Hōkūala Habitat Conservation Plan Annual Report: July 1, 2017 – June 30, 2018

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Prepared for:
Tower Kauai Lagoons, LLC

July 31, 2018

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Outline of the Document

In the first section of this report we present updates on compliance with all of the terms and conditions included in the HCP (Ebin, Moser + Skaggs LLP, and Rana Biological Consulting, Inc. 2009). This section includes the specific reference to each topic in the HCP for clarity. In the second section of the document, which begins on page 12. We have presented more detailed information and data associated with each of the topics addressed in the first section of the document.

Introduction and Background

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. On January 1, 2016 the former Marriott Vacation Resort known as Kauai Lagoons was transferred to Tower Kauai Lagoons LLC and renamed Hōkūala Resort.

Section 4.5 of the HCP requires that the permit holder produces and submits an annual HCP compliance and monitoring report to both agencies by September 30 of each year. Per DOFAW's request annual reports will be submitted by August 1 of each year and cover July 1 to the following June 30.

HCP Sections and Specific Obligations

One-Time Obligations

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)

Ongoing Obligations

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), a new bond issued to the new owners dated July 1, 2015 was provided to the agencies after it's issue. That bond expired on June 30th, 2017. The term of the bond is a revolving two years, and is automatically renewed. The current bond has been issued and its term is from July 1, 2017 through June 30, 2019. A renewed certificate of bonding dated July 14, 2017 was supplied to the agencies on the same day that we received it.

Tower Lagoons Land LLC. Commits to including a line item for complete HCP implementation into its annual operating budget for the life of the HCP.

Training ("Endangered Species Awareness Program") (Section 4.2.1.1)

Requirement: All new employees hired by the resort operators and any contractors conducting construction activity on the property go through the training program detailed in the HCP.

Status: The training modules were updated for the Season, Reginald David, trained all of the construction employees as they were hired during the course of the season. Management re-trained all of the Resort employees during the course of the season, and new employees were trained prior to assuming their new jobs throughout the season.

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: New construction was initiated in January of 2016, all construction contracts contained provisions and restrictions to avoid and minimize take of Covered Species. Construction continues on the property and all new construction contracts awarded during this reporting period include these clauses. Construction has been ongoing throughout the reporting period and all contracts awarded since the re-initiation of construction in 2016 contain the aforementioned provisions and restrictions.

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 grading or mass grading occurred during the reporting period.

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.

Construction Monitor (Section 4.2.1.5)

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

Status: There was no active grading or earth moving during the reporting period. Hōkūala has one full time monitor and three part time monitor plus the overseeing biologist Reginald David monitoring construction activities on the property during this reporting period.

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: Please see the attached "Hōkūala Nēnē and Endangered Waterbird Monitoring Report 2017-2018" (Section 2), in which we describe the three specific fencing and exclusion areas created three years ago to restrict ingress into construction and roadways by the Covered Species. These structures have all been maintained and/or replaced and modified as they have proven to be very effective in reducing mortality by vehicles and construction activities.

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.

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.

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 June of 2018, the new Timbers Kauai Ocean Club & Residences complex was finished and opened (Cover image, and Figure 1). During the design phase of the project Hōkūalas' seabird biologist consulted with the electrical and lighting engineers and designers to ensure that the lighting associated with the facilities were Dark Sky Compliant, and as bird friendly as possible. Prior to the opening of the new facility the biologist conducted a nighttime audit of the property, and identified a small number of lights that could be improved, those improvements and/or modifications will be completed prior to the seabird fallout season.

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.

Figure 1 - Timbers Kauai Ocean Club & Residences

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.

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.

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.

Emergency Response Protocol (Section 4.4.1.4)

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

Status: In compliance.

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. DOFAW's Nēnē capture and translocation efforts ended on March 20, 2016. Hōkūala continues to provide regular access and golf carts to DOFAW staff for their use in DOFAW's Nēnē and waterbird surveys.

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: We have surpassed the permit requirements, during this reporting period we deployed up to 63 live traps on the property. Live traps were deployed throughout the year and were placed in areas in response to sightings of mammalian predators.

A total of 74 cats, 21 pigs and five dogs were removed from the property this season. Additionally, 1,011 feral chickens were removed using air rifles. All bird and mammal control activities were conducted under a state Wildlife Depredation Permit, and/or under a federal Migratory Bird Depredation permit a more detailed description please see Section 2 (Page 22).

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 2015 – 2016 payment was sent to NFWF on July 29, 2015. Payment was sent on September 1, 2016 for the 2016-2017 period. A check in amount of $10,000 will be sent to NFWF by September 1, 2018 to cover the remainder of the 2018-2019 season.

