

Kauai Lagoons Habitat Conservation Plan

Annual Report

August 1, 2015 - Revised October 8, 2015

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 4.5 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. Per DOFAW's request, subsequent annual reports will be submitted by August 1 of each year.

II. One-Time Obligations

A. Nēnē 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.

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.

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 Nēnē (Section 4.4.1.5)

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

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 13 cats and nine dogs were removed from the property this season. Additionally, 1725 feral chickens were killed using air rifles. 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, 2013, and the 2014 payment was sent to NFWF on September 12, 2014. The 2015 payment will be sent to NFWF before September 15, 2015, by the new owners.

S. Nēnē Monitoring During Nesting Season (Section 4.5.3)

Requirement: Biological monitors to monitor Nēnē 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 Nēnē on the property and observed band numbers.

Status: Please refer to the attached “Kaua’i Lagoons Endangered Waterbird Monitoring Report 2014-2015 Season. By letter to the agencies dated November 15, 2013, Kauai Lagoons requested changes to the required Nēnē monitoring measures, due to the substantial reduction in the on-site Nēnē population as a result of DOFAW’s Nēnē capture and translocation program. The agencies approved Kauai Lagoons’ request to amend these monitoring requirements so that monitoring levels are commensurate with annual population levels on the property, which may vary over time. To implement this approach, Kauai Lagoons will meet with DOFAW and USFWS on an annual basis, between May 15 and June 15 each year, to assess current population status on the property and agree upon an appropriate monitoring regime for the upcoming nesting season. This new approach was implemented for the first time during the 2014-15 nesting season.

S. Waterbird Monitoring (Section 4.5.4)

Requirement: As part of the comprehensive Nēnē 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 2014-2015”

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 onsite biological monitor 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 conducted on the property by the KL biologist. He placed two dead WTSH carcasses secured from the SOS Program, on the site on

the night of October 10, 2014. One bird was found by security the following morning, the second carcass disappeared during the night.

IV. Incidental Take Reporting

Based on a review of records, and discussions with Kauai Lagoons and USFWS, DOFAW has prepared a spreadsheet documenting all reported instances of downed, injured or dead birds at Kauai Lagoons since inception of the HCP. A copy of the current version (August 2015) of the DOFAW spreadsheet is attached. The following is a summary of the information contained in the spreadsheet.

In 2014 Kauai Lagoons experienced the direct incidental take of two Nēnē, three Hawaiian Coots, and three Common Gallinules.

From the effective date of the state and federal take authorizations, through 2014, total direct incidental take under the HCP consists of the following:

--Hawaiian Goose (Nēnē): 2

--Hawaiian Gallinule : 3

--Hawaiian Coot: 5

--Hawaiian Duck: 1

--Hawaiian Stilt: 0

--Newell's Shearwater: 2

--Hawaiian Petrel: 0

--Band-rumped Storm-Petrel: 0

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



Reginald David
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October 8, 2015

Date

Kauai Lagoons Endangered Waterbird Monitoring Report, 2014-2015 Season

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July 30, 2015

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Nēnē Nesting Observations

The 2014-2015 Nēnē (*Branta sandvicensis*) nesting season resulted in 15 found Nēnē nests, from 15 different pairs, on Kauai Lagoons property during the season. The season began in early September 2014. The first nest was located on September 6, which hatched on September 8 or 9, suggesting that the first nest date was actually August 9th or thereabouts. Nēnē pairs were monitored daily from September 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, and a map with Nēnē nest locations. All nests that produced goslings were located except one that may have nested on Island 7 which has become very heavily overgrown since habitat enhancement activities were stopped.

The 15 total Nēnē nests produced 55 eggs of which 51 hatched for an average hatch rate of 92.7 percent. Of these 51 hatchlings, 27 were observed alive at Kauai Lagoons at last survey or date of their translocation providing us with a hatchling survival rate of 52.9 percent (Table 1). In the 2014-2015 nesting season 100 percent of nests were successful hatching at least one gosling with no nest failures (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 four eggs examined, one had a partially developed embryo, one had a fully developed embryo and two were infertile.

