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BIRDS ON MIDWAY AND KURE ATOLLS DURING THE WINTER OF 1979-1980

by Gilbert S. Grant and Ted N. Pettit

This paper presents bird observations made incidental to other studies on Midway Atoll in the Northwestern Hawaiian Islands during our stay from 6 November 1979 to 25 March 1980. Most of the observations were made on Sand Island. We visited Eastern Island on 15 and 28-29 November, 27 December, 3 and 25 February, and 12 and 14 March. In addition, we visited Green Island, Kure Atoll on 11 March. We also include our observations of Monk Seals (*Monachus schauinslandi*), a squirrel (*Sciurus* sp.), and Green Turtles (*Chelonia mydas*). Many of the unusual sightings were documented with photographs that have been deposited with the Hawaii Audubon Society Rare Bird Documentary Photo File (hereafter designated as HAS RBDPF). Salvaged specimens were deposited in the B.P. Bishop Museum except for the swan which was deposited in the U.S. National Museum. All waterfowl observations (except the swan) on Sand Island were made at the fresh water concrete holding tanks and small ponds immediately north of the main (east-west) runway.

Laysan Albatross (*Diomedea immutabilis*): The first egg of the season was laid on 16 November. On 18 March we found the first indication for the season of pox virus in two chicks on Sand Island. Several more chicks infected with pox were found between 18-25 March. Here we also saw an albino chick (the down was white and the feet, legs, and bill were pink). This chick retained albino coloration and fledged successfully (B. Davison, pers. commun.).

Black-footed Albatross (*Diomedea nigripes*): The first egg was laid on 8 November.

Laysan x Black-footed Albatross: Three hybrids were seen on Sand Island during the winter. Two were seen in areas where both

parental species nested while the third was seen in an area occupied only by Laysan Albatrosses. Hybrids were seen dancing only with Laysan Albatrosses. Hybrids did not nest in 1979-1980.

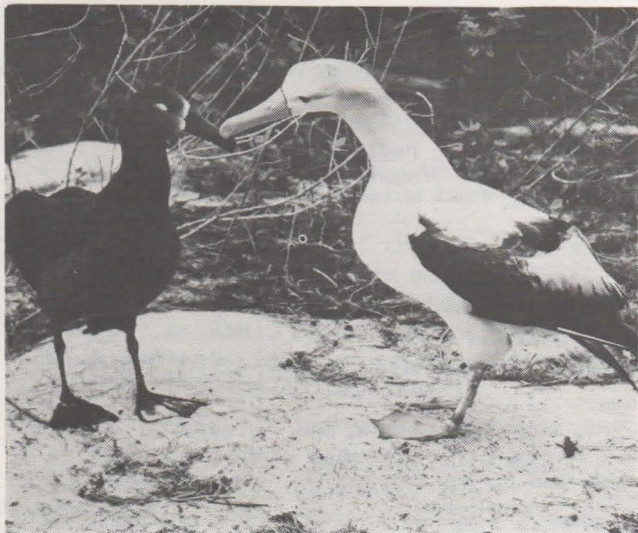


Laysan x Black-footed Hybrid Albatross.
Sand Island 12/26/79 Photo: Gilbert S. Grant

Short-tailed Albatross (*Diomedea albatrus*): We saw a single individual on 7 and 23 November, 26 December, and 20 January on Sand Island. We did not see nor receive reports of its presence after 20 January. On several occasions this bird was observed dancing with Black-footed Albatrosses but seemed to ignore Laysan Albatrosses. This individual was in adult plumage and had bands on both tarsi.

Wedge-tailed Shearwater (*Puffinus pacificus*): Two nearly-fledged young were still present on Sand Island on 15 November and an injured bird was there on 24 November. We saw no birds during the winter but made no extensive nocturnal searches for them.

Christmas Shearwater (*Puffinus nativitatis*): Gerald Ludwig (pers. commun.) saw one on Eastern Island on 13 March. During the period 15-22 March we made nocturnal searches



Short-tailed Albatross (on right) and Black-footed Albatross, Sand Island 12/26/79

Photo by Gilbert S. Grant

for Christmas Shearwaters in suitable habitat on Sand Island but did not find any.

Bonin Petrel (*Pterodroma hypoleuca*): We found these petrels digging nearly every night in November and December on Sand Island but the first egg was not laid until 13 January. The first chick hatched on 2 March. Thousands of Bonin Petrels were present during the winter but rarely nested successfully. Many colonies were totally destroyed by rats on Sand Island in 1980 (Grant *et al.*, MS).

Red-tailed Tropicbird (*Phaethon rubricauda*): We saw late-fledging chicks in November and early December on both Sand and Eastern Islands and saw very few adults in December and January. The number of tropicbirds increased in February and March and an egg was found on 14 March 1980 (C.S. Harrison, pers. commun.). The earliest egg found by Ludwig *et al.* (1979) was on 5 February 1979.

White-tailed Tropicbird (*Phaethon lepturus*): We found two adults under some vegetation adjacent to an abandoned building on 19 December on Sand Island. One bird was last seen at this site on 26 December. A photograph was deposited with HAS RBDPF. Fisher (1965) recorded this species on 3 occasions and Bailey (1956) found a nest on Midway.

Great Frigatebird (*Fregata minor*): Unfledged juveniles in emaciated condition were present on Eastern Island on 28 November. First eggs (3) were found on 14 March. This species does not nest on Sand Island.

Masked Booby (*Sula dactylatra*): One pair with two eggs was seen on Eastern Island on 28 November. Eggs were still present in this nest on 27 December and one large chick accompanied by adults was at this nest on 25 Febru-



White-tailed tropicbirds, Sand Island 12/26/79

Photo by Gilbert S. Grant

ary and on 12 March. This species does not nest on Sand Island.

Brown Booby (*Sula leucogaster*): Two were seen between Eastern and Sand Islands on 27 December and one was seen over Sand Island on 8 March. This species is not known to nest on Midway Atoll at present, but was common in 1941 (Fisher and Baldwin 1946).

Red-footed Booby (*Sula sula*): Many were on empty nests on Eastern Island on 25 February and most nests contained eggs on 14 March. This species does not nest on Sand Island.

Whistling Swan (*Cygnus columbianus*): Grant saw an immature on Sand Island on 7 November. It was not seen alive after 7 November but its skeleton was found on 22 December (Clapp and Grant, MS). This is the first record for Hawaii and the central Pacific Ocean.

