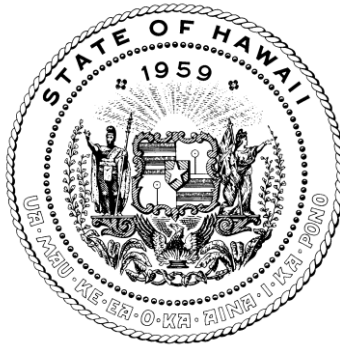


**REPORT TO THE TWENTY-FIFTH LEGISLATURE  
REGULAR SESSION OF 2010**

**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, 2008 – JUNE 30, 2009**



**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 2009

**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, 2008 – JUNE 30, 2009**

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) 2009.

FINDINGS

**A. Effectiveness Of Habitat Conservation Plans (HCP) And Safe Harbor Agreements (SHA's) Issued Under Chapter 195D, HRS, and the status of all species for which incidental take licenses (ITL) have been issued:**

The following individuals served on the Endangered Species Recovery Committee (Committee) during FY 2009.

Ms. Laura H. Thielen, Chairperson, Board of Land and Natural Resources (Agency Representative)

Designated Representatives

Mr. Ken Kawahara, Deputy Director for Land, DLNR, Honolulu

Dr. J. Scott Fretz, Wildlife Program Manager, DLNR - Division of Forestry and Wildlife (DOFAW), Honolulu

Dr. Paula L. Hartzell, Conservation Initiative Coordinator, DLNR - DOFAW, Honolulu

Dr. Patrick Leonard, Field Supervisor, United States Fish and Wildlife Service (USFWS), Pacific Islands Ecoregion (Agency Representative)

Designated Representative

Dr. Jeff Newman, USFWS, Pacific Islands Ecoregion, Honolulu.

Dr. Loyal Meyerhoff, Director, United States Geological Survey (USGS), Pacific Islands Ecosystems Research Center (PIERC), Honolulu

Designated Representative

Dr. James Jacobi, USGS-PIERC, Honolulu

Dr. Cliff Morden, Assistant Professor, University of Hawaii Environmental Center, University of Hawai'i, Mānoa.

Dr. Patrick J. Hart, Assistant Professor, University of Hawaii, Hilo, HI (Appointed member, Term expired June 30, 2012).

Dr. John Harrison, Executive Director, University of Hawaii Environmental Center, University of Hawaii, Manoa, HI. (Appointed Member, Term expires June 30, 2013).

The Committee met six times during the reporting period, reviewed annual reports for the ITLs issued to date (First Wind's Kaheawa Pastures HCP, Pu'u o Hoku Ranch SHA, Moloka'i Programmatic SHA, Pi'iholo Ranch SHA, Chevron SHA, Umikoa Ranch SHA, Cyanotech HCP, *Abutilon menziesii* HCP, and the Lāna'i Meteorological Towers HCP), and made site visits to the Kaua'i Lagoons Resort and Kaheawa Pasture's Makamaka'ole mitigation site for seabirds. They also began their five-year major review of the *Abutilon menziesii* HCP. The Committee made a recommendation to the Board of Land and Natural Resources (BLNR) for amendment to the existing Kaheawa Pastures HCP, and for approval for public release of the draft Kaheawa Wind Power II (KWPII) HCP and the Reintroduction of Nēnē to Hāleakala Ranch SHA (Island of Maui). (This SHA received final approval in August 2009). The Committee reviewed and approved baseline conditions for the Keauhou Ranch and Kīleaua Forest Plants for the proposed Kamehameha Schools SHA, Hāleakala Ranch nēnē for the proposed SHA, and for black and orange damselflies for the proposed Waimea Valley Damselfly Translocation SHA.