Table 1 – Nēnē Egg Production and Survivorship 2014-2015

Eggs Laid	Eggs Hatched	Gosling Count at Last Sighting	Hatch Rate	Hatchling survival rate
55	51	27	92.7	52.9

Table 2 – Nēnē Nest and Egg Fates 2014-2015

Egg Fates		Percentage	Nest Fates		Percentage
Hatched	51	92.73%	Hatched	15	100%
Abandoned	0	-	Abandoned	0	-
Disappeared	0	-	Disappeared	0	-
Predated	0	-	Predated	0	-
Smashed	0	-	Smashed	0	-
Flooded	0	-	Flooded	0	-
Failed to Hatched	4	7.27%	Failed to Hatched	0	-
Runt Eggs	0	-	All Runt Eggs	0	-
Unknown	0	-	Re-nests	0	-
Total Eggs	55		Total Nests	15	

In addition to the 15 pairs (30 individuals) that nested on-site, and their 27 surviving goslings, an additional 47 Nēnē utilized the property. To represent all Nēnē on site we have compiled a list of all Nēnē sighted at Kauai Lagoons between September 2014 and April 2015, including the nesting pairs (Table 3).

Table 3– Estimated Total Number of Nēnē at Kauai Lagoons 2014-2015			
Banded Nēnē	Unbanded Nēnē (Est)	Surviving Goslings	Total Nēnē at KL (Est)*
44	33	27	104

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

Nēnē Translocation

Throughout the translocation project Al Silva and KL golf course staff worked closely with the state providing up to date maps, data, on information on resident Nēnē, and supplied them with gold carts. The project ran smoothly due in part to the increased amount of communication efforts between DOFAW and KL staff in advance of scheduled captures.

Hawaii Department of Land and Natural Resources staff executed five separate translocation capture efforts during the 2014-2015 season. On December 2, 2014, seven adults and four goslings were captured, on January 16, 2015, four adults and seven goslings were captured, on February 9, 2015, eight adults and seven goslings were captured, on March 2, 2015, five adults and two goslings were captured and finally on March 30, 2015, eight adults and four goslings were captured and removed from the property. Those translocation captures are summarized in Table 4. No Nēnē were banded and released at Kauai Lagoons this season. All captured banded individuals were re- banded by DOFAW with unique gray bands for translocation and released on the Big Island.

Table 4 DOFAW Nēnē Translocation Captures at Kauai Lagoons 2014-2015¹			
Date	Adults	Goslings	Total Nēnē
12/2/14	7	4	11
1/16/15	4	7	11
2/9/15	8	7	15
3/2/15	5	2	7
3/30/15	8	4	12
TOTAL	32	24	56

¹ Data on translocation captures provided by DOFAW

Mortalities

A total of 14 avian carcasses were found on site this season. A species breakdown and total is represented below (figure 5). All carcasses that died on site were stored in the refrigerator at Kauai Lagoons, and collected by DOFAW staff.

Table 5 - Avian Mortalities on Site 2014-2015			
Common Name	Scientific Name	Hawaiian Name	Total
Hawaiian Goose	<i>Branta sandvicensis</i>	Nēnē	4 – (2AD. 2HY)
Hawaiian Duck	<i>Anas Wyvilliana</i>	Koloa Maoli	1
Hawaiian Coot	<i>Fulica alai</i>	'Alae 'ke'oke'o	6
Common (Hawaiian) Gallinule	<i>Gallinula galeata sandvicensis</i>	'Alae 'ula	3
Hawaiian Stilt	<i>Himantopus mexicanus knudseni</i>	A'eo	0
Pacific Golden Plover	<i>Pluvialis fulva</i>	Kōlea	0

Nēnē with Clipped Wings

During the 2013-2014 season we recorded four Nēnē on property with clipped wings (All clipped wing birds were unbanded and showed up in a similar area) No clipped wing birds were recorded on the site during the 2014-2015 season.

