Hōkūala Habitat Conservation Plan Annual Report: July 1, 2020 – June 30, 2021

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July 31, 2021
Revised September 15,2021

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Outline of the Document

In the first section of this report, we present updates on compliance with all the terms and conditions included in the HCP (Ebbin, 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 11. We have presented more detailed information and data associated with each of the topics addressed in the first section of the document.

Section 1

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 (ITP) and Incidental Take License (ITL), respectively. The effective date of those incidental take authorizations was April 12, 2012, for the ITL and November 9, 2012, for the ITP. On January 1, 2016, the former Marriott Vacation Resort known as Kauai Lagoons was transferred to Tower Kauai Lagoons LLC and renamed Hōkūala Resort. The USFWS transferred the ITP to the new owner in December 2016. The ITL transferred to the new owner automatically as the ITL runs with the land.

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: The current bond was issued on July 1, 2021, and its term is from July 1, 2021, through July 1, 2022.

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 2020-2021 season. Alan Silva trained all new employees prior to them 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 these Contract Provisions 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. Very little 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 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 one part time monitors 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: No active grading or major construction occurred during the reporting period, as vertical construction reached completion, construction fencing was removed, and these areas were landscaped.

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 Hōkūalasʻ 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 were 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.

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. Additionally, during this reporting period, the HCP staff have started leading bird and farm tours on the Resort for guests and visitors. We are currently working on developing brochures and additional collateral material to give to guests and visitors regarding the HCP, birds, the tree, and organic farm which will all be tied together in a unified outreach and property brand and messaging.

Figure 1 – Timbers Kauai Ocean Club & Residences

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. Please see Page 19 regarding the initiation of Nēnē hazing using border collies on the property being conducted by the US. Department of Agriculture – Wildlife Services (USDA/WS), which started on June 24, 2019, and it has continued with that activity since then.

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. All traps are checked daily.

A total of 18 cats, 27 pigs and one dog were removed from the property this season. Feral chickens were shot or live trapped on an almost daily basis with a pellet gun, at the end of the season a total of 996 chickens had been removed from the property. All bird and mammal control activities were conducted under a state Wildlife Depredation Permit, and/or under a federal Migratory Bird Depredation permit. For a more detailed description please see Section 2 (Page 23).

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: A check in the amount of $10,000 was sent to NFWF on June 23, 2021, to cover the upcoming season.

Nēnē Monitoring During Nesting Season (Section 4.5.3)

Requirement: Biological monitors to monitor Nēnē nesting activity and nesting success daily 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: In compliance. Please refer to Section 2 (Pages 11 through 18).

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 monthly 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 19).

Seabird Monitoring (Section 4.5.5)

Requirement: Hōkūala 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 monitors were re-trained in seabird search and handling techniques prior to the start of the 2019 fallout season. Security personnel conducted searches on an ongoing daily basis as part of their usual patrols of the grounds and buildings. The biological staff 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 are conducted on the property by the Hōkūala biologist on an annual basis. Unfortunately, during the 2020 season travel restrictions to Kauai prevented us conducting the searcher efficiency trials this past season.

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, 2020 and June 30, 2021, Hōkūala experienced the direct incidental take of one Hawaiian Duck, two Hawaiian Coot, and three Common Gallinule (Table 1). Three of these birds were hit and killed by vehicular traffic on paved roads within the Resort. Two birds were killed after having been hit by golf balls, and a one other bird was likely also hit by a golf ball (Table 1). We have had no non-lethal take since the inception of the permit – injured birds have all needed to be euthanized.

Table 1 –Take and Cause of Take July 1, 2020 – June 30, 2021

Date	*Common Name*	*Outcome Dead or Alive*	*Indirect Take*
8/17/20	Hawaiian Duck	Vehicle hit (Dead)	-
9/1/20	Hawaiian Coot	Likely golf related (Dead)	-
10/7/20	Hawaiian Gallinule	Golf ball (Dead)	-
12/23/20	Hawaiian Coot	Golf ball (Dead)	-
4/28/21	Common Gallinule	Vehicle hit (Dead)	0.65
6/10/21	Common Gallinule	Vehicle hit (Dead)	-

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 any potential nest would have produced the number of adults indicated.

