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BIRDS OF ALAKA'I SWAMP

(ANIMALS, 8 March 1966, Volume 8, No. 14, pages 373-379: THE HONEYCREEPERS OF HAWAII by James Hancock, an English Ornithologist)

This important article is on the ornithological expedition into the Alaka'i Swamp he made in September 1965 with Mike Ord and Jack Throp. The author uses pictures of not only the area and the geological survey hut used as their headquarters but also photographs of the birds they saw. Although some of the colors are not true, his descriptions of the expedition are excellent. They spent three days, 22-24 September, looking for birds and they were wonderfully rewarded.

He says, "At Koke'e Park we were to see our first interesting birds. On the lawn in front of the restaurant American golden plovers, newly arrived from their breeding grounds in Alaska were feeding like thrushes in an English garden....In the trees near the wooden buildings we heard jungle fowl call....On the trees hung flower-clad vines, an introduced species of Passiflora, this passion flower is called liliko'i by the Hawaiians. And here, feeding on the flowers, was my first honeycreeper. A small, bright red bird with a white rump flitted from one bloom to another—it was an 'apapane. Soon a greenish-yellow bird appeared, its long bill clearly visible before it poked it into the flower. It stayed longer at each hanging flower than the 'apapane, and then flew strongly away into the trees. This was an 'amakihi, our second species of Drepaniid.

"We turned the jeep westwards from Koke'e, and soon the metal road was left behind, and we bumped and skidded along a narrow winding track. Here we saw our first 'elepaio, which looked almost exactly like an English robin. This member of the Muscicapidae or old world flycatchers proved to be quite numerous. Introduced ricebirds flew in flocks from the long grass. Other introduced species seen were the Chinese dove and an occasional cardinal, and the liquid call of the Chinese thrush came often through the trees. When we came to our first river, however, we were delighted to see a pair of native duck rise from a pool by the ford....We passed over another stream and again a pair of koloa flew off....

"Beside the path were Himalayan blackberries (Rubus) and the other introduced plant menace, lantana (Lantana camara). These tend to spread rapidly through cleared ground, choking all other vegetation and preventing tree seedlings from becoming established. They are a real danger to the native forests, and it is to be hoped that the extent of the threat will be recognised and dealt with before it is too late.

"Chinese doves were common everywhere, and it seems that this species is now more widespread even than when Richardson was here in 1960. A few house finches were

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seen, and a wild goat called from the valley. Goats...are responsible for much damage to vegetation in the river valleys and lower mountain slopes....Wild pig, another introduced animal, were not so evident, though we saw their tracks in the mud on several occasions....

"A male 'elepaio came to chatter at us, its tail cocked. Its dark head and wings contrasted with that of its mate--which came closer than the male. The female's colouring reminded me of a hen brambbling, and it was very inquisitive, hopping round us like a wren....

"The 'akikiki, or creeper, was the next new one to be seen. It is a small pale bird, like a cross between the British tree creeper and the American white-breasted nuthatch; though a member of the honeycreeper family it is entirely insectivorous, filling the ecological niche occupied by the Sittidae and Certhiidae in the Holarctic region....

"The next day dawned bright and clear, though the trees and ground were wet from light night rain and heavy early morning dew. We quickly made our way to the mist net. It had been strung across a natural flyway between the trees, and we hoped to be able to examine at first hand some of the native birds. In addition, Jack Throp had been asked to take back, under a special collecting licence, some live birds so that detailed studies could be made of their feeding habits. Better understanding of their needs would help in taking the correct steps to conserve and protect these unique native birds." (See THE ELEPAIO, Vol. 26, No. 10, April 1966, page 87)

"We had been lucky. Two 'amakihi, one 'apapane, one 'anianiau, one 'elepaio, and eight white-eyes were in the net. We quickly ringed and released the 'elepaio and the 'anianiau--the latter was a female and somewhat duller than the male bird which is canary yellow. Closely related to the 'amakihi, it is sometimes called the lesser 'amakihi; it has a much smaller bill and is found nowhere else besides this area. The white-eyes which formed the bulk of the catch (confirmation of the strong hold these introduced Japanese birds have taken in the native forests, as elsewhere on the islands) were all released without ringing.

