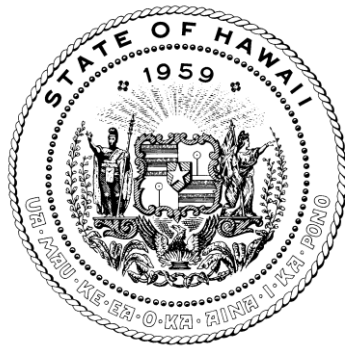


**REPORT TO THE TWENTY-SIXTH LEGISLATURE
REGULAR SESSION OF 2012**

**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, 2010 – JUNE 30, 2011**



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
November 2011

**STATUS OF THE ISSUANCE OF
INCIDENTAL TAKE LICENSES FOR ENDANGERED, THREATENED,
PROPOSED, AND CANDIDATE SPECIES;
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FOR THE PERIOD JULY 1, 2010 – JUNE 30, 2011**

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) 2011.

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 2011.
 - i) Ms. Laura H. Thielen (until December 8, 2010) and Mr. William J. Aila, Jr. (from December 9, 2010) Chairperson, Board of Land and Natural Resources (Agency Representative), Designated Representative: Dr. Guy Kaulukukui, Deputy Director, DLNR (from December 9, 2010), Dr. J. Scott Fretz, Wildlife Program Manager, DLNR - Division of Forestry and Wildlife (DOFAW), Honolulu, Ms. Sandee Hufana, HCP Coordinator, DLNR- DOFAW.
 - ii) Dr. Loyal Mehrhoff, Field Supervisor, United States Fish and Wildlife Service (USFWS), Pacific Islands Ecoregion, Honolulu (Agency Representative), Designated

Representatives: Drs. Jeff Newman and Patrice Ashfield, USFWS, Pacific Islands Ecoregion, 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 Hawaii, Hilo, HI (Appointed member, Term expires June 30, 2012).
 - vi) Dr. John Harrison, Executive Director, University of Hawaii Environmental Center, University of Hawaii, Manoa, HI. (Appointed Member, Term expires June 30, 2013).
- b) ESRC met twice during the reporting period and provided consultation on the following issues, applications, proposals, and projects:
- Draft Kauai Seabird Habitat Conservation Plan
 - Draft Short-term Kauai Island Utilities Cooperative Habitat Conservation Plan
 - Draft Advanced Technology Solar Telescope Habitat Conservation Plan
 - Kaheawa Wind Power I Habitat Conservation Plan
 - Draft Kaheawa Wind Power II Habitat Conservation Plan
 - Draft Sempra Auwahi Habitat Conservation Plan
 - Informational executive sessions on four proposed HCPs/SHAs.
- c) The sunset date on the issuance and approval of new SHAs, HCPs, and ITLs was extended to July 1, 2012 by way of Act 90, SLH 2006, amending Act 380, SLH 1997. ITLs have been issued to accompany the following HCPs and SHA’s as of June 30, 2011.
- 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. Issued: September 4, 2001.

The Pu‘u o Hoku Ranch was the first SHA issued in Hawaii. The SHA calls for Pu‘u o Hoku Ranch to allow the reintroduction of nēnē 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 zero (0) to 121 birds in eight years, as a direct result of the Pu‘u o Hoku Ranch SHA activities (Table 1).

On the Island of Molokai in Puu O Hoku Ranch’s open-top release pen, a total of one acre was mowed on a monthly basis by State personnel. 35 additional acres in the upper pastures were mowed by ranch personnel. Six acres of invasive lantana, molasses grass

and fireweed were also removed from the open-top release pen. There were no out plantings in the pen this season.

This past nesting season, a total of 19 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 19 nests, 12 were renests and three were abandoned. Of these nests, 47 goslings hatched and 30 fledged into the wild.

This past year a total of 68 birds were identified by their state and federal bands. 62 birds were recognized as Molokai birds and eight released birds. 28 fledglings were banded this year which fledged from Puu O Hoku’s open-top release pen, and two additional fledglings fledged the pens before banding.

On June 14, 2011, a two day annual survey was conducted at Puu O Hoku Ranch, Halawa and Dumbar’s Ranch with the assistance of ranch volunteers, National Park Service and State personnel. During this survey, a total of 60 birds were identified, 58 by their darvic bands and eight were unknown. Data obtained from this survey and yearly observations generated an estimated population of 83 birds.

17 goslings this past season were found dead in the open-top release pen. Majority of these gosling deaths were caused by adult ganders being territorial of their nests or young. No adult birds were found dead or needing rehabilitation this past season. There were no recaptures, relocations, or new releases of Nēnē on Moloka‘i this year.

