

# **Kauai Lagoons Habitat Conservation Plan**

## **Annual Report September 24, 2014**

### **I. Introduction**

In 2012, the U.S. Fish and Wildlife Service (USFWS) and the Hawaii Department of Land and Natural Resources (DLNR)/Division of Forestry and Wildlife (DOFAW) approved the Habitat Conservation Plan (HCP) prepared by Kauai Lagoons LLC and issued to Kauai Lagoons an Incidental Take Permit and Incidental Take License, respectively. The effective date of those incidental take authorizations was November 9, 2012.

Section 8.5 of the HCP requires that Kauai Lagoons produce and submit an annual HCP compliance and monitoring report to both agencies by September 30 of each year.

### **II. One-Time Obligations**

#### **A. Nene Mitigation Payment (HCP Section 4.4.1.6)**

Requirement: A one-time payment of \$85,000 to the DLNR Endangered Species Trust Fund. DLNR is to use these funds to control predators and/or manage Nēnē at a translocation site.

Status: Completed (May 2012)

### **III. Ongoing Obligations**

#### **A. Financial Assurances (Section 6.4)**

Requirement: Post a bond or letter of credit in the amount of \$153,667. Under Section 7.2 of the HCP Implementing Agreement, the bond term must be two years, and a Continuation Certificate must be sent to DLNR with a copy to USFWS at least six months prior to expiration of the bond.

Status: Completed (Bond provided to agencies in December 2012; Continuation Certificate provided to agencies in January 2014).

#### **B. Training (“Endangered Species Awareness Program”) (Section 4.2.1.1)**

Requirement: All new employees and contractors go through the training program detailed in the HCP.

Status: The training module was updated for the Season, Reginald David, retrained the HR trainer prior to the start of the season, and also retrained the security team, who are the

primary responders. All new employees were given the training by HR personnel as part of their orientation and safety training.

**C. Construction Contract Provisions (Section 4.2.1.2)**

Requirement: Develop provisions and restrictions to avoid and minimize take of Covered Species, and insert into all new construction contracts.

Status: No new construction with the potential to affect Covered Species occurred during the reporting period.

**D. Pre-Construction Surveys (Section 4.2.1.3)**

Requirement: A biological monitor must survey any new mass grading areas immediately prior to mass grading.

Status: No new mass grading occurred during the reporting period.

**E. Biological Monitor (Section 4.2.1.4)**

Requirement: Designate two biological monitors.

Status: In compliance. The two monitors designated in the HCP (Alan Silva and Reginald David) remain the designated monitors. Al Silva worked roughly half time for the entire year. A full time biological monitor Kristina Dickson was brought on staff at the beginning of the Nēnē nesting season, she worked full time through the end of the fledgling season on May 15, 2014.

**F. Construction Monitor (Section 4.2.1.5)**

Requirement: Use one or more construction monitors during periods of active grading or earth moving.

Status: No active grading or earth moving occurred during the reporting period.

**G. Fencing (Section 4.2.1.6)**

Requirement: Where feasible, erect and maintain solid fencing around discrete construction areas, to prevent Covered Species from walking into such areas.

Status: No construction occurred during the reporting period to which this provision would apply.

**H. Best Management Practices (Section 4.2.1.7)**

Requirement: Implement the specific BMPs contained in Section 4.2.1.7 (e.g., speed limits, signage, trash receptacles).

Status: In compliance.

**I. Roadways (Section 4.2.2.1)**

Requirement: Post permanent speed limit and Covered Species warning signs, and speed bumps as necessary.

Status: Done - in compliance.

#### **J. Lighting (Section 4.2.2.2)**

Requirement: Ensure that lighting associated with construction of new structures is bird friendly; as new buildings near completion, qualified biologist to inspect lighting after dark to ensure light attraction has been minimized to the maximum extent practicable; analyze onsite seabird fallout monitoring data on an ongoing basis to determine if particular areas within the resort attract downed birds on a regular basis, and if so then take steps to redesign, reconfigure or eliminate potential light attraction sources.