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 Section 2 (Pages 12 through 15).

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: We have surpassed the requirement and survey on close to a weekly basis year around. Please refer to Section 2, starting on (Page 16).

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 Hōkūala biologist. After two attempts to conduct the trials were rained out, two dead WTSH carcasses secured from the SOS Program, were placed on the site on the night of November 8, 2017 One bird was placed close to the fitness center in the Marriott Kauai Lagoons- Kalanipu'u (a location where we have previously recovered a downed seabird). The second bird was hidden behind a trash receptacle in front of the golf course clubhouse. Resort security personnel found the bird placed close to the fitness center at 5:15 am the following morning, and one of the golf cart attendants found the bird placed next to the club house shortly after 6:00 am the following morning when he started his work day.

Incidental Take Reporting

Based on a review of records, and discussions with Hōkūala the USFWS, and DOFAW have prepared a spreadsheet documenting all reported instances of downed, injured or dead birds at Kauai Lagoons/Hōkūala since the inception of the HCP. The following is a summary of the information contained in the spreadsheet pertaining to the current reporting period.

Between July 1, 2017 and June 30, 2018 Hōkūala experienced the direct incidental take of seven Common Gallinules (Table 1). Six of these birds were hit and killed by vehicular traffic on paved roads within the Resort. One juvenile bird was apparently hit and killed by a golf cart on a paved golf path on hole number 9 (Table 1).

Table 1 –Take and Cause of Take July 1, 2017 – June 30, 2018

Take Date	*Common Name*	*Outcome Dead or Alive*	*Indirect Take**
7/11/17	Common Gallinule	Vehicle hit (Dead)	.65
7/16/17	Common Gallinule	Vehicle hit (Dead)	.65
5/16/18	Common Gallinule	Vehicle hit (Dead)	0 – chicks survived
6/17/18	Common Gallinule	Vehicle hit (Dead)	.65
6/20/18	Common Gallinule	Vehicle hit (Dead)	.65
6/27/18	Common Gallinule	Vehicle hit (Dead)	0 – Chicks survived
6/28/18	Common Gallinule	Vehicle hit (Dead)	0 - Juvenile

- Indirect take is defined as the loss of parental care due to mortality during the breeding season resulting in the indicated additional take calculated as the probability that if the adult had not been killed that the nest would have produced the number of adults indicated.

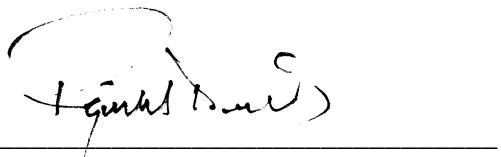
From the effective date of the state and federal take authorizations, through June 30, 2018, total direct incidental take under the HCP is presented in (Table 2).

Table 2 –Hōkūala Direct and Indirect Take From Permit Inception Through June 30, 2018.

Species	*Scientific Name*	*Number*	*Indirect*
Hawaiian Goose (Nēnē)	*Branta sandvicensis*	2	2
Common (Hawaiian) Gallinule	*Gallinula galeata sandvicensis*	15	4.5
Hawaiian Coot	*Fulica alai*	12	1.35
Hawaiian Duck	*Anas Wyvilliana*	5	1.225
Black-necked (Hawaiian) Stilt	*Himantopus mexicanus knudseni*	0	0
Newell's Shearwater	*Puffinus newelli*	3	
Hawaiian Petrel	*Pterodroma sandwichensis*	0	0
Band-rumped Storm-Petrel	*Oceanodroma castro*	0	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
Biological Consultant
Rana Biological Consulting

Date July 31, 2018

Section 2

In this section we present detailed information on the activities associated with managing the Nēnē and waterbirds on the property, including, nesting, production, recruitment and banding as well as predator control, mortalities, and minimization measures implemented.

Nēnē Nesting Observations

Between July 1, 2017 and June 30, 2018 the Nēnē (*Branta sandvicensis*) nesting season resulted in 12 Nēnē nests, from 11 different pairs, on Hōkūala property (Figures 1; Table 3). The season began in the middle of September 2017. Gravid females were observed and the first nest was located on September 12, 2017. Subsequent nests were found through February 14, 2018. Nēnē pairs were monitored daily from September through June 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.

The 12 Nēnē nests found produced 39 eggs, of which 32 hatched for an average hatch rate of 84.62 percent. Of these 32 hatchlings, 23 survived to fledge, a hatchling survival rate of 74.19 percent (Table 3). The first pair to nest, bHRN♂-bHRP♀ re-nested in February 2018 – between their two nests they successfully fledged 6 birds (Table 3).

