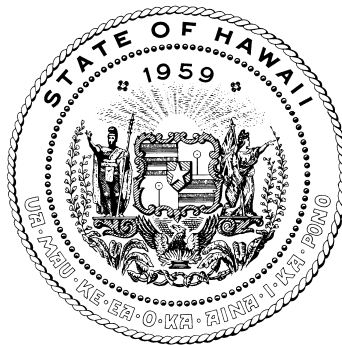


**REPORT TO THE TWENTY-SEVENTH LEGISLATURE  
REGULAR SESSION OF 2013**

**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, 2011 – JUNE 30, 2012**



**Prepared by**

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

In response to Section 195D-26, Hawaii Revised Statutes

Honolulu, Hawaii  
October 2012

**STATUS OF THE ISSUANCE OF  
INCIDENTAL TAKE LICENSES FOR ENDANGERED, THREATENED,  
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PURPOSE

Act 380, Session Laws of Hawaii (SLH) 1997, amended the State Endangered Species Law, Chapter 195D, Hawaii Revised Statutes (HRS), to provide for the preparation and implementation of habitat conservation plans and safe harbor agreements, 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:

1. The effectiveness of habitat conservation plans or safe harbor agreements issued under Chapter 195D, HRS, and the status of all species for which incidental take licenses have been issued;
2. Description of the condition of the Endangered Species Trust Fund established under §195D-31, HRS; and
3. Recommendations to further the purposes of Chapter 195D, HRS.

This annual report is submitted to fulfill the reporting requirement for Fiscal Year (FY) 2012.

FINDINGS

- 1) Effectiveness of Habitat Conservation Plans (HCP) and Safe Harbor Agreements (SHA) Issued Under Chapter 195D, HRS, and the status of all species for which incidental take licenses (ITL) have been issued:
  - a) The following individuals served on the Endangered Species Recovery Committee (“ESRC”) during FY 2012.
    - i) William Aila, Chairperson Board of Land and Natural Resources; Designated Representatives: Guy Kaulukukui, Deputy Director DLNR; Dr. Scott Fretz, Wildlife Program Manager DLNR.
    - ii) Dr. Loyal Mehrhoff, Field Supervisor, United States Fish and Wildlife Service (USFWS), Pacific Islands Fish & Wildlife Office, Honolulu (Agency Representative), Designated Representatives: Drs. Jeff Newman and Patrice Ashfield, USFWS, Pacific Islands Fish & Wildlife Office, Honolulu.
    - iii) Dr. Gordon Tribble, Director, United States Geological Survey (USGS), Pacific Islands Ecosystems Research Center (PIERC), Honolulu, Designated Representative: Dr. James Jacobi, USGS-PIERC, Honolulu

- iv) Dr. Cliff Morden, Assistant Professor, University of Hawaii Environmental Center, University of Hawai‘i, Mānoa.
  - v) Dr. Patrick J. Hart, Assistant Professor, University of Hawai‘i, Hilo, HI (Appointed Member, Term expires June 30, 2012. Reappointed during the 2012 Legislative session, term expires June 30, 2016).
  - vi) Dr. John Harrison, Executive Director, University of Hawaii Environmental Center, University of Hawai‘i, Mānoa, HI. (Appointed Member, Term expires June 30, 2013).
- b) ESRC met three times during the reporting period and provided consultation on the following issues, applications, proposals, and projects:
- Auwahi Wind Energy HCP
  - Department of Transportation (*Abutilon menziesii*) HCP
  - Kauai Lagoons HCP
  - Kauai Nēnē Relocation Plan
  - Kaheawa Wind Power I HCP
  - Lanai Meteorological Towers HCP
  - Kahikinui HCP Mitigation Pool
  - Kenai Industrial Park Draft HCP
  - Kahuku Wind Power HCP
- c) The sunset date on the issuance and approval of new SHAs, HCPs, and ITLs was extended to July 1, 2017 as a result of Act 145, SLH 2012, amending Act 380, SHL 1997. As of June 30, 2012, the following ITLs have been issued to accompany HCPs and SHAs:
- d) Summary of ITL’s issued to date and status of affected species.
- i) **Reintroduction of Nēnē to Pu‘u o Hoku Ranch, Moloka‘i.  
SHA, ITL Issued: September 4, 2001.**

The Pu‘u o Hoku Ranch was the first SHA issued in Hawai‘i. The SHA calls for Pu‘u o Hoku Ranch to allow the reintroduction of nēnē (*Branta sandvicensis*) on the Ranch, construct a release pen, provide habitat for nēnē grazing and breeding, and to control predators in the release pen and breeding areas. A total of 74 birds have been released at Pu‘u o Hoku Ranch since the beginning of the Agreement. The Moloka‘i nēnē population has increased from 0 to 77 birds in ten years, as a direct result of the Pu‘u o Hoku Ranch SHA activities (Table 1).

A total of 1.25 acres in and around the Pu‘u o Hoku Ranch open-top release pen were mowed by state personnel. Twenty-two additional acres in the lower portion of the ranch were mowed by ranch personnel. Approximately 0.2 acres of alien vegetation (*Lantana camara* and *Leucaena leucocephala*) were removed. Six a‘ali‘i native plant seedlings

were planted in the pen; however, no plants survived due to drought conditions.

During the nesting season, a total of 14 nests were recorded within the open-top release pen at Pu‘u o Hoku Ranch. No additional nests were located on the Ranch or adjacent to Pu‘u o Hoku. Of these 14 nests, 12 were from breeding pairs that have nested in previous breeding seasons. All 14 nests were successful and resulted in a total of 36 hatchlings, with 17 fledging into the wild.

Over the past year, a total of 75 birds were re-sighted and identified by their state and federal bands. Sixty-nine birds were recognized as Moloka‘i birds and six were released or relocated birds. Fifteen fledglings from Pu‘u o Hoku’s open-top release pen were banded this year. Two additional fledglings fledged the pens before banding could begin. Weekly observations and monitoring were accomplished by state personnel throughout the year on Pu‘u o Hoku Ranch. The annual nēnē survey was not conducted this year due to the Kauai Nēnē Translocation Project.

No adult or gosling mortalities occurred, and no birds were in need of rehabilitation this past season. There were no recaptures, relocations, or new releases of nēnē on Moloka‘i during the reporting period. A total of 40 mongooses were removed around the open-top release pen. No cats or dogs were trapped this year. Trapping was conducted only around the open-top release pen.

The Pu‘u o Hoku Ranch SHA has been a tremendous success. Ongoing predator control and invasive weed management has contributed to the continued success of this SHA. The Ranch is in the process of renewing the SHA.

Table 1. Pu‘u o Hoku SHA summary report for Nēnē.

Year	# released	# mortalities	# nests found	# fledged	# nests predated	# predators killed <sup>1</sup>	Est. Nēnē pop	# Incidental Take
2002	14	0	0	0	0	61	14	0
2003	41	1	4	2	no data	59	55	0
2004	8	1	6	10	no data	179	>54	0
2005	11	2	12	21	no data	17	>47	0
2006	0	5	12	9	2	83	>56	0
2007	0	0	21	22	10	16	146	0
2008	0	3	28	36	1	40	152	0
2009	0	6	17	14	5	22	173	0
2010	0	0	18	2	no data	18	121	0
2011	0	0	19	30	no data	49	83	0
2012	0	0	14	17	0	40	77	0
<b>Total</b>	<b>74</b>	<b>18</b>	<b>151</b>	<b>163</b>	<b>18</b>	<b>584</b>	<b>77</b>	<b>0</b>

Recommendations:

Continue to monitor nēnē movements and nesting activities for Pu‘u o Hoku Ranch. Continue to monitor, band, track movements and nesting activities of released birds and wild nēnē populations. Renew of Pu‘u o Hoku Ranch SHA and include proposal for additional release pen. If additional pen is denied, propose expansion of existing pen or

<sup>1</sup> Includes mongoose, cats, and dogs.

enclose portions of the pen to prevent overcrowding and potential gosling deaths.

ii) **HCP for Hawaiian Stilt at Cyanotech Aquaculture Facility. Keahole Point, Island of Hawaii. Approved/ ITL Issued: June 13, 2002.**

The HCP covers ongoing operations and maintenance activities at Cyanotech's Aquaculture Facility within the Natural Energy Laboratory of Hawaii Authority (NELHA) along the Kona Coast of Hawai'i Island, and provides mitigation for the accidental loss of juvenile ae'o (Hawaiian stilt or *Himantopus mexicanus knudseni*) in the Facility's production raceways (Figure 1; Table 2). The following mitigation measures have been implemented: 1) Cyanotech created and maintained a 1.7 acre basin on-site to produce optimum ae'o breeding habitat – 48 ae'o chicks were fledged (the raceway basin or pond was later drained and netted to prevent further nesting at the facility, avoiding conflicts with the adjacent Kona Airport); 2) Predator control to reduce ae'o mortality at off-site locations; and 3) Deterrent measures were also implemented to discourage ae'o from occupying the facility.