"Jack decided to take the two 'amakihi and the 'apapane (provided they would take food within an hour of capture, as otherwise they would not survive). Small cages were erected for the birds, and little containers of specially-brought nectar held to their bills. To our amazement and delight both 'amakihi began to feed immediately. They were then put in the cages with the containers attached to the sides, and in no time they were sucking greedily at the sweet liquid. They showed little fear, and gave no trouble....

"Like most of the Drepaniids, the 'amakihi has a tubular tongue, and it was interesting to see the powerful bill partly open and the tongue emerge to suck up the nectar. The bill is obviously adapted to force open bark and buds of plants to get at insects, but nectar certainly provides a large part of its diet. (Later I spent some hours watching the feeding habits of...the 'anianiau. This bird's main food, while I watched at least, was undoubtedly Tetraplasandra waialeale--a laurel-like plant with pods from which it sucked the nectar.)

"Jack had more difficulty getting the 'apapane to feed. Its tubular tongue had a brush end, and it flicked it in and out like a hummingbird, thus explaining its restive feeding observed the day before at Koke'e Park. However, it did feed on our nectar, and while it did not settle like the 'amakihi it was brought back in fine form to Honolulu....

"The 'akepa, with its black mask and deeply forked tail, was seen in small numbers though not easily distinguished from the 'anianiau. On the other side of the valley on a high plateau numbers of honeycreepers were feeding in the tree canopy. Here we saw the large and spectacular red bird, the 'i'iwi; its powerful red bill and red legs contrasted with the black bill and legs of its commoner relative, the 'apapane. We heard the soft call of the 'oma'o, the native Hawaiian

thrush, and the liquid note of the larger Chinese thrush, but we failed to see either right in the open. A clear identification was always made, however, because the native bird always flew upwards whereas the introduced species dived for the undergrowth.

"Some white-tailed tropic birds screeched overhead and a lone frigate bird sailed past, reminding us that the sea was not far away. Suddenly Mike Ord heard the call of the 'o'o'a'a, one of the rarest of the Kauai birds, but despite a wearying trek across the valley we did not catch sight of it. Its call was unmistakable, being like its Hawaiian name, so we did at least know that it was still in existence....

"In the morning our incredible luck with the weather held and the sun shone brightly....On checking the mist net we again found several white-eyes--but this time, with them, was a small nightingale-like bird. It was a puaiohi, or small Kauai thrush. It had been considered extinct by Amadon and Peterson, although Richardson established its continued existence in 1960. There was no mistaking its identity, with its distinctive white eye ring and flesh-coloured legs. Its call was somewhat different from the other thrushes, and we were able to identify it a number of times during the day, almost to the edge of the rain forest. Richardson had seen at least 15 individuals during his expedition, and while we did not see any more, we were sure we heard at least five separate birds--welcome confirmation that this rare species is holding its own.

"All too quickly the time came for us to leave....No new honeycreepers were seen, but the Hawaiian short-eared owl was seen quartering the canopy like a hawk....As we returned to our jeep and headed down the mountain to the coast the rain clouds settled across the valley and the downpour began. We had had three completely clear days--an almost miraculous length of time in these normally dank and misty rain forest."

(ANIMALS, 15 March 1966, Vol. 8, No. 15, pages 408-412: HAWAII: A VISIT TO ALAKA'I SWAMP by James Hancock)

"...The fact that we had three full days of bright sunshine enabled us to make full use of all our time there, and in view of the scarcity of authentic and recent observations, I think a detailed report would be useful.

"Three thrushes can be found here in some numbers. The introduced Chinese thrush is found at all levels in all types of forest....It is a large brown bird with a distinctive white eye ring and stripe. It is actually a member of the babbling thrush family, and appears to have a long breeding season. A male was singing its clear liquid song every day we were in the area in September, and Richardson found a juvenile on July 8.

"The native 'oma'o, or Hawaiian thrush, of Kauai is also found on Hawaii, where it is equally common, and on Molokai, where the first sight record for 40 years was recently made. It has a shorter bill and paler breast than the introduced bird, and lacks either an eye ring or stripe. It prefers the tree canopy, and will invariably fly there if disturbed from lower down, whereas the introduced bird always prefers the undergrowth.

