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For the Better Protection
of Wildlife in Hawaii

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NENE RESTORATION PROJECT REPORT*
Division of Fish and Game
Department of Land and Natural Resources
Honolulu, Hawaii

HISTORY

The Nene, or Hawaiian Goose (Branta sandwicensis), is believed to have evolved from Canada goose stock. Migrant flocks of this species remained in the Hawaiian Islands and gradually evolved into a distinct species. This species is identified by the reduced webbing on the foot, and a comparatively short wing. The former adaptation is eminently suitable for the barren lava slopes inhabited by Nene.

Mr. Paul H. Baldwin studied the Nene when he was employed at the Hawaii National Park. His article, "The Hawaiian Goose, Its Distribution and Reduction in Numbers," which was published in 1945, did much to bring the plight of the Nene to the attention of biologists and ornithologists. He estimated a population of less than 50 Nene in 1944. Their range, by this time, had been drastically reduced from 3,000 square miles on the islands of Hawaii and Maui, to only 1,200 square miles on Hawaii. His studies indicated that an estimated population of as many as 25,000 Nene may have been present on both islands before their decline.

In 1949 Charles and Elizabeth Schwartz compiled a report on the game birds of Hawaii after a year of field studies. They stated that the Nene was the next Hawaiian species facing extinction, and urged action to prevent this. During the 1940's the Nene was considered to be one of the world's rarest birds.

It is generally agreed that the major decimating factors were the hunting of Nene during the Fall, which was their breeding season, and the introduction of a number of new predators. The mongoose, and feral cats and dogs wreaked havoc on nesting and flightless Nene.

INCEPTION OF THE NENE RESTORATION PROJECT

The Nene Restoration Project actually began in 1949 when Mr. Herbert Shipman, a rancher on the island of Hawaii, loaned the Board of Agriculture and Forestry a pair of Nene with which to start a propagation project. At that time Mr. Shipman had the only captive flock of Nene in existence.

Initially this program was financed by a \$6,000 legislative appropriation from the Territory of Hawaii. The program was designed to study Nene in the wild and to

* Ronald L. Walker's contribution.

See THE ELEPAIO, Vol. 26, No. 11, May 1966, pp 96-104.

rear them in captivity for eventual release. At that time, however, the ecological study portion was not approved by the Board of Agriculture and Forestry. In 1956, Dr. William Elder from the University of Missouri received special grants to undertake an ecological investigation of the wild Nene. The results of his findings and the achievements of the Pohakuloa Propagation Project since 1949 prompted the introduction of a Bill in the U.S. Congress to authorize the U.S. Fish and Wildlife Service to spend \$15,000 a year for a period of five years, to carry out a program of research and management to insure the preservation and re-establishment of the Nene in its former known habitat. This Bill was strongly endorsed by the top conservation organizations in the United States and was passed by the 85th Congress as Act 891. These funds were made available in November of 1958. After the initial five-year period ended, \$15,000 annually have been available from the Bureau to continue the project.

With the availability of federal funds, Mr. Richard E. Griffith, Chief of the Wildlife Division, Region 1, U.S. Fish and Wildlife Service, came to Hawaii to survey the program and formulate plans for future work. His initial visit resulted in two men being assigned to the program. David H. Woodside, Biologist, was designated overall Project Leader whose principal duty was to conduct the ecological phase of the project as well as supervise the entire program. Mr. Ah Fat Lee was assigned as propagationist in charge of the rearing project at Pohakuloa, Hawaii.

Assignment of a full-time staff added to the information obtained in regard to the ecology of the Nene. It was learned that:

1. The Nene was restricted to the uplands of the island of Hawaii, primarily between 5,000 to 7,000 feet in elevation.
2. The breeding season extended from November through March.
3. Sexual maturity may not be reached at three years of age in many birds.
4. The average clutch size was almost four eggs per clutch.
5. During the flightless period, the young and adults were extremely vulnerable to terrestrial predators, which include the mongoose, feral dogs, cats, and pigs.