Cyanotech was also previously the site of a 0.69 hectare nesting habitat that had been maintained at the Facility as part of Cyanotech's HCP mitigation efforts for ae'o. The nesting habitat was managed from 1998-2002. As part of the HCP, habitat management was discontinued after the 2002-nesting season, to avoid conflicts with the nearby airport. The 45 fledglings produced in the area (48 in total minus three cases of incidental take) were sufficient to mitigate anticipated take on the two remaining years on Cyanotech's ITL. Predator control at the facility was utilized on an as needed basis with Havahart live traps. Predator control has since been used at off-site locations, including use of tamper-proof bait boxes baited with diphacinone rodenticide at Kealakehe Wastewater Treatment Plant, 'Opae'ula Pond, and Kukio Fishponds. Conservation work under this HCP has also included waterbird surveys at four wetland sites (Aimakapa Pond, Kaloko Pond, 'Opae'ula Pond, and Kukio Fishponds), one coastal reef site (Honokohau Reef) and one artificial habitat (Kealakehe Wastewater Treatment Plant).



Figure 1. Cyanotech Facility, Big Island (Hawai'i). Photo by S. Waddington

During the reporting period, the Cyanotech raceway ponds, used as a collection basin for waste product, were cleaned to eliminate the potential for ae'o to be attracted to invertebrate food sources. As per the HCP, surveying for incidental take was conducted twice per week during the nesting season (March through August) and once per week during the non-nesting season. Monitoring for injured or dead stilts was conducted daily as part of normal operations of the production raceways.

The total amount of incidental take at Cyanotech for FY 2012 was zero.

The lava field adjacent to the Cyanotech facility, where stilts had nested in previous years, was also monitored weekly for nesting activity. Surveys were conducted every Saturday during the nesting season. A Nikon 20 x 60 Fieldscope and Zeiss 10 x 40 binoculars were used to survey the lava field. No stilts were observed in the lava field.

Additionally, as part of the HCP, Cyanotech funds predator control efforts at 'Opae'ula Pond (Table 3). 'Opae'ula Pond is a 3.24 hectare coastal wetland located in the North Kona District of Hawai'i Island. The wetland is utilized by ae'o and other migratory waterbirds and shorebirds, including the 'alae ke'oke'o (Hawaiian coot or *Fulica alai*) for foraging and nesting. During the reporting period, within 'Opae'ula Pond, four ae'o nests were observed, including one confirmed hatchling; and three 'alae ke'oke'o nests with five confirmed hatchlings were observed.

The Cyanotech HCP has been very successful, both in terms of fledgling production, as well as adaptive management. Original management goals were for on-site stilt enhancement, which produced a net gain of 45 stilts. Potential conflict with the adjacent airport led to a change in management goals to avoid stilt use of the Cyanotech facility, and instead enhanced other areas off-site through predator control. This has resulted in

the net production of 74 ae‘o fledglings and 64 ‘alae ke‘oke‘o as a result of this project (Table 2).

**Table 2. Cyanotech HCP summary report for Hawaiian stilts and Hawaiian coots**

Year	Cyanotech Hawaiian stilts fledged	Cyanotech Hawaiian stilts pop size	# Incidental Take	Off-site Hawaiian stilts fledged	Off-site est. Hawaiian stilt pop size	Off-site Hawaiian coots fledged	Off-site est. Hawaiian coot pop size
2003	48	132	3	9	215	1	122
2004	0	38	6	3	162	8	90
2005	0	0	0	5	111	2	117
2006	0	11	1	9	133	3	93
2007	0	0	0	6	150	8	109
2008	1	3	0	8	136	14	104
2009	0	0	3	14	124	9	114
2010	0	0	0	12	150	6	79
2011	0	0	0	7	no data	8	no data
2012	0	0	0	1	no data	5	no data
<b>Total</b>	<b>49</b>	<b>184</b>	<b>13</b>	<b>74</b>	<b>1081</b>	<b>64</b>	<b>828</b>

Recommendations:

Continue to modify and improve current deterrent measures as well as identify and research new deterrent measures for the facility. Continue to modify and improve methods of reducing the invertebrate food source in the production raceways. Cyanotech requests that the wildlife agencies continue to work cooperatively with the Cyanotech staff to provide technical assistance on policy and conservation issues, as well as biological expertise (e.g., compliance, adaptive management, bird deterrents, etc.).

**Table 3: Summary of Revenue and Expenditures for Cyanotech HCP**

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$131,988.00	
Total revenue in FY 2012	\$0.00	
Expenditures rolled over from previous years		\$92,388.00
Total expenditures in FY 2012		\$0.00
<b>Total Balance</b>		<b>\$39,600</b>

iii) **Programmatic SHA for the Nēnē on the Island of Moloka‘i.  
SHA, ITL Issued: April 7, 2003.**

This is the first “programmatic” SHA issued in the State and DLNR’s Division of Forestry and Wildlife (DOFAW) is the licensee. Landowners may voluntarily enroll by signing a cooperative agreement with DOFAW. The SHA commits the landowner to make appropriate habitat on their land available to nēnē for a period of 10 years, and in return the landowner receives assurances from both state and federal agencies that they will not be held responsible if nēnē should be harmed or killed on their property incidental to otherwise legal activities, for the duration of the ITL, which expires in 2053.

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

iv) **HCP for the Endangered Plant *Abutilon menziesii* at Kapolei, Island of O‘ahu. Approved/ ITL Issued: April 8, 2004.**

This HCP covers a land area of 1,381 acres of state and city-owned property containing the endangered plant species, ko‘oloa‘ula (*Abutilon menziesii*) (Figure 2). The HCP was developed to mitigate the effects from construction of the North-South Road, Kapolei Parkway and subsequent developments within the area. The ITL authorized the Department of Transportation (DOT) to take all plants within the 1,381 acre project site, with the exception of plants located within the Contingency Reserve Area (CRA). The implementation of the HCP mitigates for the impact of development actions that may be conducted by DOT and other agencies/organizations within the project area, authorized for take through a Certificate of Inclusion (COI). To date, CIOs have been issued to the Department of Hawaiian Home Lands, the University of Hawai‘i, the City and County of Honolulu, and the Salvation Army.



Figure 2. Ko‘oloa‘ula (*Abutilon menziesii*) at Kapolei, Island of O‘ahu.

The HCP outlines the mitigation measures planned over the next 20 years. The goal of the HCP is to initiate and sustain a program which would result in an overall net gain in the number of *Abutilon menziesii* on O‘ahu. The end goal is the establishment of three protected off-site populations on O‘ahu from the single degraded Kapolei population.

The main focus during FY 2012 was to re-vegetate the CRA with common natives and pursue several options for new outplanting sites. To date, *Abutilon menziesii* has been outplanted at six different sites on O‘ahu: Diamond Head, Honouliuli Wildlife Refuge, Ewa Villages Golf Course, CRA (off of North South Road, Kapolei), Pouhala Marsh, and Koko Crater Botanical Garden. The Diamond Head, Honouliuli Wildlife Refuge, and a third yet unidentified site, will be used to accomplish the goal of establishing three self-



sustaining populations. The Koko Crater Botanical Garden and Ewa Villages Golf Course populations will function as protected repositories for the full genetic stock of the Kapolei population. The Pouhala Marsh site is an experimental site meant to test the biological requirements of the plant. Pouhala Marsh has potential to be the third site housing a self-sustaining population. There was once a mitigation site at Ka'ena Point, but a fire wiped out that population on August 15, 2007. Additionally, contact was made in FY 2012 with three landowners to find potential outplanting sites. A formal proposal was submitted to Pioneer Hybrid Seed of Waialua for access to a five acre outplanting site and progress for obtaining a new site will be continued through FY 2013.

Through this HCP there has been a fourfold increase from a founder population of 93 plants in 2002, to 435 mature plants at all six outplanting sites. While yearling survival has been low over this period, the population at the CRA has also had slow reproductive rates over the same period of time, probably due to natural inter-annual variation in this slow-reproducing species and different issues at each of the outplanting sites. For example, weeds were problematic at the CRA and the Diamond Head site, while irrigation was present at the Ewa Villages Golf Course and Koko Crater Botanical Garden. Dust from adjacent site construction has also been problematic at the CRA. The goals for FY 2013 vary for each of the outplanting sites and are outlined in Table 4.