Table 3 – Nēnē Egg Production and Survivorship at Hōkūala July 1, 2017 – June 30, 2018

Eggs Laid	*Eggs Hatched*	*Hatch Rate*	*Goslings Fledged*	*Hatchling Survival Rate*
39	32	84.62	23	74.19

In the 2016-2017 nesting season, 75 percent of nests were successful, hatching at least one gosling (Table 4). Three nests failed to hatch, one had one egg that was walnut sized, this was the same pair that laid a single undersized egg during the 2016-2017 season (David, 2017). Two other nests each, containing three eggs also failed to hatch. Failed eggs were collected and measurements were taken and viability was determined for each egg by examining the contents of the egg. All six failed eggs were found to be infertile when examined after collection. Detailed info on nest and egg fates is presented in Table 4. Details on the nests, timing, bird band numbers and locations of the nests are detailed in Table 5. A visual representation of the nest locations is depicted in (Figure 2).

Table 4 – Nēnē Nest and Egg Fates July 1, 2017 – June 30, 2018

Nest Fates		*Percentage*	*Egg Fates*		*Percentage*
Hatched	9	75.00%	Hatched	32	82.05%
Abandoned	0	-	Abandoned	0	-
Disappeared	0	-	Disappeared	0	-
Predated	0	-	Predated	0	-
Smashed	0	-	Smashed	0	-
Flooded	0	-	Flooded	0	-
Failed to Hatched	2	16.67%	Failed to Hatched	6	15.38%
All Runt Eggs	1	8.33%	Runt Eggs	1	2.56%
Total Nests	**12**	**100.00%**	**Total Eggs**	**39**	**100.00%**

Figure 2 Nēnē Nest Sites 2017-2018 Season

.

Table 5 - 2017-2018 Hōkūala Nene Nesting Season

Date Found	Nest #	Pair ID	UTM	Eggs / hatched	Survey Fledged	Nest Location
9-12-27	18-01	bHRN♂-bHRP♀	0464247-2428445	4/3	2	Island 2, W side, mid hill under hau, 1 egg missing, not found in area
9-22-17	18-02	bHRJ♂-bHRK♀	0464764-2428740	3/0	0	Island 5, 30'E of boat landing under fallen tree, in tall grass
11-7-17	18-03	bJCX♂-bJCT♀	0464418-2428610	3/3	(3)	W of B@, behind far end of rock wall, under trees Stolen by HRH/HRE 1-17-2018 Unable to distinguish goslings from both pairs
11-8-17	18-04	bHRH♂-bHRE♀	0464244-2428444	4/3	2	Island 2, center hill Now have 5 goslings, took 3 JCX/JCT 1-17-18 1 missing 2-5-18, not found
11-8-17	18-05	y632♂-y944♀	0464731-2428769	1/0	0	Undersized egg, did not hatch Island 5, w end (walnut sized)
11-14-17	18-06	bJEH♂bKEC♀	0464474-2428692	3/2	2	100' W of Bunker 2, in short naupaka fronting last ironwood tree on left
11-16-17	18-07	bHZA♂-fed♀	0465094-2428374	3/2	0	2/3 way down #13 fairway, in dried grass 4' from edge, flagged. #1-(D) 1-18-18, #2(D) 2-2-18 (runt)
11-27-17	18-08	bAYN♂-bHYK♀	0464838-2428703	4/4	3	Island 5, bay entrance, left side, under large ironwood tree base 4th gosling never found
12-19-17	18-09	bHRU♂-bJEU♀	0464824-2428699	3/3	3	New G&R club area, 800 parking lot, E side of project, in naupaka
1-4-18	18-10	bAYT♂-bJER♀	0465075-2428778	4/4	3	#12 fairway, along airport side, along the valley edge. Gosling found dead near nest 2-5-18
1-9-18	18-11	unk♂-b999♀	0464125-2428898	3/3	1	In naupaka, 800 parking lot side, 60-70' from 18-09, suspect male is bHRU 2 goslings missing 2-27-18, searched, never found
2-14-18	16-12	bHRN♂-bHRP♀ renest	0464240-2428433	4/4	4	Re-nest, island 2 3 of 4 caught & banded 5-8-18,

In addition to the 12 pairs (24 individuals) that nested on-site, and their 23 surviving goslings, an additional 33 banded Nēnē and 12± un-banded Nene utilized the property during this reporting period. During the course of the season, biologists from DOFAW with the assistance of Hōkūala biologists banded a total of 31 Nene, of which 24 were hatch year goslings and two bird were adults which were re-banded the list of banded birds this past season including the birds that DOFAW banded or re-banded is presented in (Table 6). A good proportion of the birds recorded on the property were birds that were banded in other locations such as Puakea Golf Course, Kīpū Ranch, Kīpū Kai, and the Hulē'ia National Wildlife Refuge.