"The endemic small Kauai thrush, or puaiohi, differs only slightly in size from its relative, but has flesh-coloured legs and a narrow white eye ring. This bird has long been considered very rare, and was even thought extinct until Richardson confirmed its presence in 1960.

"Fleeting sight records of these two species are seldom enough for positive identification. The calls are different, but the song of the latter bird has never been reported, to my knowledge. It is confined to this swamp area, but was not noted by us until a juvenile with its grey-speckled breast was caught in our mist nets. This bird was taken back to the Honolulu Zoo, where it is now flourishing on apple, papaya, soaked raisins, banana, orange, mealworms and fruitflies, as well as a commercially-prepared food made especially for soft-billed birds. During the time it was in captivity with us in Alaka'i Swamp and on the way out, it called several

times, and on occasion was answered back by other thrushes in the undergrowth.

"The Chinese thrush occupies the same part of the forest area, but its particular ecological niche is more difficult to distinguish. All the food eaten by the puaiohi is also eaten by the Chinese thrush, and in captivity it readily consumes imported fruit and berries. It may be that the lapalapa (Cheirodendros kawaiense) and nectar from native blossoms is essential to its survival, and that this confines it to the native forest.

"The 'elepaio is one of the most prominent of the forest birds here, though it is not the most common. It appears to be entirely insectivorous, and is a member of the old world family of Muscicapidae, or flycatchers. It feeds mainly by taking insects from the bark of the 'ohi'a and other forest trees, as well as from the blossoms and foliage. It moves at varying heights from the ground to the canopy, but seems to favour feeding at between 6 and 8 feet. Many birds were in pairs, and males and females chased one another, continually chattering as they went. Whether this indicated courtship or territorial display was impossible to tell on such short observation. Wing-fluttering and courtship-feeding had been observed in June by Richardson; it did not seem inconceivable that further breeding took place as late as our visit in September. As adult single birds of both sexes were also seen in some numbers, it is evident that pairs do not remain together throughout the year....

"The Kauai 'o'o, or 'o'o'a'a, was not seen, but the clear call from which it derives its name was unmistakable. Only two birds were heard during our three days, and Richardson calls it an uncommon resident. It has a long quite powerful bill; insects and small snails seem to be its main diet. Its stiff tail-feathers enable it to prop itself against the trunk of a tree like a woodpecker, and it taps the bark in a similar manner to this species. However, Ord, who had observed it on four occasions at different seasons of the year, has never seen it take anything but nectar, so this indicates that this only surviving member of the Hawaiian honeyeater family also requires this type of food.

"Of the Hawaiian honeycreepers the genus LOXOPS has two species of the sub-genus VIRIDONIA, the 'amakihi and the 'anianiau...which were found in some numbers. Richardson considers that the latter bird is the more common of the two, but I did not find this immediately apparent in Alaka'i Swamp during our short stay. The 'amakihi forages higher in the tree canopy while the brighter-coloured 'anianiau was seen lower down; this may account for the fewer sightings we had of the larger bird.

"I did not observe the 'amakihi's eating habits closely, but the captured birds drank nectar greedily in large quantities, sucking for several seconds at a time. The shorter-billed 'anianiau feeding lower down favoured the pods of Tetraplasandra waialeae, from which it extracted nectar, moving rapidly from pod to pod. One male bird visited the same tree at regular intervals throughout the day, and droppings on the plant showed that it was feeding almost entirely on nectar at this time of the year. The birds have a tubular tongue with little sign of brush at the tip, and they use their bills to open the plant stem, as well as for sucking. The captured 'amakihi appeared to keep the tongue pressed against the heavily-curved upper mandible, and one was so greedy that it blew bubbles in its eagerness to obtain the nectar.

"The 'akikiki, or creeper, was quite common, and one party of them was seen moving through the trees accompanied by the introduced Japanese white-eye in a manner common to that of foraging passerines at the close of their breeding season.... Its bill is straighter than even the 'anianiau, and is more powerful. It appears to be mainly insectivorous, and collects spiders and small insects from the bark and moss just like a nuthatch would, running up and down the branches with great ease.