Table 4: FY 2013 Goals at Each *Abutilon menziesii* Mitigation Site

Site	FY 2013 Goal
Diamond Head	Monitor and maintain the outplantings and seedlings.
Honouliuli Wildlife Refuge	Track the survival of seedlings. This site has reached capacity, so only plantings are planned for replacements of plants that have died.
Ewa Village Golf Course	Increase the genetic representation with an additional number of outplantings. This site is close to reaching capacity.
CRA	Continue outplanting additional plants and continue habitat restoration.
Pouhala Marsh	Increase the representation of Kapolei plants on site.
Koko Crater Botanical Garden	Continue planting more plants and expand to include a repository for the Diamond Head schiedea ( <i>Schiedea adamantis</i> ).

The following are accomplishments of the HCP for the endangered plant *Abutilon menziesii* for FY 2012:

- Added additional plants from the original genetic stock to Koko Crater.
- Outplanted over 1,000 common natives within the CRA.
- Conducted intensive weed control on 15 acres of the 21 acre CRA.
- Monitored and weeded all previous outplanting sites.
- Provided horticulture expertise to Camp Mokuleia and Camp Erdman.
- Collected air layers from the Ewa Villages Golf Course and Koko Head.
- Continued collecting and propagating other coastal species in the greenhouse.
- Outplanted 337 rare coastal plants.
- Provided rare and common coastal species for public restoration projects to three outreach and educational groups.
- Investigated additional planting sites on three separate parcels.

Recommendations:

Continue to pursue additional planting sites and extensive re-vegetation of the CRA. Complete the tracking database for the project and ensure that at least one (or as many as possible given space availability) of the original founding genetic stock is represented in at least one of the outplanting sites. Continue to monitor and maintain the plants at all mitigation sites and survey for and collect seeds from rare coastal species for outplanting within the *Abutilon* populations. Continue to work on the endangered Diamond Head schiedea (*Schiedea adamantis*).

**Table 5: Summary of Revenue and Expenditures for the *Abutilon menziesii* HCP at Kapolei**

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$1,080,000.00	
Total revenue in FY 2012	\$8,344.00	
Expenditures rolled over from previous years		\$340,130.00
Total expenditures in FY 2012		\$105,749.80
<b>Total Balance</b>		<b>\$642,464.20</b>

v) **SHA for the Introduction of the Nēnē to Pi‘iholo Ranch, Island of Maui.  
SHA, ITL Issued: September 21, 2004.**

Under this SHA, Pi‘iholo Ranch is maintaining or improving approximately 600 acres of nēnē habitat for a period of 10 years by continuing cattle ranching operations, thereby maintaining open, short-grass habitat. In cooperation with DOFAW, a nēnē release pen was constructed and Pi‘iholo Ranch has agreed to control predators around nēnē breeding and release sites and out-plant native plant species known to be nēnē food sources.

At Pi‘iholo Ranch, approximately 50 acres were mowed annually in and around the open-top release pen. Two hundred additional acres were also mowed in the adjacent areas of the release pen to create additional nēnē habitat. Ranch personnel and volunteers also planted 50 ‘ōhi‘a and 10 a‘ali‘i plants this past season.

This past season eight nests were observed at Pi‘iholo Ranch (Table 6). All eight nests were located in the open-top release pen. Six of the eight nests were found to be depredated. One pair nested twice; the fate of the first nest is unknown but the second nest attempt was successful. A total of seven goslings were sighted from this season. One gosling was found dead within the release pen and one confirmed fledgling successfully left the release pen.

Nēnē monitoring and observations were performed on a weekly basis by Ranch and state personnel throughout the year. There were no additional birds released this past season from Maui Bird Conservation Center. A total of 20 nēnē were sighted this year on Pi‘iholo Ranch. Eleven of these birds were resighted released birds and nine were wild birds. One fledgling was also banded this season. Tabulations from weekly observations and monthly surveys produced a population of 26 birds. No annual nēnē survey was conducted this year due to Kauai’s Nēnē Translocation Project.

On Maui at Pi‘iholo Ranch, six mongooses and one cat were removed from the traps in the vicinity of the open-top release pen.

The nēnē population has grown from 0 to 26 birds over five years, due largely to releases. The introduced nēnē are maturing and beginning to nest in the predator-controlled pen. The population is expected to continue to grow as the birds become more mature.

Table 6. Pi‘iholo Ranch SHA Summary for Nēnē

Year	# released	# mortalities	# nests found	# fledged	# nests predated	# predators killed <sup>2</sup>	Est. pop size	# Incidental Take
2005	8	0	no data	no data	no data	no data	no data	0
2006	5	0	0	0	0	35	no data	0
2007	25	2	3	0	0	26	26	0
2008	10	0	1	4	0	36	49	0
2009	0	5	6	3	0	36	46	0
2010	0	0	11	0	0	21	38	0
2011	0	1	10	2	1	11	31	0
2012	0	1	8	1	6	7	26	0
<b>Total</b>	<b>48</b>	<b>9</b>	<b>39</b>	<b>10</b>	<b>7</b>	<b>172</b>	<b>26</b>	<b>0</b>

Recommendations:

Continue to monitor nēnē movements and nesting activities at Pi‘iholo Ranch. Continue to monitor, band, track movements and nesting activities of released birds and wild nēnē populations.

vi) **SHA for Chevron Hawaii Refinery, James Campbell Industrial Park, Island of Oahu. Safe Harbor Agreement, ITL Issued: November 7, 2005.**

This SHA is for the management of nesting and foraging habitat for endangered ae‘o (Hawaiian stilt or *Himantopus mexicanus knudseni*) and ‘alae ke‘oke‘o (Hawaiian coot or *Fulicaa alai*) at the Chevron Hawai‘i Refinery at the James Campbell Industrial Park on O‘ahu. The SHA has a term of six years and during that period Chevron is required to maintain six acres of ae‘o nesting habitat and five acres of habitat for ae‘o and ‘alae ke‘oke‘o foraging. Chevron is in compliance when managing the water level and vegetation in a basin known as Rowland’s Pond to maximize nesting habitat and conduct predator control around Rowland’s Pond and several other pond areas within the Refinery to provide additional foraging habitat. Chevron has committed to monitor the ae‘o and ‘alae ke‘oke‘o occurring on their property and implement adaptive management strategies, should current management activities appear ineffective. In addition, Chevron conducts an education program for its employees and contractors about the ae‘o and ‘alae ke‘oke‘o at the Refinery.

This SHA’s annual report is due in November of each year to match the waterbird season; therefore this report reflects events during the 2011 calendar year up to the expiration date of the SHA of November 7, 2011. Two ae‘o and one ‘alae ke‘oke‘o were taken during the 2011 season. Chevron continues to manage water levels at the ponds per the SHA for ae‘o and ‘alae ke‘oke‘o. Chevron has been diligent in their predator trapping and other SHA-related management activities. In 2011, 89 mongooses, 23 cats, and two

<sup>2</sup> Includes mongoose, cats and dogs.

dogs were captured (Table 7a). No rats were captured during this time period. This is an increase in animal trappings on the Refinery as compared to October 2009 to September 2010 when a total of 50 mongooses and nine cats were captured. There have been no reports of Chevron employees releasing trapped animals.

Chevron has been diligently approaching management of protected species onsite, with continued success with the ae‘o and ‘alae ke‘oke‘o. In 2011, 14 ae‘o or stilts fledged and 24 ‘alae ke‘oke‘o or coots fledged. The estimated population of ae‘o was lower than in previous years and may be attributed to difficulty in assessing number of birds present due to increased vegetation in Rowland Pond.

**Table 7a. Chevron Hawaii Refinery SHA Summary Report for Ae‘o or Hawaiian Stilts**

Year	# nests found	# fledged	Est. pop size	#Incidental Take	# predators killed
2006	25	8	73	5	267
2007	16	12	100	6	247
2008	24	27	90	4	71
2009	26	45	127	3	11
2010	25	48	118	0	59
2011	27	14	65	2	114
<b>Total</b>	<b>143</b>	<b>154</b>	<b>65</b>	<b>20</b>	<b>655</b>

**Table 7b. Chevron Hawai‘i Refinery SHA Summary Report for ‘Alae ke‘oke‘o or Hawaiian Coots**

Year	# nests found	# fledged	Est. pop size	#Incidental Take
2006	1	0		0
2007	0	0	8	0
2008	2	0	4	0
2009	2	0	4	1
2010	9	>9	6	0
2011	11	24	15 <sup>3</sup>	1
<b>Total</b>	<b>23</b>	<b>&gt;33</b>	<b>15</b>	<b>2</b>

The Chevron Refinery SHA and associated ITL expired in November of 2011 and discussions on the development of an HCP are continuing.