The Committee also provided feedback in the development of the draft Kaua'i Seabirds HCP, the draft North Kona Game Mammal Management HCP, the proposed Kahuku Wind Power HCP, the potential Kaua'i Lagoons HCP, the proposed Nā Pua Makani 25 mega watt Wind Power HCP, the Kaua'i Island Utilities Cooperative (KIUC) and Department of Transportation undergrounding of lines for the Wailua River road widening (Kukuiula Western Bypass) project to avoid impact to seabirds, extension of the expiring Pu'u o Hoku Ranch SHA, the KIUC draft short-term HCP (which was approved for public release in August 2009), the potential Lāna'i Wind Farm HCP, the proposed Honua'ula (Wailea 670) Project HCP, the proposed Phycal (Algae) project, the Kaua'i Endangered Seabirds Recovery Project, the United States Department of Agriculture's proposed Farm Bill SHA, the potential Kainalu (Dunbar) Ranch SHA, the proposed Kamehameha Schools Keauhou Ranch and Kilauea Forest SHA, proposed North Kona Palila SHA, a potential Kipukai Ranch SHA,

potential Grove Farm SHA, a potential Kauaʻi Island-wide Nēnē SHA, the proposed First Wind Ikaika (Molokaʻi) Wind Farm HCP, and potential Kauaʻi County, Princeville Resorts, and Norwegian Cruise Lines participation in the Kauaʻi Seabird HCP.

Finally, the Committee reviewed draft legislation proposing amendment to the State's Endangered Species Law (Chapter 195D, HRS), and made recommendations for submitting materials for Committee review, for timelines and scheduling, and for protected species monitoring guidelines for developing and existing HCPs.

The sunset date on the issuance and approval of new SHAs, HCPs, and ITLs was extended to July 1, 2012 as a result 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, 2009.

B. Reintroduction of Nēnē to Puʻu o Hoku Ranch, Molokaʻi. Issued: September 4, 2001.

The Puʻu o Hoku Ranch was the first SHA issued in Hawaii. The SHA calls for Puʻu 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 seventy-four (74) birds have been released at Puu O Hoku Ranch since the beginning of the Agreement. The Molokaʻi nēnē population has increased from zero (0) to one hundred and seventy three (173) birds in eight years, with estimated 74% of those birds being wild born on Molokaʻi as a direct result of the Puʻu o Hoku Ranch SHA activities (Figure 1 and Table 1).

This past season, DOFAW personnel continued to monitor movements, nesting activities, and banding of nēnē on Puʻu O Hoku Ranch. During the nesting season a total of seventeen (17) nests were located in the open-top release pen. No additional nests were found outside the pen or Ranch. Of the seventeen (17) nests, five adult females were found dead during incubation within a one-week period. After conducting an inspection of the fence line and the predated nests, additional traps were placed by staff in the pen and around the perimeter. Monitoring efforts of traps and nests were then conducted on a daily basis. On December 4, 2008, live bait stations were placed around the pen and night patrols were conducted. On December 5, 2008 at approximately 1:30am, a nine pound male cat was removed on the outer eastern corner of the pen. After this incident, no additional eggs or birds were predated. Despite the loss of six good breeding females, fourteen (14) fledglings fledged from the open-top release pen this past season.

A total of one hundred-five (105) nēnē were identified this past year by their darvic coded bands. Of these birds, twenty-seven (27) birds were recognized as released birds and seventy-eight (78) were Molokaʻi birds. In addition to the 105 birds, fourteen (14) fledglings were captured and fitted with state and federal bands. This season a total of fourteen (14) deaths were recorded, twelve (12) adults (10 predated, 1 road kill, 1 unknown) and two goslings (1 predated, 1 drowning).

A two day annual nēnē survey was conducted on June 18 and 19, 2008 with the assistance of Ranch and state personnel. During this survey a total of fifty-three (53) birds were identified

by their darvic coded bands and fourteen (14) were unknowns. Weekly surveys and monitoring were conducted by state personnel throughout the year. In addition to weekly surveys, an annual two day nēnē survey was also completed on June 18, 2008. During this survey, teams expanded searches towards Halawa and Dunbar Ranch to document distribution. Two small flocks of nēnē were discovered at low to mid elevation on Dunbar Ranch. The results of the survey totaled fifty-three (53) birds. In addition to the banded birds sighted for the year, fourteen (14) fledglings of the year were captured, measured and banded this past season. Information obtained from weekly observations, annual surveys and population recruitment, resulted in an estimation of Moloka‘i’s nēnē population at one hundred seventy-three birds (173).

