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NESTING OF THE YELLOW-FRONTED CANARY ON O'AHU By Andrew J. Berger Professor of Zoology, University of Hawaii

The Yellow-fronted Canary (<u>Serinus mozambicus</u>) is native to a large part of Africa, from Ethiopia southward to the Cape Province. This species often is called the Green Singing Finch in the petstore trade, and it was given that name in the 'ELEPAIO in the past (Berger, 1972, <u>Hawaiian Birdlife</u>, p.250). The species is closely related to the familiar Canary (<u>Serinus canaria</u>), which occurs as a wild species on Madeira, the Azores, and Canary Islands.

The Yellow-fronted Canary was first reported on O'ahu on June 7, 1964, when W.Michael Ord and Warren King saw one bird at Koko Head ('ELEPAIO, July 1964:4). Walter Donaghho saw one bird at the Nā Lā'au Hawai'i Arboretum on Diamond Head on October 23, 1965 ('ELE-PAIO, December 1965:54), and 17 birds were seen in this area during the annual Christmas count of the Hawaii Audubon Society on January 2, 1966 ('ELEPAIO, March 1966:77). Far fewer (one to six birds) were recorded on the Audubon counts during the next 10 years, and there are no published reports of the nests of this species in Hawai'i.

I watched a pair of Yellow-fronted Canaries feeding two well-fledged young at Ka-pi'olani Park on May 20, 1974, and Erika Wilson saw adults with a fledgling there on October 28, 1974 ('ELEPAIO, December 1974:66).

I found the first nest of the Yellow-fronted Canary at Ka-pi'o-lani Park on November 22, 1976. The nest was built 8 feet 7.5 inches above the ground in an Indian banyan tree (<u>Ficus benghalensis</u>). The small nest, which was not symmetrical in outline, was approximately 65 mm in diameter and 50 mm in depth. The nest cup was 30 mm deep. The nest was attached to two dead banyan leaves that had wedged in a dense clump of live, drooping leaves in such a way that it was impossible to see the nest from below. The nest contained one egg and one nestling that I estimated to be 3 or 4 days old. The egg measured 10 x 12.6 mm. I checked the nest again on November 27, finding only the unhatched egg in the nest. I did not find either of the adults or a fledgling on that day and I concluded that the nestling probably had not survived.

I found a second nest on December 10, 1976. This nest was built on a branch of a pink shower tree (<u>Cassia grandis</u>) located approximately 50 yards from the first nest. Because there was only one pair of birds in this vicinity, it seems likely that the second nest was a renesting of the same pair of birds. The nest was placed 15 feet 2 inches from the ground, and was partially saddled to the upper surface of a sloping branch about 1.5 inches in diameter. The nest contained 2 eggs on December 12; a third egg was laid later. A female was still incubating on December 30, but the nest apparently had been deserted by December 31; the nest still held three eggs.

Carol and C.J. Ralph found a nest under construction near the archery range at Ka-pi'o-lani Park on January 16, 1977. This nest was being built near the end of a horizontal branch of a kiawe tree (<u>Prosopis pallida</u>) at least 30 feet above the ground.

These few records suggest a long nesting season, lasting at least from October to May. The records also are of interest because the birds nest during the fall and winter, when daylengths are growing shorter.

## THE NENE'S RESCUE - AN AVICULTURAL ACHIEVEMENT

## By Jerome J. Pratt

Because of prompt action when it was in imminent danger, the Hawaiian goose or nene (<u>Branta sandvicensis</u>) was saved from extinction by a few dedicated aviculturists. Readers of 'ELEPAIO are acquainted with the initial steps taken by Herbert Shipman and Sir Peter Scott in applying artificial techniques to pluck the species back from the verge of oblivion.

In my opinion, the nene is now ready to be removed from the endangered wildlife species list and reclassified as threatened, a less vulnerable category. In fact the U.S. Fish and Wildlife Service has been requested to classify the nene, along with the Hawaiian duck (<u>Anas wyvilliana</u>), and the Laysan duck (<u>Anas laysanensis</u>) to a "captive self-sustaining population" category. Such a proposal was published in the FEDERAL REGISTER on May 5, 1976.

Whenever the director of the U.S. Fish and Wildlife Service determines that a captive, self-sustaining population of otherwise endangered wildlife exists within the United States, such population may be treated as threatened. A number of factors are considered in determining when a species qualifies as a self-sustaining population, such as the age, sex ratio, and number of specimens in captivity. Also the number of persons who have successfully propagated the species and how many generations of captive stock have been propagated.

My observations indicate the nene is ready to come off the endangered list to allow accelerated captive breeding without the restrictive bureaucratic red-tape associated with the endangered category. To support my conclusion is the announcement by the Hawai'i Division of Fish and Game of their plan to cut back on captive propagation of these birds at their Põhaku-loa facility on the Big Island.

The most important advancement in the reintroduction of captive reared birds to their natural habitat came with the establishment of the "Nene Park" project at Hale-a-ka-la National Park on Maui in 1971 (Pratt 1972). This was followed by a similar program at Hawai'i Volcances National Park on the Big Island. The Hale-a-ka-la project is a modified Peter Scott plan (Scott 1962), and the Big Island program is somewhat expanded, and according to park personnel it is working as a means of passing captive-reared nene into the wild state as anticipated.

Each year since the Hale-a-ka-la project commenced it achieved success until the recent nesting season. Drought has been blamed for a lack of incubation success. In my judgement the productivity failure was drought related, but could have been overcome by a dietary adjustment. Geese need an abundance of green food which must be adequately supplied from another source when the natural grass in their enclosure dries up. The original plan for the Hale-a-ka-la enclosures called for installed sprinklers to aid in pasture growth; however, they have not been provided.

Some of the credit for the Hale-a-ka-lā success in the first years of the program goes to a former employee, Gilbert Amaral. Gilbert would stop at a supermarket in Ka-hului each morning on his way to work and pickup some green produce trimmings for the nene. This prevented overgrazing the natural vegetation in their enclosures.

Waterfowl breeders have long known that it is important to use a reduced fat content diet to improve fertility, hatchability, and produce vigorous young. Roughage is the main item in the diet for breeding wild waterfowl, such as the nene, and a continued supply of green food is a must. Necessary vitamins found in green food is not stored in the bird's body, so it must be supplied in the daily diet for balanced nutrition.

Dr. Janet Kear of the Wildfowl Trust, Slimbridge, England, is among the world's leading authorities on the captive breeding of the nene. She says, "In the wild, the adult is a browser. Grass and herbage, grain and poultry layers pellets (16% protein,  $\frac{7}{20}$  oil, 4.5% fibre) seem sufficient in captivity." Grain high in fat, such as corn, should be fed only in small quantity.

Bringing the nene back to a safe population level has been an international avicultural achievement with little or no help from wildlife management practices. In fact Hawai'i's wildlife management policies are an obstacle in perpetuating the native endangered species. The U.S. Fish and Wildlife Service has been a contributor to the depletion of Hawai'i's native wildlife by providing the State with so-called wildlife restoration funds to help propagate feral mammals which are responsible for the destruction of native habitat (Pratt 1974).

We just returned from a visit to Maui and Hawai'i and from my observation, except for the nene, there seems to be a decrease in the avifauna. Perhaps this is because of the serious drought conditions, but I think the increased development also has a lot to do with it. Of course, the nene we observed had had some artificial help to overcome nature's hardships. Especially noticeable was the scarcity of Golden Plovers (<u>Pluvialis dominica fulva</u>). In Kula on Maui the only birds more abundant than in previous years were Gray Francolinus (Francolinus pondicerianus).