Status: In compliance. In compliance. No new structures were built during the reporting period. Two downed seabirds were found on the property near the Kalanipu'u buildings in early November 2013. A lighting survey was conducted at the Kalanipu'u and at the Fashion Landing buildings by Reginald David, Tim Tansey and Brycen Campos in early 2014 prior to the start of seabird fallout season. As a result of that survey additional window blinds were installed at the Fashion Landing Fitness Center adjacent to Kalanipu'u Building A. Additionally the exterior Fashion Landing wall lights were re-bulbed with shorter and lower wattage bulbs. Ten light fixtures at the Kalanipu'u Buildings B and C lobbies were also replaced. The new fixtures have shielded sides matching fixtures at Building A.

#### **K. Grounds Management and Maintenance (Section 4.2.2.3)**

Requirement: Grounds management crews must go through the training described in Section 4.2.1.1, and must coordinate with the biological monitors as needed.

Status: All employees have received training and during the season communicated effectively and proactively with the biological monitors over potential issues with endangered avian species.

#### **L. Rules, Education for Resort Owners and Renters (Section 4.2.2.4)**

Requirement: Covenants, Conditions and Restrictions (CC&Rs) will address issues such as trash receptacles, trash disposal, landscape design, etc.; endangered species information and education tools will be developed to educate owners and visitors regarding endangered species issues, restrictions, and special seasonal protocols.

Status: In compliance.

#### **M. Golf Operations (Section 4.2.2.5)**

Requirement: Golf course Starters and Marshalls must attend additional training from the Biological Monitors in addition to the standard training described in 4.2.1.1; morning briefings for golf course personnel will include updates on Covered Species presence; the Starter will inform each golfer about the potential presence of Covered Species and appropriate precautions; an educational kiosk will be established at the Starter location; golf carts will contain a placard replicating information from the kiosk; warning signs will be posted if a Covered Species

establishes a nest within the golf course; golf course to establish a local rule for golf play allowing movement of a ball away from nest areas.

Status: Done and in compliance, this task has become much simpler since DOFAW initiated removal of Nēnē from the property.

**N. Maintenance of On-Site Nesting Areas (Section 4.4.1.2)**

Requirement: Previously enhanced nesting areas shall not be maintained, and supplemental grain feeders shall not be provided on lagoon islands; limited areas of the resort grounds will be managed and maintained as determined and directed by DOFAW and USFWS.

Status: In compliance.

**O. Emergency Response Protocol (Section 4.4.1.4)**

Requirement: Implement the protocol contained in HCP, Appendix I.

Status: In compliance.

**P. Facilitate DOFAW removal of nene (Section 4.4.1.5)**

Requirement: As appropriate, lend support to DOFAW efforts to capture and translocate nene.

Status: In compliance. Kauai Lagoons regularly provides access and golf carts to DOFAW staff for their use in DOFAW's Nēnē capture and translocation efforts.

**Q. Predator Control (Section 4.42)**

Requirement: Deploy 10 live traps during the period September 15 to March 15 in areas of the property frequented by waterbird Covered Species; check live traps every 48 hours and deliver trapped cats to Kauai Humane Society; deploy rodent bait stations in same areas during this same timeframe; control cattle egrets and feral chickens.

Status: Live traps were deployed throughout the season, and moved to new areas in response to cat sightings or activity. A total of 23 cats were removed from the property. Rodent control continues year-round. A total of 824 feral chickens were removed using trapping and air rifles. 26 Cattle Egrets were removed from the property during the season. All bird control activities were conducted under a state Wildlife Depredation Permit.

**R. Seabird Mitigation Payments (Section 4.4.3; HCP Amendment of September 2013)**

Requirement: Contribute \$10,000 annually to the Listed Hawaiian Seabird Conservation Account administered by the National Fish and Wildlife Foundation. The 2013 payment shall be made by November 1, 2013, and subsequent payments shall be made by September 15 of each year.

Status: The 2013 payment was sent to NFWF on September 26, 2014, and the 2014 payment was sent to NFWF on September 12, 2014.