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 Moloka‘i Nēnē population has increased from zero (0) to 121 birds in nine years, as a direct result of the Pu‘u o Hoku Ranch SHA activities. The Ranch is in the process of renewing the SHA.

Table 1-SHA monitoring activities

| Year | # released | # mortalities | # nests found | # fledged | # nests predated | # predators killed* | Est. pop size | # 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 |
| Total | 74 | 18 | 137 | 146 | 18 | 544 | 83 | 0 |

* Includes mongoose, cats, dogs

Recommendations:

- Continue to monitor nene movements and nesting activities for Puu O Hoku Ranch.
 - Continue to monitor, band, track movements and nesting activities of released birds and wild Nene populations.
 - Renewal of Puu O Hoku Ranch SHA and include proposal for additional release pen.
 - If additional pen is denied, propose expansion of existing pen or enclose portions of the pen to prevent crowding and gosling deaths.
- ii) HCP for Hawaiian Stilt at Cyanotech Aquaculture Facility Keahole Point, Island of Hawaii. Approved: June 13, 2002.

The HCP covers ongoing operations and maintenance activities at Cyanotech's Aquaculture Facility within the Natural Energy Laboratory of Hawaii (NELHA) along the Kona Coast of the Big Island, and provides mitigation for the accidental loss of juvenile ae'o (Hawaiian stilts) in the Facility's production ponds (Figure 1 and Table 2). The following mitigation measures have been implemented: 1) Cyanotech created and maintained a 1.7-acre pond to produce optimum ae'o breeding habitat – 48 ae'o chicks were fledged before the pond was drained and netted to prevent further nesting at the facility to avoid conflicts with the adjacent Kona Airport; 2) Predator control was conducted to reduce mortality of stilts present at the Facility, and later at off-site ae'o and alae ke'oke'o (Hawaiian coot) locations; and 3) deterrent measures were implemented to discourage stilts from occupying the facility.

Cyanotech was previously the site of a 0.69 hectare nesting habitat that had been maintained at the Facility as part of Cyanotech's HCP 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 FY 2011, the nesting habitat and Ducks Unlimited raceway continued to be maintained in a manner unusable to the stilts. Cleaning the *Spirulina* production raceways reduces the invertebrate food source. As per the HCP, surveying for incidental take was conducted twice per week during the nesting season and once per week during non-nesting season. However, monitoring for injured or dead stilts was conducted daily as part of normal operations of the production raceways. Surveying the raceways for debris was conducted daily in an effort to protect the mechanical and harvest systems of the production raceways. Surveying the raceways visually is conducted first thing in the morning, before the paddlewheels were turned on. The total amount of incidental take at Cyanotech for 2011 was zero.

The lava field adjacent to the Cyanotech facility, where stilts had nested in past years, was 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. There were no instances of stilts being observed in the lava field.

Additionally, as part of the HCP, Cyanotech funds predator control efforts at 'Opae'ula Pond. 'Opae'ula Pond is a 3.24 hectare coastal wetland located in the North Kona District of Hawai'i Island. The wetland is utilized for foraging by migratory waterbirds and shorebirds as well as for nesting by endangered Hawaiian Stilts (*Himantopus Mexicanus knudseni*) and Hawaiian Coots (*Fulicaa alai*). The coastal area mostly consists of dry scrub, non-native vegetation. The vegetation around the perimeter of wetland consists mostly of Kiawe trees (*Prosopis pallida*) and other non-native scrub type vegetation.

Predator control was implemented in an effort to increase survivorship of all life stages of nesting Hawaiian Stilts and Hawaiian Coots, by reducing densities of Small Indian mongooses (*Herpestes auropunctatus*), rats (*Rattus spp*), and European House Mouse (*Mus domesticus*). Predator control efforts consisted of utilizing 27 tamper-resistant bait boxes around the perimeter of the wetland baited with Diphacinone rodenticide. The predator control work and wildlife surveys were conducted on the second and fourth Monday of each month. In 2011, to date, there have been five stilt nests with five fledglings and five hatchlings at Opae'ula pond. There have been two coot nests with three fledglings and three hatchlings at Opae'ula.

The HCP annual report included the following recommendations: 1) Continue to modify and improve current deterrent measures as well as identify and research new deterrent measures for the facility; 2) Continue to modify and improve methods of reducing the invertebrate food source in the production raceways; 3) 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.).

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 enhance other areas off-site through predator control. This has resulted in the net production of 66 ae'o fledglings and 51 'alae ke'oke'o as a result of this project.