"The one member of the sub-genus LOXOPS observed here was the 'akepa. This bird is mainly an insect feeder, though it appears to feed more in the tree canopy, and thus was more difficult to observe. For this reason, or perhaps because at first I mistook it for an 'anianiau, I did not identify many of the birds. I saw only six during the three days. The bill of the 'akepa is short and stout, and the

tips of the mandibles are very slightly twisted--yet another variation in the adaptability of this family, though not very noticeable in the field. Its black mask, bright yellow crown, and deeply-forked tail are the best field marks.

"Two rare and related birds, the 'akialoa and the nuku-pu'u, seen fleetingly by Richardson in 1960, were not seen by us during our stay, though Ord had observed both these species on his previous visits. It would seem no accident that both these species have more specialised feeding habits than any of the other drepaniids which may account for their rarity. Their bills are longer and more curved so they can obtain insects from inside rotting trees and under bark, as well as from the stems of the tree ferns.

"The nuku-pu'u is considered by Amadon to be a poorly adapted species, as its bill is in an intermediate stage of development, the shorter lower mandible being inefficient to properly probe into flowers and bark crevices. We can only hope that these species will survive, though the numbers of both must inevitably be very small indeed.

"The 'o'u was not seen on our visit. This parrot-billed honeyeater is mainly a seed and fruit eater; while a small population does exist, it is possible that it competes for food with the fruit-eating Chinese thrush and the seed-eating ricebirds. Shortage of its preferred food, such as the 'ie'ie vine, coupled with its habit of migrating from one area to another, must have played a part in diminishing its numbers. Munro states that it likes to come down to the lower valleys of the islands--here of course, avian malaria must have quickly decimated it. Its future does not seem to be too bright.

"I can give a much more encouraging picture of the adaptable 'apapane. This red bird, with its black legs and bill and distinctive white rump, is by far the most abundant of the honeycreepers. It lives quite near human settlements around Koke'e, and has learnt to feed from passion flowers and other introduced blooms, as well as from the native 'ohi'a blossom. The tip of its tubular tongue is brush-like, and no doubt it takes pollen as well as nectar and insects. (Dr. Melville of Kew Gardens, who has examined a number of European migrants which had pollen on them, postulates the theory that pollen may well provide a basic vitamin which nectar alone cannot provide. It may be therefore that the brush tongue of the 'apapane plays a more important part in its survival and adaptability than had previously been thought.)

"The 'i'iwi is by far the most beautiful of all the drepaniids. Its bright scarlet plumage, red bill and legs, and its slightly larger size, make it a dazzling sight. It spends most of its time feeding from the nectar of the 'ohi'a blossom in the tree canopy, but its strong bill is well adapted to take insects from the bark and leaves of forest trees. It is not as common as the 'apapane, but Richardson estimated its numbers on Kauai as at least 18,500. A good proportion of these certainly reside and prosper in Alaka'i Swamp.

"A word must be said about the pueo, or short-eared owl. These birds fill such a wide ecological niche that I saw them gliding over the forest trees at over 4,500 feet as well as quartering sea-level marshland. Their main food is small mammals such as rats and housemice, and insects such as cockroaches and crickets. They probably also prey on the honeycreepers. Munro states that they hunt over small forests searching for birds' nests, and that honeycreepers take precautions to hide their nests from them. Roger Tory Peterson observed one being mobbed by numerous small birds on one occasion.

"The koloea, or Hawaiian duck, is said to nest on the Kope River, but we did not observe it above 3,000 feet (there was one pair on each of the streams we crossed coming in). This subspecies of the mallard is certainly very rare, and must be in danger of becoming extinct. It appears to be sedentary, that is, non-migratory, though this cannot be firmly established.

"Above the forest over the Alaka'i Swamp, white-tailed tropic birds flew regularly, soaring on the high thermals. They nest on the dry cliffs nearer the sea

in Waimea Canyon, and we saw some 20 birds during our journey to and from the swamp.