Table 6 – Band Codes for Nēnē at Hōkūala 2017-2018

Band Code	Band Code	Band Code	Band Code	Band Code	Band Code
bAUP♂	bHTZ♂	bJEN♂	bKNK♂	bNZR♀	b721♀
bAYN♂	bHYK♀	bJEP♂	bKRR♂	bNZU♂	b722♀
bAYT♀	bHYP♀	bJER♀	bKXK♂	bPAE♀	b952♀
bAZZ♂	bHZA♀	bJEU♀	bKXN♂	bPJJ♀	b999♀
bCAE♂	bHZC♀	bJEX♂	bKXP♂	bPJY♀	
bHJA♂	bJCT♀	bJEY♀	bNUK♂	bPKT♂	rSF♂♀
bHRE♀	bJCX♂	bJEZ♀	bNUT♂	bPKU♀	rST♂
bHRH♂	bJCY♀	bJHA♂	bNUY♀	bPKY♀	y157♀
bHRJ♂	bJCZ♂	bJHC♀	bNUZ♂	bPXT♀	y632♀
bHRK♀	bJEA♀	bJHE♂	bNXC♂	bPXU♀	y944♀(♂)
bHRN♂	bJEC♀	bKCY♀	bNXE♀	bPXX♀	
bHRP♀	bJEE♂	bJCX♂	bNXH♀		
bHRU♂	bJEH♂	bKCZ♀	bNZH♀		
bHRY♂	bJEJ♀	bKEC♀	bNZN♀		
bHTX♂	bJEK♂	bKEE♂	bNZP♀		

Given that the bird make up of the site has changed significantly over the past several years as a result of DLNR-DOFAW removal of over 500 Nēnē from the property – comparing metrics from the onset of the program to the last two season is difficult. The flock of Nēnē that were present on the site prior to the removal of animals was a mature flock consisting of all age groups of birds, some as old as 22 years old. Those Nēnē were the dominant bird species on the property, and pretty much controlled where and how many other waterbirds were present on the site. As the Nēnē were removed from the property the densities of each species has changed dramatically. For instance, at the start of the program there were very few Common Gallinules in and around the golf course – they were pretty much restricted to the dense vegetation on a couple of ponds – since the diminution of Nēnē numbers has occurred this species is now the commonest waterbird species on the property (Table 7). Looking at the mortality of this specific species on the site it was not an issue five years ago, and is currently the larger issue numerically. Though the production of fledgling gallinules has more than kept pace with the increase in mortality incidents.

Waterbird Nesting

This reporting period like last year's was different than previous years, last year was the first time we had Hawaiian Stilts nest on the property. Prior to the last reporting period we had, had three confirmed Hawaiian Coot nests on the property in the preceding 10 years, during this reporting period there were five nests. We recorded 39 Common Moorhen nests which resulted in 78 birds fledging, and 13 Hawaiian Duck nests which produced two fledglings (Table 8). During the last reporting period and this one, Hawaiian Coots, and Common Gallinules, nested in every water feature on the property (Figures 3, 4, 5, 6, 7 and 8),

Table 8 – Additional Waterbird nesting at Hōkūala 2017-2018

Area	*COGA*	*HACO*	*HADU*	*BNST*
Kalanipu'u	7	0	2	0
Lagoons	9	0	4	0
Waikahe 3	16	4	4	2
Irrigation Pond/Waikele 8	7	1	3	0
Totals	**39**	**5**	**13**	**2**
Fledged	**78**	**5**	**20**	**2**