**vii) HCP for Kaheawa Pastures Wind Energy Generation Facility, Island of Maui. Approved/ ITL Issued: January 30, 2006.**

Kaheawa Wind Power, LLC (herein referred to as First Wind) received an ITL, as part of the Kahuku Wind Power HCP, authorizing First Wind to take four state-listed threatened and endangered species as a result of the construction and operation of a 30-megawatt (MW) wind energy generation facility on the island of Maui. The ITL took effect on January 30, 2006 and will expire 20 years from this date. The Kaheawa Wind Power (KWP) HCP provides measures to avoid and minimize take at the facility and requires First Wind to institute mitigation projects that provide a net benefit to the four state-listed species. The state-listed species included on the ITL are the a‘o (Newell’s shearwater or

<sup>3</sup> Est. pop size is highest number seen on observations.

*Puffinus auricularis newelli*), ‘ua‘u (Hawaiian petrel or *Pterodroma sandwichensis*), ‘ōpe‘ape‘a (Hawaiian hoary bat or *Lasiurus cinereus semotus*), and the nēnē (Hawaiian goose or *Branta sandvicensis*). The project was officially commissioned in June 2006.

In April 2012, the ITL was amended to reflect a reduction in authorized take of Hawaiian petrel and Newell’s shearwater. First Wind is permitted to take 38 Hawaiian petrels and eight Newell’s shearwater over the life of the permit.

Avoidance and minimization measures at the facility include training workshops for staff on downed wildlife procedures (Wildlife Education and Observation Program (WEOP)), conducting fatality monitoring searches for downed wildlife, and implementing carcass retention (CARE), and searcher efficiency (SEEF) trials.

First Wind maintains an active and well-coordinated WEOP for all personnel on site including numerous staff, contractors, and visitors that regularly perform activities at First Wind. There were 13 WEOP trainings during FY 2012. During the nēnē breeding season, First Wind biologists and DLNR staff briefed First Wind staff and contractors about the likelihood of encountering nēnē on site. Wildlife occurrences and behavioral observations were recorded in the Wildlife Observation Logbook.

CARE trials were run in December 2011 and January 2012 and consisted of 11 small mammal (domestic mouse; DOMO) surrogates for bats and three Wedge-tailed shearwater (WTSH) surrogates for Hawaiian petrels. DOMO have been used as surrogates for bats since FY 2011. Table 8 shows the average carcass retention time in days for a given carcass type.

Table 8: CARE trial results using DOMO and WTSH carcasses in FY 2012. Results are the average retention time in days.

Carcass / Date	December 2011	January 2012
WTSH	11.3	--
DOMO	6.8	5.6

There were 44 SEEF trials completed on-site using 11 WTSH, 12 lessor Canada Geese (CAGO), and 21 DOMO in six vegetation classes. WTSH serve as surrogates for Hawaiian petrels and CAGO serve as surrogates for nēnē. In FY 2012, First Wind added two additional vegetation classes for classifying their search plots. These include shrub, grass, mix of shrub and bare ground, grass-shrub mix, grass-bare mix, and bare ground. Table 9 summarizes the results of SEEF trials for WTSH and CAGO.

Table 9: SEEF trial results using WTSH and CAGO carcasses in FY 2012.

Carcass	Type of ground cover	Percent of carcasses found
WTSH	Grass	57
	Shrub	7
CAGO	Grass	83
	Shrub	70

First Wind biologists have been implementing a year-round monitoring program to document downed (i.e., injured or dead) wildlife incidents involving HCP-listed and non-listed species on the project site and its vicinity since operations began in June, 2006. Beginning in Year 5, KWP obtained approval from DOFAW to modify the downed wildlife monitoring plot layout and begin managing vegetation to increase the carcass detection capacity of monitors. Plot sizes were reduced to 73 m, or 81 percent of the maximum wind turbine generator (WTG) height. Meteorological towers (MET) were searched a radius of 10 m beyond the anchor points. Both WTGs and METs were searched for take of endangered species an average of approximately every seven days for FY 2012.

First Wind and DOFAW have agreed to implement a cooperative downed wildlife monitoring program at both Kaheawa Wind Power I and II, providing the agency with an opportunity to independently verify results derived from systematic downed wildlife monitoring.

Since 2007, there have been a total of 46 wildlife fatalities at the project site, including the take of four Hawaiian petrels, 10 nēnē, and two bats. No Newell’s shearwater take has been documented on-site. Take of permitted species during FY 2012 was one nene and two Hawaiian petrels. Table 10 details the 30 migratory and non-listed species taken at the project site. Table 11 summarizes the calculated adjusted take values for the covered species.

Table 10: Number of migratory and non-listed species downed since commencement of project operations in 2007.

Species	Number
Barn owl	2
Black francolin	6
Common mynah	1
Eurasian skylark	2
Japanese white eye	1
Pueo	3
Ring-necked pheasant	5
Spotted dove	2
White tailed tropic bird	7
Great Frigatebird	1

Table 11. Summary of the calculated adjusted take values for the four covered species by fiscal year.

Year	Number of nēnē released in West Maui	Number of nēnē nests in West Maui	Number of nēnē fledglings in West Maui	Calculated adjusted take of nēnē	Calculated adjusted take of Hwn petrel	Calculated adjusted take of Hwn hoary bat
2007	10	19	23	0	0	0
2008	0	17	24	3.34	2.62	0
2009	0	15	25	1.3	0	2.84
2010	No data	No data	No data	1.28	0	0
2011	No data	No data	No data	8.74	0	3.16
2012 <sup>4</sup>	No data	No data	No data	1.68	6.10	0
Total	10	51	95	17.50	9.36	9.19

Adaptive management was triggered for take of nēnē during FY 2011. Observed nēnē take for that fiscal year was five birds, and the calculated adjusted take value was eight birds. An adjusted take value of eight or more nēnē in one fiscal year triggers Special Condition #6 in the ITL for adaptive management. First Wind concluded that construction activities during this time period were attracting nēnē to the project site and implemented the following adaptive management actions: 1) Enforced procedures related to reducing take on site; 2) Implemented alternative measures to stabilize soil instead of using rye seed, in order to reduce the potential for nēnē to be attracted to the area; and (3) DOFAW captured and banded four birds that kept returning to the area in October 2011. The banded birds dispersed without incident.

First Wind has managed vegetation at the project site and recently included fireweed management. They co-founded the Fireweed Working Group to address the effect fireweed has on the landscape of West Maui.

Planned mitigation for nēnē included development of a new release pen on Maui. Construction of the new pen was completed in 2011 at Haleakalā Ranch and the first nēnē releases commenced in May 2011.

Planned mitigation activities for the two seabird species are set to be at Makamaka‘ole in West Maui. This is a pooled mitigation approach for Kaheawa Wind Power I and II. It includes two predator-proof fence enclosures, each approximately five acres in size and housing social attraction features and artificial burrows. For this to move forward, First Wind is in the process of obtaining a land designation change for a portion of the land where the enclosures will be located. Installation of the two enclosures is expected for fall 2012. Also as required in the HCP, seabird surveys are on-going at Kahakuloa on Maui as well. They consist of deploying up to six Wildlife Acoustics SM2 (Song meters) for up to 60 days at Kahakuloa. These surveys are expected to continue for five years after the ITL issuance for Kaheawa Wind Power II.

<sup>4</sup> Values from year 2012 and totals were obtained from Kaheawa Wind Energy Generation Facility: Year 6 Annual Report.

Mitigation for the baseline level of take for Hawaiian hoary bats was provided in 2006 in the form of funding for research. Since August 2008 First Wind biologists have been conducting acoustic monitoring of bats at the project site using remote acoustic data loggers. Acoustic sensors are moved periodically to survey different portions of the site. There were 96 individual bat call sequences which qualified as passes documented from FY 2011, and 46 call sequences in FY 2012. Consistent with past years, bat activity in FY 2012 appeared highest in the fall with 63 percent of bat passes documented during the months of September and October.

**Table 12: Summary of Revenue and Expenditures for Kaheawa Wind Power I HCP**

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$288,500.00	
Total revenue in FY 2012	\$0.00	
Expenditures rolled over from previous years		\$92,496.84
Total expenditures in FY 2012		\$10,905.99
<b>Total Balance</b>		<b>\$174,439.08</b>

**viii) HCP for Lāna‘i Meteorological Towers, Island of Lanai.  
Approved/ ITL Issued: October 9, 2008**

Castle & Cooke LLC was issued an ITL for the Lāna‘i Meteorological Towers HCP in October 2008, providing authorization for low levels of incidental take of a‘o (Newell’s shearwater or *Puffinus auricularis newelli*), ‘ua‘u (Hawaiian petrel or *Pterodroma sandwichensis*), ae‘o (Hawaiian stilt or *Himantopus mexicanus knudseni*), and ‘ōpe‘ape‘a (Hawaiian hoary bat or *Lasiurus cinereus semotus*), associated with the construction and operation of six meteorological towers in the western portion of the Island of Lāna‘i (Figure 8 and Table 13). The purpose of the meteorological towers is to collect wind speeds and patterns throughout the northern portion of the island. The HCP provided avoidance and minimization measures, monitoring and mitigation of incidental take to provide net benefit to the species and environment.