Dr. Elder's preliminary ecological study revealed the nesting ground of the wild Nene where a substantial number of young birds were reared, and the summer range of practically all of the wild Nene on Hawaii. This nesting ground of some 8,100 acres of Keauhou Ranch, was set aside as a sanctuary through the negotiation of a cooperative agreement with C. Brewer and Company, and the Bishop Estate.

During the summer months there is an active Nene flyway which crosses Saddle Road between the 17 and 21 mile markers. These Nene spend the day on the lava-covered slopes of Mauna Loa, then fly across Saddle Road to the slopes of Mauna Kea to "roost" at night. The relative number seen each year along this flyway has been used to estimate the increase in this wild Nene population.

Ecological survey work is greatly hampered by the ruggedness of the lava flows and the vastness of this Nene habitat which can only be traversed on foot.

PROPAGATION OF NENE AT POHAKULOA

The Pohakuloa Propagation Project was plagued by the problem of very low fertility and hatchability, as compared to wild Nene. In order to pinpoint the difficulty and to find a solution, studies were continued on the mechanics of hatching and rearing to determine the primary limiting factor. Mr. Wesley M. Batterson, biologist with the Oregon State Game Commission, was asked to come to Hawaii to review all aspects of the propagation phase during the 1960-1961 breeding season. It was felt that his success in breeding other extremely difficult-to-rear waterfowl, would enable us to develop better techniques to improve production.

A pair of wild Nene and one young bird were captured in the Keauhou area during March of 1960, and taken to Pohakuloa for breeding purposes. This infusion of new blood was eminently successful in increasing the fertility and hatchability of Nene

at Pohakuloa.

The use of silky bantam chickens as broody hens and foster mothers was discontinued in 1964. They were effective in increasing hatchability, however, very few bantams were broody and available for hatching Nene eggs during the Nene breeding season, which occurs during the winter.

Efforts were continued to find better techniques for improving fertility and hatchability. The best results were being obtained from natural incubation. As an experiment two pairs were selected during the 1965-1966 breeding season to determine whether captive Nene would reneest. When their first clutch was hatched, the goslings were immediately removed to an indoor brooder and the nest destroyed. Both of these pairs reneested in eight weeks. To further test this technique, nine pairs were selected for testing during the 1966-1967 season. Eight of these nine pairs reneested in eight weeks. Fertility and hatchability for this technique was very high, enabling the production of 84 Nene during the season, the highest production ever. The entire flock will be subjected to this technique during the 1967-1968 breeding season. We are confident that we will be able to exceed the 84 goslings produced during the 1966-1967 season.

RELEASES OF NENE REARED IN CAPTIVITY

The first release of pen-reared Nene was made on March 17, 1960 at the Keauhou Sanctuary. It was felt that a release in this area would permit an inter-mingling with this breeding population of wild Nene. All of the Nene for release are color-banded, permitting identification of individual birds. This enables the determination of survivability, movements and mating with wild birds. Twenty Nene were placed in the one-acre release pen, with the primaries of one wing plucked. These birds would remain in the open-topped pen long enough to become acclimatized and learn to eat the natural foods found in the sanctuary. The plan worked extremely well with a few birds leaving the pen as their flight feathers grew out, but returning to eat and rest within the pen. Gradually, the entire flock left the pen and established themselves in the general vicinity of the release site.

Our studies showed that the scheme of gently releasing pen-reared birds into wild habitat to mingle and mate with wild Nene worked out ideally. Since the initial release was so successful, additional releases were made at the Keauhou Sanctuary, and other areas. An area in North Kona, Lands of Keauhou II, was selected as a release site. The habitat was suitable, and it was known to be a nesting area a few years ago. An agreement was drawn with W.H. Greenwell, Ltd., and the Bishop Estate, and a second Nene Sanctuary was created. The first release of twenty pen-reared Nene was made here on May 23, 1961.