No birds were found by staff or ranch personnel that needed rehabilitated this past season. There were no recaptures, relocations, or new releases of nēnē on Moloka‘i this year. No additional releases were done on Moloka‘i.

#### Summary for Pu‘u o Hoku Ranch SHA

The Pu‘u o Hoku Ranch SHA has been a tremendous success. The Moloka‘i nēnē population has increased from 0 to 173 birds in eight years, with 74% of those birds being wild born on Moloka‘i as a direct result of the Pu‘u o Hoku Ranch SHA activities. The Ranch is continuing to review the possibility of renewing the SHA in the future.



Figure 1. Nēnē gander protecting chicks. Pu‘u o Hoku Ranch, Moloka‘i.

Table 1. Pu'u o Hoku Ranch SHA

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
Total	74	10	100	114	18	477	173	0

\* Includes mongoose, cats, dogs

C. Conservation Plan for Hawaiian Stilt at Cyanotech Aquaculture Facility Keahole Point, Island of Hawaii. Approved: June 13, 2002.

The Plan 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 2 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 conservation plan for ae'o. The nesting habitat was managed from 1998-2002. As part of the conservation plan, habitat management was discontinued after the 2002-nesting season, to avoid conflicts with the nearby airport. The 45 fledglings produced in the area (48 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 conservation plan 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 2. Cyanotech Facility, Big Island (Hawai'i). Photo by S. Waddington (Cyanotech).

During Fiscal Year (FY) 2009, 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 conservation plan, 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 2009 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 conservation plan, 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 (*Fulica 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 2009, to date there have been two stilt nests with one fledgling and one hatchling produced at Opa'e'ula pond.

DOFAW conducted an on-site compliance visit, inspecting HCP activities on April 28, 2009. Project objectives continue to be met under this HCP, including provision of nesting habitat off-site, as well as discouraging on-site nesting because of conflict with the adjacent airport. Project personnel provide diligent monitoring of the site, as well as providing knowledgeable recommendations for appropriate conservation efforts in the area. Additional information on this project is available in "Cyanotech Corporation Conservation Plan for Hawaiian Stilt (*Himantopus mexicanus knudseni*) Annual Report for 2008" (Waddington 2008).

The HCP annual report included the following 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. It is recommended that Cyanotech operate at 100% of production capacity during the stilt-nesting season (March-August). If this is not possible, idle raceways should be filled with seawater to prevent stilts from nesting in the idle 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.).

#### Summary for Cyanotech HCP

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 through predator control. This has resulted in the net production of 68 ae'o fledglings and 11 'alae ke'oke'o as a result of this project.



Table 2. Cyanotech HCP

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	0	#	#	#	#
Total	49	184	10	40	907	28	635

#Off-site population estimates reported in November each year.

D. SHA and Habitat Management Plan for Koloa (Hawaiian Duck) and Nēnē (Hawaiian Goose) on Umikoa Ranch, Island of Hawaii. Issued: December 5, 2001.

The Umikoa SHA calls for the creation and management of 2.0 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. 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.

During FY 2009, the Umikoa Ranch continued its predator control program using diphacinone mongoose bait in pond areas. Unfortunately, due to problems coordinating with the Ranch following a changeover in Ranch personnel, DOFAW was not able to perform a compliance visit, and USFWS has not turned in an annual report for this SHA. The current koloa population is estimated to be six birds, which is three times the baseline number at the beginning of the SHA. There were no birds reported as taken on the ITL. USFWS has written the annual reports for this SHA until FY 2008; during the Committee's annual review in January 2009, and in a status update in April 2009, USFWS stated that they were planning on meeting with Umikoa Ranch representatives in June 2009, in order to discuss how to best proceed with this SHA, and would generate a report after that time.