Under the HCP, three or six acres of native habitat (depending on the level of actual take) are to be restored to provide nesting habitat for a‘o, ua‘u and ‘ōpe‘ape‘a, funded by the HCP and implemented by DOFAW/ Pacific Cooperative Studies Unit (PCSU), with assistance provided by the Maui Invasive Species Committee and others. Beginning in 2009, three acres of native habitat were cleared and partially replanted, although ungulate damage has been limiting native plant regeneration. Predator control efforts was initiated at the restoration area on the Lāna‘ihale, as well as at the Lāna‘i City wastewater treatment ponds, the latter providing net benefit to ae‘o (Table 13).

The following monitoring and reporting requirements were implemented in 2010:

- Carcass surveys are conducted one time per month (approximately every 30 days), provided the vegetation is managed to maintain a high searcher efficiency;
- One carcass is placed at each active met tower at the beginning of each season of scavenging trials, as defined in the HCP, and its status is checked at the time of the next monitoring event. If a carcass is removed, the search interval becomes once every 10 days and scavenging trials are implemented as defined in the HCP;



- Reporting requirements are addressed by informal quarterly summaries or emails and one annual report. The informal report includes a summary of the surveys, summary of the scavenging trial and a photograph verifying vegetative management at each active tower;
- A photograph of the vegetation conditions of the active met tower(s) is submitted at least one week prior to the beginning of the survey season (March-April) to confirm vegetative management.

The HCP requires that Castle & Cooke notifies USFWS and DOFAW of observed dead or injured individuals of the four covered species within one working day by telephone and within five (5) days by writing to the Pacific Islands Fish and Wildlife Office and DOFAW. As stated in the state ITL, DLNR will be notified within three days of any mortalities or injuries of downed wildlife.

The HCP was extended twice in 2012, first on January 6, 2012 to March 1, 2012 and again on February 28, 2012 to March 1, 2016. There was no take of covered species in FY12. During the 2011 and 2012 monitoring seasons to date, no carcasses of the four covered species or any other threatened or endangered or non-listed species were found during standardized carcass searches or incidentally by searchers. The carcass persistence time for birds indicates that the 30-day search interval is an adequate time frame to minimize any losses due to scavenging. Searcher efficiency documented in 2009, which would apply to any carcasses found in 2012, was high, indicating that searchers are finding carcasses when they occur. Thus, the operation of the Lanai met tower project does not appear to be having a direct effect on Hawaiian petrels (ua‘u), Newell’s shearwaters (a‘o), Hawaiian stilts (ae‘o), Hawaiian hoary bats (‘ōpe‘ape‘a), or any other flying wildlife species during its 5 years of operation.

Table 13. Lāna‘i Meteorological Towers HCP Mitigation Summary Table<sup>5</sup>

Date range	Lāna‘ihale			Lāna‘i City Wastewater		
	Total # of cat traps on site	# of cats removed	# of rats removed	Total # of cat traps on site	# of cats removed	# of rats removed
March 2008 to August 2008	20	6	Not reported	12	3	Not reported
September 2008 to April 2009	60	14	17	12	15	17
July 2008 to October 2009	56	5	35	12	2	4

<sup>5</sup> Tier 1 mitigation activities were completed in March 2010 when the original ITL expired. Cat and rat trapping activities were completed in October 2009.



Figure 8. Guy wires on one of the meteorological towers on Lānaʻi, covered under the HCP. Guyed towers pose a much higher collision risk for seabirds and bats than do unguyed towers.

Table 14: Summary of Revenue and Expenditures for Lanaʻi Meteorological Tower HCP

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$143,138.00	
Total revenue in FY 2012	\$0.00	
Expenditures rolled over from previous years		\$1,122.75
Total expenditures in FY 2012		\$182.60
<b>Total Balance</b>		<b>\$141,832.65</b>

ix) **Haleakalā Ranch SHA, Island of Maui.**  
**SHA, ITL Issued: August 28, 2009.**

The purpose of this SHA is to establish a population of the endangered nēnē (Hawaiian goose or *Branta sandvicensis*) on Haleakalā Ranch, Maui. Under this Agreement, the Ranch is to work cooperatively with the State or its designee to: 1) Maintain or improve approximately 3,056 acres of habitat that may be suitable for nēnē on the Ranch for a period of ten (10) years by continuing cattle ranching operations in a manner sensitive to the presence of nēnē, maintain open, short-grass habitat; 2) Establish and maintain a nēnē release pen on the designated portion of the property; 3) Control predators around the breeding and release sites; and 4) Access the release pen using field roads maintained by the Ranch. This SHA will increase the likelihood that nēnē will recover by providing a protected pen where nēnē chicks can mature and then be released into the suitable surrounding habitat currently unoccupied by nēnē.

On May 2011, a new 3.1 acre open-top release pen was completed on Haleakalā Ranch in

the Waiopai area to serve as a translocation site from Kauai. Ten birds were translocated in 2011 and translocation of birds from Kaua'i to Maui continued this year. A total of 20 birds were translocated to the Ranch in east Maui this season. In 2012, three nests were found inside the open-top release pen at Haleakalā Ranch, which produced seven goslings. Three fledglings successfully fledged from the pens.

No annual nēnē survey was conducted this year due to Kauai's Nēnē Translocation Project. Thirty-seven nēnē were sighted at Haleakalā Ranch this year. Of that number, 32 were recognized as released/translocated birds, three were this year's banded fledglings from released/translocated birds, and two were wild birds (one banded and one unringed). Three fledglings were banded this year at the open-top release pen. Data obtained from yearly sightings produced an estimated population of 49 birds (Table 15).

State personnel conducted weekly population monitoring and predator control throughout the year at Haleakalā Ranch within the Waiopai area. Two adult birds, which were translocated birds from Kaua'i, were found dead at Haleakalā Ranch. One gosling and two fledglings were also found dead in the open-top release pen. One bird was taken to the vet this past year to be treated for possible blindness in one eye. This bird was released back into the pen and eventually died. A total of six mortalities were recorded.

Some Kaua'i translocated birds have left the ranch and have been sighted throughout Maui. Unusual sightings include birds traveling from Haleakalā Ranch in east Maui to the Kapalua Golf Course in west Maui. A pair of birds has also been seen at Kealia Pond. A total of five birds were captured in developed areas on Maui and relocated back to the Haleakalā Ranch pen in the Waiopai area. Two adult birds and their two fledglings were recaptured at Makena Golf Course and relocated to the open-top release pen. An additional adult bird was recaptured at the Elleair Golf Course and relocated back to the Ranch.

Satellite transmitters are being placed on select translocated nēnē from Kaua'i. These will be used to track movements, family success rates, nesting areas, and other pertinent information to the birds' natural history. At Haleakalā Ranch, three male adult birds were equipped with satellite telemetry this year.

At Haleakalā Ranch on Maui, a total of a quarter (0.25) of an acre was mowed to maintain nēnē grass habitat. A total of 1.25 acres of alien vegetation (lantana) were removed this season also. No outplantings occurred this season at Haleakalā Ranch.

At Haleakalā Ranch, trapping occurred around the open-top release pen. A total of six mongooses were removed.

Table 15. Haleakalā Ranch SHA Summary for Nēnē

Year	# released	# mortalities	# nests found	# fledged	# nests predated	# predators killed <sup>6</sup>	Est. pop size	# Incidental Take
2011	10	0	no data			no data	24	0
2012	20	6	3	3	0	6	49	0
<b>Total</b>	<b>30</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>6</b>	<b>73</b>	<b>0</b>

x) **HCP for Kahuku Wind Power, Island of O‘ahu.  
Approved/ ITL Issued: June 7, 2010.**

Kahuku Wind Power, LLC (herein referred to as First Wind) received an ITL, as part of the Kahuku Wind Power HCP, authorizing First Wind for the take of eight state-listed threatened and endangered species as a result of the construction and operation of a 30-megawatt (MW) wind energy generation facility on the island of O‘ahu. The ITL took effect on June 7, 2010 and will expire 20 years from this date. The Kahuku Wind Power HCP provides measures to avoid and minimize take at the facility and requires First Wind to institute mitigation projects that provide a net benefit to the eight state-listed species. The state-listed species included on the ITL are the ae‘o (Hawaiian stilt), ‘alae ke‘oke‘o (Hawaiian coot), koloa maoli (Hawaiian duck), ‘alae ‘ula (Hawaiian moorhen), a‘o (Newell’s shearwater), ‘ua‘u (Hawaiian petrel), ‘ōpe‘ape‘a (Hawaiian hoary bat), and the pueo (Hawaiian short-eared owl). The project was officially commissioned on March 23, 2011.