## Reference

Scott, Peter, 1962. A Project for a Nene Park in Hawai'i. The Elepaio, 22(11) Pratt, Jerome J., 1972. Research Study Proposal for Investigation of Behavior of the

Hawaiian Goose Under the "Nene Park" Plan. The Elepaio, 33(4)

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U.S. F&WS, 1976. Endangered and Threatened Wildlife and Plants, Federal Register, 41(88)

Testimonies: SB 2911 & SB 1823, relating to the conservation, management, and protection of endangered or threatened species of wildlife or plants; SB 2912, relating to the establishment of the State Division of Environmental Conservation Enforcement; SB 2576, relating to a State botanist and making appropriations; and SB 2451, making an appropriation for Ka-huku Motorcycle State Park, O'ahu; to Senator Jean S. King, Chairman, Ecology, Environment and Recreation Committee; from Francis G. Howarth; 1 March 1976. ...

<u>SB 2911</u>: We agree fully with the proposals in SB 2911 and strongly urge its passage. We are especially pleased with the included definitions in Sec.1, the added authority to protect critical habitats as proposed in Sec.3, and the mandate to bring all other departmental rules and regulations into conformity in Sec.4.

Brotect rules and regulations into conformity in Sec.4. <u>SB 1823</u>: The intent of SB 1823 is to bring the Hawai'i endangered species act into conformity with the federal act and, except for the following suggestions, we strongly recommend its passage. Most of our reservations in this bill are remedied in SB 2911. Page 3, Sec.195D-5, Paragraph (a), the last word "part" we suggest should read "act" or "section". Section 195D-5 (d) sets priorities of this act with which we are in full agreement. However, we believe the intent is to favor indigenous threatened or endangered species and feel that the word "indigenous" was inadvertently left out. We strongly urge you to insert the word "indigenous" to read, "for the protection of those indigenous endangered and threatened wildlife and plants...". This is important because it is a distinct possibility that an endangered exotic species might escape captivity and go wild and even become pestiferous in Hawai'i. Second, there are agencies, both governmental and private, (e.g., the Honolulu Zoo and the Pacific Tropical Botanic Garden) which have as a stated purpose the use of Hawaiian lands for preservation of endangered species from elsewhere in the world. Apropos here is the facetious suggestion a few years ago of introducing endangered cheetahs to Wai-'anae. Third, although politically suicide at this time, there is nothing in this law preventing the DLNR from declaring any resident wild animal or plant, such as mouflon sheep, endangered, thus bringing such species under protection of this act. These exotic species then could be given priority for protection within this act, as both endangered exotic and indigenous species are protected. Adding it only sets priorities. Considering Hawai'i may, in the final analysis, have more than one quarter of the endangered species in the U.S. indigenous to Hawai'i, we feel the truly Hawaiian species deserve priority.

<u>SB 2912</u>: The present system of separate enforcement officers for each division within the DLNR is very inefficient. As I understand it, presently many times an official from one Division may see an infraction of a regulation of another Division and is not able to arrest the offender. We applaud the intent of SB 2912, which is to bring all land management enforcement officers under one Division under an expert in resources management problems. Thus, only one of these specially trained officers will be needed to patrol a given area, rather than the 3 or 4 now necessary. This should greatly strengthen the environmental protection given the state lands by using manpower more efficiently. Parenthetically we add here that SB 2947, to be heard in this committee tomorrow, also sets up environmental enforcement officers. Those officers should also fall within this new Division. In SB 2347 the legal procedures for issuing citations and making arrests are minutely detailed, and we suggest that that wording might be added to this bill (SB 2912) to give it better legal standing. Section 3 now gives authority to enforce any provisions of this "chapter". One would hope they could also enforce all rules and regulations adopted by the DLNR in conservation matters, i.e., natural areas, fish and game, forestry, conservation district use permits and other applicable Divisions. This bill would bring the varied enforcement officers under one professional as a much more streamlined and efficient operation, and one of extreme benefit to the State, both fiscally a s well as in environmental protection.

SB 2576: The Hawaii Audubon Society is in full support of SB 2576. There is a real need for a position of State Botanist to be established, whose prime responsibilities would be to inventory the Hawaiian wild flora and advise the appropriate State agencies on management of these resources. We applaud this bill and urge its passage.

<u>SB 2451</u>: We are very critical of this proposal to legitimatize a very wasteful and destructive sport. Unlike many other participant sports, such as tennis or baseball, in which the participants chase a ball around a limited space, the off-road vehicle clan prefers to swarm like locusts over trails, often in conservation areas, in a very destructive pursuit of their exhilaration. We strongly urge the adoption of strong controls on this sport. Hawai'i is a few years behind the Mainland, where these vehicles have presented extreme management problems to U.S. forest areas, national and state parks, and wilderness

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and wild areas. The pressure is now generating here for a similar onslaught on the forest reserves by these rubber-tired locusts. Such "scrambling" is extremely destructive, especially on areas vulnerable to erosion. Ten years ago Ka-'ena Point on O'ahu, for example, was one of the richest sand dune areas in the State and is now more than decimated by these vermin. Experience on the Mainland has shown that if the sport is legitimatized by making available public lands, sales are increased and the pressure becomes <u>greater</u> not less on the conservation and agricultural lands.

not less on the conservation and agricultural lands. We strongly recommend that if the State does intend to manage parklands for motorcycles that, in the same bill, rules be adopted that l.all such vehicles be excluded from all non-designated areas of State lands, including conservation districts, and 2.that such vehicles be required to be registered and that misuse of such vehicles automatically would mean revocation of such registration for a set period of time. ...

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Comments by Mae E. Mull on the draft Environmental Impact Statement for the proposed ESTUARINE SANCTUARY Grant Award for WAI-MANU VALLEY, Island of Hawai'i. Spoken testimony presented at the Public Hearing held in Hilo, Hawai'i by the Office of Coastal Zone Manage-ment, National Oceanic and Atmospheric Administration, Dept. of Commerce, on May 22, 1976. The draft EIS tells us that the stream in Wai-manu Valley is the last remaining per-ennial, undiverted stream on the Island of Hawai'i. The acquisition and designation of Wai-manu Valley as an estuarine sanctuary, including the stream, its tributaries and most of its watershed, would assure long-term protection as an ecological unit. The State of Hawai'i has requested a grant of \$191,250 from the federal Office of Coastal Zone Management to be matched by an equal or greater amount by the State to estab-

The State of Hawal'i has requested a grant of \$191,250 from the federal Office of Coastal Zone Management to be matched by an equal or greater amount by the State to estab-lish the estuarine sanctuary. Most of the federal grant would be used for land acquisition by the State. The State's matching share would be the equity value of State-owned lands in the valley. The draft EIS gives this information: "The proposed sanctuary would include approxi-mately 3,680 acres (about 5.7 square miles), consisting of the trail corridor from Wai-pi'o Valley, the embayment, submerged lands, wetlands and about 60% of the upland watershed of Wai-manu Stream and its tributaries. Approximately 720 acres are valley bottom lands and

Valley, the embayment, submerged lands, wetlands and about 60% of the upland watershed of Wai-manu Stream and its tributaries. Approximately 720 acres are valley bottom lands and are primarily fresh water wetlands. The remaining acres are heavily vegetated talus slopes, uplands and valley wall. The estuarine portion consists of less than five acres. These lands include the major components of a total ecological unit." (p.4) A thorny aspect of the proposal is the method by which the State will acquire the non-public lands on the valley floor. These holdings amount to 347 acres, with land ownership by the Bishop Estate (90 acres), Hawaiian Homes Commission (200 acres), and 11 individual owners of <u>kuleana</u> lands (57 acres).