Table 2. Cyanotech HCP Summary

| Year | Cyanotech ae'o fledged | Cyanotech ae'o pop size | # Incidental Take | Off-site ae'o fledged | Off-site est. ae'o pop size | Off-site 'alae fledged | Off-site est 'alae 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 |
| Total | 49 | 184 | 13 | 66 | 1181 | 51 | 828 |

Information for 2011 will not be available until November each year. Data reported here are for 2010.

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

This is the first "programmatic" SHA issued in the State. DOFAW is the licensee. Landowners may voluntarily enroll by signing a cooperative agreement with DOFAW,

which commits them 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 incidentally as a result of otherwise legal activities, for the duration of the ITL, which expires in 2053.

During FY 2011, there were no landowners enrolled under this SHA but discussions with interested landowners about participation are ongoing. DOFAW has conducted the necessary baseline surveys on lands adjacent to Pu‘u o Hoku Ranch where nēnē reestablishment is occurring. Because other protected species may be present on the adjacent property, a multi-species SHA for the adjacent property may be appropriate; however, whichever type of SHA is used, it appears that nēnē protection will occur through an SHA on an adjacent property in the near future.

iv) HCP for *Abutilon menziesii* at Kapolei, Island of O‘ahu. Approved April 8, 2004.

This HCP was developed to cover the impacts and measures that will be taken to mitigate the impacts to the endangered plant species, ko‘o loa ‘ula (*Abutilon menziesii*) (Figure 2, Table 3), that are present on a 1,381-acres of state and city-owned property, which is the site of the proposed construction of the North-South Road Highway, Kapolei Parkway and subsequent developments. The Department of Transportation (DOT) is the HCP and license holder. The implementation of the HCP mitigates for the impact of development actions that may be conducted by DOT and other agencies/organizations in the area. To date, Certificates of Inclusion, which authorize incidental take to third parties, have been issued to the Department of Hawaiian Home Lands, the University of Hawaii, and the City and County of Honolulu. The Salvation Army, City and County Honolulu (light rail), and Mutual Housing Association of Hawaii are in development or processing applications for Certificates of Inclusion.



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 Oahu. The end goal is the establishment of three protected off-site populations on Oahu from the single degraded Kapolei population.

To date, *Abutilon menziesii* has been outplanted at six different sites on Oahu: Diamond Head, Honouliuli Wildlife Refuge, Ewa Villages Golf Course, Contingency Reserve Area (off of North South Road, Kapolei), Pouhala Marsh, and Koko Crater Botanical Garden. Diamond Head and Honouliuli Wildlife Refuge will be used towards the goal of establishing three self-reproducing populations. The third site is yet to be identified or established. Pouhala Marsh has potential to be the third site. 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. The main focus for 2010-2011, was to continue to represent the full genetic stock available for this species at each of the reintroduction sites, monitor for seedling establishment, and to look for potential sites for future outplantings.

There has been a four-fold increase from a founder population of 93 plants in 2002, to 425 plants in 2011. While yearling survival has been low over this period, the wild population has also had slow reproductive rates over the same period of time, probably due to natural inter-annual variation in this slow-reproducing species.

Adaptive management recommendations for future years include an assessment of irrigation needs, how to improve seedling survival over natural rates, an amendment to define ‘wild’ versus ‘managed’ populations, consideration of making the contingency reserve into a permanent reserve, follow-up for use of upper Pouhala Marsh lands, development of multi-species management goals, a half-time research botanist, and improvement to reporting performance requirements. Finalization of the five-year review process and implementation of adaptive management measures to improve long-term survival of the species is planned for the following year.

Table 3. Summary - Status of *Abutilon menziesii* populations

| | Kaena Point | Koko Head | CRA | Honouliuli Reserve | Ewa Villages | Pouhala Marsh | Diamond Head | Total |
|---------------------------------------|-------------|-----------|-----|--------------------|--------------|---------------|--------------|-------|
| Mature | 0 | 88 | 65 | 75 | 74 | 43 | 80 | 425 |
| % Genetic Representation | 0% | 56% | 62% | 52% | 70% | 41% | 76% | 100% |
| Seedlings 2004 (Natural Regeneration) | 0 | N/A | N/A | 0 | N/A | N/A | N/A | 0 |
| Seedlings 2005 (Natural Regeneration) | 0 | N/A | N/A | 0 | N/A | N/A | N/A | 0 |
| Seedlings 2006 (Natural Regeneration) | 0 | N/A | N/A | 1 | N/A | N/A | 0 | 1 |
| Seedlings 2007 (Natural Regeneration) | 0 | N/A | N/A | 0 | 0 | N/A | 6 | 6 |
| Seedling 2008 (Natural Regeneration) | 0 | N/A | N/A | 2 | 0 | 0 | 28 | 30 |
| Seedling 2009 (Natural Regeneration) | 0 | N/A | N/A | 26 | N/A | N/A | 5 | 31 |
| Seedling 2010 (Natural Regeneration) | 0 | N/A | N/A | 0 | N/A | N/A | 0 | 0 |
| Seedling 2011 (Natural Regeneration) | 0 | N/A | N/A | 159 | N/A | 1 | 7 | 167 |
| Survival of Seedlings (0 mon.-1 yr.) | 0 | N/A | N/A | 159 | N/A | 1 | 7 | 167 |
| Survival of Seedlings (over 1 yr.) | 0 | N/A | N/A | 14 | N/A | N/A | 11 | 25 |