From the effective date of the state and federal take authorizations, through June 30, 2021, total direct and indirect incidental take under the HCP is presented in (Table 2).

Table 2 – Hōkūala Direct and Indirect Take from Permit Inception Through June 30, 2021.

Species	*Scientific Name*	*Number*	*Indirect*
Hawaiian Goose (Nēnē)	*Branta sandvicensis*	3	2
Common (Hawaiian) Gallinule	*Gallinula galeata sandvicensis*	23	8.55
Hawaiian Coot	*Fulica alai*	19	2.95
Hawaiian Duck	*Anas Wyvilliana*	6	1.225
Black-necked (Hawaiian) Stilt	*Himantopus mexicanus knudseni*	0	0
Newell's Shearwater	*Puffinus newelli*	7	0
Hawaiian Petrel	*Pterodroma sandwichensis*	0	0
Band-rumped Storm-Petrel	*Oceanodroma castro*	0	0

Table 3 – Hōkūala Permitted Take Approved in the ITP and ITL Issued in 2012.

Species		*Mortality*	*Non-Lethal*
Hawaiian Goose (Nēnē)	*Branta sandvicensis*	17	Or Non-Lethal
Common (Hawaiian) Gallinule	*Gallinula galeata sandvicensis*	40	30
Hawaiian Coot	*Fulica alai*	110	180
Hawaiian Duck	*Anas Wyvilliana*	36	Or Non-Lethal
Black-necked (Hawaiian) Stilt	*Himantopus mexicanus knudseni*	38	Or Non-Lethal
Newell's Shearwater	*Puffinus newelli*	27	Or Non-Lethal
Hawaiian Petrel	*Pterodroma sandwichensis*	1	Or Non-Lethal
Band-rumped Storm-Petrel	*Oceanodroma castro*	<1	Or Non-Lethal

Section 2

In this section we present detailed information on the activities associated with managing the Nēnē and other waterbird species 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, 2020, and June 30, 2021, the Nēnē (*Branta sandvicensis*) nesting season resulted in 18 Nēnē nests, from 18 different pairs, plus one dropped eggs from unidentified birds on Hōkūala property (Figures 2 through 4 inclusive; Table 4). The season began in mid-September. Gravid females were observed, and the first nest was located on November 1, 2020. Subsequent nests were found through January 18, 2021. 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, banding, avian mortalities, waterbird surveys, and predator trapping summary.

The 18 Nēnē nests (only 15 found) produced 51 eggs, of which 43 hatched for an average hatch rate of 84-percent. Of these 42 hatchlings, 21 survived to fledge, a hatchling survival rate of 49.0 percent (Table 4). The first pair to nest, bXKU♂--bHZN♀ laid three eggs all of which hatched. One nest was abandoned. The one dropped egg was placed in an occupied nest. The moved egg did not hatch (Table 5).

Table 4– Nēnē Egg Production and Survivorship at Hōkūala July 1, 2020 – June 30, 2021

Eggs Laid	*Eggs Hatched*	*Hatch Rate*	*Goslings Fledged*	*Hatchling Survival Rate*
51	43	84%	21	49.00%

During the 2019-2020 nesting season, 81-percent of nests were successful, hatching at least one gosling (Table 5). One nest failed to hatch. Failed eggs were collected, and measurements were taken, and viability was determined for each egg by examining the contents of the eggs. Six eggs were found to be infertile when examined after collection. One egg had a fully developed embryo, and one egg was accidentally broken before it could be examined. One dropped egg recovered on the golf course was found to be infertile. Detailed info on nest and egg fates is presented in Table 6. Details on the nests, timing, bird band numbers and locations of the nests are detailed in Table 7. A visual representation of the nest locations is depicted in (Figures 2 through 4 inclusive).