Additional releases of pen-reared birds, all from the Pohakuloa Propagation Project, were made in both of these sanctuaries. A total of 61 Nene have been released at the Keauhou Sanctuary and 115 at the Keauhou II Sanctuary.

A third Nene Sanctuary and release site was established through a cooperative agreement with the Damon Estate for an area in the Kau District on Kahuku Ranch. A total of 75 Nene were released immediately after the cooperative agreement was approved, in May of 1967.

Pen-reared Nene were also released in Haleakala Crater on the island of Maui. Birds for release in this area were reared primarily in England at the Severn Wildfowl Trust. A total of 150 Nene have been released on Maui.

Table I, the Nene Restoration Project Record from 1949 through 1967, lists the annual production at Pohakuloa and the releases made to date.

SUMMARY OF ECOLOGICAL INVESTIGATIONS

Reproduction of Nene in the wild has been steadily increasing, as is evident from the increasing number of nests and broods observed each year. During the

1966-1967 breeding season a record number of 15 nests and broods were recorded, with a total production of 22 goslings. The pen-reared birds have been integrated in the wild Nene population, and pairs composed of wild and pen-reared Nene have produced broods at the Keauhou and Keauhou II Sanctuaries.

Fertility and hatchability of wild birds continue to be higher than that experienced at the Pohakuloa Project. Mortality of broods is obvious, however, there is insufficient data to determine the extent of this loss to the Nene to the Nene population.

There is a marked homing instinct exhibited by the Nene observed. Paired Nene commonly return to the same area to nest each year.

There is a need for more information on dispersal, movement, survivability, and mortality of young Nene in the wild. With the increase in sanctuary area and Nene releases, this information can be obtained only with additional manpower.

7/17/67

Note: As of March 8, 1968 there were 102 goslings produced during the 1967-1968 season alive and well at Pohakuloa. This number already surpasses the 1966-1967 season when 84 geese were reared. In addition, 4 young goslings were rescued from the wild at Keauhou, and are presently being reared at Pohakuloa.

Ronald L. Walker, March 11, 1968

TABLE I. NENE RESTORATION PROJECT RECORD - 1949 to 1967

Nene Reared at Pohakuloa		Year Released	Nene Released Island of Hawaii				Nene Released Island of Maui				Total Nene Released
Year	Number		Keau- hou	Keau- hou 2	Kahuku	Total	From Eng- land	From Poha- kuloa	From Conn.	Total	
1949-1950	2										
1950-1951	3										
1951-1952	2										
1952-1953	1										
1953-1954	4										
1954-1955	4										
1955-1956	8										
1956-1957	12										
1957-1958	3										
1958-1959*	15										
1959-1960	17	1960	20	-	-	20	-	-	-	-	20
1960-1961	32	1961	11	20	-	31	-	-	-	-	31
1961-1962	45	1962	-	35	-	35	30	5	-	35	70
1962-1963	54	1963	-	42	-	42	19	5	5	29	71
1963-1964	38	1964	-	-	-	-	19	8	-	27	27
1964-1965	41	1965	30	18	-	48	24	8	2	34	82
1965-1966	69	1966	-	-	-	-	-	25	-	25	25
1966-1967	84	1967	-	-	75	75	-	-	-	-	75
TOTALS	434		61	115	75	251	92	51	7	150	401

* Inception of Federal Project.

HIGHLIGHTS OF THE CROWDER HAWAII BIRD TOUR

December 23, 1967 - January 5, 1968

By Walter R. Donaghho

Dec. 22: Sixteen flew in to Hilo Airport on Orville Crowder's Christmas Bird Tour of Hawaii, and I met them at the gate, and got everyone into our three rented cars, and we were away for the Volcano.

We were all eagerly anticipating the start of another phase of Halemaumau and, sure enough, the hotel desk reported it going about 5 P.M. As we ate our dinner in the dining room, we could see the glow in the firepit, and the vivid rosy reflection on the low-hanging clouds overhead, which became brighter as it grew darker.