The Hawaii Audubon Society supports the concept of an estuarine sanctuary in Hawai'i

Owners of <u>Kulteana</u> lands (57 acres). The Hawaii Audubon Society supports the concept of an estuarine sanctuary in Hawai'i as part of a system of protected estuaries throughout the nation. From information pro-vided, it appears that Wai-manu Valley may be the only stream valley left in the State that is close to meeting the standards for this kind of sanctuary status. Under certain conditions, the Society would favor the selection of Wai-manu Valley as a natural area to be set aside for baseline research studies, Hawaiian sites, and recrea-tion-with no further development of the watershed or water resources on the valley floor. There are several adjustments that should be made in the acquisition process for the Hawaiian lands and in the description of the valley. The draft EIS needs to be revised to present more accurately the long history of the Polynesians in Wai-manu and the present ecology of the valley. The original ecosystems with their native floral and faunal com-ponents have been greatly altered by man's use of the valley for many hundreds of years. It is not "pristine" as the EIS indicates on pages 38 and 39. We agree that inventories of the plant and animal life are badly needed. Mapping of the vegetation zones and a quantitative assessment of the component species is another necessity. Much is unknown of what native and introduced species occur in the valley, but what is known should be accurately presented. It is wholly misleading to call Wai-manu an "undisturbed ecosystem" (p.9), an "undis-turbed natural ecological unit" (p.9), and an "undisturbed" watershed (p. 39). It is less than factual to attribute to Wai-manu an intactness of native ecosystems that does not exist today. These inaccurate designations may have been the result of the misrepresenta-tion of "native species" in the text and lists under Section III, Description of the Environment Affected. Six common plants are identified as "native species," when, in fact, these plants are recognized by botanists in Hawai'i as introduct

they are not native.

they are not native. In addition, it is inaccurate to say that Hawai'i's "unique species of plants and animals...are derived from native species, Polynesian introductions (many of which developed endemic varieties) and 'exotic' species brought by later settlers" (p.22). Contrary to this view, biologists generally attribute the derivation of Hawai'i's unique plant and animal species to natural colonization of this oceanic island chain over millions of years, followed by the natural processes of adaptation and evolution--without the influence of man. Horticultural varieties that were developed from Polynesian agri-cultural introductions, such as the many varieties of taro, cannot be called "endemic" in any scientific sense. Exotic species brought to Hawai'i from other lands by modern man bear no relationship to Hawai'i's long-isolated unique biota--other than their deleterious effects in crowding out the native species. Another example in the EIS of confusion in meaning between "native" and "introduction" is this statement: "There is one native (Polynesian introduction) rat in Hawai'i...."(p.28) No plant or animal species that occurs in Hawai'i as a result of man's actions can be

called "native" or "endemic" in any recognized scientific sense--no matter to what degree the species has been altered since man brought it to Hawai'i. Besides the Polynesian rat,

Called "native" or "endemic" in any recognized scientific sense--no matter to what degree the species has been altered since man brought it to Hawai'i. Besides the Polynesian rat, To clarify the usages that are concerned with the origins of plants and animals which may be present in Wai-manu, it would be helpful to distinguish clearly between these three categories: 1.Native species--the original biota of Hawai'i that was in existence here before the arrival of man. Sometimes it is useful to make a distinction between two types of native species: indigenous or endemic. Indigenous species are those which are native to Hawai'i and also are native to areas outside Hawai'i. For example, 'Ekaha, the bird's-nest fern, is an indigenous plant--occurring naturally in Hawai'i and in other Pacific island groups. 'Auku'u, the black-crowned night heron, is an indigenous bird--a natural resident of Hawai'i and also of the American continents. The most distinctive native forms are the endemic species, those that occur naturally only in Hawai'i. These are the truly unique species that evolved in isolation in these islands and are not present naturally anywhere else. The Hawaiian honeycreepers are members of the endemic bird family, Drepan-ididae. 'Ohi'a-lehua and koa trees that form the backbones of most native forests are endemic plants. All the endangered species of Hawai'i are endemic. 2.Polynesian intro-ductions--These are the thirty or so useful plant species carried to Hawai'i from southerm Polynesia by the first immigrants. The Polynesians also brought with them a rat species and domesticated pig, dog and chicken. 3.Post-Cook introductions--All of the exotic plant and animal species introduced into Hawai'i since 1778 by modern man from all over the world, whether the actions were intentional or inadvertent. If the aggressive, exotic introduc-tions in Wai-manu, such as lantana, Christmas berry, guava, and the exotic sedge in the marshes, are not purposely controlled by man, they will further encroach upon what r

of native vegetation. In the list of flora (pp.23-25), the habitat elevations should be corrected and made consistent with either the range of elevation in Wai-manu or the elevation range for Hawai'i as a whole.

It is misleading to give such scant attention in the EIS to the long Hawaiian presence and occupancy of the valley. Hawaiians must have been continuous residents of Wai-manu for many hundreds of years. They were planters of agricultural crops, fishermen, shrimp harvesters and food gatherers in the valley for perhaps 800 years or more. We know the Hawaiians intensively used fertile lowland valleys for agriculture and widely cultivated taro, their staff of life. From descriptions of Wai-manu by early visitors from the continents we can learn a great deal about the landscape, social organization, occupations, and population size.

great deal about the landscape, social organization, occupations, and population size. In 1823 William Ellis (Journal of William Ellis, 1963, pp.264-271) described the chief of Wai-manu, Alapa'i, as a man of some importance because of his large, well-stocked house, the unusual number of servants and the several large double canoes of the chief. Ellis says that when missionary Asa Thurston walked up to the head of the valley to count the houses, "at one of the villages through which he passed, about 150 of the inhabitants assembled, to whom he preached." Later, about 200 persons gathered near the beach for a

farewell service, according to Ellis. In 1873 Isabella Bird (Six Months in the Sandwich Islands, Tuttle, 1974, pp.155-164) apparently was the first non-Hawaiian woman to enter Wai-manu Valley. From the top of the pali, she counted twenty grass houses, a church and schoolhouse. More houses were encoun-tered as she rode toward the head of the valley. At the valley head, Bird describes thick, wet jungles of vegetation and names many Polynesian and Post-Cook introduced plants as well as a few native species.

well as a few native species. Some degree of Wai-manu affluence is indicated by the fact that thirty Hawaiian horseback riders escorted Isabella Bird back to the mouth of the valley. Bird tells of the Wai-manu population: "It is said that this valley had 2,000 inhabitants forty years ago, but they have dwindled to 117. The former estimate is probably not an excessive one, for nearly the whole valley is suitable for the culture of <u>kalo</u>/taro/, and a square mile of <u>kalo</u> will feed 15,000 natives for a year." The point here is that for 2,000 people to live off the land and water required substantial alteration of the original vegetation and stream life in Wai-manu. The valley and uplands were surely greatly disturbed even before the arrival of modern man from the continents. Recent introductions have brought more change, such as the predaceous Tahitian