Table 5 – Nēnē Nest and Egg Fates July 1, 2020 – June 30, 2021

Nest Fates		*Percentage*	*Egg Fates*		*Percentage*
Hatched	16	84.21%	Hatched	43	84.31%
Abandoned	1	5.26%	Abandoned	0	-
Disappeared	0	-	Disappeared	0	-
Predated	0	-	Predated	0	-
Smashed	0	-	Smashed	0	-
Flooded	0	-	Flooded	0	-
Failed to Hatch	1	10.53%	Failed to Hatch	8	15.69%
Total Nests	**18**	**100.00%**	**Total Eggs**	**51**	**100.00%**

Table 6 – Un-hatched Nēnē Eggs Fates July 1, 2020 – June 30, 2021

Nest #	*Pair*	*# Un-hatched eggs*	*Length (mm)*	*Width (mm)*	*Weight (g)*	*Diagnosis*
20-01	♂KXU-♀HZN	1	84.5mm	55.0mm	122g	Infertile
20-02	♂y632-♀y944	1	54.0mm	36.0mm	24g	Infertile
20-05	♂TPZ-♀PKU	2	83.5mm	51.5mm	107g	Fully developed embryo
	♂TPZ-♀PKU		91.2mm	53.0mm	113g	Infertile
20-08	♂RXZ-♀JCR	1	83.5mm	54.5mm	114g	Infertile
20-09	♂TRN-♀unb	1	91.5mm	54.0mm	109g	Infertile
20-14	♂JEN-♀NZH	2	No data			
	♂JEN-♀NZH		86.5mm	53.4mm	118g	Infertile
	Dropped	1	85.0mm	55.0mm	123g	Infertile

Figure 2 - Nēnē Nest Sites Island 2, Main Lagoon - 2019-2021 Season

Figure 3 - Nēnē Nest Sites, Main Lagoon and 800 Parking lot – 2019-2020 Season

Figure 4 - Nēnē Nest Ocean Course 7 – 2020-2021 Season

Table 7 – 2019-2020 Hōkūala Nēnē Nesting Season

Date Found	Nest #	Pair ID	UTM	Eggs / hatched	Survey Fledged	Nest Location
11-1-20	20-01	♂KXU-♀HZN	0464241-2428447	3/2	0	Island 2, west coco area, in grass & koa
11-5-20	20-02	♂y632-♀y944	0464773-2428733	1/0	0	Island 5, E in bay, grass, down tree
11-21-20	20-03	♂RTP-♀PJE	0465067-2428772	4/4	0	Ocean Course -12 airport edge, under cut pines 1 dead at nest 12-24
11-22-20	20-04	♂HTX-♀NXE	0464263-2428094	2/2	1	Ocean Course -16, cliff edge, behind fence, in koa
11-24-20	20-05	♂TPZ-♀PKU	0464248-2428421	4/2	0	Island 2 in pit, far end
11-24-20	20-06	♂RTR-♀JEJ	0464268-2428443	3/3	0	Island 2, open, E pit hill, ½ way down
11-24-20	20-07	♂JEK-♀PKX	0464271-2428439	3/3	0	Island 2, E , along water edge 1 dead in nest
11-29-20	20-08	♂RXZ-♀JCR	0464933-2428461	4/3	2	Sales trailer flats, 60' in front of trailers.
12-1-20	20-09	♂TRN-♀unb	0464340-2428480	4/3	2	Sales trailer access road, along pond edge, ½ way down on rt.
12-3-20	20-10	♂ NZU-♀JCY	0464259-2428440	3/3	1	Island 2, S/E slope facing TK, next to elect box, under koa
12-3-20	20-11	♂unb- ♀unb	0464331-2428438	3/3	0	Sales trailer employee parking, close to road, under "scrambled egg" plant
12-8-20	20-12	♂JEH - ♀KEC	0464456-2428749	3/3	3	Island 3, tall grass facing island 4
12-8-20	20-13	♂PAE-♀KCY	0464235-2428749	3/3	3	Island 2, S side, tall grass 20' N of rock lookout point
12-14-20	20-14	♂JEN-♀NZH	0464149-2428473	2/0	0	Tennis courts footing area, close to OC-18 tees. Dropped egg added 12-20-15
12-31-20	20-15	♂RPX-♀JCZ	0464264-2428440	3/3	3	OC-9 shoreline, west end, in naupaka
1-3-21	21-1	♂TPK-♀NZR	Not Found	2	2	Island 2, west coco area, in grass & koa
1-6-21	21-2	♂Unb-♀RRK	Not found	1	1	
1-18-21	21-3	♂TPX-♀JEZ	Not found	3	3	
TOTALS	**18**	**1 Dropped Egg**		**51/43**	**21**	

In addition to the 18 pairs that nested, and their 21 surviving goslings, an additional 28 state banded Nēnē and three federal banded birds, plus 21± un-banded Nēnē utilized the property during this reporting period (Table 8). During the season, biologists from DOFAW with the assistance of Hōkūala biologists banded a total of 35 Nēnē, 29 of which were hatch year goslings and the other six were adults. All bands (not including birds banded this season) recorded for this reporting season are presented in table 8.

