Date	Location (WTG)	Carcass Distance from WTG (m)
Zebra Dove	1/23/14	30	95
Red-crested Cardinal	2/6/14	27	71
Common Waxbill	2/6/14	26	5
Cattle Egret	2/14/14	27	112
Spotted Dove	2/26/14	27	9
Spotted Dove	3/11/14	18	15
Ring-neck Pheasant	3/13/14	28	94
House Finch	3/20/14	8	1
Spotted Dove	3/27/14	3	1
House Finch	4/3/14	6	0.5
Zebra Dove	4/8/14	29	1
Common Myna	4/11/14	28	3
Common Myna	4/16/14	12	5
Common Myna	5/5/14	5	4
Spotted Dove	5/16/14	13	3
Great Frigatebird	5/22/14	20	37
Common Myna	5/28/14	26	4
Common Myna	6/3/14	30	2
Common Myna	6/5/14	14	3
Common Waxbill	6/5/14	3	82
White-tailed Tropicbird	6/9/14	11	30
Nutmeg Mannikin	6/10/14	25	24
Great Frigatebird	6/12/14	6	30
Great Frigatebird	6/20/14	21	15
Spotted Dove	6/23/14	11	2
Common Myna	6/30/14	15	71

Table 15 provides an estimate of the overall total adjusted take that has occurred since Kawaioloa Wind ITL issuance.

Table 15. 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 ¹⁶	Statistical conclusion	Lost Productivity / Indirect Take ¹⁷
Hawaiian Hoary Bat	14	7	21	80% certain that no more than 24 fatalities have occurred	1

¹⁶ 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.

¹⁷ Assessed in addition to Total Adjusted Take.

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. Kawailoa Wind has entered Tier 2 levels of bat take and is currently working towards planning and implementing Tier 2 bat mitigation.

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 Kawailoa 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



Female Hawaiian Hoary Bat caught at 'U'koa Wetland, Oahu.

nearby Kahuku Wind facility, weather records, and portable ground-level monitoring station data from Kawaihoa. A draft report is expected in early FY 2015.

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, Kawaihoa 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, Kawaihoa is currently implementing LWSC from February 10 through December 15.

The restoration portion of Tier 1 mitigation for Kawaihoa 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 Kawaihoa 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.

Funding Status: Kawaihoa Wind Power, LLC is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. Below is a breakdown of revenue and expenditures related to DOFAW’s implementation of mitigation efforts associated with the Kawaihoa HCP.

Table 16. Summary of Revenue and Expenditures for the Kawaihoa HCP.

Description	Revenue	Expenditure
Revenue rolled over from previous years	\$0	
Total revenue in FY 2014	\$18,069.50	
Expenditures in FY 2014		\$0
Ending cash balance		\$18,069.50

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 17 and 18 provide a listing of all documented wildlife fatalities at the Auwahi Wind Energy facility during FY 2014.

Table 17. 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	Date	Location (WTG)	Carcass Distance from WTG (m)
Hawaiian Hoary Bat	10/9/13	2	8

Table 18. Documented fatalities of MBTA-listed species and non-covered species at Auwahi during the reporting period.

Common Name	Date	Location (WTG)	Carcass Distance from WTG (m)
Great Frigatebird	12/21/13	5	36
Zebra Dove	11/27/13	Along road	1,400
African Silverbill	12/2/13	2	84
Common House Sparrow	1/10/14	1	77

Common Name	Date	Location (WTG)	Carcass Distance from WTG (m)
Gray Francolin	2/3/14	8	100
Common Myna	2/12/14	2	8
African Silverbill	2/13/14	3	14
African Silverbill	2/21/14	2	5
African Silverbill	2/21/14	2	5
Common House Sparrow	2/27/14	Along road	2,000
Common House Sparrow	3/21/14	2	39
Cattle Egret	4/22/14	O&M facility	1,300
Common Chukar	4/29/14	4	4
Gray Francolin	5/23/14	6	1
Bulwer's Petrel	6/24/14	7	120
Wedge-tailed Shearwater	6/25/14	5	80
Bulwer's Petrel	6/27/14	5	43

Table 19 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 19. 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 ¹⁸	Statistical conclusion	Lost Productivity / Indirect Take ¹⁹
Hawaiian Hoary Bat	1	6	4	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

¹⁸ 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.

¹⁹ Assessed in addition to Total Adjusted Take.

burrows throughout the breeding season to document reproductive success and predation events. 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.

Funding Status: Auwahi Wind Energy, LLC is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. In FY 2014, Auwahi Wind Energy used their own procurement processes to fulfill HCP obligations.

Other Development Projects

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 ²⁰

Status of ITL: Table 20 provides a listing of all documented wildlife fatalities during the reporting period.

Table 20. Documented wildlife fatalities at the Cyanotech Aquaculture Facility during the reporting period.

Common Name	Date	Condition Notes	ITL Covered Species (Yes/No)
Hawaiian Stilt	04/14/2014	Recovered from the Spirulina production raceway 65. Remains were in poor condition.	Yes

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

Table 21. 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 ²¹
Hawaiian Stilt	18	55

²⁰ 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.

²¹ 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.

Funding Status: Cyanotech Corporation is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. In FY 2014, Cyanotech used their own procurement processes to fulfill HCP obligations.

Habitat Conservation Plan for Construction of the Daniel K. Inouye Solar Telescope²² 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.

²² 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.

Funding Status: DKIST is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. In FY 2014, DKIST used their own procurement processes to fulfill HCP obligations.