Waterbird Surveys

Waterbirds on Kaua'i Lagoons property including Hawaiian Goose (Nēnē) (*Branta sandvicensis*), Black-necked Stilt (*Himantopus mexicanus knudseni*), Common Gallinule² (*Gallinula galeata sandvicensis*), Hawaiian Coot (*Fulica alai*), Hawaiian Duck (*Anas Wyvilliana*), and Black-crowned Night-Heron (*Nycticorax nycticorax*) were counted monthly. Surveys were done by golf cart or by foot; therefore birds that could only be seen by boat were not counted. Averages were totaled for seven separate counts between December and June (Table 6). This season we have not included average Nēnē numbers recorded on site as the large number of unbanded birds now makes it extremely difficult to determine the actual number of individual birds present on the site. Nēnē numbers are addressed in the Nēnē nesting section at the beginning of the document. Also of interest was a lone Cackling Goose (*Branta hutchinsii*) present on the site for most of the winter months. Cackling Goose is an uncommon vagrant migratory species recorded in the state in very low numbers during late fall and winter months periodically.

² The American Ornithological Union changed the common name of this species from Common Moorhen to Common Gallinule in July 2015 (Chesser et al., 2015)

Table 6 – Kauai Lagoons Waterbird Surveys Average Counts 2014-2015

Common Name	Scientific Name	Hawaiian Name	Average
Hawaiian Duck	Anas Wyvilliana	Koloa Maoli	39
Hawaiian Coot	Fulica alai	'Alae 'ke'oke'o	109
Common (Hawaiian) Gallinule	Gallinula galeata sandvicensis	'Alae 'ula	32
Hawaiian Stilt	Himantopus mexicanus knudseni	A'eo	0
Black Crowned Night Heron	Nycticorax nycticorax	'Auku'u	17
Pacific Golden Plover	Pluvialis fulva	Kōlea	108

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 13 cats were removed from the property and transported the Kauai Humane Society were most, if not all, were euthanized. A total of nine dogs were also captured on property, all were delivered to the Kauai Humane Society. Feral chickens were shot on a daily basis with a pellet gun. Predator control effort and results are presented in Table 7.

Table 7 - Trapping and Predator Removal Totals 2014 - 2015

Trapping Days	145
Traps Used	13 (10 cat – 3 dog)
Chickens shot	1725
Cats removed	13
Dogs removed	9

Other Waterbird Nesting Activity

This season both Hawaiian Duck and Common Gallinule nested on the property. Unlike the 2013 – 2014 season Hawaiian Coot were not observed to have nested on the property, nor were any Hawaiian Stilt nesting activity detected, though both species were recorded on the site. Hawaiian Ducks nested around both the main pond and the parking lot pond and the mauka 9 fairway (Figure 3). It is estimated that there were at least 20 duck nests that fledged approximately 35-40 fledglings. Common Gallinule was recorded with chicks and fledglings around Irrigation Pond and the Waikahe #8 Pond in particular and in other areas adjacent to ponds across the golf course (Figure 4). It is estimated that there were 20-gallinule nests on the property this season that fledged approximately 30 fledglings.

Nest Locations Overlain on Goggle Aerial Maps



Figure 1- Nests on Islands # 5 and #7, Kalanipu'u buildings central lower portion of the image for orientation



Figure 2- Nests on Island #2



Figure 3- Nests along mauka 9 fairway and parking lot pond



Figure 4 - Nests along Waikahe 8 pond (upper pond) and Irrigation pond central pond

Literature Cited

Chesser, R. T., R. C. Banks, K. J. Burns, C. Cicero, J. L. Dunn, A. W. Kratter, I. J. Lovette, A. G. Navarro-Sigüenza, P. C. Rasmussen, J. V. Remsen, Jr., J. D. Rising, D. F. Stotz, and K. Winker. 2015. Fifty-sixth supplement to the American Ornithologist Union Check-list of North American Birds. *The Auk, Ornithological Advances*, 132: 748-764.