Table 8 – Band Codes for Nēnē at Hōkūala 2020-2021 – Does not Include birds banded this season

Band Code	*Band Code*	*Band Code*	*Band Code*	*Band Code*	*Band Code*
bAYN♂	bJEJ♀	bNZR♀	bPJE♀	bRRP♂	bTPK♂
bHJA♂	bJEK♂	bNZU♂	bPKU♀	bRRK♀	bTPZ♂
bHRN♂	bJEN♂	bPAE♂	bPKX♀	bRRT♀	bTRC♂
bHTX♀	bJEZ♀	bRPR♀	bPZT♂	bRXZ♂	bTRN♂
bHZA♂	bKEC♀	bRPT♀	bRRZ♀	bRRX♀	bTZR♀
bHZN♀	bKCY♀	bRPX♀	bRTJ♀	bUPC♂	
bJCR♀	bKXU♂	bRPZ♀	bRTN♂	bUPE♀	y632♂
bJCY♀	bNUX♂	bRPR♀	bRTP♂	bUPH♂	y824♂
bJCZ♂	bNXA♀	bRPX♀	bRTR♂	bUPK♀	y944♀
bJCZ♂	bNXA♀	bRPX♀	bRTR♂	bUPK♀	
bJEH♂	bNXE♀	bRRC♂	bTPP♀	bUPN♀	

Given that the bird make-up of the site has changed significantly over the past several years because of DLNR-DOFAW removal of over 500 Nēnē from the property between 2011 and 2016 – comparing metrics from the onset of the program to the last four seasons 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 have 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 second most common waterbird species on the property (Table 9). Looking at the mortality of this specific species on the site it was not an issue six years ago and is currently the larger issue numerically. Though the increased production of fledgling gallinules has more than kept pace with the increase in mortality incidents. During this season we produced 113 Common Gallinule fledglings). The permit holder and the state and federal regulators are closely monitoring the continued take of gallinules on the property, and if there is not significant drop in the ongoing take of this species over the near term, we will explore options with the agencies over potentially raising our requested take for this species.

Nēnē Hazing

On June 24, 2019, the USDA/WS acting on the behalf of the Hawaii Department of Transportation, Airports Division, began their pilot project to haze Nēnē from the Resort using dogs, and other non-lethal methods. The initial one-year pilot project has been extended. Hazing was ongoing for the entire season addressed in this annual report.

Waterbird Surveys

Native waterbirds on Hōkūala property include resident endemic and indigenous species as well as native non-breeding migratory waterfowl and shorebirds. The resident endemic waterbird species recorded on the property include all of the resident endemic species found on the Island of Kaua'i namely, Hawaiian Duck (*Anas Wyvilliana)*, Common (Hawaiian) Gallinule (*Gallinula galeata sandvicensis*), Hawaiian Coot (*Fulica alai*) and Black-necked (Hawaiian) Stilt (*Himantopus mexicanus knudseni*). The lone resident indigenous species is Black-crowned Night-Heron (*Nycticorax nycticorax hoactli*). Regularly recorded indigenous migratory shorebird species include Ruddy

Turnstone (*Arenaria interpres*), Sanderling (*Calidris alba*) and Wandering Tattler (*Tringa incana*), although we did not record any Wandering Tatler this year. A small number of uncommon and/or extralimital swans, ducks, geese, and shorebirds have been recorded on the property over the years. During this reporting period we did not record any extralimital species.

Waterbird and shorebird surveys were conducted on an almost bi-weekly basis. Surveys were conducted using golf carts and by walking the property. A synopsis of the data collected over 91 separate counts conducted during this reporting period is presented in (Table 9).