E. 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 2009, there were no landowners enrolled under this SHA, but DOFAW has participated in discussions with a landowner about participation under this, or a separate multi-species SHA. DOFAW has conducted the necessary baseline surveys on lands adjacent to Pu‘u o Hoku Ranch SHA lands where nēnē reestablishment is occurring. Because other protected species may be protected on the adjacent property, a multi-species SHA for the adjacent property would be best for the species involved; 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.

F. 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 3, 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.



Figure 3. Ko‘o loa ‘ula (*Abutilon menziesii*) at Kapolei, Island of O‘ahu. Photo by Laura Shiels (DOFAW/PCSU).

The HCP outlines a strategy to take cuttings and collect seeds from the existing plants at Kapolei prior to their removal and using these materials to: 1) Maintain genetic representation of the original population by growing cuttings in nurseries and placing seeds in seed storage facilities; and 2) Establish three new populations in protected areas elsewhere on Oahu, including Koko Crater Botanical Garden, Ka‘ena Point State Park, and the Honouliuli Unit of the Pearl Harbor National Wildlife Refuge. Work also includes construction of a low-elevation greenhouse

dedicated to propagating *Abutilon menziesii* and other threatened, endangered and associated plant species on O‘ahu. In addition, the HCP provides funding to protect and maintain the wild populations for a minimum period of 20 years to ensure that they will survive.

Cuttings from plants continue to be propagated in the greenhouse and to date, *Abutilon menziesii* has been outplanted at Diamond Head, Honouliuli Wildlife Refuge, Keālia Trail, Ka‘ena Point, Ka Iwi State Park, Ewa Villages Golf Course, Pouhala Marsh, and Koko Crater Botanical Garden (Figure 2). DOFAW is attempting to establish self-reproducing wild populations at five of these sites (Ewa Villages Golf Course, Diamond Head, Honouliuli Wildlife Refuge, Ka Iwi State Park, and Ka‘ena Point). The Koko Crater Botanical Garden population functions as a protected repository for the full genetic stock of the Kapolei population. The Keālia Trail site was an experimental site to test the biological requirements of the plant.

During FY 2009, DOT, DOFAW, USFWS, the Committee, and project staff worked together for the HCP’s first major five year review. Compliance and review site visits occurred in May, June and July 2009, for the purposes of assessing current status and adaptive management recommendations. There has been a four-fold increase from a founder population of 93 plants in 2002, to 387 plants in 2008 (Figure 4). 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.