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and uplands were surely greatly disturbed even bere the arrival of modelin and rice inter-continents. Recent introductions have brought more change, such as the predaceous Tahitian prawn now resident in the Wai-manu stream. Wai-manu should not be presented as a major sanctuary for native birds and plants or endangered species, when in fact it is not that. Yet the proposed Stage regulation that is contained in the draft EIS says that the Wai-manu Estuarine Sanctuary is established "for the protection of the native flora and fauna...." If Wai-manu is to have permanent protection from development, the emphasis should be placed on the undiverted stream, the estuarine qualities, the baseline research values, Hawaiian sites, and the Hawaiian agricultural use of the valley. Why does the Hawaii Audubon Society take this position? Let me explain. There are several areas of urgent importance in the conservation of native ecosystems on the Big Island. Endangered populations of endemic birds, plants and other life forms occur on land tracts large enough for their survival where there has been less disturbance and where the natural area can be protected from development by official designation. I am thinking of the māmane-naio forest on Mauna Kea and the Pu'u Makaala rain forest in the Upper Wai-ākea and 'Ola'a Forest Reserves. If Wai-manu is inaccurately based on its native flora and fauna values for a sanctuary, this detracts from those native areas that are in desperate need of permanent protection. Light human use should be stressed for the values of research, camping, hunting, restora-tion of Hawaiian sites, and for an outdoor experience in an undeveloped natural area with superb scenic qualities.

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In light of the action programs by Hawaiians for settlement of native claims, the EIS

shows an insensitivity to the <u>kuleana</u> landowners and the Hawaiian Homes Commission lands. It is presumptuous to say baldly that the State can acquire these parcels by negotiation or condemnation at very low prices. Serious consideration must be given to the legitimate demands for suitable land exchanges. With the long and sad history of the loss of land-holdings by the Hawaiians, it would be an injustice for the State to take these parcels for a pittance—at \$500 an acre. The shameful record of questionable land acquisition must not continue. It would be unfortunate for these parcels to be condemned with a forced purchase,

and the sanctuary started in a bitter and resentful climate. The right solution is equitable exchanges in State-owned lands for the <u>kuleana</u> owners, as well as for the Hawaiian Homes Commission parcel. Many Audubon Society members have aloha for the ancient Hawaiian system of practical conservation in land use. They cleared the fertile lowlands and they used native birds and plants in their economy and cultural life. But they didn't use them up! The Hawaiians

plants in their economy and cultural life. But they didn't use them up! The Hawaiians didn't deplete the native natural resources as modern man is doing today. The EIS raises the question of a local and knowledgeable citizen-based group to serve as a Management Advisory Committee for the Wai-manu sanctuary. The Hamākua District Devel-opment Council has been effective for many years in establishing the Ka-lōpā State Park, protection of the Kea'a Forest, work on the Wai-pi'o Valley Master Plan, and getting a federal grant for the historic Honoka'a town. Perhaps this active group of nearby residents would be interested in planning for the sanctuary. Among the recommendations discussed above, three issues are of primary importance: 1.Clear amendment of the sanctuary purposes to protection of its estuarine and other related values, rather than focusing on undisturbed native ecosystems which no longer exist in the valley. 2.Fair land exchanges for the private owners, and a prompt land exchange for the Hawaiian Homes Commission parcel. 3.Recognition of the long Hawaiian presence and use of Wai-manu. If revisions are made along these lines, the Hawaii Audubon Society would endorse the Wai-manu Estuarine Sanctuary proposal. ...

HONOLULU STAR-BULLETIN, 17 May 1976, page A-21, Sanctuary in Wai-manu Valley by Harry Whitten When Umi, the great predecessor of Kamehameha the Great, ruled the Big Island around 1530, there may have been as many as 2,000 people living in Wai-manu, the big Kohala Moun-tains valley immediately north of Wai-pi'o. Today there are no permanent inhabitants, which in one way is a good thing. The valley is so undeveloped that it was found to be the best place in Hawai'i to establish an estu-arine sanctuary. The estuarine sanctuary program has been set up by the federal Coastal Zone Management Act which provides grants to states on a matching basis to acquire and operate estuarine areas as sanctuaries where scientists and students may examine ecological relationships. An estuary is an area where stream water from the land meets and mixes with water from the sea. The lower part of Wai-manu Stream is galty and affected by the tides. A Hawaiian estuary is a breeding area for 'o'opu, mullet, aholehole and many other fish. Establishing the sanctuary will have the effect of preventing development or preventing some rich man from buying the valley for a resort or private retreat. Camping, hunting and possibly swimming would still be permitted, under control, and fishing, research and hiking would be allowed. Of the ll sanctuaries envisioned by Congress in the estuary program, only one grant was available for the category called "insular." Hawai'i's request for Wai-manu was accepted. ...

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Was accepted. ... Two O'ahu men, Walter K. and Eugene K. Burke, were among the last Hawaiians who grew taro in Wai-manu; they remember hiking into the valey in the 1930's to tend the family taro fields and to clean the fishpond and auwai (water channels). ... The giant tsunami of 1946 cleared the remaining signs of human habitation from Wai-manu, thus ending a continuous period of human use or habitation of perhaps 800 years..R.S. Smith, who described his visit to Wai-manu in 1901, said that rice had largely supplanted taro in the bottomlands. What is Wai-manu like today? Richard H. Davis, veteran Islander hiker who has visited Wai-manu many times, says it is a place of great beauty, a valley surrounded by cliffs from which waterfalls, some as high as 3,000 feet, tumble. The valley's center, where taro and rice once grew, is now a big swamp. Old house sites remain. Tuch of the vegetation in the lower part of the valley consists of exotics, such as ironwood, mango, guava, and java plum, although much native vegetation remains, especially back in the valley. There is a trail around the back of the valley, from which the waterfalls can be seen, near which big pools can be found and which lead to mountain apple groves. Some taro grows in the back of the valley. There are many birds. The back is of black sand. Davis warms swimmers about the danger posed by riptides in the bays of both Wai-pi'o and Wai-manu. There are wild pigs in the valley, too many of them. The impact statement says pig hunting should be encouraged pigs helped to ruin the valley for farming. The Wai-manu pigs look as if they've descended from domestic breeds, mixed somewhat with the wild Hawaiian pig. The impact statements says that the 'io, Hawai'i's only native hawk, an endangered species, has been seen in Wai-manu. It says other endangered species may occur in Wai-manu but no listing can be given until studies are carried out. The trait to Wai-monu of care used so the carried out.

but no listing can be given until studies are carried out. The trail to Wai-manu zigzags up a 1,200-feet cliff out of Wai-pi'o and traverses 13 water-cut valleys before descending into Wai-manu. The Forestry Division has proposed a trail system that would link Wai-manu with Polulu Valley to the north, a project that would

offer spectacular scenery for wilderness hikers. The impact statement says a resident manager, probably from the Forestry Division, should be stationed in Wai-manu to protect scientific equipment and enforce regulations. The resident manager could also help prevent littering, which is said to be occurring now. The valley is visited now by fishermen, hunters, opihi pickers, Boy Scouts and

occasional transients.