Figure 3 – Hōkūala overview of water features

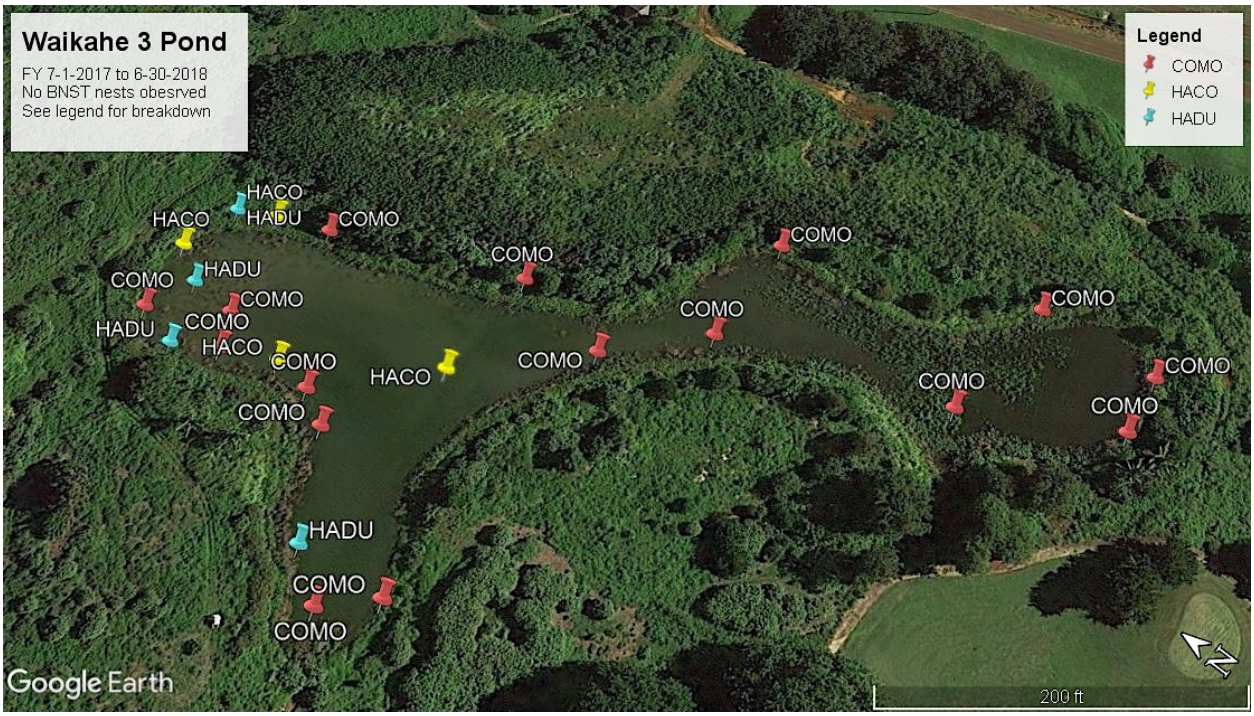


Figure 4 – Waikahi 3 Pond Showing Location of HACO, COGA, and HADU Nests

Waikahi 3 Pond (formerly known as the Mokihana 3 Pond) Depicted in Figure 6 does not currently actually look like the satellite image used for the nest map. It is located in the now fallow Mokihana golf course which is not maintained, the pond actually looks like the following image (Figure 5).

Figure 5 – Waikahe 3 Pond as it Currently Appears Photo 6/13/18

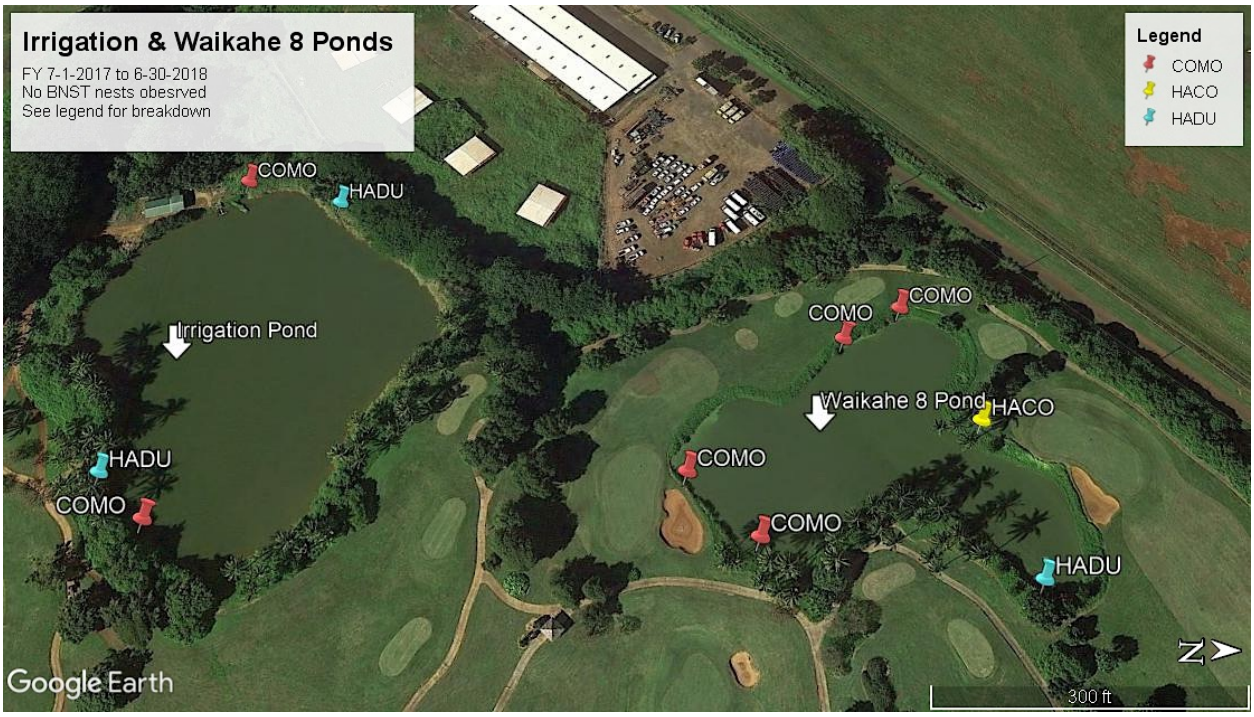


Figure 6– Irrigation Pond and Waikahe 8 Pond Showing Location of HACO, COGA and HADU Nests