After dinner, we drove down to the firepit. A thousand pictures will never prepare you for the awesome spectacle of a mile square caldera full of fiery lava. We all gasped as the sight hit us full in our senses as we came up to the rim. Several fountains played near the far wall, and the spidery lava pattern spread out on both sides. A river of lava flowed to the right from the fountains to the edge of the lava pool, elevated above the rest of the floor, and cascaded down the wall to the floor below, to spread out over it.

Dec. 23: Clouds and rain prevented our returning to Halemaumau, and canceled any chances of exploring the Park for the day, so we drove down to Puna on the Coast. Hawaiian terms were seen and studied along the coastal cliffs.

Dec. 24: Drove up to Kulani Honor Farm, where everyone was fascinated by the virgin 'ohi'a forest along the Stainback Highway and the walk through the giant koa-fern forest at the base of Kulani Cone. 'I'iwi, 'apapane, 'amakihi, 'elepaio, and 'oma'o were all met with an studied to complete satisfaction.

Dec. 25: Christmas morning, a drive up the Mauna Loa strip, for more 'i'iwi, 'apapane, 'amakihi, 'elepaio, and creepers, the last of which were at the nectar of 'ohi'a blossoms near the end of the road.

Dec. 26: We drove to Kona and stayed at the Pacific Empress Hotel.

Dec. 27: Nine of the party hired a Landrover for a trip up the Kahuku-Ainapo Road, a new birding area for yours truly. We sped South, stopping only to photograph a Hawaiian hawk sitting on a telephone wire in a clearing beside the road. He sat there looking down at all the strange activity from all those silly looking humans below, and never moved once. His curiosity wouldn't let him!

Heading mauka at the Kahuku Ranch road we drove up through the pasture lands, scaring up plover as we went. At about 6000 feet, we passed the water tanks of the ranch, and crossed one of the 1950 flows. On the other side, the road passed through a cleared area, bordered by 'ohi'a forest on both sides. Soon, someone exclaimed "a goose!" and we stopped near a pair of nene by the roadside, and everyone got out to photograph them, including yours truly with a borrowed telephoto lens. They simply stood watching us, never moving far, as someone came too close. Being October releases, they were still quite tame. We were to meet 15 more before leaving the area.

We stopped at a spot where the 'ohi'a forest came up to the road to have lunch, followed by a brief foray into the woods, which turned up an 'i'iwi (one of few that came when I called), 'elepaio, 'apapane, and two pairs of 'oma'o.

A short trip was made down to South Cape, since Orville wished to visit the southernmost point of the U.S., and we did so, admiring the rugged, surf-beaten coast, with exploring tattlers, and the song of skylarks overhead. Then we returned to Kailua.

Dec. 28: Leaving the hotel by 6:30, we drove around the west shoulder of Hualalai and turned up the Puu WaaWaa ranch road. Francolins were seen along the driveway, both Erckels and Greys. I noticed that there seemed to be more saffron finches around than there were two years ago. Pope cardinals and Australian crested doves were seen, also mourning and white-winged doves. The foreman had a second car

waiting for us for the rugged trip out to the tongue of forest where the crows usually were seen. We were unlucky. Returning, we drove quickly up to Waimea to take breakfast, which we had postponed to come to the ranch early, and to get an early start for the long birding program ahead of us for the day.

Puu Laau was next. As soon as we entered the mamane, I began to notice 'amakihi. There were many of them. 'Elepaio were also soon seen, and were anything but rare. I was in the lead car, and reaching the junction with the road to Puu Ahumoa, we turned left on the Puu Laau road, went around the corner and waited for the second car. They came along shortly, all excited and quizzed me about a yellow headed, finchlike bird they had seen down the road. It is very likely that they had seen palila. One flew down over us as we stood in the road and disappeared in the trees just upslope. We couldn't find it, but I saw enough to know that it was palila.

We couldn't stay long here, since we had to go down to Hilo for lunch and the 3 p.m. flight to Maui. We returned to the highway and drove around to Pohakuloa, where Orville wanted to see one of the cabins, then drove down to Hilo.