"Two common introduced species are found in the forest area. The ricebird travels in small flocks feeding on fruit and seeds of long grasses, mainly in river beds. The Japanese white-eye was the most abundant species seen. Richardson states that it was outnumbered by the native birds in the virgin forest, but this was certainly not our experience last September. Possibly seasonal migration accounts for this major discrepancy between Richardson's and our observations--as otherwise the only conclusion is that the species is suddenly increasing in this area at an alarming rate. Ord, in his previous short visits in recent years, had not seen so many white-eyes.

"Our first day's netting produced five native birds of four species ('anianiau, 'elepaio, 'apapane, and two 'amakihi) and no less than eight white-eyes. In all, 12 native birds were caught, together with 22 white-eyes. This ratio, while probably not indicative of the overall position, is certainly very disturbing.

"It is interesting to note Ord's previous figures for netting at exactly the same spot. In April 1965 one white-eye was caught and 15 native birds; and in September of the previous year one white-eye and 16 native birds. Two of the native birds caught and ringed in September 1964 were among those again caught the following April; this tends to suggest that the native birds do not move about very much.

"The white-eyes compete in every direction with the native birds, eating berries, nectar, insects, and fruit. They can be found at all heights in the forest and all levels on the island, and seem to move about much more freely than the native birds. It would even seem that they are immune to the fatal avian malaria carried by the night-flying mosquito. This mosquito exists up to about 3,000 feet, and, as no honeycreepers are found below this, it is now thought that this is one of the main causes of the decline of this family. Meanwhile, the Japanese white-eyes are certainly a potential, if not actual, threat to the survival of native birds in the Alaka'i Swamp.

"The other main threat is the destruction of native plants and trees, which form the only food of some of the native birds in the forest. Natural encroachment or deliberate introduction of foreign plants like the blackberry or lantana which will quickly spread into cleared forest areas is causing native flora to be choked out.

"Most of the birds in the forest appear to be unable to adapt themselves to other foods and environments, and thus must remain in this small restricted area. It is evident that even if some birds do migrate for some part of the year (and it is no coincidence that those which appear to do so are the most numerous), introduced birds such as the white-eye, ricebird, and house finch come in to take any surplus food which there may be, including the specialised foods necessary for the survival of the endemic birds.

"Richardson has made some admirable recommendations regarding this area and the island as a whole. I would urge that immediate steps be taken to eradicate the blackberry and lantana, particularly from the geological trail (this has certainly not been attempted since Richardson's paper was published), and I would heartily endorse all his other suggestions. I would also suggest that a close look be taken at two or more of the introduced species--the white-eye and the Chinese dove, for example. It would seem possible that mist netting and removal of at least some of the former birds would remove a dangerous and growing menace.

"It does seem that the native bird population can survive here indefinitely if some precautions are taken now, but much work needs to be done by competent ornithologists and botanists...."

(ANIMALS, 15 March 1966, Vol.8, No.15, page 412: ADAPTIVE RADIATION by Michael Tweedle)

"Zoologists use the term 'adaptive radiation' to describe a particular type of rapid evolutionary change which produces, from a single parent stock, a number of species having different ways of life and correspondingly different physical characteristics.

"At some remote period a small American passerine ('sparrow-like') bird arrived on the Hawaiian Islands. We have no idea what particular biological niche it fitted into, but evidently it found a suitable one, for it became established and rapidly increased in numbers.

"Equally evidently a wide choice of niches was available, for minor varieties among its descendants diverged more and more away from the parent stock. Some developed slender curved beaks and hollow tongues for feeding on nectar, rather as bees do. Others, with sharp, straight beaks, became insectivorous, and in others again the beak grew thick and strong for feeding on berries and crushing seeds; there are even some with powerful hooked beaks like a parrot's. Some combine two or more modes of feeding.

"All the members of this remarkable assemblage of birds have features in common which indicate close affinity, and they are classified as a zoological family, the Drepanididae, known in English as honeycreepers, though only some of them feed on honey. Unhappily a number have become extinct in recent years, and exact details of the habits of some of the surviving species are still rather obscure. Even so this family of birds, entirely restricted to the Hawaiian Islands, affords one of the most impressive cases known of adaptive radiation, most probably from a single ancestral species...."