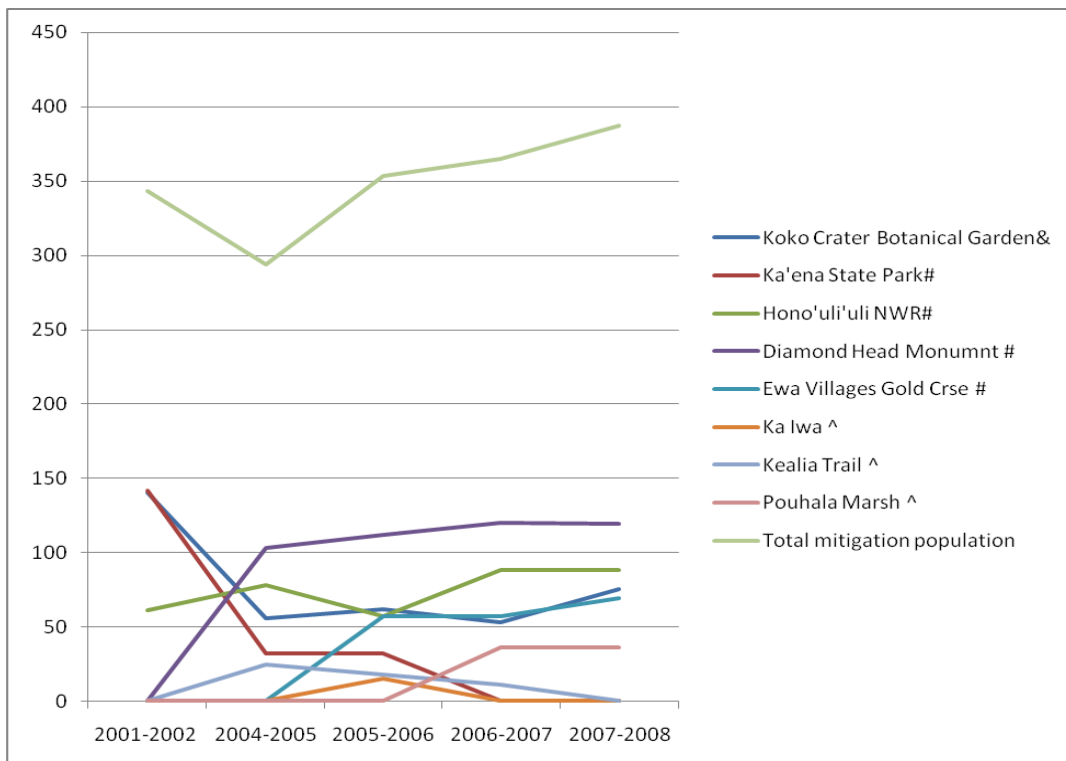


Figure 4. Number of ko‘oloa‘ula (*Abutilon menziesii*) at wild and outplanted sites, as part of the *Abutilon menziesii* Habitat Conservation Plan. Populations at Diamond Head, Hono‘uli‘uli, Ewa Village Golf Course, Koko Crater and Pouhala Marsh are stable or increasing, while other experimental sites have had less success. While individual site success has varied, the project as a whole has resulted in an increase in a net gain to the 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. Additional information is available in the Annual Report and Five Year Review.

Summary for *Abutilon menziesii* Habitat Conservation Plan

During FY 2009, DOT, DOFAW, USFWS, the Committee, and project staff worked together for the HCP’s first major five year review. Compliance and review site visits occurred in May, June and July 2009, for the purposes of assessing current status and adaptive management recommendations. There has been a four-fold increase from a founder population of 93 plants in 2002, to 387 plants in 2008.

Table 3. Summary for *Abutilon menziesii* HCP, for FY 2009. Number of plants reported for wild site (Kapolei) and outplanted sites, Island of O‘ahu, managed under the HCP.

Year	Kapolei	Koko Crate <sup>&amp;</sup>	Ka'en a#	Hono 'uli'ul i#	Diam ond Head #	Ewa#	Ka Iwa ^	Keāli a^%	Pouh ala^	Total Pop	Net pop gain	Gene tic Repr
2001- 2002	106	140	142	61	n/a	n/a	n/a	n/a	n/a	449	356	
2004- 2005	25	56	32	78	103	n/a	n/a	25	n/a	319	226	90
2005- 2006	not repor ted	62	32	57	112	57	15	18	n/a	353	260	94%
2006- 2007	not repor ted	53	0	88	120	57	0	11	36	354	261	
2007- 2008	repor ted	75	0	88	119	69	n/a	n/a	36	387	294	95%

\*Original population in project area; 93 founder plants at HCP commencement.

<sup>&</sup>Repository of genetic representation.

#"Wild" population, outplanted from Kapolei pop.

<sup>^</sup>Experimental population

%Keālia Trail experimental site considered unfavorable and discontinued after 2005.

G. 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 3.33 acres was mowed monthly in the open-top release pen. Eighty (80) additional acres was also mowed in the adjacent areas of the release pen, ranch pond and cabins this past year. Outplanting at Pi‘iholo Ranch was accomplished by ranch personnel and volunteers. A total of two hundred fifty (250) a‘ali‘i, one hundred (100) u‘ulei and fifteen (15) ‘ohā wainui were planted in and around the open-top release pen. Ten (10) ‘ohā wainui, ten (10) ‘ohia and five koa were planted near Pi‘iholo’s cabin.

Monitoring of movement and nesting activities continued throughout the year by ranch and state personnel. This past season a total of six nests were located in the Pi‘iholo area. Of the six nests, five were found inside the open-top release pen, one nest was also discovered at a residence on Pi‘iholo road. No additional nests were discovered on Pi‘iholo Ranch lands. Three fledglings fledged from the open-top release pen this past year. One released bird from previous years was found habituating at Maui Bird Conservation Center. The bird was captured, clipped and relocated back to Pi‘iholo’s open-top release pen. There were five deaths this past season, one adult male that was found in the ranch pasture (death unknown) and four goslings in the open-top release pen, these deaths were possibly caused by adult males defending their territories.