Dec. 29: There had been a thunderstorm during the night, and with the accompanying rain there had been snow on Haleakala, with the resultant closing of the road to the crater. The only thing to do was to reverse the two day's itinerary, going to Hana today, and Haleakala tomorrow.

An early start, during which everyone was all eyes, gazing up at the magnificent cliffs and canyons of Iao Valley, in which we had spent the night at the Iao Valley Inn. Haleakala's summit was glistening with a mantle of fresh snow, the first I have ever seen on the mountain. Since we had left too early for breakfast at the hotel, we drove down to the Kahului shopping center and ate in the small "sidewalk cafe" there.

There were few birds on the windward coast, but the scenery was lush, tropical and beautiful. We got to Hana at lunchtime, and had lunch at the new Hana Ranch Village restaurant. On the way back up the coast, we turned off at Kanae to drive down to the point.

A Chinese thrush was caroling at the roadside at sunset, just beyond Kailua. We stopped at once to see it. Some did, as it flew across the road to disappear through the underbrush.

Dec. 30: After a short, pre-breakfast drive to the Needle, and a walk through the gardens at the end of the road, we returned to the hotel for breakfast and were off to the Kanaha Pond Wildlife Refuge.

This resulted in seeing a great many pintail, shoveller, a flock of baldpate, and a small group of green-winged teal, many stilt, night heron, and the four regular shorebirds of Hawaii. A white-tailed shorebird flew in and landed on one of the grassy sloughs near the road, and we identified a lesser yellowlegs. Two here this year, with the bird seen earlier on Oahu?

Next was the drive up the mountain to the Silversword Inn for lunch, then on up through the snowbanks along the sides of the road to the summit. Walking across the ice and snow on the walks, with the stuff lying several inches deep on the banks, and my cheeks kissed by the frigid air brought me back memories of Washington and Midwestern winters. The icy winds blowing along the summit were as cold as those of Chicago, and it was equally difficult to dress warmly enough against it.

A brief stop at Hosmer Grove on the way back, where everyone got acquainted with the Maui representative of the 'amakihi, and we returned to the airport to take the 3 p.m. flight to Honolulu. This was postponed to six, and it was dark when we flew down over the brilliant lights of Honolulu to our landing.

Dec. 31: I joined the group at their breakfast at "Tops" down the road from the Ala Moana Hale, where they were staying. Soon afterwards, we drove over the Pali to Ulupau Head. A brief stop was made at the reservoir, which resulted in seeing one coot. The boobies had, of course, finished with breeding, and were scattered over the hillside. They flew up as we approached, not many remaining in the colony. Through the scope, I was able to show the party brown boobies, frigatebirds, and the blue-faced booby near the beach at the eastern end of Moku Manu. They were fascinated

by the struggle of red-footed boobies trying to escape the hot pursuit of frigatebirds bent on getting their fish.

Sea Life Park was next, where we had lunch and took in the shows.

Jan. 1: Spent the day on the drive around the Island. Birdwise there wasn't anything unusual. A run was made past the Kahuku settlement basin, where there were coot, pintail duck, and a flock of cattle egret among cattle at the mauka end. Since they had seen skylarks on Maui and Hawaii, there was no need for a stop at Wheeler Field, and we went on to Waipio settlement basin, where the party soon made their acquaintance with the black mannikin and strawberry finch. An owl cruised by, hunting in the late afternoon light.

Field notes from Walter R. Donaghho, February 3, 1968: 'Amakihi

Noticed 'amakihi at ironwood cones in the trees at the end of the road at Maunakapu, at the Air Force radar facility.

They were digging into the cones with their bills like crossbills. This habit is unusual for this bird, and fifty years ago wouldn't have been believed (I wasn't believed 30 years ago, when I said that creepers on Hawaii sucked nectar!). Yet, when you consider that the 'amakihi likes a variety of fruits, besides insects and nectar, then it is not so surprising. Yet, an ironwood cone IS different from a juicy orange or banana and shows the remarkable adaptation in the tastes of this bird.