HONOLULU STAR-BULLETIN, June 15, 1966, page C-3: Isle Birds Fascinate University of Hawaii Professor

...Fascinated by Hawaii's native birds, and concerned with their preservation, Dr. Andrew J. Berger has made two expeditions into the rugged mountain forests of Kauai. His first trip into the Alaka'i Swamp was two years ago....He recently (May 28-30, 1966) repeated the rigorous trek into the swamp area with W.M. Ord, Bill Prange, and Earl Bishop.

"The country is absolute wilderness, one of the few wilderness areas left," Berger said. "This is one area where we can count on finding more species of Hawaiian birds than anywhere else."

...Dr. Berger found an assortment and abundance of honeycreepers on both of his excursions into the Alaka'i Swamp area. This time, the men saw seven of the nine possible species of honeycreepers. /They saw: 'Akepa, 'Akikiki, 'Amakihi, 'Anianiau, 'Apapane, 'I'iwi, and 'O'u but not: 'Akialoa, Nuku-pu'u, nor 'O'o'a'a/

Dr. Berger said six species are very common, although the seventh ('O'u) is quite rare. "We saw three pairs and we consider this very unusual. We're not sure anyone has seen that many in a three-day period."

They also saw Kama'o (large Kauai thrush) and Puaiohi (small Kauai thrush).

Dr. Berger said they banded a number of birds and located others which had been banded by previous expeditions. "We are beginning to learn what we suspected--that these birds don't move very far," he said. "In other words, they are sedentary."

Meanwhile, other birds are moving in. Some Chinese thrushes, now occupying the region, weren't there two years ago, Dr. Berger said. These are introduced birds, spreading into the native forests from the lowlands. There is a "logical, but unfounded, theory" that introduced birds reduce the population of the native species by carrying in diseases and competing for food, Dr. Berger pointed out. In any event, he said, the movement of the thrushes in the native nesting ground emphasizes the need for careful study before foreign birds are introduced in the Islands.

Another danger to the bird sanctuary is plant introduction, he said. "An excellent example is the wild blackberry which goes for miles along the trail--with tangles eight feet high. If it continues to spread, it will make it impossible for natural species of plants to compete. And this will affect the birds, because you can't really separate birds from plants."

Any field notes on these birds are important, so please share your observations with the other members by writing to Kojima, 725-A 8th Ave., Honolulu, Hawaii 96816.

HAWAIIAN FRESHWATERBIRDS AND SHOREBIRDS

We are now well in that season of the year when we entertain the bird "tourists" from the northern latitudes. At least 16 species of migrating birds commonly spend much of the winter on the lagoons and freshwater ponds of the state. There are six resident species of waterbirds that also occupy these habitats. Although geese are generally classified as waterfowl, the Nene, or Hawaiian Goose lives in the rocky, semi-arid kepuka of Hualalai on Hawaii and high elevation grasslands of Haleakala on Maui.

Most of the water habitats of the state are found on Oahu and Maui. A more limited amount of suitable habitat for the waterbirds occurs on Hawaii, Molokai and Kauai. It is indeed unfortunate that the intense competition for space in the Hawaiian Islands is resulting in the continued exploitation of these habitats. Many of our ponds are being converted into housing subdivisions, golf courses, airports and industrial sites, and as these bird habitats are destroyed, the populations of both the resident and winter-visitant species drop. It is hoped that some action might be taken by the state and federal wildlife management agencies to preserve the remaining wetland areas that are of significant importance to the perpetuation of the freshwaterbirds and shorebirds.

On page 49 you will find a list of the freshwaterbirds and shorebirds most commonly reported in the State of Hawaii during the period 1962-1966. Recorded observations in THE ELEPAIO for this same period were the source of data for much of this work. The list should provide a handy reference for winter birdwatching on the lagoons, ponds, and wetland areas of the state.

Paul M. Scheffer

FOR JUNIOR MEMBERS:

Are you interested in becoming a conservationist? April 1966 issue of the AMERICAN FORESTS on pages 17 through 27 has a story for young Americans titled "You can be a Conservationist" by Charles Edgar Randall.