A. Accomplishments for 2010-2011

- Added additional founders to Koko Crater.
- Added additional founders to the Ewa Golf Course.
- Added additional founders to the Contingency Reserve Area.
- Added additional founders to Pouhala Marsh.
- Monitored and weeded all previous outplanting site.
- Air layers were collected from the Ewa Villages Golf Course and Koko Head.
- Continued collecting and propagating other coastal species in the greenhouse.

B. Goals for 2011-2012

- Complete the tracking database for the project.
- Ensure that at least one (as many as possible given space availability) of every Kapolei plant is represented in at least one of the outplanting sites.
- Continue to monitor and maintain the plants at all sites.
- Continue to survey for and collect from rare coastal species.
- Continue to outplant rare coastal species within the *Abutilon* populations.
- Establish an additional outplanting site (location unknown at this time).
- Expand Mokuleia Nursery facilities to accommodate a pesticide and fuel storage area.
- Continue to outplant coastal species with *Abutilon*.

v) SHA for the Introduction of the Nēnē to Pi‘iholo Ranch, Island of Maui – 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 breeding and release sites and outplant native plant species known to be nēnē food sources.

At Pi‘iholo Ranch, approximately 3.7 acres were mowed monthly in the open-top release pen. 90 additional acres were also mowed in the adjacent areas of the release pen, ranch pond and cabins this past year. Ranch personnel and volunteers also planted five ohia and one hundred (100) a’ali’i around the open-top release this past season.

This past season ten (10) nests were observed at Piiholo Ranch and upcountry areas. Of these ten (10) nests, four were located in the open-top release pen, three bordering the release pen, and three outside the ranch property. One released adult was found dead this past season in the release pen. One pair with three goslings were relocated from HC&S cane field to Hana’ula open-top release pen this past season, no goslings survived to fledgling, unknown cause of death.

Nēnē monitoring and observations were performed on a weekly basis by Ranch and state personnel throughout the year. On May 26, 2011, a two day annual survey was conducted at Piiholo Ranch and known areas in upcountry with the assistance of ranch staff, National Park and State personnel. During this two day survey, no nene were counted. Data obtained from yearly sighting produced an estimated population of thirty-one (31) birds.

Predator control and monitoring activities continued throughout the year by Ranch and state personnel. A total of 11 mongoose were removed from around the open-top release pen area.

The nēnē population has grown from zero (0) to 31 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. Native plants planted and managed at the pen provide appropriate nesting sites, as well as encouraging these plants on the Ranch.

Table 4. Pi‘iholo Ranch Safe Harbor Agreement

| Year | # released | # mortalities | # nests found | # fledged | # nests predated | # predators killed* | Est. pop size | # Incidental Take |
|-------|------------|---------------|---------------|-----------|------------------|---------------------|---------------|-------------------|
| 2005 | 5 | 0 | no data | no data | no data | no data | no data | 0 |
| 2006 | 8 | 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 |
| Total | 48 | 8 | 31 | 9 | 1 | 165 | 31 | 0 |

* Includes mongoose, cats, dogs

Recommendations:

- Continue to monitor nene movements and nesting activities at Piiholo Ranchi.
- Continue to monitor, band, track movements and nesting activities of released birds and wild nene populations.

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

This SHA is for the management of nesting and foraging habitat for endangered ae‘o and ‘alae ke‘o ke‘o at the Chevron Refinery Hawaii at the James Campbell Industrial Park on Oahu. 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 (Table 1). 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'ō and 'ālae ke'ōke'ō 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'ō and 'ālae ke'ōke'ō 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 2010 calendar year. During the 2010 season, no take of ae'ō or 'ālae ke'ōke'ō was recorded. Chevron continues to manage water levels at the ponds per the SHA for ae'ō and 'ālae ke'ōke'ō. Chevron has been diligent in their predator trapping and other SHA-related management activities. From October 2009 to September 2010, 50 mongooses and nine cats were captured (Table 1). No rats were captured during this time period. This is a large increase in animal trappings on the Refinery as compared to October 2008 to September 2009 when a total of nine mongooses and two cats were captured. However, the October 2009 to September 2010 numbers are approaching those seen in the year prior to October 2008 (64 mongooses, five cats, and two rats). The construction activity and human traffic on the adjacent Hawaiian Electric property has been slowing down throughout the year. A decrease in construction debris and edible human trash from activity on the site may have dispersed the predators back onto the Refinery property in search of food and shelter. There have been no reports of Chevron employees releasing trapped animals. DOFAW has met with USFWS and Chevron on updating the SHA, and working toward off-site mitigation at Pouhala Marsh, under a future HCP for the project, expected to begin in 2011.