Mallard (*Anas platyrhynchos*): One emaciated female was seen on Sand Island on 7 December. Fisher (1965) found one on Sand Island on 3 December 1963.

Pintail (*Anas acuta*): One male was seen on 11 and 21 February and 3 males and 3 females were seen on 13 March, all on Sand Island. Photographs were deposited with HAS

RBDPF. Fisher (1965) recorded two groups of more than 30 birds on Midway.

Gadwall (*Anas strepera*): Three were seen on 28 November, three were seen on 11 December, and one was seen on 11 and 21 February and two females were present on 13 March on Sand Island. Photographs were deposited with HAS RBDPF. One was collected by Fisher (1965) on 3 December 1963.

Wigeon sp. (*Anas* sp.): Two females were seen on 11 and 21 February on Sand Island. Both species have been found on Midway (Berger 1972).

Green-winged Teal (*Anas crecca crecca*): One male of this primarily Asiatic subspecies was seen on 21 February on Sand Island. Lack of white vertical chest bar and presence of a whitish horizontal bar over the wings identified this subspecies. This subspecies has been seen on Oahu (Berger 1972).

Green-winged Teal (*Anas crecca carolinensis*): Two males and a female (female not identified to subspecies) were seen on 21 February and two males were present on 13 March on Sand Island. Fisher (1965) found small groups on Sand Island.

(*Aythya* sp.): One female or eclipsed-plumage male was sighted on 22, 25, 26, 27, and 28 November and on 10 December on Sand Island. Photographs were deposited with HAS RBDPF. Species identification is questionable. Discussions and examination of photographs suggest it was either a Canvasback or Pochard.



Aythya sp., Sand Island 11/28/79

Photo by Gilbert S. Grant

Lesser Scaup (*Aythya affinis*): This species was present all winter on Sand Island, from 22 November to 13 March with the peak count being six live and one dead on 28 November. Wings of two specimens (found dead) collected on 15 December (BBM-X 157344) and 2 February (BBM-X 157346) were deposited in the B.P. Bishop Museum.

Bufflehead (*Bucephala albeola*): Up to two (both in female plumage) were present all winter on Sand Island, from 28 November to 13 March. Photograph was deposited with HAS RBDPF.



Buffleheads, Sand Island 11/28/79

Photo by Gilbert S. Grant

Peregrine Falcon (*Falco peregrinus*): One was seen well on 16 January on Sand Island. Black facial mustache, dark crown, barred tail, large size, and falcon flight pattern was studied at close range (less than 100 feet). An unidentified large falcon, probably this same individual, was seen in the same area in poor light on 5 and 14 February. There is one previous sight record for Midway (Clapp and Woodward 1968).

Cattle Egret (*Bubulcus ibis*): One was seen sporadically all winter on Sand Island. First sighted on 14 November and last seen on 14 March. Photographs were deposited with HAS RBDPF.



Cattle Egret, Sand Island 5/31/79

Photo by Jennifer Richardson

Glaucous-winged Gull (*Larus glaucescens*): One first-winter gull of this species was present on Sand Island from 1 February to 16 March. One in similar plumage was seen on Spit Island (between Sand and Eastern Islands) on 14 March. One in first-winter plumage was seen on Green Island, Kure Atoll on 11 March. All black bill, dark legs and light or translucent primary tips were seen well. Photographs were deposited with HAS RBDPF. This species has previously been recorded on both Midway and Kure (Clapp and Woodward 1968; Woodward 1972).

Gull (*Larus sp.*): One large gull, in first-winter plumage with all black bill and dark legs and primaries was seen and photographed on Green Island, Kure Atoll on 11 March. A gull with the same field marks was seen on Sand Island, Midway Atoll on 13 March.

Sooty Tern (*Sterna fuscata*): The earliest arrivals were seen on 25 February over Midway Atoll. Eggs were not present on 14 March but were present by 20 April (C. S. Harrison, pers. commun.). Not known to nest on Sand Island but does breed on Eastern Island.

Gray-backed Tern (*Sterna lunata*): The earliest arrivals were seen on 12 March over Midway Atoll. Not known to nest on Sand Island but a small nesting colony probably exists on Eastern Island (C. Harrison, pers. commun.). Eggs were not present on 14 March.

Brown Noddy (*Anous stolidus*): The earliest arrivals were seen on 14 March over Midway Atoll. Small nesting colonies occur on both Eastern and Sand Islands. Many Sand Island birds nest as high as 10 m from the ground in *Casuarina* trees (C. Harrison, pers. commun.). Eggs were not present on 14 March.

Black Noddy (*Anous tenuirostris*): Nesting birds were present all winter on Sand Island. This species was not found nesting on Eastern Island.

White Tern (*Gygis alba*): Present throughout the winter but late November and December storms killed many. Scores of emaciated adults and fledged juveniles

were found dead or dying on the ground after these storms. Eggs were not found in November or early December. Only a few eggs were present in late December and January as compared to hundreds seen in March on Sand Island. Two eggs were present on Eastern Island on 20 April (C. Harrison, pers. commun.).

Golden Plover (*Pluvialis dominica*): Present on Eastern and Sand Islands all winter, from 7 November to 25 March. Peak population was probably a few thousand. This species foraged almost exclusively on the larvae of a large scarab beetle.

Bristle-thighed Curlew (*Numenius tahitiensis*): Up to ten were seen on Eastern and Sand Islands all winter, from 7 November to 25 March.

Bar-tailed Godwit (*Limosa lapponica*): One was present on Sand Island from 9-17 November and one was seen on Green Island, Kure Atoll on 11 March. Woodward (1972) saw two and collected one on Kure in May 1966 and Fisher (1960) obtained a specimen on Midway.

Wandering Tattler (*Heteroscelus incanum*): Up to six were seen on beaches on Sand and Eastern Islands from 15 November to 22 March.

Ruddy Turnstone (*Arenaria interpres*): Several hundred to a thousand were seen on Eastern and Sand Islands all winter, from 7 November to 25 March.

Sharp-tailed Sandpiper (*Calidris acuminata*): Up to six were seen on Sand Island from 11 November to 21 December. This species was recorded by Fisher (1965) and Clapp and Woodward (1968).

Sanderling (*Calidris alba*): Up to three were seen on beaches of Sand Island from 9 November to 27 December. One was seen on Green Island, Kure Atoll on 11 March.