Figure 7– Lagoon Showing Location of HACO, COGA and HADU Nests

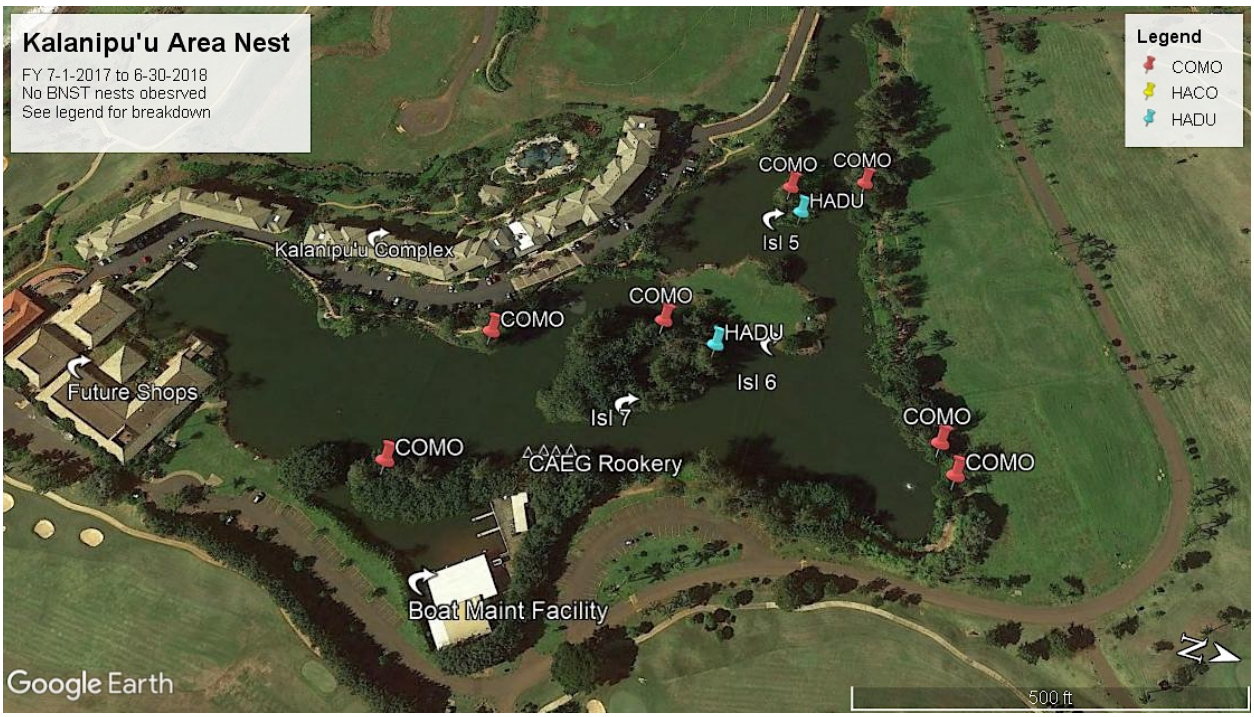


Figure 8 – Kalanipu‘u Pond and Islands Showing Location of COGA, and HADU HACO and COGA Nests

Take

A total of seven listed avian mortalities were recorded on site this season between July 2017 and June 30, 2018. A species breakdown and total is represented below (Table 9). All carcasses were stored in the refrigerator at Hōkūala and collected by DOFAW staff or disposed of following direction from DOFAW staff, most within less than 24 hours after the incidence

Table 8 – Hōkūala Take July 1, 2017 – June 30, 2018

Common Name	*Number*
Common (Hawaiian) Gallinule	7

Predation

We have had two avian mortalities due to dogs this season – the number of dogs and cats on the property this season was higher than usual, as is aptly demonstrated by the results of our trapping efforts detailed in the following section.