Letter to Director Lynn A. Greenwalt, U.S. Fish and Wildlife Service; Refuge Manager Palmer Sekora, Hawaiian Islands National Wildlife Refuge; Mr. Eugene Kridler, Office of Endangered Species; from President Sheila Conant, 15 July 1976: Wildlife Refuges In April of 1976 the Hawai'i State Legislature adopted two resolutions (SCR 64 and SR 257).... The resolutions seem to be directed to the U.S. Department of the Interior, and might be interpreted as a request to open the shallow waters and lagoons of Pearl and Hermes Reef, French Frigate Shoals, and Maro Reef to commercial fishing. This is not obvious when one first reads the resolutions because they seem to imply that none of the waters in Hawai'i's northwest chain (i.e., the Hawaiian Islands National Wildlife Refuge) are open to commercial fishing, whereas the three areas specifically mentioned above are the only part of this area not open to such fishing.

Hawai'i's northwest chain (i.e., the Hawaiian Islands National Wildlife Refuge) are open to commercial fishing, whereas the three areas specifically mentioned above are the only part of this area not open to such fishing. It is our understanding that these three areas are also the subject of a boundary dispute between the State of Hawai'i and the Department of the Interior, U.S. Fish and Wildlife Service, which currently has jurisdiction over the areas as they are considered part of the Refuge. Apparently the State feels that only the actual land areas (above low water mark) of the Refuge should be under federal jurisdiction. The Hawaii Audubon Society and the National Audubon Society were very much involved in helped to keep the Refuge under federal jurisdiction, rather than having it revert to the State of Hawai'i. It appears now that another controversy has arisen, this time over the refuge boundaries. Apparently the State of Hawai'i feels that only the land area should be included in the Refuge and that surrounding waters, as well as lagoons should come under State jurisdiction. If this were to happen, of course, it might open the way for serious disturbance to the atoll ecosystems by commercial fishing activities. The Hawaii Audubon Society feels that one of the most important reasons why boundaries should not be changed is that the present Refuge boundaries provide protection for the entire atoll ecosystems, rather than just their terrestrial portions. Animal life on the atoll is completely dependent on the surrounding reef ecosystems and nearshore waters, and protection of these areas is essential if we are to retain what now constitute truly spec-tacular and unique examples of undisturbed atoll ecosystems. Several species of endangered birds, as well as the endangered Hawaiian monk seal and the endangered green sea turtle have their entire (or a unique Hawaiian portion thereof in the case of the turtle) breeding grounds in parts of the Hawaiian Islands National Wildlife Refuge. The sea turtle, French F

tional, dis activities.

activities Populations of endangered birds (i.e., Laysan Duck, Nihoa Millerbird, Nihoa Finch, Laysan Finch) occur at very low numbers, especially the Laysan Duck, in the Refuge. Although commercial fishing does not appear to pose a direct threat to these birds, one must consider the consequences of increased sea vessel traffic, and, especially the possibility of ship-wrecks. Should rats or cats be accidentally introduced on any of the islands because of shipwreck or carelessness, it is quite likely to mean extinction of all these species and that serious damage to other avian populations could result. The difficulty of enforcing what will have to be strict regulations on the activities of fisheries personnel should be considered. The areas in question are so isolated that significant harm to animal populations could take place before officials were alerted to problems. In other words, we would have to agree to take great risks, something the Hawaii Audubon Society is unwilling to sanction. Very little has been said about the value of preserving the reef and lagoon ecosystems intact. At present Hanauma Bay on O'ahu is the only stringently protected reef area in Hawai'i. Reefs in the Refuge present a unique scientific opportunity to study undisturbed systems. Unless the economic gain to be had from fishing these areas is great, it seems we have not even had time to assess the damage being done to reefs in the main islands because of the aquarium fish trade.

because of the aquarium fish trade.

Although we are reluctant to make predictions about what might happen, we would like to point out that past history of commercial fishing in the Refuge has not been good. First to point out that past history of commercial fishing in the Refuge has not been good. First of all, it was probably a major cause of the endangerment of the Hawaiian population of the green sea turtle. According to George Balazs (1975, Defenders of Wildlife:521-523), in 1959 alone, the last year sea turtle harvesting was profitable, a commercial fishing company destroyed 25% of the nesting females present for that year's breeding season. Of course, turtle harvesting on a commercial scale is no longer permitted, but this not to say that turtle populations would not suffer from illegal activities. Increasing the flow of human traffic in the Refuge certainly increases the chances that such activities could occur. There is virtually no data to indicate what the effect of commercial fishing might be on the Refuge's magnificent populations of breeding sea birds. Studies are now underway to investigate this point, among other things. No decisions about opening commercial fisheries in the area should even be considered before this study is complete and available to the public.

public. In view of the foregoing, the Hawaii Audubon Society opposes both releasing boundary dispute areas from federal jurisdiction to the State of Hawai'i, as well as opening these areas for commercial fishing. The Hawaiian Islands National Wildlife Refuge has been the site of many human errors, prompted by economic motives, in the realm of conservation (i.e., ecosystem and species preservation) in the past. Recently, under the protection of the U.S. Fish and Wildlife Service, it has enjoyed a respite from disturbance unequalled since man first landed on the atolls. The Hawaii Audubon Society strongly urges that this protection continue unchanged, or increased, if changed at all. ...

Reply by Acting Regional Director William H. Meyer, Fish and Wildlife Service, 12 Aug. 1976: ...We shared your concerns for the content of Resolutions Nos. SCR 64 and SR 257 and answered them through Director Greenwalt, as per the attached.

answered them through Director Greenwalt, as per the attached. \* There is no real dispute over the boundary of the Hawaiian Islands National Wildlife Refuge, but rather a few unanswered questions that involve International Law of the Sea which the Department of Justice is handling. We have been working with the Hawaiian Department of Natural Resources, and they agree with the points and direction made in the letter from Mr. Greenwalt to the State Senate. As stated in that letter, we are in the process of promulgating a study outline in coopera-tion with Hawaiian Fish and Game and National Marine Fisheries Service. This study will lead toward an exploration of the leeward island resources and a determination whether commercial fishing possibilities exist, and whether they will be compatible with our primary responsibilities. ...

\*Director Lynn A. Greenwalt's reply to 20 April 1976 letter from Seichi Hirai, State Clerk of the Senate, 23 June 1976: This further responds to your April 20 letter transmitting a copy of Senate Concurrent Resolution No. 64 and Senate Resolution No. 257 of the Eighth Legislature of the State of Hawai'i Regular Session of 1976 which request that the U.S. Fish and Vildlife Service give "serious consideration toward permitting the controlled harvest of the marine fishery resources of the Northwestern Hawaiian Islands." At the outset, let me assure you that the U.S. Fish and Wildlife Service is, in fact, giving serious consideration to the request of the State of Hawai'i to permit commercial fishing within the boundaries of the Hawaiian Islands National Wildlife Refuge. In this regard, the Resolutions correctly state that there has been a series of meetings between representatives of this Department and the State of Hawai'i for the purpose of exploring possibilities of clarifying some of the uncertainties pertaining to the status of the submerged lands and waters surrounding those Northwestern Hawaiian Islands which are within the Hawaiian Islands National Wildlife Refuge. State representatives to these meetings have previously called to our attention the desire to permit commercial fishing within the refuge area, if possible. We have advised them, as we now advise you that the Fish and Wildlife Service is agreeable to considering the prospect of commercial fishing within areas of the refuge upon certain conditions: 1. that there be established through scientific studies that there is, in fact, a harvestable fishery resource within the refuge, and 2.it must

that there is, in fact, a harvestable fishery resource within the refuge, and 2.it must also be established that commercial harvesting of any such fishery resource is compatible with the preservation of all other resources within the refuge. Toward this end, we are currently working with your Fish and Game Department and representatives of the National Marine Fisheries Service to initiate a detailed study to furnish this necessary data. To our knowledge, no such scientific data presently exists. Upon the conclusion of this study, a final decision will be made concerning commercial