Parakeet Auklet (*Cyclorhynchus psittacula*): Three were found dead on Sand Island: on 5 February by H. Rahn (study skin BBM-X 157348); on 6 February by Grant (skeleton BBM-X 157349); on 15 February by Pettit (skeleton BBM-X 157350). And one was found dead on Green Island, Kure Atoll on 11 March by Grant (skeleton BBM-X 157351). This suggests a major "wreck" may have occurred in the Northwestern Hawaiian Islands during the 1979-1980 winter. There seem to be no previous records for Kure (Woodward 1972) but two specimens were found on Eastern Island by Klemm (Fisher 1965).

Rock Dove (*Columba livia*): Midway Atoll's introduced population has declined to one or perhaps two individuals. We have seen only one individual on occasion through-



Glaucous-winged gulls in flight -
Sand Island 2/1/80 Photo: Gilbert S. Grant

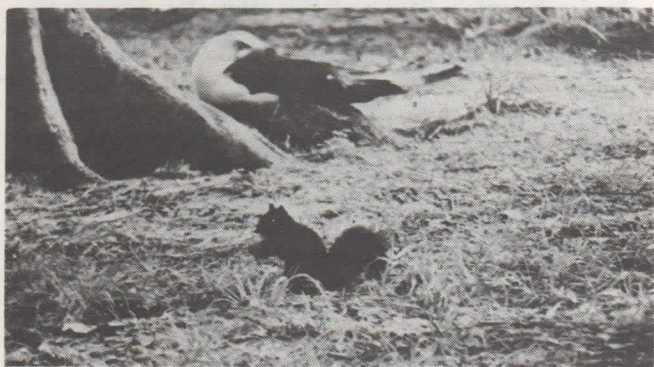
out the winter but a sailor reported seeing as many as two birds on Sand Island. Not seen on Eastern Island.

Short-eared Owl (*Asio flammeus*): At least four were seen near the red and white water storage tanks along the runway on Sand Island on 11 February. None were seen in this area on 13 March. One was seen on Green Island, Kure Atoll on 11 March. Subspecies unknown. Fisher (1965) and Clapp and Woodward (1968) recorded this species on both Kure and Midway.

Common Myna (*Acridotheres tristis*): Widely distributed over much of Sand Island but not seen on Eastern Island yet. Island population probably 500 or more. We observed mynas harassing incubating White Terns but did not see them preying on tern eggs or chicks.

Canary (*Serinus canaria*): Widely distributed on Sand Island but was not seen on Eastern Island. Island population was probably 200-400. As many as 56 were counted in one flock near the galley on 11 November. No evidence of nesting was seen during November-March.

Squirrel (*Sciurus sp.*): A single black squirrel of unknown origin was observed on 19 December on Sand Island in the area around Cannon School climbing among *Casuarina* trees and generally ignoring nesting Black Noddies. A photograph of this squirrel eating a tropical almond (*Terminalia catappa*) was deposited with HAS RBDPF.



Squirrel, Sand Island 12/79

Photo by Gilbert S. Grant

Monk Seal (*Monachus schauinslandi*): Individuals were seen hauled out on Sand, Spit, and Eastern Islands periodically throughout the winter. Most were seen on Spit and Eastern Islands. The peak number observed on Midway Atoll was three on 27 December.

Green Turtle (*Chelonia mydas*): Two were observed and photographed feeding on Portuguese

Man-of-Wars (*Physalia sp.*) near the fuel pier on Sand Island on 24 December. This foraging behavior followed two days of strong winds in which many *Physalia* were blown against the sea wall. Approximately fifty *Physalia* were eaten in a one hour period. Two turtles were seen in this area on 13 March.

ACKNOWLEDGMENTS

Our stay on Midway Atoll was supported by National Science Foundation grant # PCM 76-123531 administered by G. C. Whittow. We are grateful to CDR Kuhneman, Commanding Officer, for assistance during our stay at the United States Naval Air Facility, Midway Atoll. Special thanks are due LTjg J. Bockman, ENS J. Immel, and the base game warden staff for invaluable aid and transportation to Eastern Island. Roger Clapp, Craig Harrison, and Rob Shallenberger offered valuable suggestions on this manuscript.

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BLACK-CROWNED NIGHT HERON PREDATION ON BLACK-NECKED STILT

by Suzie Andrews

It is not uncommon for Black-crowned Night Heron (*Nycticorax nycticorax*) to prey on young birds. Welford and Boag (1971) note that young egrets, ibises, ducks, and terns frequently are taken by night herons. Shallenberger (In Berger, 1972:7) reports Sooty Tern chick remains in the regurgitated pellets found beneath a night heron rookery.

During the morning hours of 8 May 1980 at the Kii Unit of the James Campbell National Wildlife Refuge in Kahuku, Hawaii I watched night herons and Black-necked Stilt (*Himantopus mexicanus knudseni*) foraging on the small mud islands at the northeast sector of the main refuge pond. These observations were made with binoculars from a distance of 30 meters. At about 8:55 a.m. I noticed a rapid movement on the part of one adult night heron. With a quick stabbing motion it seized a small (approximately one week old) stilt chick by the body and proceeded to swallow it. From my location I was able to observe the entire attack and could clearly discern the legs of the struggling chick extending from the mouth of the night heron. Approximately two minutes passed before the heron completely swallowed the chick. The heron then remained at the site for another 10 minutes before flying off to the northwest. Of additional interest was

the fact that adult stilts in the immediate (2m) vicinity of the whole affair made no attempt to thwart the night heron attack, nor did they create any commotion following the event.

To my knowledge this observation documents the first evidence of night heron predation on stilt in Hawaii. Since Black-necked Stilt are listed as endangered in Hawaii this sighting is of some importance in attempting to better assess and broaden our knowledge of the impact predators may pose to an endangered species. It also raises some management questions (i.e. native predator control) which should now be considered.



Immature Black-Crowned Night Heron at Nakagaura Pond, Hawaii, 9/77.

Photo by Greg Vaughn



Hawaiian
Stilt
chick.

Photo by
R. Shallen-
berger

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"I TOLD YOU SO"

A recent article in the 'Elepaio by Byrd and Telfer ('Elepaio 41:35-36) has shown that the Barn Owl, introduced to control rats, can have an effect on native birds. Dr. Degener, in the letter below, reiterates his 1929 advice against the owl's introduction. Probably the most logical conclusion is that virtually all introductions, no matter how well intended, have the seeds of degradation of our native wildlife in them.