#### **S. Nene Monitoring During Nesting Season (Section 4.5.3)**

Requirement: Biological monitors to monitor nene nesting activity and nesting success on a daily basis starting September 15 and ending on March 31 each year. Monitoring data to be collected includes band numbers, pair bonds, nest location, eggs laid, eggs hatched, goslings fledged, and reported mortalities. In addition, perform monthly monitoring during the remainder of the year (April through August), recording the number of nene on the property and observed band numbers.

Status: Please refer to the attached “Kaua‘i Lagoons Endangered Waterbird Monitoring Report 2013-2014 Season

#### **S. Waterbird Monitoring (Section 4.5.4)**

Requirement: As part of the comprehensive nene monitoring efforts, the biological monitors will also record information about all observed covered waterbird species on a weekly basis between September 15 and March 31 each year, and on a monthly basis from April through August each year. To include observations regarding waterbird numbers, nest locations, eggs laid, eggs hatched, goslings fledged, and reported mortalities.

Status: Please refer to the attached “Kaua‘i Lagoons Endangered Waterbird Monitoring Report 2013-2014”

#### **T. Seabird Monitoring (Section 4.5.5)**

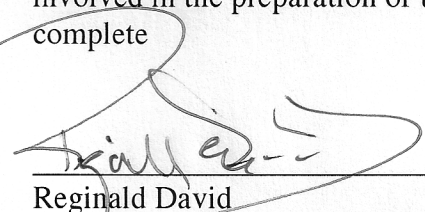
Requirement: Kauai Lagoons security staff will record all downed seabirds recovered on the property; biological monitors will evaluate security staff search efficiency and carcass removal rates; biological monitors will record the results of their own additional searches performed during the expected peak of the seabird fallout season

Status: Both security personnel and the two, onsite biological monitors were re-trained in seabird search and handling techniques prior to the start of the fallout season. Security personnel conducted searches on an ongoing daily basis as part of their usual patrols of the grounds and buildings. The full time biological monitor searched the buildings and perimeters surrounding the buildings every morning for downed seabirds during the September 15 – December 15 fallout season.

Searcher efficiency trials using seabird carcasses were not conducted this season due to the lack of carcass availability. With the large research effort currently being conducted on Kauai under the KIUC Short-Term Habitat Conservation Plan, all carcasses available from the SOS program had already been promised to, or already used by DOFAW’s Kauai Endangered Seabird Recovery Project team. For the Fall 2014 seabird fallout season, KL has made advance arrangements with the SOS program to have carcasses set aside for KL.

Certification (Implementation Agreement, Section 8.3)

I certify that, to the best of my knowledge, after appropriate inquiries of relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete



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Reginald David  
Biological Consultant  
Rana Biological Consulting

9/26/14

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Date

# Kauai Lagoons Endangered Waterbird Monitoring Report

## 2013-2014 Season

### Nēnē Nesting Observations

The 2013-2014 Nēnē (*Branta sandvicensis*) nesting season resulted in 43 Nēnē nests, from 36 different pairs, on Kauai Lagoons property during the season. The season began in late September 2013. Although the first nest was located and documented on October 3, the hatch date was October 28 which suggests that the first actual nest date was September 28. The number of nests detected or known to have been active per month are as follows: 25 in October (2 of which were not located), 10 in November, 6 in December, 1 in January and 1 in March. Nēnē pairs were monitored daily from October through April and data was compiled into an excel database. This monitoring data includes: Nēnē pairs (bands when present), nests viability and gosling survivability, DOFAW Nēnē translocations and banding, avian mortalities, waterbird surveys, trapping summary, downed seabirds at Kalanipu'u and a map with Nēnē nest locations. All nests that produced goslings were located except 3 that may have nested right off property in the county staging area next to the wastewater treatment plant.