He says, "Everything we eat, wear, and use traces back, at its beginning, to soil, water, rocks and minerals, air and sunlight, and their primary products, plants and animals. These are what we call our basic natural resources. On these basic resources, all our food and shelter, all our commodities, all our business and industry depend. Our very existence, indeed, depends on these resources. So you can see why the conservation--the protection and wise use--of these basic resources is of the greatest importance."

"...Man, with his wonderful machines and his increasing know-how, can do many things to change the face of the earth and to utilize its resources....Man has not always used his machines and his technical skills wisely. His machines can be used to destroy resources as well as to protect them and build them up. Because of ignorance or lack of foresight, too often he has destroyed forests by careless cutting and fire. He has disturbed soil so that it washed away; he has disrupted the flow of streams, and in other ways wasted, damaged, or destroyed natural resources. He has polluted the waters of streams. In many places he has allowed the smoke of industry and the exhaust fumes of automobiles to create smog so dense that it sometimes obscures the sun."

He lists the following things that each of us can do as individual conservationists:

1. We can form personal habits of carefulness with fire, and we can take part in the Smokey Bear campaign for forest fire prevention.
2. We can avoid throwing away paper and other waste materials along our walks and roads and in our parks. And we can help others to learn that such littering is a mark of thoughtless, selfish immaturity.
3. We can take part in tree planting projects, soil erosion prevention, park cleanup and improvement, or other conservation projects conducted by our schools, Boy and Girl Scouts, Camp Fire Girls, civic organizations, or local community groups.
4. We can learn about the conservation programs and activities of the U.S. Forest Service, Soil Conservation Service, National Park Service, Bureau of Land

(continued on page 50)

FRESHWATERBIRDS AND SHOREBIRDS REPORTED IN THE STATE OF HAWAII 1962-1966¹

Common Name	Scientific Name	Oahu					Maui
		Water cress Farm	Sand Island & Keehi Lagoon	Kuapa Pond & Paiko Lagoon	West Loch & Waipio Penin- sula	Kahuku Pond	Kahana Pond
<u>Ducks & Geese</u>							
Nene (Hawn Goose) ²	' <i>Branta sandwichensis</i>						
Baldpate	' <i>Mareca americana</i>				wv	wv	
Koloa (Hawn Duck) ³	' <i>Anus wyvilliana</i>						
Pintail	' <i>Anus acuta</i>			wv	wv	wv	wv
Shoveller	' <i>Spatula clypeata</i>			wv	wv	wv	wv
<u>Gallinules & Coots</u>							
Black Gallinule	' <i>Gallinula chloropus</i>			res			res
Coot	' <i>Fulica americana</i>			RES	res		RES
<u>Hérons</u>							
Blk-cr Night Heron	' <i>Nycticorax nycticorax</i>	res	res	RES	res	RES	RES
Cattle Egret	' <i>Bubulcus ibis</i>	RES		res	RES		res
<u>Phalaropes</u>							
Northern Phalarope	' <i>Lobipes lobatus</i>			wv	wv		
Wilson's Phalarope	' <i>Steganopus tricolor</i>				wv		
<u>Plovers & Turnstones</u>							
Golden Plover ⁴	' <i>Pluvialis dominica</i>	wv	WV	WV	WV	WV	WV
Blk-bellied Plover	' <i>Squatarola squatarola</i>				wv		
Semipalmated Plover	' <i>Charadrius semipalmatus</i>			wv	wv	wv	wv
Ruddy Turnstone	' <i>Arenaria interpres</i>		WV	WV	WV	wv	WV
<u>Sandpipers etc.</u>							
Sanderling	' <i>Crocethia alba</i>		WV	WV	WV	wv	wv
Bristle-thi Curlew	' <i>Numenius tahitiensis</i>		wv				
Dunlin	' <i>Erolia alpina</i>			wv	wv		wv
Pectoral Sandpiper	' <i>Erolia melanotos</i>			wv	wv		wv
Sharp-tailed "	' <i>Erolia acuminata</i>			wv	wv		wv
Lesser Yellowlegs	' <i>Totanus flavipes</i>						wv
Wandering Tattler	' <i>Heteroscelus incanum</i>		wv	WV	wv	wv	
<u>Stilts</u>							
Hawaiian Stilt	' <i>Himantopus mexicanus</i>	RES	RES	RES	RES	RES	RES