Nēnē monitoring and observations were performed on a weekly basis by Ranch and State personnel throughout the year. On May 21, 2009 a two day nēnē survey was conducted on the Ranch and adjacent lands with the assistance of Ranch, Federal and State personnel. During this period no birds were found on the Ranch property. The only six banded birds were found below Makawao Town at Hui Noeau facility. With weekly observations and an annual survey, forty-four (44) birds were identified by their darvic coded bands. Four additional birds; one adult and three fledglings were also captured, measure, weigh and banded. Sighting data for the year and recruitment estimated the Pi‘iholo population at forty-six (46) birds.

This past season a total of five deaths were recorded, one adult and four goslings. The carcass of the adult male was found in the pasture below Pi‘iholo’s cabins that was decomposed. Of the four goslings, one drowned and three were possibly killed by aggressive adult males. All of these goslings were found dead in the open-top release pen. One gosling was captured from a private landowner’s pasture in Pi‘iholo and relocated to Pi‘iholo’s open-top release pen. One previous release bird was also captured from Olinda Facility, clipped and relocated back into the pen.

On Maui at Pi‘iholo Ranch a total of thirty-three (33) mongoose and three (3) cats were removed from around the open-top release pen area. One hunting dog was sighted in the area a few times but personnel were unable to remove it.

## Summary for Pi‘iholo Ranch SHA

This project is progressing well, providing an excellent release and nesting site for Maui nēnē. The nēnē population has grown from zero (0) to forty six (46) birds over four years, due largely to releases. The introduced nēnē are maturing and beginning to nest in the predator-controlled pen, successfully producing fledglings now for the second season. We expect the population 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. The Pi‘iholo Ranch SHA success has provided a positive example for other landowners on the island, and DOFAW has recently (August 2009) finalized an additional SHA at Haleakalā Ranch on Maui for nēnē recovery.

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
Total	48	7	10	7	0	133	46	0

\* Includes mongoose, cats, dogs

### G. 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 (Hawaiian Stilt) and ‘Alae ke‘o ke‘o (Hawaiian Coot) 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 (Figure 5 and Table 5). 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,



Figure 5. 'Alae ke'oke'o (Hawaiian coot) nesting at Chevron facility, O'ahu (URS Corp 2009).

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 reports are due in November of each year, to match the waterbird season, therefore this report reflects events during the 2008 calendar year. During the 2008 breeding season, take of three stilts and a coot were recorded. Chevron continues to manage water levels at the ponds per the SHA for ae'o and 'alae ke'oke'o. Three stilts and a coot were taken during the 2008 season. After problems with non-compliance in predator control on site in 2006, Chevron has been diligent in their predator trapping and other SHA-related management activities. DOFAW has recently 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.

#### Summary of Chevron SHA

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 updating the SHA through adaptive management efforts, as well as initiating discussion on off-site mitigation at Pouhala Marsh under an HCP expected to begin in 2011.



Table 5. 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	report due in November 2009				
Total	65	47	585	90	15

\* Includes mongoose, cats, and rats

H. 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, Newell's Shearwater, Hawaiian Goose and Hawaiian Bat if they collide with any of the 20 turbines on the site (Figure 7, Table 6).

During FY 2009, Kaheawa Wind Power (KWP), operated by First Wind, LLC, continued ground searches near the turbines to detect any downed wildlife in accordance with the specifications of the HCP. There were three downed wildlife incidents that involved fatality of HCP-covered avian species at KWP during the Year 2 reporting period. A single adult 'ua'u carcass and the partial remains of two full grown nēnē were documented. Each of these incidents were treated as authorized takes under the Incidental Take Permit (ITP) and ITL issued to KWP by the USFWS and DLNR, respectively. Unlike past seasons, no 'ōpe'ape'a were observed during nocturnal surveys for seabirds in West Maui, however observations will continue during all nocturnal and crepuscular field studies. Ongoing search efficiency (SEEF) and carcass removal trials provide a basis for estimating adjusted take for both Hawaiian petrels and Newell's shearwaters. Applying the results of monitoring and accounting for indirect take and loss of productivity, First Wind estimated adjusted take for Hawaiian petrels and nēnē are 3.31 and 6.34, respectively.