The 40 Nēnē nests that were located produced 122 eggs of which 88 hatched for an average hatch rate of 72.13 percent. Of these 88 hatchlings, 52 were observed alive at Kauai Lagoons at last survey or date of their translocation providing us with a hatchling survival rate of 57.95 percent (Table 1). Of the 89 hatchlings produced, 25 fledged before translocation for a fledgling success of 28.40 percent. In the 2013-2014 nesting season 75.00 percent of nests were successful hatching at least one gosling while the remaining 25.00 percent failed due to other causes (see Table 2). Individual egg fates were also recorded. Failed eggs were collected and measurements were taken and recorded. Viability was determined for each egg by examining the contents of the egg. Of the 23 eggs examined, 6 were viable (26.08%), 16 were not-viable (69.56%) and 1 was unknown (4.34%) because it was found broken in the nest.

Table 1.

Eggs Laid	Eggs Hatched	Gosling Count at Last Sighting	Hatch Rate	Hatchling survival rate
122	88	52	72.13%	57.95%

Table 2. (located nests only)

Egg Fates		Percentage	Nest Fates		Percentage
Hatched	88	72.13%	Hatched	30	75.00%
Abandoned	7	5.73%	Abandoned	4	10%
Disappeared	0	0%	Disappeared	0	0%
Predated	0	0%	Predated	0	0%
Smashed	0	0%	Smashed	0	0%
Flooded	3	2.46%	Flooded	1	2.5%
Failed to hatch	19	15.57%	Failed to hatch	3	7.5%

Table 2. (located nests only) - continued

Egg Fates		Percentage	Nest Fates		Percentage
Runt Eggs	4	3.27%	All Runt Eggs	2	5.00%
Unknown	1	0.08%	Re-nests	5	12.5%
Total Eggs	122		Total Nests	40	

In addition to the 36 pairs (72 individuals) that nested on-site, and their 53 surviving goslings, an additional 43 Nēnē utilized the property. To represent all Nēnē on site we have compiled a list of all Nēnē sighted at Kauai Lagoons between October 2013 and April 2014, including the nesting pairs. (Figure 3)

Figure 3.

Banded Nēnē	Unbanded Nēnē (Est)	Surviving Goslings	Total Nēnē at KL (Est)*
89	26	53	167

\*Not all sighted at once. This is the number on property over the span of one nesting season.

### Nēnē Translocation

Throughout the translocation project I worked closely with the state providing up to date maps, data, and information on resident Nēnē. I escorted state workers to age appropriate Nēnē for capture. The project ran smoothly and I believe this is due to the increased amount of communication efforts between scheduled captures. Under my observation Nēnē were handled with care, and families were collected efficiently with no reported injuries.

Thomas Ka'iakapu of the Hawaii Department of Land and Natural Resources lead and executed 4 separate translocation capture efforts during the 2013-2014 season. DLNR avoided capturing birds during the nesting period and began capturing families when the oldest goslings reached fledging age. On February 3<sup>rd</sup>, 15 adults and 20 goslings were captured, on February 10<sup>th</sup>, 15 adults and 13 goslings were captured, on March 3<sup>rd</sup>, 25 adults and 8 goslings were captured, and on February 17, 10 adults and 8 goslings were captured (Figure 4).

Figure 4.

Date	Families	Adults	Goslings	Total Nēnē
2/3/2014	8	15	20	35
2/10/2014	6	15	13	28
3/3/2014	5	25	8	33
3/17/2014	4	10	8	18
<b>TOTAL</b>	23	65	49	114

No Nēnē were banded and released at Kauai Lagoons this season. All banded individuals were re-banded by DOFAW with unique gray bands for translocation and release on the Big Island.



## Mortalities

A total of 9 avian carcasses were found on site this season and 3 injured/sick birds were found on-site and died off-site or in transport the Humane Society. A species breakdown and total is represented below (Table 5). All carcasses that died on site were stored in the freezer at Kauai Lagoons. One adult and 2 unrelated Nēnē goslings were sent to Thierry Work at the U.S. Geological Survey-Biological Resources Division.