Avoidance and minimization measures at the facility include training workshops for staff on downed wildlife procedures, conducting fatality monitoring searches for downed wildlife, and implementing carcass retention (CARE) and searcher efficiency (SEEF) trials. First Wind biologists conducted 24 and 28 wildlife education trainings in FY 2011 and FY 2012, respectively.

Searches for downed wildlife occurred during the construction phase and have continued through the operation phase of the project. SWCA Environmental Consultants (SWCA) conducted weekly searches for downed wildlife following construction phase protocols from September 2010 through January 2011. From December 2010 through January 2011, SWCA and First Wind biologists marked the fatality monitoring search plots at the wind turbine generators (WTGs) out to 50 and 75 percent of the maximum turbine height from the WTG centers, 64 and 96 m, respectively. They also marked 50 percent search plots at the permanent meteorological tower (MET) out to 40 m. SWCA and First Wind began searching all search plots on January 6, 2011. Starting on January 18, 2011, 50 percent search plots were searched twice per week as required in the HCP. Search intervals of these plots were increased to three times per week from October 1, 2011 to March 31, 2012. Once every two weeks, the 75 percent search plots at WTGs were monitored through June 30, 2012. Table 16 outlines the search frequency in days for the two plot sizes at both WTGs and the MET.

<sup>6</sup> Includes mongoose.

Table 16. Average search frequency interval since searching commenced at the project site under WTGs and the MET on January 18, 2011.

Time interval	January to June 2011	July to September 2011	October to December 2011	January to March 2012	April to June 2012
50 percent search plot WTG	3.41 days	3.51 days	2.52 days	2.52 days	3.51 days
75 percent search plot WTG	14.49 days	13.95 days	13.95 days	13.95 days	13.95 days
50 percent search plot MET	3.39 days	3.50 days	2.52 days	2.52 days	3.50 days

CARE and SEEF trials have been conducted on the project site each season. Rat carcasses are used as surrogates for Hawaiian hoary bats; wedge-tailed shearwater carcasses are used as surrogates for Hawaiian coots, Hawaiian moorhens, Newell's shearwaters, Hawaiian stilts, and Hawaiian petrels; and scaup and mallard carcasses are used as surrogates for Hawaiian short-eared owls and Hawaiian ducks. Carcass retention times are calculated for on-pad (maintained vegetation) and off-pad (areas outside the on-pad within the search plot). A total of 53 rats, 14 Wedge-tailed shearwaters, and 14 ducks were used in two CARE trails in FY 2011 and nine CARE trials in FY 2012. Trapping for mongoose and cats around the search pads began in October 2011, increasing the carcass retention for all carcass sizes. Table 17 summarizes the mean carcass retention times.

Table 17. Mean carcass retention times in days for on-pad and off-pad vegetation classes, including pre- and post-trapping times.

	Rat carcasses			All bird carcasses		
	Overall	Pre-trap	Post-trap	Overall	Pre-trap	Post-trap
On-pad	6.49	2.94	10.24	13.50	13.17	14.00
Off-pad	5.44	1.75	9.13	10.88	8.88	12.88

SEEF trials were conducted by SWCA by randomly selecting locations for carcasses both on- and off-pads under the WTGs and the MET. Table 18 summarizes the mean searcher efficiency times.

Table 18. Percentage of carcasses found during SEEF trials.

Carcass type (size class)	2011		2012	
	On-pad	Off-pad	On-pad	Off-pad
Rats (small)	43	100	73.8	33.3
Birds (medium)	100	100	100	80

Since construction and the beginning of project operations, one (1) state-listed species and four (4) other non-listed species have been downed at the project site. Non-listed species are included in Table 19.

Table 19: Number of migratory and non-listed species downed since commencement of project operations.

Species	Number
Wedge tailed shearwater	5 <sup>7</sup>
Cattle egret	3
Great Frigatebird	4 <sup>8</sup>
Unknown	1

There have been three documented fatalities of the endangered Hawaiian hoary bat at the project site all of which occurred between July 1, 2011 to June 30, 2012<sup>9</sup>. All fatalities were attributed to collisions with WTGs. The adjusted take value, including indirect take, for this species comes out to 5.13 adult and 0.64 juvenile bats, exceeding the permitted annual take of four adult and three juvenile bats. This triggered First Wind to implement adaptive management. Starting on April 27, 2012, all turbines are curtailed up to wind speeds of 5 m/s from sunset to sunrise from April to October.

Other on site activities include bat monitoring and vegetation maintenance as part of the Kahuku Wind Power HCP. Hawaiian hoary bats have been detected through echolocation recordings at the project site. Twelve Anabat detectors located at each of the WTGs have recorded five passes between January 24 and June 30, 2011, and 13 passes in FY 2012 all recorded between June to October 2011.

First Wind managed on-pad vegetation by mowing every two to three weeks to maintain grass heights of about 2.25 inches. Vegetation on graded slopes was trimmed to two to three inches. Off-pad vegetation is managed every three to six weeks to between two to five inches. Herbicides are also used to manage growth.

First Wind has provided funding for waterbird (including Hawaiian coot, Hawaiian moorhen, Hawaiian stilt, and Hawaiian duck), Hawaiian short-eared owl, and Hawaiian hoary bat mitigation. Waterbird mitigation is taking place at Hamakua Marsh State Wildlife Sanctuary and First Wind has provided funding to DOFAW for two of the three years of management, totaling \$199,000 (including a one-time payment of \$14,000 for the purchase of a truck). First Wind has also agreed to provide an additional \$26,500 per year, starting in March 2012, to fund rat trapping at Hamakua Marsh required in the Kahuku Wind Power HCP. In December 2010, First Wind provided \$25,000 to DOFAW to fund pueo research. A Memorandum of Understanding (MOU) was signed between First Wind and DOFAW agreeing that a payment of \$150,000 by First Wind to DOFAW to conduct bat mitigation fulfills requirements in the HCP. Payment was received by DOFAW in April 2012.

First Wind has investigated options for Newell's shearwater and Hawaiian petrel mitigation. First Wind has been in discussions with The Nature Conservancy (TNC) and a private landowner on Kaua'i regarding cooperative management of a known Newell's shearwater colony in Wainiha Valley. The proposal was accepted by TNC and a site visit

<sup>7</sup> One wedge tailed shearwater was found uninjured on 11/28/2010.

<sup>8</sup> One great frigatebird was found with an injured wing on 7/10/2011 and rehabilitated at Sea Life Park.

<sup>9</sup> The dates of the fatality discoveries are 9/15/2011, 4/16/2012, and 4/23/2012.

was made on June 5, 2012. Hawaiian petrel mitigation could take place at Makamaka’ole, depending on the burrow capacity of the fenced areas. Alternatively, it could take place at Haleakala National Park, depending on the need for predator control beyond the Park’s capacity to manage.

Table 20: Summary of Revenue and Expenditures for Kahuku Wind Power HCP

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$92,500.00	
Total revenue in FY 2012	\$267,500.00	
Expenditures rolled over from previous years		\$41,055.02
Total expenditures in FY 2012		\$10,341.39
<b>Total Balance</b>		<b>\$308,603.59</b>

xi) **Advanced Technology Solar Telescope HCP, Island of Maui.  
Approved / ITL Issued: December 1, 2011.**

Table 21: Outline of potential take scenarios and avoidance and minimization steps for the project.

Project Effects	Measures Adopted to Avoid, Minimize, and Offset Impacts
Collision of Hawaiian petrels with equipment and buildings	Framing lattice structures will be pre-painted white, construction crane will be lowered at night and marked with white visibility polytape or approved alternative. Polytape will be incorporated into conservation fencing. All completed structures will be painted white or an approved alternative will be used. Outdoor lighting will not be used.
Burrow collapse from construction vibration and Trampling	Engineers set ground vibration threshold for burrow collapse. Vibration will be monitored and restricted to minimize the likelihood of burrow collapse.
Reductions in breeding attempts and reproductive success resulting from disturbance to adult birds	328-ac (133 ha) mitigation area surrounding summit will be fenced and managed with predator and ungulate control measures to achieve project net recovery benefit for the Hawaiian petrel.
Predator population increase	Trash will be contained. Predator control efforts.
Transport of invasive species to Haleakalā	Cargo will be thoroughly inspected for introduced non-native species. All ATST facilities and grounds will be thoroughly inspected for introduced species on an annual basis and any introduced species found will be eradicated.
Incidental live trapping of Hawaiian petrels in predator traps	Mammal traps will be monitored every other day. Any incidental captures will be released unharmed within 24 hours of capture.
Reduction of Hawaiian petrel population	Installation and maintenance of fencing and predator control measures to facilitate development of the Hawaiian petrel population within a 328-ac (133 ha) conversation area.