'Io, Hawaiian Hawk, was sighted along south coast of Maui, between Kaupo and Kanaio at about 3:30 p.m. on April 10, 1968 by John C. Wright, Historian at Bishop Museum.

If you have any information on this rare bird, please share your experiences by writing to Kojima, 725-A 8th Avenue, Honolulu, Hawaii 96816.

Field trip to Ulupau Head, April 21, 1968:

The largest turnout in recent years brought 52 "booby-watchers" to Ulupau Head on our April 21 field trip. As we walked across the firing range of the Kaneohe Marine Base, most of the common introduced land birds were seen, including Cardinals, Ricebird, House Finch, and Mockingbird.

On the hillside some 500 Red-footed Boobies could be seen in the Kiawe trees. A majority of birds appeared to be in the nest building stage. Several arguments over nesting material were seen; both in the trees and high in the air. Some Boobies were incubating eggs, but no chicks were seen. Many nests adjacent to the access road provided an excellent opportunity to observe the birds at close range.

High on Makapu Point, overlooking the sea, telescopes were set up to observe the birds on Moku Manu three quarters of a mile off-shore. Large numbers of Sooty Terns, Common Noddies, and Red-footed and Brown Boobies were seen. At least 50 Great Frigatebirds were patrolling the island and on the low eastern end we were able to distinguish three Blue-faced Boobies and two Gray-backed Terns. In the water directly below us two turtles were spotted as they briefly came to the surface. Overhead, Red-footed Boobies and Frigatebirds frequently sailed within 50 feet.

Returning through the Base a brief stop was made at the ponds near the gate. Among the common Golden Plovers were two Sanderlings, a Tattler and six Stilts. Seven White-capped Noddies were seen at close range fishing at the edge of the pond.

J. Richard Gauthey

LETTERS from Dr. & Mrs. Hubert Frings, Norman, Oklahoma, March 19, 1968:

A request to help save the Quetzal (Pharomachrus mocinno) was enclosed.

This rare, almost incredible bird is pigeon-sized, with a yard-long train of filmy, iridescent green plumes and a vivid red breast. In manner regal yet gentle,

the Quetzal is noted for its spectacular courtship flight. Found only in Middle America (far southern Mexico to Panama), it inhabits only high mountains, breeding in the cloud-forests, frequenting huge sweet gum and oak trees laden with air plants and orchids.

Revered throughout its history, the Quetzal was an inspiration for the pre-Hispanic cults of the Plumed Serpent (Quetzalcoatl or Kukulcan). It runs as a bright green thread, linking Toltec-Aztec-Maya-Quiche cultures, from Tula, Mexico, to Copan, Honduras. Symbolic of the perfect or superlative, it came to mean freedom and liberty. Today it is the national emblem of Guatemala. It is disappearing. Cloud-forests are being cut, and Quetzal habitat destroyed.

What can save it? Habitat protection. Guarded cloud-forest preserves, set up through international cooperation with the Middle American government and citizen groups. Such reserves, with controlled area for visitors, would boost regional economy, save other endangered animals and plants, and serve the cause of peace among nations.

If there are questions, write to The Committee for Quetzal Cloud-forest Preserves, The Cleveland County Bird Club, P.O. Box 2666, Norman, Oklahoma 73069.

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From Mrs. Grace Keith, Manitoba, Canada, March 31, 1968:

...A belated letter to say how much I appreciated and enjoyed the day in the forest with the Hawaii Audubon Society. It was one of the most delightful days of my visit to Hawaii. Coming from the prairies, just walking in the mountains was an experience. Please convey my thanks to LCDR Gauthey for his kindness in taking me in his car and being sure that I saw each bird on the trip.

In Hilo and Kona, on the rocks in front of the hotels, I found wandering tattlers and was able to watch them easily. On the trip between Hilo and Kona the Hawaiian hawks flew over. Then I saw seven ruddy turnstones beside the City of Refuge.