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 22 provides a listing of all documented incidental take during the reporting period.

Table 22. Documented incidental take at the Kaua‘i Lagoons site during the reporting period.

Common Name	Date	Condition Notes	ITL Covered Species (Yes/No)
Hawaiian Duck	10/7/13	Carcass appeared 4-5 days old, found near Kalanipuu condos	Yes
Newell’s Shearwater	11/6/2013	Alive and retrieved by Kaua‘i SOS Program	Yes
Newell’s Shearwater	11/7/2013	Alive and retrieved by Kaua‘i SOS Program	Yes
Hawaiian Coot	1/21/2014	Carcass was moderately fresh on golf course	Yes
Nēnē	2/14/2014	Carcass found on golf course	Yes

Table 23 provides the observed mortalities that have occurred since Kauai 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 23. Total observed incidental take since ITL issuance under the Kaua‘i Lagoons ITL as of June 30, 2014.

Common Name	Total Observed Mortalities
Newell’s Shearwater	4
Nēnē	14*
Hawaiian Moorhen	2
Hawaiian Duck	4
Hawaiian Stilt	1
Hawaiian Coot	7

*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.

Funding Status: Kaua‘i Lagoons is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. Below is solely a breakdown of revenue and expenditures related to DOFAW’s implementation of mitigation efforts associated with the Kaua‘i Lagoons HCP.

Table 24. Summary of Revenue and Expenditures for the Kaua‘i Lagoons HCP.

Description	Revenue	Expenditure
Revenue rolled over from previous years	\$85,000	
Total revenue in FY 2014	\$0	
Expenditures in FY 2014		\$0
Ending cash balance		\$85,000

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.

Funding Status: CIRI Land Development Company is required to provide all funding necessary to fulfill obligations outlined in the approved HCP. In FY 2014, CIRI Land Development Company used their own procurement processes to fulfill HCP obligations.

**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 – September 3, 2008²³

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

Baseline Condition²⁴: 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 25 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 25. 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
2002	14	0	14	100

²³ DOFAW is currently in discussion with Pu‘u o Hōkū Ranch to enter into a new agreement in the next Fiscal Year.

²⁴ 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.

Observations from surveys throughout the reporting period resulted in a total of 104 banded birds and one unidentified²⁵ 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.

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.

²⁵ The unidentified bird was a fledgling from last year that was subsequently banded this year.

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 26 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 26. 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.

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 27 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 27. 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 28).

Table 28. 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.

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.

CONDITION OF THE ENDANGERED SPECIES TRUST FUND

Act 144, SLH 2004 established the Endangered Species Trust Fund, with purposes set forth in §195D-31, HRS.

Description	Expenditure	Revenue
Beginning Cash Balance		\$724,006.25
Revenue rolled over from Previous Years		\$19,193.36
Expenditures in FY2014	\$264,606.56	
Outstanding Encumbrances in FY2014	\$784,659.15	
Funds to Implement the Obligations of a Habitat Conservation Plan		\$1,105,387.43
Private Contributions for the Management and Recovery of Hawaii's Native Wildlife		\$674,032.47
Subtotal Ending Cash Balance		\$1,473,353.80
Funds rolled over from previous years HCP Technical Assistance Program		\$21,500.00
Funds Received as Payment for the Use of the HCP Technical Assistance Program		\$12,370.29
Total Ending Cash Balance		\$1,507,224.09

¹33% of this amount was provided to DOFAW to implement certain obligations under the federally-approved Kaua'i Island Utility Cooperative Short-term Seabird Habitat Conservation Plan, to conduct seabird protection activities on Kaua'i.

RECOMMENDATIONS TO FURTHER THE PURPOSES OF CHAPTER 195D, HRS

Habitat Conservation Plans and Safe Harbor Agreements are a necessary tool in Hawai'i to achieve endangered species protection while balancing growth and addressing the need for energy independence. Fiscal Year 2014 marks the sixteenth year since implementation of Chapter 195D, HRS, to include the issuance of Incidental Take Licenses (ITLs); and while the program has demonstrated successes over the last sixteen years, the following are recommendations to further improve implementation of Chapter 195D.

- Increase staff capacity statewide, currently at three staff members in administration managing statewide projects, in DLNR / DOFAW by providing for a fully funded State civil service position to effectively track and monitor funds and expenditures related to each Habitat Conservation Planning project. Additional staff capacity would allow further consistency in issuing ITLs and conducting follow-up monitoring for development projects.
- Conduct a comprehensive cumulative effects analysis on the ITL program to further understand the costs and benefits of issuing ITLs and the cumulative effects of ITLs on endangered species.
- Continue fostering partnerships between DLNR / DOFAW, other State and Federal agencies and private landowners to ensure program success.
- Conduct additional outreach to further educate private landowners and developers on the benefits of Habitat Conservation Planning and Safe Harbor Agreements.
- Provide resources to establish a habitat/conservation banking system as authorized under Chapter 195D-21(b)(1)(C).
- Establish administrative rules under Chapter 195D to provide guidelines, limitations, and parameters specific to the authority provided under Chapter 195D.

For information on DLNR's Endangered Species Recovery Committee, please go to <http://dlnr.hawaii.gov/wildlife/esrc/>

Or for further information and a full listing of the State's Habitat Conservation Plans and Safe Harbor Agreements, contact:

Department of Land and Natural Resources
Division of Forestry and Wildlife
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Honolulu, HI 96813
Email: Afsheen.A.Siddiqi@hawaii.gov
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