Chevron has been diligently approaching management of protected species onsite, with particular success with the Hawaiian stilt. In a recent meeting with USFWS and DOFAW, Chevron has discussed off-site mitigation at Pouhala Marsh under an HCP expected to begin in 2011.

Table 1. Chevron SHA.

| Year | # nests found | # fledged | # predators killed* | Est. pop size | # Incidental Take** |
|-------|-----------------------------|-----------|---------------------|---------------|---------------------|
| 2006 | 25 | 8 | 267 | 73 | 5 |
| 2007 | 16 | 12 | 247 | 100 | 6 |
| 2008 | 24 | 27 | 71 | 90 | 4 |
| 2009 | 26 | 45 | 11 | 127 | 4 |
| 2010 | 25 | 48 | 59 | 118 | 0 |
| 2011 | report due in November 2010 | | | | |
| Total | 116 | 140 | 655 | 118 | 19 |

* Includes mongoose, cats, and rats

** Includes stilt and coot

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

This HCP was developed to mitigate for impacts that construction and operation of the wind farm facility may have to four listed species: Hawaiian Petrel ('ua'u), Newell's Shearwater ('a'o), Hawaiian Goose (nēnē) and Hawaiian Hoary Bat ('ōpe'ape'a) if they collide with any of the 20 turbines on the site. Table 6 summarizes the monitoring that occurred for bird species and the Hawaiian hoary bat.

The incidental take of five Nene and one Hawaiian Hoary Bat were documented at Kaheawa Wind Power (KWP) during Year 5. In addition, the carcasses of three White-tailed tropicbirds, one Great Frigatebird, one Eurasian Skylark, a Japanese White-eye, and a Black Francolin were also documented during monitoring in Year 5. Applying the results of monitoring, including Searcher Efficiency (SEEF), Carcass Removal, and Indirect Take, estimated adjusted take for Nene is 8.74 birds during Year 5. Similar adjustments were used to estimate 3.16 Hawaiian Hoary Bats killed in Year 5. An accounting of take for each covered species through the end of the fifth year of the project estimates that, on average 1.20 Hawaiian Hoary Bats, 0.52 Hawaiian Petrels, and 3.46 Nene takes may have occurred each year as a result of project operations. No take of Newell's Shearwater have been directly observed or documented. Take levels for Nene and Hawaiian Hoary Bats may initiate the development and implementation of adaptive management measures if deemed necessary, as described in the HCP.

A new release pen for Nene was constructed on Maui during 2011 and is now complete. The first nene releases commenced in May, 2011. Regarding mitigation for the two seabird species, in Year 5 the applicant began planning for a dog-assisted seabird nesting burrow survey at Makamaka'ole, West Maui with collaborators in New Zealand and completed several population modeling exercises that provide estimated projections of project success under various baseline and management scenarios. The applicant is developing the final mitigation plan for seabirds and continuing to explore contingencies on Maui and Kauai while we plan for implementation in Year 6.

Mitigation for the baseline level of take for Hawaiian hoary bats was provided in 2006 in the form of funding for research. In addition, since August 2008, KWP biologists have been conducting acoustic monitoring of bats at Kaheawa 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 July 1, 2010 through June 30, 2011. Consistent with past years, bat activity in 2011 appeared highest in the fall with 76% of bat passes documented during the months of August-September.

KWP maintains an active and well coordinated wildlife education and outreach program (WEOP) for all personnel on site including numerous staff, contractors, and visitors that regularly perform activities at KWP.

KWP 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.

First Wind and DOFAW have agreed to implement a cooperative downed wildlife monitoring program at KWP in Year 6, providing the agency with an opportunity to independently verify results derived from systematic downed wildlife monitoring.

The HCP provides for a wide range of avoidance, minimization, and mitigation measures intended to result in a net conservation benefit for the four covered species. KWP continues to implement these measures in accordance with the HCP and the recommendations provided by DLNR, USFWS, and the ESRC following the fourth full year of implementation.