--CJR

THE FLYING MONGOOSE

Dr. Otto Degener

"Editor, The Advertiser:

"Years ago in our wisdom or lack of it we introduced the East Indian mongoose to help kill out the introduced rats that were becoming pests in our canefields and elsewhere. The mongoose proved so efficient that many rats took to our trees to escape this weasel-like mammal. As a result the hungry mongoose, a nonclimber, supplemented its diet with insects and ground-nesting birds. The rat, urged into the trees, supplemented its diet with eggs and fledglings of any tree-nesting birds it happened to come across. Today the consensus of biologist and layman alike is regret that the mongoose had ever been introduced to Hawaii Nei.

"In this morning's newspaper Bob Krauss' column mentions that 'A shipment of barn owls arrived in Honolulu yesterday from San Diego. They're being released in Waipio Valley on the Big Island for rodent control.'

"When tenderloin steak soars in price beyond the writer's means he does not gracefully lie down and starve to death. He simply hunts for a substitute, even if less palatable, such as chuck or stew meat. Similarly, after the barn owls have reduced the rats on the Island of Hawaii, they will search for a substitute rather than starve. They will follow in the footsteps of the mongoose and writer. As plants are indigestible to them and most insects too small, they can survive only by feeding on bullfrogs in Waipio; Nene goslings; pheasants, chuckar and quail chicks; young poultry; and other native and introduced birds. I know of no record of barn owls fishing.

"Senseless hullabaloo by legislators is registered in the newspaper against the intro-

duction of freshwater piranha to the Honolulu Aquarium. Yet I fail to note any justifiable protest by a legislator against the introduction of the distinctly dangerous barn owl--practically a mongoose with wings--to the Island of Hawaii.

In the writer's opinion, the barn owls should be destroyed or donated to the Honolulu Zoo, anything but liberated!

Dr. Otto Degener
Naturalist, Haw. Nat. Park

In The Honolulu Star-Bulletin for Oct. 29, 1970, under the heading 'MONGOOSE WITH WINGS,' I repeated my 1958 warning. Moreover, I added that 'In 1927, toward dusk, I frequently saw one or two apeepea (endemic bats) not far from the church at Waiohinu, Kau. They seem not to be there now.' I added that I have seen the barn owl in Kau and my belief that 'The decline of the native bat (an endangered species) and the increase of the introduced barn owl are hardly coincidental.

PUBLICATIONS OF THE SOCIETY

HAWAII'S BIRDS by the Society (1978). This is the best field guide to our birds, and includes colored illustrations of all native and well-established exotic species. \$3.25 plus postage: 48¢ (surface mail) or 67¢ (air). Hawaii residents only: add 13¢ for tax.

FIELD CHECKLIST OF BIRDS OF HAWAII by R. L. Pyle (1976). A pocket-size field card listing 125 species found in Hawaii with space for notes of field trips. (Postpaid) \$.25
(ten or more, 10¢ per copy)

GUIDE TO HAWAIIAN BIRDING by members of the Society and edited by C.J. Ralph (1977). Where to go and some idea of what you are likely to see. For the islands of Kauai, Oahu, Lanai, Molokai, Maui and Hawaii (Postpaid) \$ 1.00

PRELIMINARY LIST OF THE BIRDS OF HAWAII by R. L. Pyle (1977). An authoritative compilation of all species naturally occurring in Hawaii as well as those introduced by man which are currently established as viable populations. Gives each species' status. (Postpaid) \$1.00

THE LIGHTER SIDE OF HAWK RESEARCH

by Peter W. C. Paton

Picture a large bird silently cruising above a section of 'o'hia forest on the Big Island. It is a crystal clear day with the gentle slopes of Mauna Loa rising in the background. The bird's flight is steady, powerful, and with rather rapid wing beats. Its head occasionally turns from side to side, an indication that its eyes are intently scanning the forest below for any unwary prey. The figure comes to a column of rising air and the flapping ceases. The wings are now held ridged, fully extended, and with seemingly little effort the bird slowly circles in the thermal. Only its tail appears to be shifting, acting as a rudder to keep the bird ascending in a spiral motion. The bird continues soaring for several minutes until it gives the impression of touching the clouds. Then it gracefully tucks in its wings and dives like a bullet into the distance to become just a minute black speck.

That is the image most people probably have who have been fortunate enough to have experienced the majestic beauty of the 'Io or Hawaiian Hawk. Relatively little was known about the hawk before Curt Griffin and I began a study on their life history and breeding biology in April of 1980. The 'Io is a medium-sized buteo endemic to the island of Hawaii. Since the 'Io is endangered, much needs to be learned about the hawk to better understand the problems confronting it. We are collecting information on its breeding biology by intensive observation from blinds and the use of time-lapse cameras at their nests. Radio telemetry is being used to follow their movements during the breeding and non-breeding seasons.

This past breeding season we were interested in finding as many nests as possible, which meant hacking our way through thick vegetation in hopes of coming across the elusive goal of a new nest site. Much of the ground we explored was full of hidden cracks, dense webs of uluhe fern, clouds of mosquitoes, and massive columns of the entangling 'ie'ie plant. The work was tedious at times; sitting in an area for hours waiting to catch sight of a passing hawk. One area that we investigated was by the ocean near Kapoho. We were told that a pair of hawks frequented the area, so we decided to stake ourselves out one-quarter mile apart along the

coast. I sat on the end of a small rocky peninsula overlooking the forest, while Curt placed himself on top of a small hill with a good view of the inland forest and a secluded black sandy beach. It was a cloudless day, the heat was intense. I sat sweating in the heat, staring into the blinding sun, and hoping for a glimpse of a hawk dropping to its nest in the forest. After three long hours without seeing any noteworthy activity, I motioned to Curt I thought it time to leave. Surprisingly, Curt was somewhat hesitant to depart. As I later found out, while I was diligently watching for hawks (scrambling my brains in the noonday sun), Curt was sitting coolly under the shade of a Pandanus tree admiring three young goddesses who were sun-bathing *au natural* on the beach below him. I'm sure his binoculars spent at least some time scanning the beach rather than the forest. Needless to say, no nest was found that day. Now I know why he is getting the Ph.D. and I am just the field assistant!

To get meaningful data on the types and quantity of food being fed to the chick, we had to spend a great deal of time in blinds watching nesting behavior. We spent many agonizing hours cooped in those barbaric three foot square cubicles watching hawk chicks sleep. On some days, the chick sometimes is not visited by its parents once in a six hour period. It is hard to imagine how boring the life of a juvenile hawk must be. I know the life of a hawk researcher seems to last an eternity at times. The work has taught me a great deal about patience.