Project	Take Date	Common Name	Adult or Juvenile	Sex	Take Against Facility
Kauai Lagoons HCP	14-Nov-2012	Hawaiian Coot	unknown	unknown	Yes
Kauai Lagoons HCP	17-Nov-2012	Nene	gosling (1 week or so)		No
Kauai Lagoons HCP	26-Nov-2012	Hawaiian Duck	Adult	Male	Yes
Kauai Lagoons HCP	27-Nov-2012	Pacific Golden Plover	Adult		No
Kauai Lagoons HCP	05-Dec-2012	Hawaiian Duck	Adult	Male	No
Kauai Lagoons HCP	06-Dec-2012	Nene	Adult	Female	No
Kauai Lagoons HCP	04-Jan-2013	Nene	gosling, only a couple of days old		No
Kauai Lagoons HCP	21-Jan-2013	Hawaiian Moorhen	adult or subadult	unknown	No
Kauai Lagoons HCP	21-Jan-2013	Nene	gosling (<1 week)		No
Kauai Lagoons HCP	21-Jan-2013	Nene	gosling (couple days)		No
Kauai Lagoons HCP	25-Jan-2013	Nene	gosling (1 week or so)		No
Kauai Lagoons HCP	25-Jan-2013	Nene			No
Kauai Lagoons HCP	26-Jan-2013	Nene	gosling		No
Kauai Lagoons HCP	28-Jan-2013	Nene	gosling		No
Kauai Lagoons HCP	05-Feb-2013	Nene	Adult	Female	No
Kauai Lagoons HCP	24-Feb-2013	Hawaiian Coot	Adult		Yes
Kauai Lagoons HCP	15-Mar-2013	Nene	gosling		No
Kauai Lagoons HCP	07-Oct-2013	Hawaiian Duck, Koloa	Adult	Female	No
Kauai Lagoons HCP	06-Nov-2013	Newell's Shearwater	Hatch year bird		Yes
Kauai Lagoons HCP	07-Nov-2013	Newell's Shearwater	Hatch year bird		Yes
Kauai Lagoons HCP	21-Jan-2014	Hawaiian Coot	Adult		No
Kauai Lagoons HCP	17-Feb-2014	Nene	Adult		Pending/Undetermined
Kauai Lagoons HCP	19-Jul-2014	Hawaiian Moorhen	Adult		Yes
Kauai Lagoons HCP	20-Jul-2014	Hawaiian Coot	Adult		Yes
Kauai Lagoons HCP	05-Sep-2014	Nene	Immature	male	No
Kauai Lagoons HCP	08-Sep-2014	Hawaiian Coot	Adult		Yes
Kauai Lagoons HCP	10-Sep-2014	Nene	Adult	female	No
Kauai Lagoons HCP	25-Nov-2014	Nene	gosling		No
Kauai Lagoons HCP	25-Nov-2014	Nene	adult	male	Yes
Kauai Lagoons HCP	28-Nov-2014	Nene	juvenile		No
Kauai Lagoons HCP	08-Dec-2014	Nene			Yes
Kauai Lagoons HCP	16-Dec-2014	Hawaiian Moorhen			Yes
Kauai Lagoons HCP	24-Dec-2014	Hawaiian Moorhen			Yes
Kauai Lagoons HCP	24-Dec-2014	Nene	gosling		No
Kauai Lagoons HCP	06-Jan-2015	Hawaiian Coot			Yes
Kauai Lagoons HCP	09-Feb-2015	Hawaiian Coot	Juvenile		No
Kauai Lagoons HCP	14-Jul-2015	Hawaiian moorhen			Yes
Kauai Lagoons HCP	09-Aug-2015	Hawaiian Coot	Adult	unknown	Yes
Kauai Lagoons HCP	14-Aug-2015	Hawaiian Duck, Koloa	Adult	Unknown	No