Table 6. Kaheawa Pastures HCP.

| Year | W Maui # nēnē released | W Maui # nēnē nests | W Maui # nēnē fledglings | # 'ua'u colonies monitored | # nēnē Incidental Take | # 'ua'u Incidental Take | # 'ōpe'ape'a Incidental Take |
|-------|------------------------------|------------------------|--------------------------------|----------------------------------|------------------------------|-------------------------------|---------------------------------------|
| 2007 | 10 | 19 | 23 | 1 | 0 | 0 | 0 |
| 2008 | 0 | 17 | 24 | 1 | 4.5* | 1.7* | 0 |
| 2009 | 0 | 15 | 25 | 1 | 1.3* | 0 | 2.0 |
| 2010 | No data | No data | No data | 1 | 1.6 | 0 | 0 |
| 2011 | No data | No data | No data | 1 | 17.1 | | 6 |
| Total | 10 | 51 | 72 | 5 | 24.5 | 1.7 | 8.0 |

viii) Lāna'i Meteorological Towers HCP. 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 shearwaters), 'ua'u (Hawaiian petrel), ae'o (Hawaiian stilt), and 'ōpe'ape'a (Hawaiian hoary bat), associated with the construction and operation of six meteorological towers in the western portion of the Island of Lāna'i (Figure 8 and Table 7). The HCP provided avoidance and minimization measures, monitoring and mitigation of incidental take to provide net benefit to the species and environment.

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. During FY 2009, three acres of native habitat have already been cleared and partially replanted, although

ungulate damage has been limiting native plant regeneration. Predator control efforts include work at the restoration area on the Lāna‘ihale, as well as at the Lāna‘i City wastewater treatment ponds, the later providing net benefit to ae‘o. Additional work will continue by DOFAW through March 2012 under this HCP’s mitigation plan.

Survey for incidental take, carcass removal trials, and searcher efficiency trials were conducted during Fall 2008, resuming in Spring 2009, and ongoing. Carcass searches were conducted at each met tower twice a week the first season, and on a 10-day intervals in 2009 (following observation of low rates of carcass removal from trial data). While take incidents are to be reported immediately, regular monitoring results are reported on a quarterly basis. No incidental take has been observed or reported for the project during FY 2009.

Agency monitoring compliance visits were conducted in May and June, 2009, by Crystal Prussick of DOFAW/PCSU. She toured the project area and accompanied two crew members during the scheduled carcass searches. Project and HCP activities were found to be in compliance with HCP requirements. As a result of the visits however, recommendations were made for improvement of searcher efficiency trials at this and other projects across the State.

This HCP expired in February 2010. The applicant has requested an extension, which is now being processed.

Table 7. Lāna‘i Meteorological Towers HCP.

| Year | # acres cleared | #traps | #cats trapped | # a‘o Incidental Take | # nēnē Incidental Take | # ‘ua‘u Incidental Take | # ‘ōpe‘ape‘a Incidental Take |
|-------|-----------------|---------|---------------|-----------------------|------------------------|-------------------------|------------------------------|
| 2008 | 1.2 | 40 | 9 | 0 | 0 | 0 | 0 |
| 2009 | 1.9 | 72 | 19 | 0 | 0 | 0 | 0 |
| 2010 | No data | No data | No data | No data | No data | No data | No data |
| Total | 3.1 | 112 | 28 | 0 | 0 | 0 | 0 |

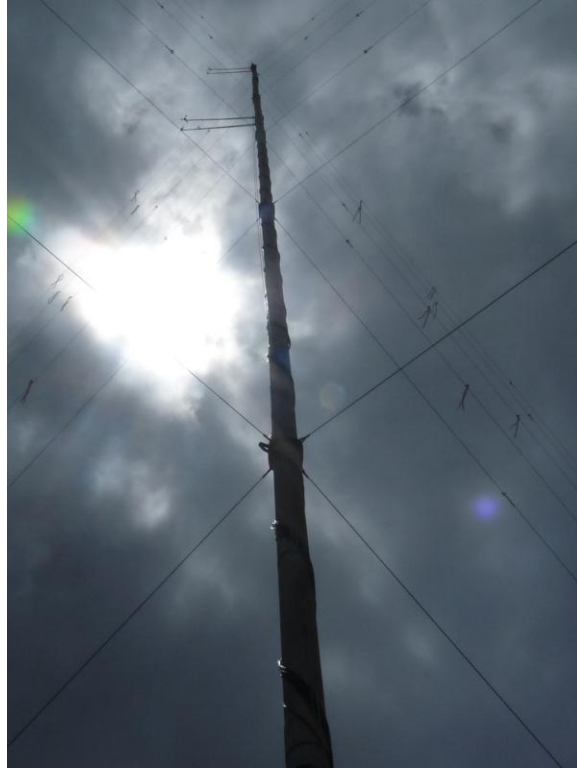


Figure 8. Guy wires on one of the meteorological towers on Lānaʻi, covered under the HCP. Guyed towers pose a much higher collision risk for seabirds and bats than do unguyed towers. Photo by Crystal Prussick (DOFAW/PCSU).

ix) Haleakala Ranch SHA, Island of Maui. Approved: August 28, 2009.