Table 5 - Avian Injuries, Mortalities on Site			
Common Name	Scientific Name	Hawaiian Name	Total
Hawaiian Goose	<i>Branta sandvicensis</i>	Nēnē	6 (1 adult, 5 goslings)
Hawaiian Duck	<i>Anas Wyvilliana</i>	Koloa Maoli	1
Hawaiian Coot	<i>Fulica alai</i>	‘Alae ‘ke’oke’o	4
Hawaiian Moorhen	<i>Gallinula chloropus sandvicensis</i>	‘Alae ‘ula	1

## Waterbird Surveys

Waterbirds on Kaua’i Lagoons property including Nēnē (*Branta sandvicensis*), A’eo (*Himantopus mexicanus knudseni*), ‘Alae ‘ula (*Gallinula chloropus sandvicensis*), ‘Alae ke’oke’o (*Fulica alai*), Koloa Maoli (*Anas Wyvilliana*), and ‘Auku’u (*Nycticorax nycticorax*) were counted biweekly. Surveys were done by golfcart or by foot; therefore birds that could only be seen by boat were not counted. Averages were totaled for 11 separate biweekly counts between October 21 and April 11<sup>th</sup> (Table 6). Nēnē numbers were only averaged for the surveys before translocations began.

Table 6 - Averages for Waterbird Surveys 2013-2014			
Common Name	Scientific Name	Hawaiian Name	Average
Hawaiian Goose	<i>Branta sandvicensis</i>	Nēnē	72
Hawaiian Duck	<i>Anas Wyvilliana</i>	Koloa Maoli	40
Hawaiian Coot	<i>Fulica alai</i>	‘Alae ‘ke’oke’o	42
Hawaiian Moorhen	<i>Gallinula chloropus sandvicensis</i>	‘Alae ‘ula	21
Hawaiian Stilt	<i>Himantopus mexicanus knudseni</i>	A’eo	4
Black Crowned Night Heron	<i>Nycticorax nycticorax</i>	‘Auku’u	11
Pacific Golden Plover	<i>Pluvialis fulva</i>	Kōlea	128

## Trapping Totals

Invasive species removal and predator trapping was carried out throughout the season. Traps were removed during the months the majority of goslings were present in order to prevent any trap related injuries. Intense cat trapping began at the beginning of the nesting season and 16 cats were removed from the property and transported the Kauai Humane Society were most, if not all, were euthanized. Six additional cats were captured after all the original goslings fledged and a new gosling was discovered near the irrigation pond. In addition to cat trapping, chickens and egrets were shot on a daily basis with a pellet gun. The total number of chickens killed includes young chicks as well as adults (Table 7.)

Table 7 - 2013-2014 Trapping Totals	
Trapping Days	128
Traps Used	8
Chickens shot	824
Cattle Egrets shot	26
Cats removed	22

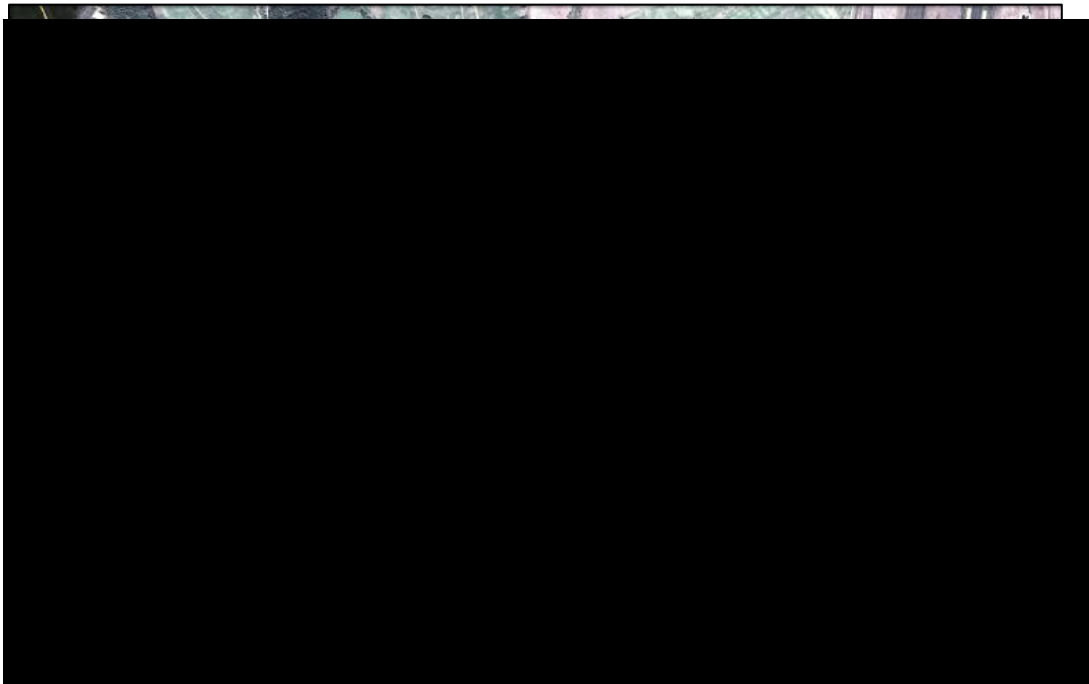
#### Other Waterbird nests and broods on site