Though many of the hours spent watching nests are monotonous, the work definitely has its high points. It is amazing to watch a chick progress from a white puff ball of downy feathers with a large protruding beak into an adult-sized bird capable of sustained flight. Curt and I carried out observations from a blind at three nests this year, and each seemed to have its own individual character. At one nest on the Pu'u O'o Ranch, the chick was a bit of a klutz. When we found the nest, the chick was standing on the ground soaking wet. She had only partially grown flight feathers and was not yet able to fly. She apparently had fallen out of the nest recently, so we hammered wooden steps up the trunk of the tree and returned her to her nest.



Oahu birders will have no difficulties spotting this 'Io at the Honolulu Zoo.

*Photo by
Greg Vaughn*

Two weeks later she was able to fly from branch to branch in the nest tree, but mainly just walked around on the larger limbs. One day her father flew in with a mouse and landed ten feet below her. She became very excited, started begging frantically, and tried to glide down to the male. She flew like a brick. The young hawk had yet to master the fine art of landing and glided all the way to the ground.

So now a real dilemma confronted her. She was only able to fly two feet into the air, yet the first branch in the tree was nine feet up. Dad was still perched by the nest clutching her lunch, twenty feet above her. She began to call loudly and unsuccessfully tried three times to fly up to the first branch. She wasn't even close! Then, just as a chimpanzee stacks up a pile of boxes to get to some bananas, the chick came up with a solution. She started climbing up the wooden steps we had placed on the tree, hopping from one step to the next to get to her patiently waiting father. She was justly rewarded for her valiant effort with the juicy mouse. This ingenious chick is now twenty-six weeks old, a strong flyer, and is starting to hunt her own prey.

Another nest we studied was located in a subdivision near the town of Kalapana. It was in an area of scattered 'o'hia trees with a very dense understory. We had placed a blind sixty feet up an 'o'hia tree with a good view of the nest and the surrounding forest. One day while Curt was doing a nest observation, two women started to hike into the

forest near the blind. They got separated from each other and one of the women became disoriented. She started calling for her friend, but it was in vain as they were too far apart to hear each other. Curt had been absolutely silent up to that point, but being a nice guy he yelled out, "Excuse me, but I'm a biologist up in a tree, can I help you?" I wonder if she thought she had met her maker, as she had no idea where or who Curt was. The blind was camouflaged so was not obvious at all. After much effort Curt managed to talk the poor lost soul out of the forest to safety from his lofty perch, but she never did figure out where Curt was talking from. She has not been seen in the forest since that episode. I wonder if she was a pakalolo grower and is now paranoid about people stationed up in trees watching her every move.

At the same nest I watched a revengeful Japanese White-eye. On this occasion the juvenile hawk was almost adult-sized, large enough to swallow white-eyes whole that were brought in by the adults. It was a warm, sunny day and the chick was sound asleep on the nest. All of a sudden, a flock of white-eyes flew into the area. One of them accidentally plunged headlong into the slumbering chick, bounded off, and flew on with the rest of the flock. The young hawk jumped up, started calling wildly and looking around in every direction, but by that time the flock of white-eyes was long gone. Serves the chick right for gorging itself on the kamikaze's relatives.

Finally, about a week later at the same nest, the juvenile's father flew in with an Apapane and handed it over to the chick. Dad remained on the nest for a short time then flew off. Mom was perched about sixty feet away intently watching the progress of her developing nestling. Unwittedly, the chick loosened its grip on its colorful meal. The Apapane promptly flew off much to the dismay of the youngster and mom. Apparently dad had delivered this meal alive and kicking, an unusual occurrence. Mom took off after the mobile lunch, but it was too late. Junior had blown it! Mom came back to perch near the nest and disgustedly called to her mate to bring some more food. I guess it goes to show that biological research can come up with more than just numbers on graphs.

I would like to thank Curt and Bridget Griffin for their help with this paper and for the great meals they always give me when I'm down in Kalapana.

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JANUARY FIELD TRIP TO KI'I PONDS

The day was beautiful and clear at the start of the January 11, 1981 field trip to the James Campbell National Wildlife Refuge at Ki'i Ponds, Kahuku. After meeting at the Lowe Aquafarm shrimp ponds, we drove to the entrance of the Refuge and, at 8:30 a.m., 21 HAS members and guests proceeded into the Refuge. On and around the ponds (including the Cattle Egret rookery) we observed 80 Cattle Egret, 75 Hawaiian Coot, 75 Pintail, 50 Shoveler, 30+ Hawaiian Stilt, 17 Black-crowned Night Heron, 5 Hawaiian Duck (*Kōloa*), 8 Golden Plover, 4 Ruddy Turnstone, 4 Gallinule, 1 Sanderling, 2 Wandering Tattler, 2 Red-crested Cardinal, and assorted numbers of Spotted Dove, Barred Dove, white-eye, and Northern Cardinal. We also observed rain clouds approaching. We waited out the first few minutes of the rain showers, but when they showed no sign of stopping we left at 9:45 a.m. for Kuilima Pond. There we observed a flock of 12 Red-eared Waxbills feeding in the tall grass and koa haole to the right of the entrance to the Pond, along with 10 Spotted Munia, 15 white-eye, and 1 Red-crested Cardinal, and heard 2 Japanese Bush Warblers (one of the Warblers was in the vegetation on the left side of the road leading from the highway to the entrance of the pond). On the pond we observed 25 Hawaiian Coot, 8 Hawaiian Stilt, 2 Shoveler, 1 Black-crowned Night Heron, and 10 ducks (unknown) which departed at our arrival. We next drove to the Kunihiro Lotus Fields, Haleiwa. The fields had been harvested and the ponds were mostly filled with duckweed, making it easier to observe 12+ Gallinule, 1 Hawaiian Stilt, and Golden Plover. The last stop made by 7 of our group was to the Amara Road Ponds, located to the rear of the Haleiwa Shopping Center parking lot. Walking past a cucumber field to an opening in the vegetation, we observed 4 Gallinule, 11 Ruddy Turnstone, 10 Golden Plover, 1 Sanderling, and 1 Wandering Tattler. Here, also, the lotus ponds had been harvested and were filled with duckweed. This ended our field trip at 12:10 p.m. Some members of the group planned to stop at Sand Island on the trip back to Honolulu to observe the solitary (and soon to be deceased) European Starling sighted during the Christmas Count.