The Wildlife Education and Observation Program (WEOP) continues to be a valuable extension of the conservation initiatives being pursued under the HCP. DOFAW obtained about 254 independent records in the WEOP logbook significantly improving our ability to track and monitor the movements of nēnē on site. WEOP also provides the training necessary to facilitate downed wildlife documentation, clearly demonstrating the success of this program.

A collaborative annual review was conducted in December by DOFAW, USFWS, and First Wind, with many recommendations for improvement through adaptive management. These recommendations were reviewed and approved by Committee in January 2009, to begin implementation during the remainder of FY 2009. The next annual review is scheduled for November 2009.

In Spring 2009, First Wind, USFWS and DOFAW worked to develop the first year of on-the-ground seabird mitigation at the Makamaka‘ole site in West Maui. The plan was reviewed and approved by the Committee, and began implementation in June 2009. This first year of work is focused on providing predator control, mapping of seabird burrows, and better defining the population of potential breeders at the site, using audio-visual, radar and related survey techniques. First Wind has financially supported research into ‘ope‘ape‘a (Hawaiian hoary bat) research, as well as providing for funding for release of nēnē at a new site on Maui, currently planned for Fall 2009 at Haleakalā Ranch.

DOFAW continues to monitor and maintain the nēnē pen established on lands adjacent to the existing turbines at Hana‘ula (Figures 6 and 7); although nēnē are no longer being released, they do use the pen and the surrounding area during nesting season, so that predator control of that area is important for their continued success.

Implementation of the provisions under this HCP has resulted in reduced take of endemic Hawaiian species. Cooperative efforts with the applicant, DOFAW and USFWS should provide net benefit to the species, when mitigation efforts are implemented to offset authorized incidental take. A more detailed report of the project is available in the “Kaheawa Pastures Wind Energy Generation Facility Habitat Conservation Plan Year 2 HCP Implementation: July, 2007 – June, 2008” (First Wind Environmental Affairs 2008).



Figure 6. Nēnē and nest at Lahainaluna, Maui. Some of the birds released at the Hana‘ula site have continued to use the release pen, but many others have successfully dispersed and are expanding the breeding population across West Maui. There are now wild born breeding adults in this area. (Smith, DOFAW 2009)

## Summary of Kaheawa Pastures HCP

The nēnē release pen at Kaheawa appears to be supporting a combination of wild and released nēnē which utilizes the pen for rearing fledglings. The off-site mitigation activities have proceeded more slowly, but have included identification, fencing and flagging of a previously unknown ‘ua‘u colony. Additional mitigation activities in development include an additional release pen for nēnē off-site, and predator control at the petrel colony. This project has resulted in net gain for nēnē, and will result in net gain for ‘ua‘u.

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
Total	10	36	72	1	5.0	1.7	2.0



Figure 7. Two photos taken from the same point, seconds apart, at the Kaheawa Pastures Wind Facility, Island of Maui. While superficially it may seem that birds or bats could avoid striking something as large as a turbine, the photos illustrate how avoidance is sometimes difficult; this problem is compounded at night (for visual animals) and during low wind periods (for bats). Photos by James Kwon (USFWS).

I. 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/University of Hawaii’s Pacific Cooperative Studies Unit (PCSU), with assistance provided by the Maui Invasive Species Committee and others. During FY09, 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 2010 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 FY09.

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.

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
Total	3.1	72	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).

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

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 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 trust 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 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.

Revenues into S-97-800 from FY 2009 were derived from interest income (\$17,259). Expenditures (\$82,619) and outstanding claims (\$103,354) from FY 2009 are for implementation of the *Abutilon* HCP.