This season 'Alae ke'oke'o (*Fulica alai*) nested on the property for the first time. 4 different broods were observed in the habitat pond area behind the closed Waikahe golf course. The area of the pond is about 1.5 acres and is surrounded by dense overgrown vegetation. The first brood was observed on 2/12/14 and had 1 chick, the second brood was observed on 2/27/14 and had 3 chicks, the third brood was observed on 3/28/14 and had 4 chicks and the fourth brood was observed on 4/10/14 and had 2 small chicks. 'Alae 'ula (*Gallinula chloropus sandvicensis*), and Koloa Maoli (*Anas Wyvilliana*) also successfully nested on the property this year. Early in the season a Koloa Maoli nest was observed in close proximity to a Nēnē nest on Island 1 with 9 eggs, all of which hatched. 1 family with 2 nearly fledged ducklings was observed on 2/27/14 near Moana 6, 2 families, 1 with 4 ducklings and 1 with 6 ducklings were observed in the flat area near Kalanipu'u on 3/14/14. An 'Alae 'ula family with 4 chicks was observed at the habitat pond with 4 chicks on 3/14/14, a family with 2 chicks was observed at the habitat pond on 3/28/14, and 2 families were observed on 4/10/14, one with 2 chicks at the pond near Moana 2, and one with 2 chicks in the habitat pond (Table 8).

Table 8 – Other Waterbird Nests and Brrods		
Date	Species	# of young in brood
2/12/14	'Alae ke'oke'o	1
2/27/14	'Alae ke'oke'o	3
2/27/14	Koloa Maoli	2
3/14/14	Koloa Maoli	4
3/14/14	Koloa Maoli	6
3/14/14	'Alae 'ula	4
3/28/14	'Alae ke'oke'o	4
3/28/14	'Alae 'ula	2
4/10/14	'Alae ke'oke'o	2
4/10/14	'Alae 'ula	2
4/10/14	'Alae 'ula	2

### **Nēnē With Clipped Wings**

This season 4 Nēnē on property were observed with clipped wings (or just 1 clipped left wing) (Figure 1). All clipped wing birds were unbanded and showed up in a similar area. 2 Nēnē with clipped wings showed up on 1/8/14, a Nēnē with just the left wing clipped showed up 1/23/14 and another on 2/11/14. The birds with clipped wings were captured by the State and moved to the Big Island during translocations.



**Figure 1 – Location of Nene with clipped wings**

### **Necropsy Results from Thierry Work**

This season 3 Nēnē (1 Adult and 2 unrelated goslings) were sent in to U.S. Geological Survey-Biological Resources Division for necropsy. The goslings were collected from 2 unique families on opposite sides of the property a few days apart 11/27/13 and 12/2/13. At this time a lot of young goslings (2-3 days old) were dying with no apparent cause. The necropsy report stated that “Both goslings had evidence of aspiration of foreign material. No reason could be found as to why they aspirated, and whether or not this had a connection to the oleander could not be confirmed”.

The deceased adult Nēnē was found in an area where suspicious activity had been occurring. Unbanded Nēnē from off property had been showing up in this area with clipped or partially clipped wings. We did not receive the necropsy report on this bird, so have no further information on the cause of it’s death.