The purpose of this SHA is to establish a population of the endangered nēnē (Hawaiian goose) on Haleakalā Ranch, Maui. Under this Agreement, the Ranch will 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 10 years by continuing cattle ranching operations in a manner sensitive to the presence of Nēnē, maintaining 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.

During FY 2010, a Nēnē release pen was constructed. On May 2011, a new 3.1 acre open-top release pen was completed on Haleakala Ranch in the Waiopai area. On May 3, 2011, DOFAW received a total of ten fledglings from Kauai which were placed in a holding pen at the release site. On May 19, 2011, two foster parents from Maui Bird Conservation Center were brought to the holding pen. After about a month or so in the

holding pen, the fledglings were released in the open-top release pen. The foster parents will remain in the hold pen until further notice. They may be used to foster gosling if any come from Kauai. On September 6, 2011, 12 adult breeding pairs came from Kauai to Haleakala Ranch's release site. All 12 birds are being held in an additional enclosed holding pen until satellite transmitters are sent and attached to the adult males. Currently, maintenance of habitat and predator control is underway.

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

The purpose of this HCP is to mitigate for potential injury to and death to eight listed threatened and endangered species: 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 owl) on O‘ahu, caused by construction and operation of 12 Clipper 2.5-MW wind turbine generators. The official project commission occurred on March 23, 2011.

SWCA Environmental Consultants (SWCA) started conducting weekly searches for downed wildlife when the wind turbine generator (WTG) erection phase began in early September, 2010. During December 2010 and January 2011, SWCA and First Wind (FW) biologists marked fatality monitoring search plots to 64 and 96 meters from the wind turbine generators’ centers (50 % and 75 % of the maximum turbine and blade height, respectively) and 40 meters from the permanent meteorological tower (50 % of the tower height). Fatality monitoring followed construction phase protocols up until the first WTG’s began testing in early January. SWCA and FW began searching the 50 % and 75 % plots on January 6, 2011. DLNR began the HCP required twice weekly fatality monitoring search schedule on January 18, 2011. The inter-search interval for the 50 and 75 % search plots conducted between January 18 and July 1, 2011 was 3.41 and 14.49 days, respectively.

No fatalities for listed species were observed through June 30, 2011, however, seven (7) migratory bird species were discovered as a result of collision with turbines. These species included one (1) wedge-tailed shearwater, five (5) doves of 2 species, and one (1) Cattle Egret. One (1) wedge-tailed shearwater was found alive without injury and one (1) permanently injured Great Frigatebird.

In May and June 2011, Kahuku Wind conducted two carcass retention trials using eight birds and eight rats and in June 5 searcher efficiency trials using one bird and four rats. The mean carcass retention for eight rats was 1.50 days and for eight birds was 10.37 days, respectively. The mean searcher efficiency for trials conducted in June and July was 43% of 7 small carcasses on pads, 100% of 2 small carcasses offpad, 100% of two medium carcasses on pads and 100% of one medium carcass offpad. 12 Anabats detected five Hawaiian Hoary bat passes during 1,397 detector nights between January 24 and June 30, 2011.

First Wind biologists issued 24 wildlife education trainings in FY 2011. Biologists observed 10 ducks flying over or sitting in the Kahuku Wind Power site.

Kahuku Wind Power contributed \$92,500 and \$25,000 to DOFAW on December 9, 2010 as part of its waterbird and Pueo mitigation obligations, respectively. A Hawaiian Hoary bat mitigation payment to DOFAW of \$25,000 will occur some time this year. Mitigation for Newell's shearwater will occur either on Kauai or Maui; specific measures are currently undergoing evaluation in consultation with DOFAW and USFWS.

Kahuku First Wind is continually managing vegetation within all the fatality monitoring plots at a frequency between 2-6 weeks. A third person will be hired to the Kahuku Wind Power HCP program to keep pace with vegetation management.