Upon the conclusion of this study, a final decision will be made concerning commercial fishing possibilities within the refuge. For clarification purposes, it might be helpful if we briefly summarized a few perti-nent background factors. Your Percolutions accurately reflect that the initial creation of the Hawaiian Islands Reservation under Executive Order No. 1019 on February 3, 1909, was for the limited purpose of establishing a preserve and breeding grounds for native birds; sub-sequently, however, the Hawaiian Islands Reserve was re-designated as the Hawaiian Islands National Wildlife Refuge by Presidential Proclamation of July 25, 1940, and pursuant to the National Wildlife Refuge System Administrative Act of 1966 (P.L. 89-669, Stat.926, 16 U.S.C. 668dd), the Hawaiian Island National Wildlife Refuge became a part of the overall National Wildlife Refuge System. Under this system, the Fish and Wildlife Service is responsible for managing refuges in a manner which will provide protection and development of all wildlife resources within the National Wildlife Refuge System. Consequently, it is essential that any permissive activity within the Hawaiian Islands National Wildlife Refuge be consistent with this responsibility. Further, during the series of meetings already held by our respective representatives,

essential that any permissive activity within the Hawalian Islands National Wildlife Keldge be consistent with this responsibility. Further, during the series of meetings already held by our respective representatives, it has been made clear that the Fish and Wildlife Service does not claim jurisdiction over all waters and submerged lands surrounding the Northwestern Islands. Our representatives have pointed out that our position concerning the boundaries of the refuge is, in general, as follows: 1.The mean lower low-water mark on the Islands of Nihoa, Necker, Gardner Pinnacles and Lisianski. 2.For Pearl and Hermes Atoll, French Frigate Shoals, Laysan and Maro Reef, the boundaries extend to the surrounding barrier reefs and include the submerged lands and waters contained therein, as more particularly described in the proposed Memoran-dum of Agreement on this subject submitted to the Department of the Interior by letter of October 31, 1973, from then acting Governor Ariyoshi. As to those islands in the first category above, the Fish and Wildlife Service makes no claim of jurisdiction over submerged lands and waters surrounding the islands concerned; consequently, those areas within the traditional three-mile limit are within the jurisdic-tion of the State of Hawai'i and may be administered as you see fit, as long as the activities have no detrimental effect upon the areas within the refuge. In this regard, if you do decide to permit commercial fishing in these waters, we would ask that you work with the local refuge manager for the Hawaiian Islands National Wildlife Refuge to insure proper protection for the refuge islands. As to the atolls and reef-lagoon areas within the second category, our representatives in the meetings previously mentioned have agreed to consider the possibility of opening certain areas within the refuge to commercial fishing. However, as previously mentioned, it has been our position that before any such determination can be made, we must have sufficient data upon which to base such a

proposed study. ... Excerpts from the minutes of the general meeting, Hawaii Audubon Society (HAS), 19 April 1976: ...Tim Burr reported on the April field trip. The trip was planned as a forest bird hike up Mt. Ka'ala, but rainy clouds forced the leader to choose alternate plans. The group went instead on a shorebird walk at Sand Island. Sightings from this successful walk were reported.

The Mauna Kea General Plan was briefly discussed. A motion to ask that a public hearing be held was presented as written by Alan Ziegler and Frank Howarth. The motion was accepted unanimously by the members. It was announced that President Sheila Conant has been appointed the new ornithologist

member of the Animal Species Advisory Commission. She takes the place of Dr. Andrew Berger, whose term has ended.

The evening's speaker Dr. Edward Shallenberger was introduced by his brother Rob, and

proceeded to give a slide program on marine mammals, particularly porpoises and whales found in Hawai'i. Dr. Shallenberger works at Sea Life Park. A short film titled "The Peace of Mind a Green Place Gives Me" was shown after the talk. ...Steve Montgomery brought the film which presented ecological viewpoints and the need to teach children about ecology.

... A public

17 May 1976: ... There will be no general meetings in July or August unless the Vice President is able to organize a meeting. ... Field trips will be held as usual. ... A public meeting may be called soon on the Mauna Kea Plan. Members are urged to watch the papers.... Paiko Lagoon-back to court. Judge Fong delayed his ruling until after the Department of Land and Natural Resources decided whether to allow the house and utilities, giving no help to citizens seeking a halt to construction. A citizens group was to see Govenor Ariyoshi in a last ditch effort.

Reports of the trip to the Red-footed Booby colony was given. ... Maile Stemmermann and Rick Villegas, both to participate in a NSF funded student survey of Mana-wai-nui valley on Maui this summer were introduced. Maile will be doing the bird work. Phil Bruner and Doug Pratt who will be working on a field guide to the birds of Polynesia were introduced.... Doug Pratt brought eight of his marvelous paintings of native birds to the meeting.... Field observations--call Bob Pyle if you see any interesting birds or nests. He is

the field coordinator.

The program was given by Don Reeser of HVNP. He spoke on the results of the very successful goat control program in the national park. He illustrated his talk with before and after slides which vividly showed the damaging effect that the goats had had, and the striking recovery of the plants after their removal. Mr. Reeser thanked the Society for its support in the early stages of gaining acceptance for the program. Mr. Reeser showed slides of earthquake damages at Hala-pe.

21 June 1976: ...Situation at Paiko Lagoon discussed--not much hope. Bird sightings: A pair of leiothrix were seen in a gulch at Nā Lā'au Arboretum, thought perhaps to be escaped cage birds. ...Sightings of fairy terns confirmed. Tim Burr rechecked the Ha'i-kū Valley area counted at Christmas and reported good views of bush warblers and shama. Bob Pyle

reported a plover in Kai-lua-oversummering in drab plumage, June 21. A workshop on the development of a state park at Ka-'ena was announced. The park be known as the Makua-Ka-'ena State Park. Several hearings would be held at different The park is to locations.

Jim Jacobi gave a report on the ongoing Ka'ū Forest Reserve Bird Survey. A team would be setting up transects in the unexplored forest to survey vegetation and census birds. Jacobi would be preparing a vegetation map of the area from aerial photographs and ground reconnaisance. 'Alalā were heard several times, and 'akiapolā'au, 'ākepa and creeper were seen. An 'ākepa nest was found two feet off the ground in the silversword area. The first 'akepa nest to be found on the Big Island.

It was reported that the Golden Eagle of Kaua'i is alive and well. It was sighted on Red Hill.

The speaker of the evening was Mae Mull who gave an informative talk on the situation at Mauna Kea for conservation of the mountain and its wildlife.

## July and August: No meetings

20 September 1976: ...Bird sightings were reported. Killdeer, large numbers of stilt, and an ibis were sighted at Wai-pi'o. Cordon-bleu and bulbul were reported from La Pietra School. Shallenberger and Pratt sighted edible-nest swiftlets in Halawa Valley. There had been some question as to whether swiftlets released in 1962 and 1965 had survived, but the observers saw them throughout the valley. A barn owl was seen and collected on the road (dead) in Ka-huku. Many red-vented bulbul have been seen in 'Aiea. They are reported to eat swarming termites. One member counted 27 fairy terns flying above Ka-pi'o-lani Park. The consensus was that this was an unusually large flock. Several beautiful "field sketches" done by Doug Pratt during his expedition in Micro-nesia were displayed. Pratt and colleagues, Philip Bruner and Dr. Delwyn Berrett, had gone this summer to Micronesia to survey birds for preparation of a field guide to the birds of

this summer to Micronesia to survey birds for preparation of a field guide to the birds of Polynesia. The program for the evening was a presentation of slides and tape recordings from this trip, harrated by Mr. Pratt.