The most significant change over the past four years is the significant increase in Common Gallinules on the property. They are currently the second most common waterbird species on the Resort with an average of 63 animals being recorded during waterbird counts (Table 9). The numbers of this species have steadily increased each year. Last reporting season we were recorded an average of 53 Common Gallinule during the course of 91 waterbird counts. During the 2019 – 2020 reporting period we had 30 gallinule nests which produced 27 chicks, this reporting period we had the same number of nests but produced 113 chicks (Table 9; David and Silva 2020).

Table 9 – Hōkūala Waterbird Counts July 1, 2020 – June 30, 2021, ~91 counts

Common Name	*Scientific Name*	*Average*	*High*	*Low*
Hawaiian Goose (Nēnē)	*Branta sandvicensis*	23	67	0
Hawaiian Duck	*Anas wyvilliana*	9	20	0
Common (Hawaiian) Gallinule	*Gallinula galeata sandvicensis*	57	60	27
Hawaiian Coot	*Fulica alai*	26	56	2
Black-necked (Hawaiian) Stilt	*Himantopus mexicanus knudseni*	0.35	4	0
Pacific Golden-Plover	*Pluvialis fulva*	62	167	0
Ruddy Turnstone	*Arenaria interpres*	2	9	0
Wandering Tattler	*Tringa incana*	0	0	0
Black Crowned Night-Heron	*Nycticorax nycticorax hoactli*	9	14	4
Cattle Egret	*Bubulcus ibis*	152	167	57

Waterbird Nesting

Waterbird nesting on the property has been steadily increasing over the past five years. Prior to the last reporting period we had only three confirmed Hawaiian Coot nests on the property in the preceding 10 years, during the last reporting period there were four nests, and this season we recorded ten nests. During the last reporting period we reported 21 Common Gallinule, and seven Hawaiian Duck nests, this season we had 30 Gallinule and 12 Hawaiian Duck nests (Table 10). During the last reporting period and this one, Hawaiian Coots, and Common Gallinules, nested in every water feature on the property (Table 10, Figures 6 through 12 inclusive).

Table 10 – Additional Waterbird Nesting at Hōkūala 2020-2021

Area	*COGA*	*HACO*	*HADU*	*BNST*
Lagoons	8	0	5	0
OC-7 pond	1	0	1	0
Kalanipuu	0	3	5	0
Irrigation Pond &Farm Pond	1	0	2	0
Mokihana 3	5	1	2	0