Kathryn A. Harrington

FIELD TRIP TO WAIPIO PENINSULA

The Waipio Peninsula juts into Pearl Harbor near the town of Waipahu. The land is owned by the U.S. Navy which leases it to the Oahu Sugar Company for sugar cane growing. In dry weather Waipio is very hot and dusty; in rainy weather it is a quagmire. Waipio may not attract many tourists but it does attract lots of birds. Several large settling basins collect agricultural waste water and provide some of the best shorebird and waterbird habitat in Hawaii.

On October 12, 1980, 18 people squeezed into four cars for a look at Waipio's bird-life. The weather was partly cloudy with gusty tradewinds and light showers. These conditions were nearly ideal since the showers kept the dust down without creating mud and the temperatures remained moderate.

Conditions for birds were also good with plenty of exposed mudflats on the settling basins. Between 07:45 and 11:45 we spotted 35 species of birds. There were 10 species of migrant shorebirds including a Ruff (male) and 2 Reeves (female Ruffs), 6 Black-bellied Plovers, 2 dowitchers, and Sharp-tailed, Pectoral, and Western Sandpipers. Four native Hawaiian species were seen: Hawaiian Duck (*Kōloa*), Hawaiian Stilts, Hawaiian Coots and Black-crowned Night Heron. Other notable sightings were 2 Skylarks, numerous Spotted, Red and Black-headed Munias, and Hawaii's lone White-faced Ibis.

Peter V. Donaldson

NOTE TO CONTRIBUTORS TO THE 'ELEPAIO

All contributions concerning natural history and conservation are welcomed, especially those pertaining to the Pacific area. The Editorial Committee wishes to encourage material from the Pacific Islands, such as the Trust Territory, Guam, American Samoa, and other areas. Articles on all natural history subjects are solicited.

It would facilitate the processing and review of your contribution if it could be submitted typewritten and double spaced, although this is not a requirement. All articles of a scientific nature are sent out for comments to at least two reviewers familiar with the subject.

To insure proper handling and rapid publishing of your contribution, it should be mailed to the Editor: C.J. Ralph, 3467 Alani Drive, Honolulu, HI 96822.

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REPRINTS OF ARTICLES

Reprints of articles in the 'Elepaio are available to authors and others at the following rate: for 100 copies, \$10 per page of the article. For each additional 100 copies, add \$3.00 per page.

ALOHA TO NEW MEMBERS

The Society welcomes the following new members and hopes that they will join in our activities to further the protection of Hawaii's native wildlife:

Joint with National: Mr. and Mrs.

Charles W. Adcock, Honolulu; Mrs. Patrick Beall, Wahiawa; Dr. Charles Birkeland, Guam; Alvin Char, Honolulu; Mrs. J.M. Crandall, Kaneohe; Mrs. Sarah Dunn, Aiea; Jean & Don Evans, Pearl City; Karen R. Futa, Honolulu; Karen Glennon, Honolulu; Mr. and Mrs. Art Gray, Kihei; Mr. Garth Hansen, Lihue; Joe W. Harris, Kihei; Brian W. Howe, Fort Shafter; E. R. Hunter, Mililani; Robert D. Irvine, M.D., Hilo; Phil & Betty Jacob, Kailua; Kona Conservation Group, Kailua Kona; Rex Konno, Honolulu; Bud Livingston, Kailua; Jeff Meister, Honolulu; Marie Moria, Honolulu; Platt Family, Kailua-Kona; David L. Potter, Honolulu; Betty Schellenberger, Kaneohe; Steven V. Soderholm, Kailua; T. Sugai, Wahiawa; Leighton R. Taylor, Honolulu; Kelly Milnes Tomas, Haleiwa; Mary Walsh, Makawao; F. White, Honolulu; Ms. Leslie Williams, Kealahou.

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Haleiwa; Patricia Johnson, Honolulu; Robert Chinn, Kapaa; Patricia Taylor, Volcano; David P. McCauley, Honolulu; Craig Harrison, Kaneohe.

Life: Edward K.K. Kaohelauii, Honolulu.Subscriber: Philip Gaddis, Piedmont CA;

G. Vernon Byrd, Colville WA.

IF NOT A MEMBER, PLEASE JOIN US

JOINT MEMBERSHIP

(National and Hawaii Audubon Societies)

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| Individual. | \$ 20.00 |
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Special rates for full time students and Senior Citizens (65 years of age or older) are available. Please write for application form.

LOCAL MEMBERSHIP

(Hawaii Audubon Society Only)

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| Regular. | \$ 6.00 |
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| Life | 150.00 |
| (payable in three equal annual installments) | |

HAWAI'I AUDUBON SOCIETY STOPS BULLDOZING IN KAUA'I FOREST

By Wayne C. Gagné
1st Vice President
Hawai'i Audubon Society

During the weekend of January 31-February 1, 1981, Dr Dan Palmer, several Kaua'i residents and myself viewed an area of recently bulldozed native forest on Lapa Ridge of Pu'u Ka Pele Forest Reserve, Kaua'i. At least 200 hundred acres of primarily native koa forest had been bulldozed into piles. A number of these plies had been burned. No attempt appeared to have been made to salvage the timber beforehand. The bulldozer was also equipped with a ripper to remove stumps and roots. The machine had progressed directly up and down the slope of the hilly terrain with no apparent cognizance of erosion potential. None of the closely adjacent eucalyptus and silky oak plantations had been touched. A few straight-trunked koa, ohia and sandalwoods had been spared on the site.

'Apapane and 'elepaio were observed in the adjacent still-forested gulches. A recently killed 'Apapane, presumably by some feral mammal, was seen and photographed in the bulldozed area.

A brief survey of the adjacent native forest revealed, in addition to the previously mentioned plant species, alani (*Pelea*), ala'a (*Planchonella*), naupaka kuahiwi (*Scaevola*), maile (*Alyxia*), uki uki (*Dianella*), kopiko (*Psychotria*), manono (*Gouldia*), 'olopua (*Osmanthus*), pukiaue (*Styphelia*), a'ali'i (*Dodonea*), uki (*Machaerina*), uluhe (*Dicranopteris*) and others. Most of these species surely occurred in the area now bulldozed.