Trapping and Predator Control Efforts

Invasive mammalian 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. A total of 74 cats and five dogs were removed from the property during this reporting period. Feral chickens were shot on

a daily basis with a pellet gun, at the end of the season a total of 1,011 chickens had been removed from the property. During the later part of the reporting season, American bullfrog (*Rana catesbeianus*) became a problem in the Waikahi 3 Pond, their population has increased significantly and they have been actively predating Common Gallinule and Hawaiian Coot chicks. We initiated control efforts against them near the end of the reporting period during the waterbird breeding season and removed 45 animals.

This reporting period we increased our predator control program significantly due to more cats, dogs and American bullfrogs on the property. The results of those efforts are detailed in Table 9. The number of dogs and cats removed was significantly higher than during the last reporting period, we removed more than twice as many cats and five times the number of dogs. It appears that the general public is releasing more cats and dogs on the property than at any time in the history of this program

All invasive species removal is covered under Wildlife Control Permit: WCP 17-26 and Migratory Bird Depredation Permit number: MB86226B-0. Predator control effort and results are presented in Table 9.

Table 9 - Trapping and Predator Removal Totals From Hōkūala July 1, 2017 – June 30, 2018

Description	*Metric*
Trapping Days	886
Live traps	63
Cats removed	74
Dogs removed	5
Chickens removed	1,011
Bullfrogs Removed	45

Roadways, speed limits and endangered species signage

As previously mentioned the posted speed limit on the Resort property is 14 MPH (Figure 9). We have a series of different endangered species signs some of which are semi-permanent and others that are temporary and are moved to different locations as needed (Figures 10, 11, 12 and 13). Additionally there are several endangered species informational signs posted in areas that are accessed by guests and golfers using the facilities (Figure 14). Bird locations and bird activity and densities are dynamic on this property, as circumstances and emerging areas where potential issues are identified immediate short- term solutions such as the sandwich boards recently deployed in the middle of Holokawelu Road (Figure 12 and 13), or the moving or deployment of temporary warning signs is implemented. The Resort is currently looking at developing long-term solutions to the changing scenarios. Among the potential ideas being explored are installing metal sleeves in the center line of the roadways into which specific warning signs can be dropped when needed. The intersection immediately Nāwiliiwili side of Bridge 2 and Holokawelu Road will be converted to a three way stop intersection (Figure 15 and 16). They are also looking at the potential of installing a large sign at the entrance to the property stating that those entering the property are entering a Wildlife Conservation Area.

Figure 9 – Posted Speed Limit Hōkūala Resort

Figure 10 – Nēnē Crossing Sign Semi-permanent

Figure 11 – Wildlife Warning and Do Not Feed Signs Portable

Figure 12 – Sandwich Board Portable sign in the Middle of Holokawelu Road with Wildlife Monitors