Nest Totals	30	4	12	0
Chicks Produced	113	10	62	0

Figure 5 – Hōkūala Overview of Water Features

Figure 6 – Kalanipu‘u and Islands 5, 6, and 7 Waterbird Nests

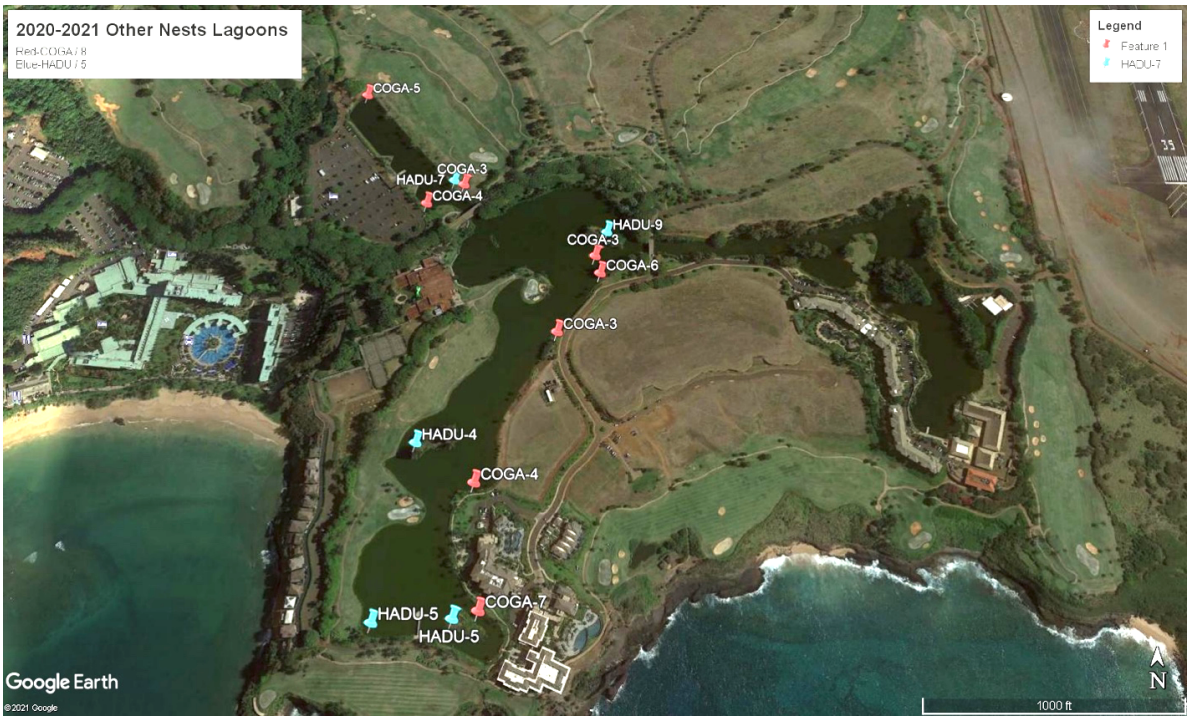


Figure 7 - Lagoons and 800 Parking Lot Waterbird Nests

Figure 8 – Mokihana Pond 3 Waterbird Nests

Figure 9 - Irrigation and Farm Ponds Waterbird Nests

Figure 10 - Ocean Course #7 Pond Waterbird Nests

Take

A total of three listed avian take incidents were recorded on site this season. A species breakdown and totals are represented below (Table 11). 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 incident.

Table 11 – Hōkūala Take July 1, 2020 – June 30, 2021

Date	*Common Name*	*Outcome Dead or Alive*	*Indirect Take*
8/17/20	Hawaiian Duck	Vehicle hit (Dead)	-
9/1/20	Hawaiian Coot	Likely golf related (Dead)	-
10/7/20	Hawaiian Gallinule	Golf ball (Dead)	-
12/23/20	Hawaiian Coot	Golf ball (Dead)	-
4/28/21	Common Gallinule	Vehicle hit (Dead)	0.65
6/10/21	Common Gallinule	Vehicle hit (Dead)	-

Take over the life of the permit to date is depicted in the following graph. As can be seen in the graph, the species impacted each year, and the number of incidents varies significantly on an annual basis (Table 12).

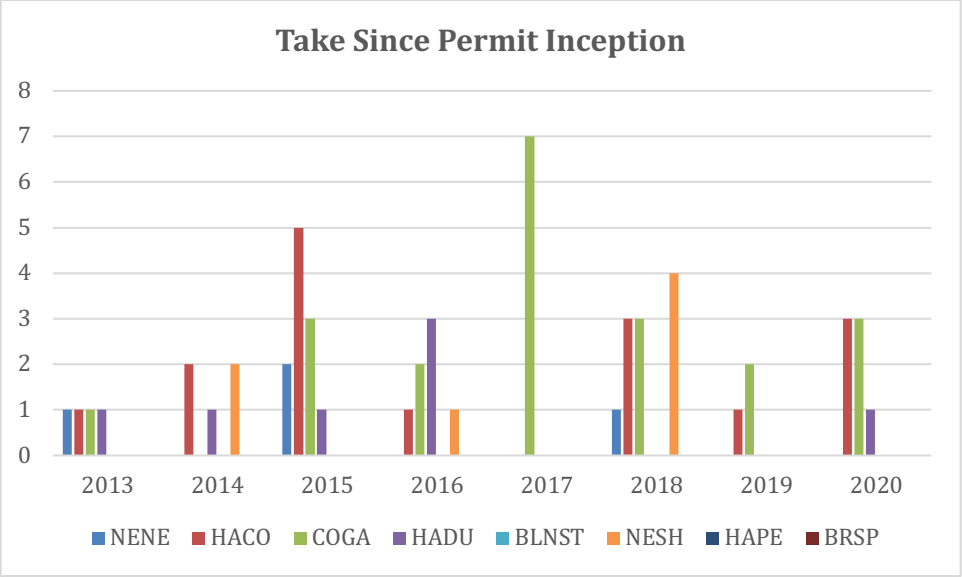


Table 12 – Take over time by species on an annual reporting basis

Predation

We had no mammalian predation events recorded on the property during this reporting period.