On the Kanaha Pond (Maui), there were several Hawaiian stilts quite close, as well as shovellers, coots, and pintails. At Hosmer's Grove I saw the 'amakihi and 'apapane again, but wasn't quite sure of the 'i'iwi.

Then on Kauai, going along the canyon, we had several good looks at the white-tailed tropicbird. It hadn't been in sight when we visited the volcano on Hawaii. In Koke'e Park an 'i'iwi sat in plain view, so that I could see it, bill and all. I had really given up hope of seeing it.

As I hadn't expected to see so many Hawaiian birds, I came home quite happy. Yesterday I went birding here, and in spite of rain had a good day - robins and meadowlarks (my first this spring), horned larks, a field full of Canada geese, as well as some snow buntings and a snowy owl which haven't gone north yet....

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From Mrs. Joseph E. McNett, Webster, New York, April 7, 1968:

...I thought of you a week ago when I was out at daybreak observing an interesting early migration of birds. Often during spring migration here in New York State I go across from my home to the lake front and watch the stream of migrating birds that pass during a warm front. I usually go just at day-break and then spend about an hour there....

This particular morning was spectacular for me. As I stood watching the migrating birds, the dark waters of Lake Ontario attracted me as they changed in color during the early hours. Then as I watched they gradually became a little like the lovely colors of the beautiful Pacific in Hawaii. Some emeralds and deep blues were visible. To the north there were rain clouds and a southwest wind was blowing the migrating birds across the horizon. Then gradually a perfect rainbow appeared and arched the entire sky to the north. At first it was dim then as the sun's rays filtered through, it became brighter and was a complete arc that dipped into the dark waters of Lake Ontario. Farther out where the sunlight played, the water continued to show color. Some patches of emerald and deep purple became visible. The lovely rainbow continued in brilliance for over ten minutes. As I watched, hundreds of Canada Geese moved through the arc and their wild honking made it more spectacular. Other migrating birds were passing along the horizon. Hundreds of Robins, Blackbirds,

small birds such as Song Sparrows and other early migrants composed the flocks.

In Hawaii I have seen so many lovely rainbows, and my husband and I think of Hawaii when we see one. I thought of you as I watched this lovely sight and wanted to tell you about it....

Excerpts from minutes of general meeting, Hawaii Audubon Society, March 18, 1968:

...The presiding officer was Vice President Andrew Berger.

Richard Gauthery gave a report of the field trip of March 10, 1968. Of note was a sea gull (probably a Laughing Gull) at Sand Island. At Waipio there were a pair of Mallards, a Black-bellied Plover and another Gull. The leader had observed this Gull previously at length and has identified it as a Slaty-backed Gull. At Kahuku a flock of 30 Cattle Egret gave a good show to the group....

Jack Throp told us that he'd received his first "poi" puppies for the Zoo.

Ron Walker told us that there were 105 Nene at Pohakuloa.

We then had a very excellent program on New Zealand birds with a talk, colored slides and a recording of bird songs....

ALOHA to our new members:

George E. Vickery, 1593 Ulupii St., Kailua, Oahu 96734

William H. Vickery, 1593 Ulupii St., Kailua, Oahu 96734.

HAWAII'S BIRDS, new field guide now available for \$2.00. Send in your orders to:
Book Order Committee, Hawaii Audubon Society, P.O. Box 5032, Honolulu, Hawaii 96814.

JUNE ACTIVITIES:

June 9 - Field trip to Na Laau and Koko Head to see the finches and the fairy terns respectively. Bring lunch, water, and if possible your car. Transportation cost (50¢) to be paid to the drivers. Meet at the Library of Hawaii at 8:00 a.m.
Leader: LCDR J. Richard Gauthery, telephone: 432-7218.

June 10 - Board meeting at 3653 Tantalus Drive at 7:30 p.m.
Members are always welcome.

June 17 - General meeting at the Waikiki Aquarium Auditorium at 7:30 p.m.
Program for the night: Speaker - Beatrice Krauss
Topic - Axis Deer

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