A visit to the Office of Environmental Quality (OEQ) on February 2 revealed that neither the legally required Conservation District Use Application (CDUA) nor an Environmental Assessment (EIA) were on file there for Pu'u Ka Pele Forest Reserve. The Division of Forestry did not respond satisfactorily to calls by OEQ personnel and others on Monday morning, so I filed official complaints with the Ombudsman's Office and the State office responsible for reviewing CDUA permit applications. Later that day Forestry admitted to bulldozing 100 acres. Others also filed complaints with the Ombudsman and the CDUA office. Various explanations were given by the Division of Forestry, viz: reforestation, replanting, weed control, erosion control and even fire suppression (in conjunction with an alleged 80 acre fire that burned part of the area on Nov. 11, 1981). We saw a small area

of unbulldozed, burned koa forest. One of the debris piles was still smouldering on January 31, but none of the unburned piles, nor the few standing koa, ohia and a single scattered through much of the area were fire-blackened.

On February 4, the State Forester, Mr. Libert Landgraf, said that the area bulldozed had been part of an unthrifty, diseased koa and silky oak plantation. He also mentioned that the area had been abused by past grazing activities, and was weed infested. No plant or wildlife surveys have been made to our knowledge to check his claims. Mr. Landgraf also maintained that this operation was part of an on-going tree planting program that he considered exempt from Environmental Impact Assessment preparation laws and regulations. He said he was seeking a legal opinion from the Attorney General's Office to back his contentions. However, he assured us that the bulldozing of this and other tree planting "working circles" on Kaua'i had been halted pending the AG's opinion. On February 10 he filed a report on the Lapa Ridge reforestation complaint with the Office of the Ombudsman, which we have now received and are reviewing.

The Hawai'i Audubon Society believes that this bulldozing was done in violation of State EIS laws, rules and regulations. Such "reforestation" activities are not exempt. So, we have sought and hired legal counsel to contest these actions. He is lawyer Ken Kupchak of the Honolulu-based firm of Damon, Key, Char and Bocken. He is very familiar with Hawaii's EIS laws and is confident that "grandfathering" of the State's tree planting program is not legally permitted. We have documents from several sources to help back our contentions. The Division of Forestry itself files an EIS preparation notice on their State-wide tree-planting program in the EQC Bulletin on May 23, 1978, but have not managed to complete it yet.

The HAS and the Hawaiian Botanical Society are ready to commit substantial financial resources to proceed with legal remedy, if necessary, to secure an EIS for the tree-planting program, State-wide. We will also ask for a cost/benefit analysis of this supposedly wonderful program. This project will, if unchecked, ultimately result in the destruction in the next 30 years of approx-



Recent photos of the Lapa Ridge Area of Pu'u Ka Pele Forest Reserve, Kaua'i February 1, 1981 showing bulldozing of mesic koa forest between 2400' and 3000' elevation. This State Forest had been cleared in violation of Environmental Impact Laws and without any apparent regard to timber salvage erosion control or native plant and habitat conservation. Native trees have been pushed into piles and burned. A solitary, standing sandalwood tree and a still-smouldering debris pile were left as mute testimony to the recent destruction. *Photos by W. Gagne and D. Palmer.*

imately 110,000 acres of native forest types and replacement by exotic tree plantations largely devoid of native biota.

In Mr. Landgraf's February 10 response to the Office of the Ombudsman, he states that we and others "acted in an alarmist fashion and hastily put together an inaccurate, slanted presentation that was biased against a program that has for many years continuously enjoyed the support of Hawaii's populace." The State Forester is certainly entitled to his interesting opinion. However, we think that we had just

cause for alarm. We will continue to proceed in a measured, legally responsible manner to try to remedy this intolerable situation. We ask that foresters turn their attentions to the growing of certain exotic trees in extensive, abandoned lowland agricultural areas, if economically feasible. Further, we ask that they reconsider native forests in the light of their importance as watershed and conservation areas.

LATE NEWS FLASHES! LATE NEWS FLASHES!

PALILA VICTORIOUS IN NINTH CIRCUIT COURT OF APPEALS. SHEEP & GOATS IN ITS CRITICAL HABITAT ON MAUNA KEA MUST GO.

REGAN PLACES ENDANGERED STATUS FOR OAHU TREE SNAILS (*ACHATINELLA* SPP.) ON 60-DAY HOLD PENDING REVIEW OF CATER ADMINISTRATION'S "RULE-MAKING"

HAS JOINS GREENPEACE & SIERRA CLUB, HAWAII CHAPTER IN ASKING US NAVY FOR ENVIRONMENTAL ASSESSMENT OF PROPOSED BOMBING OF KAULA ISLET MARINE BIRD SANCTUARY.

More on these and other late-breaking news stories (hopefully) in April 'Elepaio

HAWAII PARK GUIDE AVAILABLE

Copies of a new State Parks brochure, "Guide to Hawaii's State Parks," are now available.

The guide is an attempt to make residents and visitors aware of the numerous and varied outdoor recreation and heritage opportunities made available through our State Park system. It provides park visitors with basic information for a safe and enjoyable outing. This brochure is being distributed free of charge to the public, one per party or family.

To obtain a copy of the brochure, write:

Division of State Parks
1151 Punchbowl Street
Honolulu HI 96813

HELP WANTED - VOLUNTEERS

We need volunteers to help with a number of activities essential to the Society's programs. If you can give even a little time to any of the following interesting tasks, please call the contact indicated.

Periodical Exchange

Receive (from the Society's mail box attendant) all periodicals received by HAS, most of them exchanges for 'Elepaio. Scan them, and call to attention of 'Elepaio editor any items of possible interest to our readers. Also, bring (or arrange for someone else to bring) recent periodicals to HAS evening meetings for members to see and borrow. After six months, dispose of older issues to an Oahu library. Call Robert Pyle: 262-4046.

Accountant-Consultant

Be a source of advice to the Treasurer in organizing and maintaining the Society's financial bookkeeping. Call Norris Henthorne: 734-7562.

Conservation Committee

Members needed to follow one or two environmental issues (whales, Makiki Park development, etc.), assist with preparing testimony and letters. Call Peter Galloway: 235-4082.

'Elepaio Mailing

Assist Chief mailer in labeling and sorting new 'Elepaio's for mailing once each month. Call George Campbell: 941-1356.

Typist

Help on the 'Elepaio a couple of hours a month. Call Carol Ralph: 988-6921 (after Dec. 20).

1981 TIDE CALENDAR

Society members will be interested to learn that the Dillingham Tide Calendar for 1981 features a collection of color photographs of the Northwestern Hawaiian Islands. Many of these pictures show the island and reef units of the Hawaiian Islands National Wildlife Refuge, rich breeding and foraging grounds for seabirds, endemic land birds, monk seals, and green turtles. The calendar is only available to Hawaii residents. It can be obtained free, while the supply lasts, by sending a self-addressed label to:

1981 Tide Calendar
Dillingham Corporation
P.O. Box 3468
Honolulu, HI 96810

MEMBERS WELCOME AT BOARD MEETINGS

The Board encourages members to attend and participate in the monthly Board meetings. It is a good way to get more involved in conservation issues and in the workings of the Society.