The development of the HCP is related to the construction of the Advanced Technology Solar Telescope at the Haleakalā High Altitude Observatory Site on Maui, Hawaii.

The purpose of the HCP is to provide for avoidance, minimization, mitigation, and monitoring of potential incidental take of one endangered species, the ‘ua‘u or Hawaiian Petrel (*Pterodroma sandwichensis*).

The Advance Technology Solar Telescope HCP was involved in a contested case at the time of this report, and no construction has begun. However, mitigation activities relating to collecting baseline information have begun on site.

Table 22: Summary of Revenue and Expenditures for Advanced Technology Solar Telescope HCP

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$0.00	
Total revenue in FY 2012	\$0.00	
Expenditures rolled over from previous years		\$2,324.51
Total expenditures in FY 2012		\$0.00
<b>Total Balance</b>		<b>(\$2,324.51)</b>

xii) **HCP for Kaheawa Wind Power II, Island of Maui.  
Approved / ITL Issued: January 5, 2012.**

Kaheawa Wind Power, LLC (herein referred to as First Wind) received an Incidental Take License (ITL), as part of the Kaheawa Wind Power II HCP, authorizing First Wind for the take of four state-listed threatened and endangered species as a result of the construction and operation of a 21-megawatt (MW) wind energy generation facility on the island of Maui. The ITL took effect on January 5, 2012 and will expire 20 years from this date. The Kaheawa Wind Power II HCP provides measures to avoid and minimize take at the facility and requires First Wind to institute mitigation projects that provide a net benefit to the four listed species. The listed species included on the ITL are the a‘o (Newell’s shearwater), ‘ua‘u (Hawaiian petrel), ‘ōpe‘ape‘a (Hawaiian hoary bat), and the nēnē (Hawaiian goose). Pueo (Hawaiian short-eared owl) is not state-listed on Maui, but First Wind implements avoidance, minimization, and mitigation measures according to their HCP. Commercial operations commenced on July 2012.

The construction phase at the project site lasted from December 2010 to June 2012. During this phase, First Wind contracted environmental compliance oversight to Land Services, Inc. (LSI). LSI was instructed to follow procedures outlined in the HCP while at the project site. LSI implemented a downed wildlife training program (similar to First Wind’s Wildlife Education and Observation Program (WEOP)) and conducted pre-construction sweeps for nēnē activity to ensure avoidance and minimization of take.

Activities related to commercial operations performed by First Wind staff began when construction was nearly complete. First Wind staff marked transects under the wind generator turbines (WTGs) at 6 m spacing intervals. Search plots under WTGs are a combination of arid buffelgrass pads flanked by steep ridges that are considered unsearchable for safety concerns. Searches began in July 2012.

CARE and SEEF trials will be conducted beginning in FY 2013.

There were no fatalities documented at the project site during FY 2012.



First Wind provided funding for nēnē and pueo mitigation. A nēnē release pen and five years of funding for predator control, vegetation management, and monitoring was provided to DOFAW and is set to be implemented in 2016 on Maui. In addition to funding, First Wind also began performing nēnē behavior and activity surveys in and around WTGs. These surveys are to last for one year and began on July 9, 2012. A payment of \$25,000 was made to DOFAW for pueo rehabilitation in August 2012.

Funding for bat mitigation will be provided to DOFAW starting in FY 2013. A total of \$250,000 will go toward bat habitat restoration at Kahikinui Forest Reserve.

Newell’s shearwater and Hawaiian petrel mitigation is pooled with the Kaheawa Wind Power I HCP mitigation. This project includes two predator-proof enclosures, with social attraction and artificial burrows for each of the two species at Makamaka‘ole on Maui. A preliminary design was investigated and it was determined that land use designation in the area would require the design to be altered. The necessary requirements to change land use designation need to be performed before the enclosures can be constructed. Installation is expected to occur in the fall of 2012.

First Wind must perform searches for additional seabird colonies on Maui, as required in the HCP. Visual surveys consisting of 14 to 20 survey nights between May and August began in June 2012 at Kahakuloa. First Wind deployed six Wildlife Acoustics SM2 (Song Meter) at three to four different sites in Kahakuloa. These detectors can record up to 60 days of vocal recordings without requiring maintenance. These data will be analyzed in August 2012.

Table 23: Summary of Revenue and Expenditures for Kaheawa Wind Power II HCP

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$0.00	
Total revenue in FY 2012	\$0.00	
Expenditures rolled over from previous years		\$2,415.88
Total expenditures in FY 2012		\$4,213.70
<b>Total Balance</b>		<b>(\$6,629.58)</b>

xiii) **HCP for Kawailoa Wind Power, Island of O’ahu.  
Approved / ITL Issued: January 6, 2012.**

Kawailoa Wind Power, LLC (herein referred to as First Wind) received an ITL, as part of the Kawailoa Wind Power HCP, authorizing First Wind for the take of seven state-listed threatened and endangered species as a result of the construction and operation of a 70-megawatt (MW) wind energy generation facility on the island of O’ahu. The ITL took effect on January 6, 2012 and will expire 20 years from this date. The Kawailoa Wind Power HCP provides measures to avoid and minimize take at the facility and requires First Wind to institute mitigation projects that provide a net benefit to of the seven state-listed species. The state-listed species included on the ITL are the ae’o (Hawaiian stilt), ‘alaie ke’oke’o (Hawaiian coot), koloa maoli (Hawaiian duck), ‘alaie ‘ula (Hawaiian moorhen), a’o (Newell’s shearwater), ‘ōpe‘ape‘a (Hawaiian hoary bat), and the pueo (Hawaiian short-eared owl). As of the end of FY 2012, the project had not commenced commercial operations.

SWCA contractors are currently training all staff at the project site under the Wildlife Education and Observation Program (WEOP).

While construction is underway, First Wind staff delineated fatality search plots for the wind turbine generators (WTGs) and meteorological towers (METs). Search plots under WTGs measure a radius of 113 m, or 75 percent of the maximum height of the turbine. Search plots under METs measure a radius of 50 m, or 50 percent of the maximum height of the turbine. Fatality monitoring under METs began on June 22, 2012. Vegetation within the search plots is maintained by herbicides and mowing.

CARE and SEEF trials have not been conducted at the project site. In FY 2012, no fatalities had been documented at the project site.

First Wind has provided funding of \$12,500 for pueo mitigation directly to the Hawaii Wildlife Center on Hawaii Island; and thus this amount is not reflected in Table 24.

Mitigation for waterbirds and bats will take place at ‘Uko‘a Pond. The plan will be developed by SWCA and H.T. Harvey and Associates, respectively.

Mitigation for Newell’s shearwater will consist of developing, testing, and successfully deploying a self-resetting feral cat trap. By the end of FY 2012, First Wind had made two payments totaling \$80,000 directly to Goodnature, LTD for development and testing of the trap model; and thus this amount is not reflected in Table 24.

**Table 24: Summary of Revenue and Expenditures for Kawaihoa Wind Power HCP**

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$0.00	
Total revenue in FY 2012	\$0.00	
Expenditures rolled over from previous years		\$0.00
Total expenditures in FY 2012		\$610.18
<b>Total Balance</b>		<b>(\$610.18)</b>

xiv) **Auwahi Wind Farm Project HCP, Island of Maui.**  
**Approved / ITL Issued: February 9, 2012.**

Auwahi Wind Energy, LLC (herein referred to as Auwahi Wind) received an ITL, as part of the Auwahi Wind Farm Project HCP, authorizing Sempra Energy for the take of four state-listed threatened and endangered species as a result of the construction and operation of a 21-megawatt (MW) wind energy generation facility in east Maui, ‘Ulupalakua Ranch. The ITL took effect on February 9, 2012 and will expire 25 years from this date. The Auwahi Wind Farm Project HCP provides measures to avoid and minimize take at the facility and requires Sempra Energy to institute mitigation projects that provide a net benefit to the four state-listed species. The state-listed species included on the ITL are the ‘ua‘u (Hawaiian petrel), ‘ōpe‘ape‘a (Hawaiian hoary bat), pueo (Hawaiian short-eared owl), and Blackburn’s sphinx moth. As of the end of FY 2012, the project had not commenced commercial operations.