Figure 13 – Detail Of Sandwich Board Portable Sign With Changeable Insert

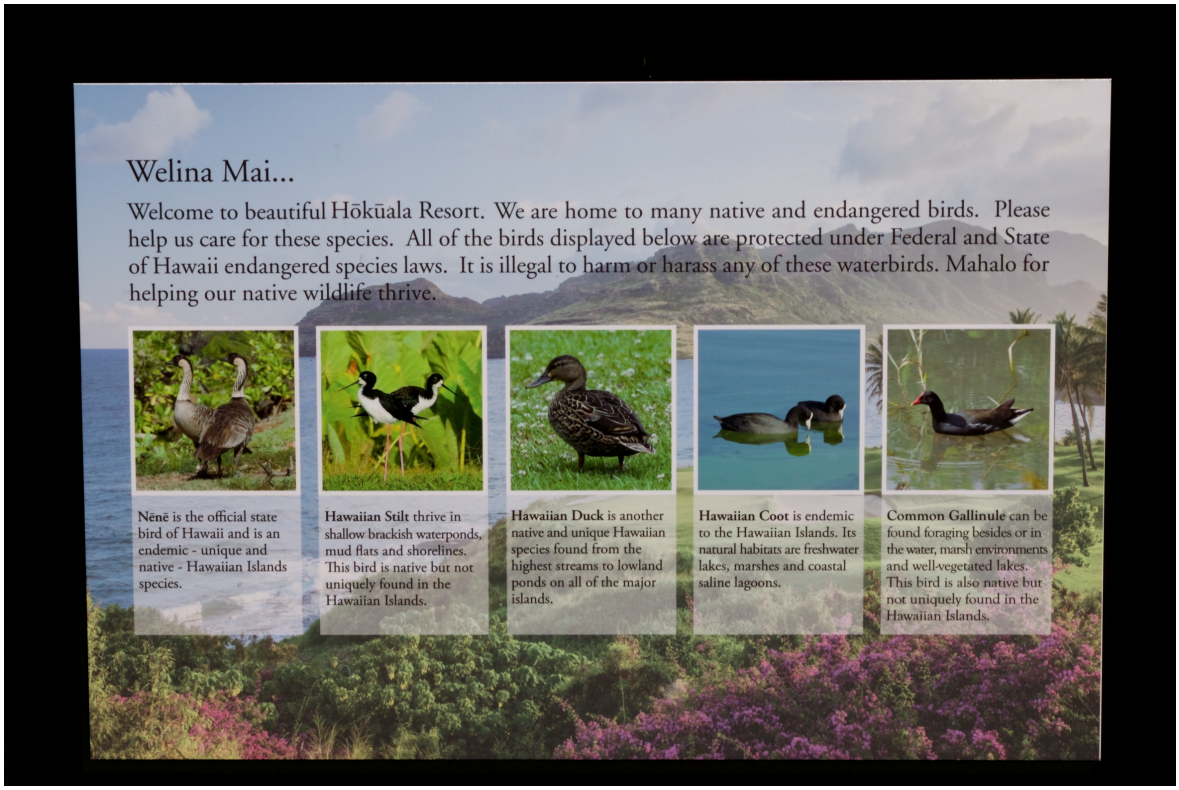


Figure 14 – Typical Endangered Waterbird Informational Sign

Figure 15 – Bridge 2 Intersections With Holokawelu Road Will Be Changed To A Three Way Stop Intersection

Protective Fencing

In the fourth quarter of 2015, we began reporting Hawaiian Coot and Common Gallinule mortalities along Holokawelu Way between the Marriott Kauai Lagoons- Kalanipu'u Resort and the Hōkūala Resort construction area. To minimize this novel situation, we installed two-foot high fencing along the lagoon - road interface zone. Once the fence was installed, Common Gallinules were observed on the habitat side of the fence during the majority of the day (Figures 16 and 17).

A second series of fencing was constructed in February 2016. Modifications were made for this section of fencing, changing the type and style. Individual fence units of 2'x25' are free standing and placed end to end along the boundary between the lagoon and the construction road. Units were made to be able to be moved around easily to accommodate the changing scenery of the construction site, and the bird's behavior. This section of fencing covers approximately 650 feet, spanning from the water pumping station to the construction entrance gate (Figures 16 and 18). During this reporting period, all of these fences were upgraded, replaced or improved as needed. Additionally, the space between new construction office trailers and the ground was blocked using wooden lathe fencing so that no birds could get under the trailers, or nest under them.

Figure 16 – Bridge 2 Intersections With Holokawelu Road, as well as the semi permanent gallinule fence and the portable fencing. Yellow down pointed arrows represent the location of the semi-permanent fencing, and the hollow white triangle represent the movable section of bird fencing

Figure 17 – Common Gallinule Fence and Speed Limit Sign

Figure 18 – Portable Bird Control Fence

Construction Monitoring

New construction began on the Hōkūala property in January 2016. Timbers Resorts began construction of three buildings on the south end of the property that all had pre-existing concrete foundations. That construction was still ongoing during this reporting period. As an average one and a half wildlife construction monitors were employed and at least one monitor was on site daily during all construction activities, later increased to seven days a week to ensure that Nēnē did not make nests on the weekends under and around construction buildings and material stock piles. The monitors also responded to all wildlife related issues and diligently worked to prescribe and implement any prescribed minimization measures. Construction and biological monitors have the authority to stop any and all activity if they perceive it to be hazardous to the Covered Species.

We are proud that our construction monitoring and adherence to minimization measures during the two-and-a half-year construction project has been effective, with no listed species being injured or killed within the construction area.

Endangered Species Awareness Training

Endangered Species Awareness training was given to all personnel on the site, regardless of job, company, or position. Training was presented as a PowerPoint presentation, there are three iterations developed for specific target audiences and hard copies of the training modules were distributed to all who attended the courses. Information packets translated into Spanish were available for Spanish-speaking contractors. The training course includes information on all eight listed avian species covered in our State and Federal incidental take license and incidental take permit. In the training sessions the specific Covered Species protocols, restrictions were discussed in depth, as were potential disciplinary action if the protocols and procedures are not followed. A log of all of the individuals that receive training is maintained and all construction works are required to undergo the training and display a uniquely numbered Endangered Species Awareness Training sticker on their hardhats.

Literature Cited

David, R. E. 2017. Kauai Lagoons / Hōkūala Habitat Conservation Plan Annual Report: July 1, 2016 – June 30, 2017: Prepared for: Tower Lagoons Land LLC.

Ebin, Moser + Skaggs LLP, and Rana Biological Consulting, Inc. 2009. Kaua'i Lagoons Habitat Conservation Plan. Prepared for: Kauai Lagoons, LLC & Mori Golf (Kauai), LLC