HAS OPPOSES CONVERSION OF HONOMALINO FOREST TO MACADAMIA NUT ORCHARD

By Wayne C. Gagne
1st Vice President
Hawai'i Audubon Society

On January 22, 1981 the Hawai'i Audubon Society became a co-plaintiff on a suit to ask the State to prepare an Environmental Impact Statement on the destruction of over 900 acres of native forest on the Big Island. The Society joined with the Conservation Council for Hawai'i (CCH) and two private individuals (former Acting State Forester Col. L.W. Bryan (Ret.) and Col. Arthur B. Chun (Ret.)) to contest the State's decision that there was no adverse environmental impact from the proposed conversion to a macadamia nut orchard of this primarily native mesic forest at Honomalino. South Kona. The hearing in the 3rd Circuit Court has been scheduled for March 6, 1981, but our attorney, T. Anthony Gill, believes that the State will settle out of Court. We hope that they will voluntarily do a complete EIS, allowing us to turn our energies elsewhere.

Big Island HAS representative Mae Mull and the CCH had contested the Negative Declaration to Mr. Susumu Ono, Chairman of the Board of Lands and Natural Resources during the 60 day legally allowable waiting period following the filing of the Negative Declaration with the Office of Environmental Quality Control. Calling for a full EIS, we pointed out that the proposed lease was a largely intact native mesic forest with abundant reproduction of a variety of native tree species and was of a type not yet officially represented in the State Natural Area Reserves System, and that it contained two plant species presently under review by the State and/or the U.S. Department of the Interior as threatened and endangered. These are the magnificent mehamame trees (*Drypetes* or *Neowawrea phyllanthoides*) and the palapalai-lau-li'i fern (*Diellia erecta*). A detailed botanical and vegetation survey of the area had been prepared for the CCH by Big Island botanists. This served as a further basis for seeking judicial release. A nearby resident, Mr. George Schattauer has detailed the value of this forest as a watershed and of the detrimental effect of past deforestation on the Kona cloud pattern in decreasing precipitation in this area.

We also indicated the presence of extensive ancient Hawaiian agricultural sites along the north-west portion of the proposed lease. Col. Bryan told the Big Island newspaper *West Hawai'i Today* on February 5 that the Hono-

malino property contains the largest sandalwood in the state as well as six other trees which are the largest of their species in Hawai'i.

This proposed lease of an over-all 2,701 acres to O'ahu businessman Maurice J. Sullivan has aroused concern across a broad spectrum of the Big Island community. The potential for reduction of native forests to small islet-like remnants does not bode well for the survival of the dependent native forest birds.

The co-plaintiffs are unanimous in asking that the Honomalino forest be returned to protective forest reserve status from which it had ill-advisedly been removed in the early 1930's.

MARCH PROGRAM: NORTHWESTERN HAWAIIAN ISLANDS

George H. Balazs, President of the Hawai'i Audubon Society, will present the Society's regular March meeting on *A Journey Through the Northwestern Hawaiian Islands*. George is a marine biologist professionally and has studied green sea turtles at French Frigate Shoals in the Hawaiian Islands National Wildlife Refuge. He has published a number of scientific and popular articles dealing with the ecology and conservation of green sea turtles. Long periods of isolated field work in these islands have brought him into close contact with resource problems facing the area and its biota.

His talk will be timely in that occurs at the beginning of the nation-wide National Wildlife Week, the theme of which this year is "We Care About Oceans." George is the author of *Hawaii's Seabirds, Turtles & Seals* and his beautiful photographs are also featured in the 1981 *Dillingham Tide Calendar*.

FIELD TRIP TO AIEA TRAIL

On Sunday, March 8, there will be a field trip to Aiea Trail to observe forest birds. There will be an excellent chance to see 'Elepaio, 'Amakihi, and 'Apapane, as well as several introduced forest birds, including the Shama Thrush and the Japanese Bush-warbler. Both 'I'iwi and the rare O'ahu Creeper have been reported from this trail in recent years. Hikers can take the entire loop trail or take the Aiea ridge trail that leads to the Ko-olau summit. The loop in an easy hike, the ridge trail somewhat more difficult.

The group will meet at 7 a.m. at the State Library on Punchbowl, just off South King, or at the mauka parking lot of Aiea State Park at 7:30 a.m. Bring water, lunch (if you want to take your time), binoculars, and be prepared for rain showers and a bit of mud. For more information call Rick Coleman (262-8424).

HAWAII AUDUBON SCHEDULE OF EVENTS

(for details, see inside back page)

March 8 (Sunday). Field trip to Aiea Ridge and Loop Trails, Ko'olau Mts., O'ahu. Meet at Punchbowl Street side of State Library at 7AM, or at amuka parking lot of Aiea State Park at 7:30AM. Call Rick Coleman (262-8424) for details.

March 9 (Monday). HAS Board Meeting at home of George Campbell, 1717 Ala Wai Blvd, #2303, Waikiki. Ph: 941-1356.

March 16(Monday). Regular meeting at the McCully-Moiliili Library, 7:30 p.m. George Balazs will speak on a *Journey Through the Northwestern Hawaiian Islands*.

TABLE OF CONTENTS

Vol. 41, No. 9, March 1981

| | |
|----------------------------------------------------------------------|----|
| Birds on Midway and Kure Atolls During the Winter of 1979-1980 | |
| Gilbert S. Grant and Ted N. Pettit..... | 81 |
| Black-crowned Night-heron Predation on Black-necked Stilt | |
| Suzie Andrews | 86 |
| "I Told You So!:The Flying Mongoose" | |
| Dr. Otto Degener..... | 87 |
| The Lighter Side of Hawk Research | |
| Peter W.C. Paton..... | 88 |
| January Field Trip to Ki'i Ponds | |
| Kathryn A. Harrington..... | 90 |
| Field Trip to Waipio Peninsula..... | 90 |
| Peter V. Donaldson..... | 90 |
| HAS Stops Bulldozing in Kaua'i Forest | |
| Wayne C. Gagné..... | 92 |
| HAS Opposes Conversion of Honomalino Forest to Macadamia Nut Orchard | |
| Wayne C. Gagné..... | 94 |

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