Trapping and Predator Control Efforts

Invasive mammalian species removal and predator trapping was carried out throughout the season. Traps were removed during the months that the majority of Nēnē goslings were present to prevent any trap related injuries. Intense cat trapping began at the beginning of the nesting season. A total of 18 cats, 27 pigs and one dog were removed from the property this season. Feral chickens were shot or live trapped on an almost daily basis with a pellet gun, at the end of the season a total of 996 chickens had been removed from the property.

It should be noted that the ITP and ITL require the use of 10 traps, the Resort has consistently used over 60 traps, and as noted above did not have a mammal predation during this reporting period. One of the biggest issues with predator control on this property is that it is not fenced, and a County of Kaua'i road goes through the property.

The results of predator control efforts are detailed in Table 13. We continue to have to deal with a large number of cats and to a lesser degree dogs that are being released on the property by the general public. All invasive species removal is covered under Wildlife Control Permit: WCP 19-26 and Migratory Bird Depredation Permit number: MB86226B-0. Predator control effort and results are presented in Table 13.

Table 13 - Trapping and Predator Removal Totals from Hōkūala July 1, 2020 – June 30, 2021

Description	*Number*
Trapping Days	365
Live traps	63
Cats removed	18
Dogs removed	1
Pigs removed	27
Chickens removed	996

Roadways, Speed Limits and Endangered Species Signage

As previously mentioned, the posted speed limit on the Resort property is 14 MPH (Figure 13). 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 (Table 14 and Figures 13 through 20 inclusive). Additionally, there are several endangered species informational signs posted in areas that are accessed by guests and golfers using the facilities (Figure 20).

Table 14 – Nēnē and T&E Caution Signs on Property 2020-2021

Sign Description	*Number*
Yellow metal 2x2 Nēnē crossing signs	10
White Nēnē slow down signs	12
Plastic Sandwich Board caution slow down	3
Metal do not feed Nēnē signs	5
Endangered Species informational displays	2

Bird locations and bird activity and densities are dynamic on this property. As circumstances change and new areas of concern are identified we change warning signage on the property. As of this writing, the resort has deployed 31 Nene crossing, slow down wildlife crossing and two in-road sandwich boards (Table 14, figures 13 through 20, inclusive). During one of the upcoming the next phases of construction on the property, a new entrance to the Resort will be built; at the entrance a large monument sign will be set welcoming guests and owners onto a Wildlife Conservation Area.

Figure 11 – Posted Speed Limit Hōkūala Resort

Figure 12 – Location of Cautionary Signs Deployed on the Resort

Figure 13 – Nēnē Crossing Sign Semi-permanent

Figure 14 – Wildlife Warning and Do Not Feed Signs Portable

Figure 15 – Wildlife Slow Down Warning Signs Placed Every 45 Feet Along Holokāwelu Road

Figure 16 – Sandwich Board Portable sign in the Middle of Holokāwelu Road with Wildlife Monitors

Figure 17 – Detail Of Sandwich Board Portable Sign With Changeable Insert

Figure 18 – Typical Endangered Waterbird Informational Sign

Timbers Staff Parking Lot Modifications

To minimize the interaction between Nēnē, goslings and vehicle traffic and parking in the open employee parking area near the sales & construction trailers this past season, the Resort installed 10 large coconut stumps approximately nine feet apart from each other 15 feet from the edge of the lagoon to prevent parking close to the lagoon edges, and area used by all of the protected waterbirds. Additionally, five warning signs were erected and the open field inland of the lagoon has been mowed more frequently to allow better visibility of any waterbirds in that area (Figure 19).