Pre-construction botanical surveys for listed plant species occurred on site and on adjacent property. Fences have been constructed around the listed plants iliahi and ko'oloa'ula (red ilima). Surveys for Blackburn's sphinx moth and their native host plant, 'aiea, have also occurred. Permanent fences were placed around 'aiea, and temporary fences were placed around the moth food plants maiapilo and moon flower. Trees taller than 15 ft were removed prior to the Hawaiian hoary bat pupping season starting on June 1 in the project area, except regions along Papaka Road. Trees along Papaka Road were requested to be cleared after June 1 and the agencies requested Auwahi Wind submit photo and densitometer measurement documentation to provide evidence that all of the trees cleared has less than 50 percent canopy cover. No trees had canopy covers greater than 50 percent, so the agencies permitted cutting of these trees.

During construction, Auwahi Wind staff and contractors have followed avoidance and minimization of take measures according to the HCP. Ongoing efforts include nighttime environmental monitoring during construction, invasive species equipment inspections, and implementation of a Wildlife Education and Incidental Reporting Program.

Mitigation for the Hawaiian petrel consists of predator control and monitoring activities at a Hawaiian petrel colony in the Auwahi Kahikinui Petrel Management Area on Maui. A MOU and License Agreement with the Department of Hawaiian Home Lands and Auwahi Wind allows Auwahi Wind to conduct management activities consistent with requirements in the HCP for the duration of the ITL. Also, baseline monitoring data was collected June through August 2012. The petrel management plan developed by contractors from Tetra Tech environmental consultants was in the review process at the time the Auwahi Wind annual report was submitted.

Mitigation for the Hawaiian hoary bat consists of the enhancement and creation of additional bat habitat through native forest restoration at Waihou Mitigation Area on Maui. The management plan was approved by the agencies in July 2012.

A payment from Auwahi Wind of \$25,000 was made directly to the National Park Service to fund a nēnē rescue pen and predator fence to support egg, gosling, and adult release efforts in Haleakalā National Park.

A payment from Auwahi Wind of \$144,000 was made directly to the Leeward Haleakalā Watershed Restoration Partnership to fund restoration efforts of six acres of dryland forest at the Auwahi Forest Restoration Project. This plan includes planting 250 stems of 'aiea per acre and 10 iliahi at the mitigation site. All direct payments made to external entities are not reflected in the summary of revenue and expenditure tables for the endangered species trust fund.

**Table 25: Summary of Revenue and Expenditures for Auwahi Wind Farm HCP**

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$0.00	
Total revenue in FY 2012	\$0.00	
Expenditures rolled over from previous years		\$0.00
Total expenditures in FY 2012		\$0.00
<b>Total Balance</b>		<b>\$0.00</b>

xv) **Kaua‘i Lagoons HCP, Island of Kauai.  
Approved / ITL Issued: April 11, 2012**

This HCP is related to the Kaua‘i Lagoons Resort plan to construct several projects comprising of over 700 resort residential units and a variety of support facilities. The purpose of the HCP is to provide for avoidance, minimization, mitigation, and monitoring of potential incidental take of seven federally threatened and endangered species, the Hawaiian petrel (*Pterodroma sandwichensis*), Newell’s shearwater (*Puffinus auricularis newelli*), nēnē or the Hawaiian goose (*Branta sandvicensis*), koloa maoli or the Hawaiian duck (*Anas wyvilliana*), ae‘o or the Hawaiian stilt (*Himantopus mexicanus knudseni*), ‘alae ke‘oke‘o or the Hawaiian coot (*Fulica alai*), ‘alae‘ula or the Hawaiian moorhen (*Gallinula chloropus sandvicensis*), and one state-listed endangered bird species, ‘akē‘akē or the band-rumped storm petrel (*Oceanodroma castro*). An ITL was issued to Kaua‘i Lagoons on April 11, 2012 for the seven listed species. A payment from Kaua‘i Lagoons of \$85,000 was received by DOFAW to assist in ongoing nēnē translocation efforts and predator control.

The Kaua‘i Lagoons HCP is not officially in effect yet because the federal Incidental Take Permit has not been issued as of the end of FY 2012.

**Table 26: Summary of Revenues and Expenditures for Kaua‘i Lagoons HCP**

Activities	Revenue	Expenditure
Revenues rolled over from previous years	\$10,560.00	
Total revenues in FY 2012	\$85,000.00	
Expenditures rolled over from previous years		\$33,465.88
Total expenditures in FY 2012		\$0.00
<b>Total Balance</b>		<b>\$62,094.12</b>

xvi) **SHA for Koloa (Hawaiian Duck) and Nēnē (Hawaiian Goose) on Umikoa Ranch, Island of Hawai‘i. SHA, ITL Issued: December 5, 2001.**

The Umikoa SHA calls for the creation and management of two acres of wetland ponds and 150 acres of riparian and associated uplands, fencing ponds, predator and weed control, and out-planting of food items to benefit koloa maoli (Hawaiian duck) and nēnē (Hawaiian goose). As per the SHA, eight permanent and two seasonal ponds ranging from 0.05 to 0.57 acres (totaling 2.01 acres) and 151.3 acres of ponds and uplands have been fenced, and are being managed for koloa and nēnē.

A site visit on March 21, 2012 with DOFAW and FWS staff to Umikoa Ranch was

conducted. During the site visit one koloa pair was observed and to date no nēnē have been observed on the property. The baseline number at the beginning of the SHA is currently being maintained but due to new management of the ranch, predator control and monitoring is not actively being accomplished. There have been no birds reported taken on the ITL thus far.

**2) Description of the condition of the Endangered Species Trust Fund established under §195D-31, HRS:**

- a) The sources of revenue for the Endangered Species Trust Fund are deposits for implementation of HCPs, SHAs, donations earmarked for endangered species projects, and proceeds from the sale of environmentally-themed products such as endangered species stamps, posters, books, etc., sold to the public to raise money for conservation of Hawai‘i’s resources. Act 144, SLH 2004, amended the provisions establishing the Endangered Species Trust Fund by changing its status from a special fund to a trust fund, and allowing deposits of money provided as security, or to implement the obligations of an HCP. The preceding tables summarizing revenue and expenditures for each HCP project represent funds within the Endangered Species Trust Fund.

Trust funds are not assessed Central Services Fees and Administrative Service costs. This change in the statute is expected to encourage donations and use of the Fund by contributors and donors that have expectations that monies deposited into a trust fund, will be protected and available in the future to use for the intended purpose, such as actions required to implement HCPs or SHAs. Two funds are used for the purposes of this program under §195D-31, HRS: 1) S-97-800 was established to manage deposits related to the *Abutilon menziesii* HCP. A single fund for this large account facilitates efficient management of that fund. 2) T-919 is used for the management of all other funds under §195D-31, HRS. An older fund that was established prior to Act 144, SLH 2004, S-324, has now been discontinued and all funds transferred to T-919.

- b) Revenues into S-97-800 from FY 2012 were derived from interest income. Expenditures from FY 2012 are for implementation of the *Abutilon* HCP. The balance from FY 2011 was \$739,870.

**Table 27: Summary of Revenue and Expenditures for S-97-800**

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$1,080,000	
Total revenue in FY 2012	\$8,344	
Expenditures rolled over from previous years		\$340,130
Total expenditures in FY 2012		\$105,750
<b>Total Balance</b>		<b>\$642,464</b>

- c) Revenues into T-919 from FY 2012 are from interest income (\$9,710), the sale of endangered plant tags (\$280.10) and mitigation monies for various HCP projects. Expenditures made from T-919 were pursuant to the purposes of the deposits. The balance from FY 2011 was \$492,554.

Table 28: Summary of Revenue and Expenditures for T-919

Activities	Revenue	Expenditure
Revenue rolled over from previous years	\$1,355,601	
Total revenue in FY 2012	\$2,615,581	
Expenditures rolled over from previous years		\$546,298
Total expenditures in FY 2012		\$1,192,208
<b>Total Balance</b>		<b>\$2,232,676</b>

### 3) Recommendations to further the purposes of Chapter 195D, HRS.

In the fourteen years since the establishment of the provisions of Chapter 195D, HRS, to include the issuance of ITLs, the program has achieved success and should be continued.

### 4) References Cited

- a) Medeiros J. 2012. *Puu o Hoku Ranch/Pi'iholo Ranch Safe Harbor Agreement Annual Reports, July 1, 2011-June 30, 2012*. Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife, Maui District.
- b) Waddington S. 2012. *Cyanotech Corporation Conservation Plan for Hawaiian Stilt (*Himantopus mexicanus knudseni*) Annual Report for 2012*. Cyanotech Corporation.
- c) DOFAW publications are available online at <http://www.state.hi.us/dlnr/dofaw/pubs/index.html>.