<b>Status Of S-97-800</b>	
Beginning Balance of Fund on July 1, 2008	952,092
Revenues during FY 2009	17,259
Expenditures during FY 2009:	82,619
Cash Balance as of June 30, 2009	886,732
Unpaid encumbrances as of June 30, 2009:	103,354
<b>Unencumbered Cash for carryover as of June 30, 2009:</b>	<b>783,378</b>

<b>Summary of Revenues FY 2009</b>	
Investment Pool	17,259
<b>Total Revenue for FY 2009</b>	<b>17,259</b>

<b>Summary of Expenditures FY 2009</b>	
Abutilon HCP Mitigation	82,619
<b>Total Expenditures</b>	<b>82,619</b>

<b>Outstanding Claims FY 2009</b>	
Abutilon HCP Mitigation	103,354
<b>Total Outstanding Claims</b>	<b>103,354</b>

Revenues into T-919 S-324 from FY 2009 are from the transfer of the balance from S-324 (\$9,116), interest income (\$11,108), the sales of endangered plant tags (\$487), the sales of conservation license plates (\$2,480), mitigation for the Lanai Meteorological Towers (\$109,065) and Kaheawa Wind Partners I (\$41,000) HCPs, Nene mitigation from a cell tower (\$10,000) and the Kauai Lagoons property (\$4,160), and donations for fire damage mitigation (\$1,350) and endangered plants (\$1,000). Expenditures made from T-919 were pursuant to the purposes of the deposits and are identified in the table below.

## References Cited

Medeiros J. 2009. *Puu o Hoku Ranch/Pi'iholo Ranch Safe Harbor Agreement Annual Reports, July 1, 2008-June 30, 2009*. Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife, Maui District.

URS Corporation. 2008. 2008 Hawaiian Stilt and Hawaiian Coot Monitoring: Chevron Hawai'i Refinery. Annual report prepared for Chevron. Honolulu.

Waddington S. 2009. *Cyanotech Corporation Conservation Plan for Hawaiian Stilt (Himantopus mexicanus knudseni) Annual Report for 2009*. Cyanotech Corporation.

DOFAW publications are available online at <http://www.state.hi.us/dlnr/dofaw/pubs/index.html>.



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## Status Of T-919

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Beginning Balance of Fund on July 1, 2008	463,552
Revenues during FY 2009	180,650
Expenditures during FY 2009:	56,562
Cash Balance as of June 30, 2009	587,640
Unpaid encumbrances as of June 30, 2009:	127,480
<b>Unencumbered Cash for carryover as of June 30, 2009:</b>	<b>460,160</b>

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### Summary of Revenues FY 2009

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Transfer from S-324	9,116
Investment Pool	11,108
Sales of plant tags	487
Conservation License Plate	2,480
Lanai Met Towers HCP Deposit	109,065
Kaheawa Wind HCP Deposit	41,000
Nene mitigation for cell tower	10,000
Kauai Lagoons nene mitigation	4,160
Maui fire donation	1,350
Pahole nursery donation	1,000
<b>Total Revenue for FY 2009</b>	<b>189,766</b>

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### Summary of Expenditures FY 2009

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Abutilon HCP Mitigation	2,671
Kauai Lagoons nene mitigation	3,018
Tesoro Oil Spill Restoration - Oahu Offshore Islands	13,616
Natural Area Reserves management	1,287
Cyanotech predator control	4,500
Lanai Met Towers HCP mitigation	4,896
Kaheawa Wind Paerners I HCP mitigation	1,576
Refund HTA grant - grant not used	22,500
Pahole plant conservation	997
Watchable Wildlife Program outreach	1,500
<b>Total Expenditures</b>	<b>56,561</b>

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### Summary of Outstanding Claims FY 2009

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Tesoro Oil Spill Restoration - Oahu Offshore Islands	440
Kaheawa Wind Paerners I HCP mitigation	20
Kauai Lagoons nene mitigation	27,000
Lanai Met Towers HCP Mitigation	100,020
<b>Total Outstanding Claims</b>	<b>127,480</b>