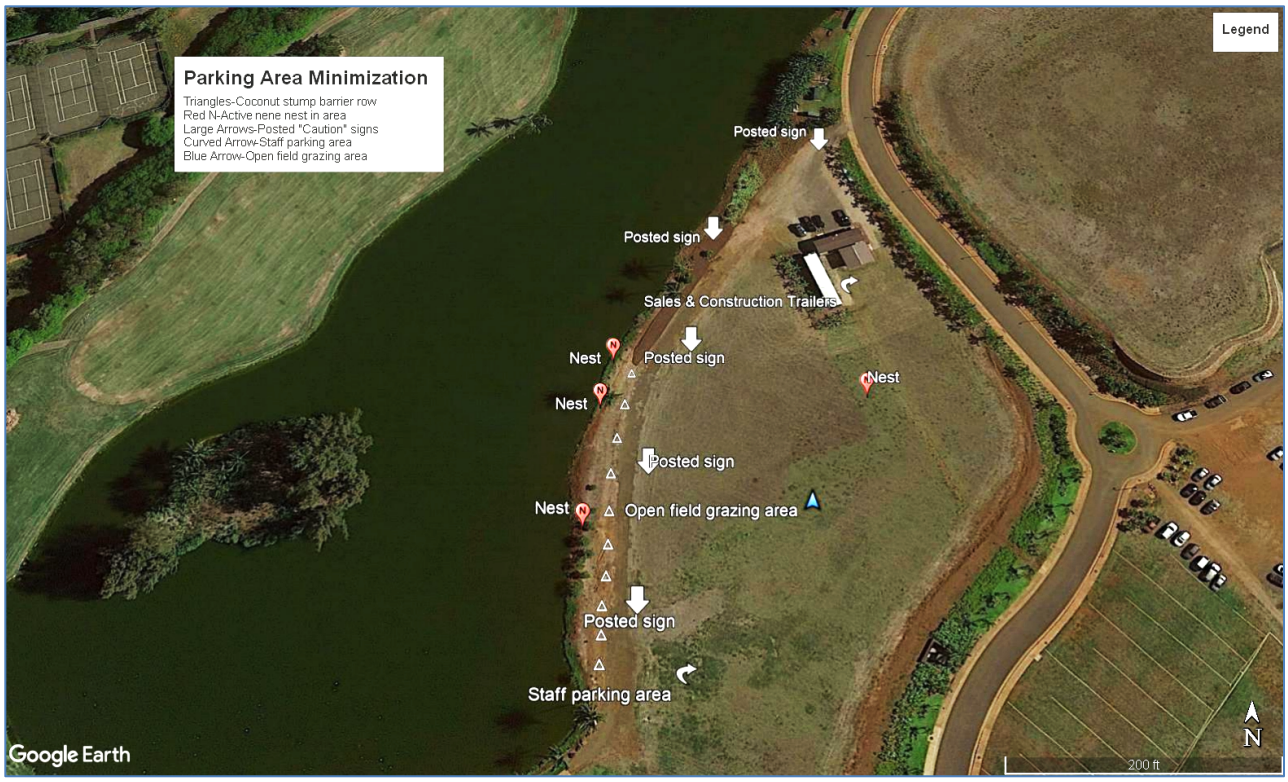


Figure 19 – New Coconut Barriers at Lagoon Edge, and Posted Warning Signs Locations

Speed Bumps

There are currently five speed bumps on the roadways within the Resort.

Construction Monitoring

During this reporting period there was no construction activity on the property.

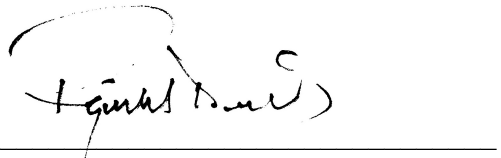
Endangered Species Awareness Training

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, and restrictions were discussed in depth, as were potential disciplinary action if the protocols and procedures are not followed. A log of all the individuals that receive training is maintained and all construction workers are required to undergo the training and display a uniquely numbered Endangered Species Awareness Training sticker on their hardhats.

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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Rana Biological Consulting

Date July 31, 2021

Literature Cited

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

David, R. E., and A. Silva. 2020. Hōkūala Habitat Conservation Program Annual Report: July 1, 2019 – June 30, 2020: Prepared for: Tower Lagoons Land LLC.