- 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 Hawaii'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 a HCP. Trust funds are not assessed Central Services Fees and Administrative Costs. This change in the statute encourages 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 account was established to manage deposits related to the Abutilon HCP. A single fund for this large account facilitates efficient management of that fund. 2) T-919 account is used for the management of all other funds under §195D-31, HRS. An older fund account 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 2011 were derived from interest income (\$14,482). Expenditures (\$90,936) and outstanding claims (\$100,411) from FY 2011 are for implementation of the *Abutilon* HCP.

| Status Of S-97-800 | |
|---|----------------|
| Beginning Balance of Fund on July 1, 2010 | 803,293 |
| Revenues during FY 2011 | 14,482 |
| Expenditures during FY 2011: | 90,936 |
| Cash Balance as of June 30, 2011 | 726,838 |
| Unpaid encumbrances as of June 30, 2011: | 100,411 |
| Unencumbered Cash for carryover as of June 30, 2011: | 626,427 |
| Summary of Revenues FY 2011 | |
| Investment Pool | 14,482 |
| Total Revenue for FY 2011 | 14,482 |
| Summary of Expenditures FY 2011 | |
| Abutilon HCP Mitigation | 90,936 |
| Total Expenditures | 90,936 |
| Outstanding Claims FY 2011 | |
| Abutilon HCP Mitigation | 100,411 |
| Total Claims | 100,411 |

- c) Revenues into T-919 S-324 from FY 2011 are from interest income (\$9,218), the sales of endangered plant tags (\$3,407), the sales of conservation license plates (\$1,940), the sale of Wao Akua books (\$505), Kaheawa Wind Partners I HCP mitigation deposit (\$41,000), Kahuku Wind HCP mitigation deposit (\$131,500), a private donation made to further conservation of Nēnē (\$1,000), and private grants from the American Bird Conservancy for conservation of endangered Hawaiian forest birds (\$134,407). Expenditures made from T-919 were pursuant to the purposes of the deposits and are identified in the table below.

Status Of T-919

| | |
|--|----------------|
| Beginning Balance of Fund on July 1, 2010 | 495,611 |
| Revenues during FY 2011 | 322,976 |
| Expenditures during FY 2011 | 146,511 |
| Cash Balance as of June 30, 2011 | 672,077 |
| Unpaid encumbrances as of June 30, 2011 | 179,523 |
| Unencumbered Cash for carryover as of June 30, 2011 | 492,554 |
| Summary of Revenues FY 2011 | |
| Investment pool | 9,218 |
| Sales of plant tags | 3,407 |
| Conservation license plate | 1,940 |
| Wao Akua book sales | 505 |
| Kaheawa Wind HCP mitigation deposit | 41,000 |
| Kahuku Wind HCP mitigation deposit | 131,500 |
| Nene conservation private donation | 1,000 |
| American Bird Conservancy private grant | 134,407 |
| Total Revenue for FY 2010 | 322,976 |
| Summary of Expenditures FY 2011 | |
| Maui nene conservation | 44 |
| Abutilon HCP mitigation | 613 |
| American Bird Conservancy private grant | 107,447 |
| Kaheawa Wind Partners I HCP mitigation | 23,497 |
| Development of the Kahuku HCP | 3,635 |
| Pacific Coast Joint Venture project, Mana, Kauai | 1,030 |
| Kauai nene translocation project | 10,246 |
| Total Expenditures | 146,511 |
| Summary of Outstanding Claims FY 2011 | |
| American Bird Conservancy private grant | 69,140 |
| Kaheawa Wind Partners 1 HCP mitigation | 25,732 |
| Kahuku Wind HCP development | 69,000 |
| Kauai nene translocation project | 15,651 |
| Total Outstanding Claims | 179,523 |

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

- a) Establishment of two temporary positions in the administrative office of DOFAW for the purpose of carrying out the intent of this statute. Recent years have seen a significant increase in the number of requests for ITL's and associated technical assistance from Division staff. The 2011 Legislature established provisions in the statute for DLNR to

collect fees for that purpose. DLNR recommends that two positions be established for that purpose, with the costs of the positions to be covered by the fees assessed.

- b) The sunset date on the issuance and approval of new SHAs, HCPs, and ITLs be eliminated. 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. 2011. *Puu o Hoku Ranch/Pi'iholo Ranch Safe Harbor Agreement Annual Reports, July 1, 2010-June 30, 2011*. Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife, Maui District.
- b) URS Corporation. 2010. 2010 Hawaiian Stilt and Hawaiian Coot Monitoring: Chevron Hawai'i Refinery. Annual report prepared for Chevron. Honolulu.
- c) Waddington S. 2011. *Cyanotech Corporation Conservation Plan for Hawaiian Stilt (Himantopus mexicanus knudseni) Annual Report for 2009*. Cyanotech Corporation.
- d) DOFAW publications are available online at <http://www.state.hi.us/dlnr/dofaw/pubs/index.html>.