18 October 1976 by Sheila Conant, acting secretary: ... President Conant called on Omer Bussen for a field trip report. He noted that Wai-pi'o Peninsula had been visited. Seen there were Hawaiian Coots, Hawaiian Stilt, numerous migratory ducks, mostly Pintail and Shoveler, and one Ibis. Other species seen there will be reported in the official field trip report. Bob Pyle was anxious to visit old waterbird sites at Ka-huku, but the group found access difficult; however, some observations were made.

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Other field observations: Two members reported on sightings of exotic cage birds on Diamond Head. Particularly noted were flocks of Lavender Firefinches and a single Red Bishop.

... Omer Bussen encouraged members to become involved in the Sierra Club's high school

...Omer Bussen encouraged members to become involved in the Sierra Club's high school hiking program to encourage young students to become interested in outdoor recreation. ... President Conant introduced the speaker, Mr. Bill Burke. Mr. Burke, originally from New York, is a graduate student in Zoology at the University of Hawaii. He is interested in the behavioral ecology of the Hawaiian Stilt. At present he teaches part-time in the General Science Department at the University of Hawaii and part-time for the Hawaii Pacific College. His presentation was an overview of Hawaiian Natural History with particular attention to birds, although insects, snails, spiders and plants were also discussed. The presentation was a modified version of one he gives (as a representative of the Hawaii Audubon Society) to school children (first grade and kindergarden through high school) and other groups (e.g., senior citizens). His presentation was excellently illustrated, in-cluding presentation of mounted specimens of endemic forest birds borrowed from the Bishop Museum. Museum.

15 November 1976 by Leilani Pyle, acting secretary: ...President Sheila Conant called on Mike Ord to give a field trip report for Sand Island and Wai-pi'o. One sighting of note was 22 pomarine jaegers at Sand Island. Bob Pyle announced that he and a few others went on a "big day" count in late October and got 52 different species. It was announced that the Board has sent in Ed Shallenberger's name as a replacement for Dr. Ziegler, whose term is expiring, on the Animal Species Advisory Commission. ... The speaker for the evening was Dr. John Walters, Department of Oceanography, Univer-sity of Hawaii, on "Beasties from the Deep-A Look at Mid-water Life in Hawaiian Waters," with colored slides. A very interesting talk on mid-water invertebrates, mesoplagic organisms, worldwide.

13 December 1976 by Leilani Pyle, acting secretary: ...Bird observations: Sheila told about an osprey sighted at Hala-pē by Terry Parman. C.J. Ralph told about a red-breasted merganser at Kāne-'ohe Marine Base, and there was a discussion on the increase of Java sparrows on the University of Hawaii campus. ... Bob Pyle announced that the Field Check-List of Birds of Hawai'i was just back from the printer and 2500 light paper copies and 2500 heavy paper copies were printed. A light paper copy will be sent out free with the next 'ELEPAIO. ... Vice President Charles van Riper introduced our speaker, Sandra Guest, who gave us a very learned talk about her research work on white-eyes, entitled "Breeding Biology of the

Japanese White-eye."

17 January 1977: ... Field notes were given by Rey Larsen... of 6 Hooded Mergansers on the Kane-'ohe Marine Base and 5 to 7 gulls on Sand Island. C.J. Ralph told a little about the Volcano Christmas Count which had 25 total species, including several rare and endangered species.

species. ... Charles van Riper introduced our speaker as one of a series of four Federal Wildlife staff involved with Rare and Endangered species. The four will be Palmer Sekora, tonight's speaker; C.J. Ralph; John Sincock; and Mike Scott. Palmer Sekora is Refuge Manager, Hawaiian and Pacific Island National Wildlife Refuges, Fish and Wildlife Agency. He said his talk is not only on endangered species but also on other wildlife. The Fish and Wild-life Agency here consists of himself and the Office of Endangered Species--Gene Kridler, two research biologists in the Research Division--Mike Scott and John Sincock, and Rat Control in Hawai'i with Dave Fellows and Larry Park. Just arrived to head up the Agency here is Hank Hanson. Our speaker showed us slides of refuges on the Windward Islands and then slides on the Leeward Chain about which he stressed the need of support of Hawaii Audubon Society and other groups to help assure their survival as a refuge. ...

Audubon Society and other groups to help assure their survival as a refuge. ... Steve Montgomery told the meeting about the January NATIONAL WILDLIFE magazine with paintings of Hawaiian birds by Douglas Pratt and also about the National Wildlife Week with a theme of Water Pollution. He has 5000 kits to distribute on Water Conservation. Slides taken by Omer Bussen of a bird believed to be the O'ahu Creeper were shown as well as a slide of 6 Hooded Mergansers seen at the Kane-'ohe Marine Base by Rey Larsen. Mona Cunningham showed some slides of birds from her travels. ...

21 February 1977: ... The President announced that the Board has voted on a new Board Member, Larry Hirai, and the membership was asked to approve the appointment. It was moved

Member, Larry Hiral, and the membership was asked to approve the appointment. It was moved by Dick Davis and seconded and passed unanimously. ...A composite list of Honolulu Christmas Counts since 1939 has been compiled by Jack and Alice Mitchell in a roll book.... It has space for future counts into the 1990's. C.J. Ralph, corresponding secretary, has compiled a guide to birding places on each of the five main islands to be sent out upon request with a payment of 50¢ which will include postage. This guide was compiled originally by Fred Zeillemaker. ...The President announced a Board Decision to contribute \$100 to a Bishop Museum display on Whales, and read a letter of thanks from the Acting Director Frank Radowsky. The President also informed...that...John Walters will represent the Society at the Makiki-Tantalus Park Development meetings.

Tantalus Park Development meetings.

Steve Montgomery told...about National Wildlife Week, March 20-26, with a theme of Clean Water. Steve has National Wildlife Conservation kits.../and/ also a poster of Hawaiian native stream life that will be reproduced and circulated throughout the schools and through other interested persons. Also a video tape has been made about local stream life by Leighton Taylor, Director of the Aquarium, which can be purchased for \$40 or borrowed for use in the schools. Omer Bussen told...about the Whale Walk-a-thon which takes place on February 27,

138 organized by Greenpeace. Omer will be walking in it and was asking for sponsors. Field observations: C.J. Ralph reported that Mike Scott on the Island of Hawai'i observed a Tufted Duck in Hilo Lagoon. Dick Davis observed 7 bulbuls and 25/30 Golden Plover on the H-3 Highway in the saddle between Kai-lua and Kane-'ohe. Bob Pyle observed 2 Gallinule and 2 Koloa behind Mr. Sub on Hamākua Drive at the edge of Ka-'ele-pulu Canal in Kai-lua. Tim Burr reported seeing the Hooded Merganser on the Marine Base. He also reported on the Audubon Field Trip on February 13 to Ha'i-kū Valley on which there were approximately 26 people. Its objective was the elusive Japanese Bush Warbler. Also reported were White-tailed Tropicbirds; the Melodious Laughing-thrush was heard; Red-vented Bulbuls, and both species of cardinals. Tim said there is a striking-looking pheasant running about in the area, and to be on the look-out for it. Dick Davis climbed above the spring visited during the trip and discovered about a dozen pia (<u>Tacca Leontopetaloides</u>) /arrowroot/ plants. He was informed by Dr. St. John of the Bishop Museum that these were the first wild pia plants reported in about 30 years. Rey Larsen reported that he had not seen the gulls lately on Sand Island. gulls lately on Sand Island.