1. The occurrence of freshwaterbirds and shorebirds is recorded for five easy-to-reach locations on Oahu and the Kanaha Wildlife Sanctuary on Maui. The commonly seen birds are identified as either resident (RES) or winter visitor (WV). The less commonly seen birds are similarly identified as a resident (res) or winter visitor (wv).
2. The Nene occurs only on the old lava flows of Mauna Loa and Hualalai on the Island of Hawaii and on the slopes of Haleakala, Maui.
3. The Hawaiian Duck can be observed only in localized areas on Kauai.
4. The Golden Plover is commonly observed on lawns, park areas, pastures and plowed fields on all islands throughout the period September to June.

Management, Fish and Wildlife Service, the state conservation departments, the forest products industries, and such citizens' conservation organizations as The American Forestry Association. And we can aid and support all forward-looking programs of these and other agencies and organizations that look to the conservation and wise use of our natural resources.

He further states, "There is something about being a conservationist that gives you a very good feeling....You can be proud that you are doing something to help save our country from wasting and misusing its resources, that you are helping to make our land a better land, that you are doing something for the welfare of all people.

A CONSERVATION PLEDGE: I give my pledge as an American to revere the living earth of which I am a part and to cherish all things living on, over and beneath its surface.

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I hope these few paragraphs will encourage you to read the entire article. If there's any comment on the article, or if you have any suggestions as to how to interest more people in nature and become conservationists, please write to Kojima, 725-A 8th Ave, Honolulu, Hawaii 96816.

THE NEW YEAR BIRD CAMPER SAFARI

A camper safari after birds will leave Honolulu, December 31st and spend three days on Mauna Kea and Mauna Loa. It will go after Palila at Puu Ahumoa or Laau, visit the giant Koa forests at Hopuwai, on the other side of the mountain, where there is a good chance for seeing 'Akepa, and spend a night in a very comfortable Koa log cabin at Kulani, where 'I'iwi visit fuschia blossoms each morning.

The price is \$150, including roundtrip air fare from Honolulu. These camper safaris have been very popular, and it is suggested that you do not delay in getting your deposit in for a space. Ten persons will be going.

For further details telephone Walt Donaghho at 700-440 or Gordon Morse at 250-656.

ALOHA to our new members:

Regular: Dr. Irene E. Greenhut, 5439 W. 142nd Place, Hawthorne, California 90250.

Mr. & Mrs. Joseph E. McNett, 423 Lake Road, Webster, New York 14581.

Junior: Ann Butzine, 1120 Hunakai Street, Honolulu, Hawaii 96816.

NOVEMBER ACTIVITIES:

November 13 - Field trip to study shore birds. Bring lunch, water, and if possible, your car. Transportation cost (\$1.00) to be paid to the drivers. Meet at the Library of Hawaii at 8:00 a.m. Leader: Mike Ord, telephone 968-771.

November 14 - Board meeting at the Honolulu Aquarium Auditorium at 7:30 p.m. Members are always welcome.

November 16, Wednesday, is set aside to welcome the National Audubon Society's post convention tour members to Hawaii at Reef Tower Hotel, 8:00 p.m. Color slides of birds most likely seen in Hawaii will be shown. Request all members' participation to extend our warmest ALOHA. If there's any question, please call Mike Ord, telephone: 968-771.

HAWAII AUDUBON SOCIETY EXECUTIVE BOARD:

President-W. Michael Ord, Vice Presidents-Dr. Hubert Frings & Paul M. Scheffer, Secretary-Mrs. Charles A. Ely, Treasurer-Mrs. Paul M. Scheffer

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DUES: Regular - \$3.00 per annum, Regular out of State - \$2.00 per annum, Junior (18 years and under) - \$1.00 per annum, Organization - \$2.00 per annum, Life - \$50.00.