Conservation Chairman Frank Howarth reminded us that the Legislature is in session and that we need people to attend to support conservation and protection of rare and endangered species.

endangered species. Chapterization: President Pyle gave the meeting background about the Hawaii Audubon Society association with National Audubon Society. The HAS is an affiliate of National, which is different from being a chapter. There is at present a new interest initiated by Paul Howard, Western Regional Director, in having a chapter of National Audubon Society in the Islands because they have so many members here. The Board discussed it at our February Board Meeting and decided to send the Membership a letter about Chapterization and invite opinions on the matter. The letter has been mailed and should reach members by Tuesday. Co-editor Unoyo Kojima told the meeting she is against HAS becoming a chapter of National Audubon. She said it had been voted down in previous years and that National Audubon does not currently subscribe to the 'ELEPAIO. ...She felt that the \$15.00 which is the member-ship fee is high and would discriminate against interested persons such as students, senior citizens and others who have a limited income. That this fee brings a National Magazine with mostly Mainland oriented articles. That we would need to co-ordinate our stands on conservation issues with National which would involve a lot of red tape and loss of freedom of decision. That...though becoming a chapter would...increase membership for HAS, it would be in quantity and not quality, and we would lose our grass roots personal

touch.

Program: Charles van Riper introduced the speaker, C.J. Ralph, who is with the U.S. Forestry Department in a study of rare and endangered forest birds in Hawai'i. He gave us an interesting talk on his studies on bird migrations. \*\*\*\*\*

an interesting talk on his studies on bird migrations. Here the studies of bird migrations. Field Notes from Maile Stemmermann: Moana-lua Valley On January 1, 1977, I hiked about 3 miles up Moana-lua Valley, briefly noting the birds found there. The weather was partly cloudy and warm as we started up the valley at 09:55, and remained that way the whole time we were there (until 14:30). In the lower part of the valley, the vegetation is exotic, but at the higher elevations native plants such as Koa, 'Ohi'a, 'Ie'ie, Naupaka, Uluhe, and Hapu'u began to appear. The stream was dry as far as we progressed up the valley, and as a result there were no mosquitoes. Since we arrived fairly late in the morning, bird activity was at a low level. Never-theless, thirteen species were recorded throughout the day. The exotic species were found in about the same densities all the way up to the place where we turned back (where the strack turns into a narrow path). The most common of the exotic species was the White-eye, which was at least five times more common than any other species observed. Shama and Car-dinals were the next most common introduced species. These two species were heard both singing and calling. Other exotics found were Barred and Spotted Doves, Myna, Japanese bush Warbler, House Sparrow, House Finch, Spotted Munia, and Mockingbird. The latter was a bit of a surprise as it was found in the wetter upper part of the valley. The bird was initially detected by its song, and I was able to get a short look at the bird as it moved about through a thicket of Guava trees near the stream bed. It sang for quite a while, and we heard imitating a Cardinal at one point. There were also some sightings of native birds. One 'Elepaio was heard singing about three-quarters of a mile from the gate. No other 'Elepaio was heard singing and calling as we progressed up towards the head of the valley. Although the number of native bird detections was small, there may be a large portion of the population which

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Field Notes from Patricia A. Anderson, Alberta, Canada, 1 February 1977: Hawaiian Hawk ...We saw a Hawaiian Hawk on the island of Maui. According to HAWAII'S BIRDS, it is

seen only on the Big Island, so I'd like to tell you where we saw it, so that perhaps someone could look for it again. ...Past Hana, there is a big cross on the left hand side of the road, honouring a priest whose name now escapes me. According to our map there was a path down to the sea. So we parked the car about a mile from the cross (on the northern side of the cross). I walked down past memoins of ald Hawaiian store from the cross (on the sea side of the cross), I walked down, past remains of old Hawaiian stone fences, to the sea. We never did see the grave of the priest, which was supposed to be down there, but we did see the Hawaiian Hawk, and could clearly see his yellow legs. When he saw us, he flew off the rock, screamed above us and flew off toward the island of Hawai'i. ...

12 September, 10 October 1976 and 9 January 1977 field trip observations will be noted by Robert L. Pyle, Recent Observations of Birds on O'ahu-August 1976 to February 1977.

<u>Corrigenda</u>: Vol.36, No.10, April 1976, pages 123 and 124: Change po'o uli to po'ouli. The change is suggested by Professor Samuel H. Elbert, professor emeritus of Pacific languages and linguistics at the University of Hawaii. He cites the following extract from the forthcoming Hawaiian grammar by Elbert and Pukui, "Names of flora and fauna are written as single words if the meaning is not decipherable from the meaning of the parts." Po'ouli is a black-faced honeycreeper. A black mask extends across the forehead and chin and around eyes. Literal translation is po'o = head, uli = black. At the time of naming the bird the question was asked, "Is there any good reason for using po'o = head instead of maka = face, and also is it supposed to be hyphenated?" The answer from James D. Jacobi was, "Po'o apparently means 'head' more than 'face'; however, literal translations are not always possible, particularly in languages oriented so differently as are English and Hawaiian. It should be written without a hyphen." ('ELEPAIO, Vol.35, No.5, Nov.1974, p.59) Pages 118 and 124: Change 'akiapola'au to 'akiapola'au. Professor Elbert wrote 2 April 1977, "We are entering 'akiapola'au in the new dictionary." Evidently, 'akiapola'au is a better Hawaiian name than 'akiapola'au, which is a variant of 'akihi-po'o-lā'au. Vol.37, No.10, Apr.1977, page 115: Change Chinese Bamboo <u>Pheasant</u> to Chinese Bamboo <u>Partridge</u>. (Typographical error) Corrigenda: Vol. 36, No. 10, April 1976, pages 123 and 124: Change po'o uli to po'ouli.

ALOHA to New Members:

Jeref.

A to New Members: Junior: Ramon Verzosa, 3252 Duval St., Honolulu, HI 96815 Regular: Carmelle F. Crivellone, 881 Aalapapa Drive, Kailua, Oahu 96734 Mrs. Nancy T. Greenleaf, 2204 Lark Drive, Colorado Springs, Colorado 80909 Mrs. Karen K. Henthorne, 2832 Kihei Place, #3, Honolulu, HI 96816 Mrs. Lloyd Jeffrey, 625 Linwood Drive, Denton, Texas 76201 Dr. Dan F. Keeney, 905 Peacock Station Road, McLean, Va. 22101 (reinstated) J.L. Long, Agric Protection Bd, Jarrah Rd, S.Perth 6151, Western Australia Ben Marx, Jr., 54 Palimalu Drive, Honolulu, HI 96817 Warren & Beth McDermid, P.O. Box 245, Kailua, Oahu 96734 Noel Miller, 121 Grand St, P.O. Box 115, Palatine Bridge, New York 13428 Ron Squibb, 425 Paunack Place, Apt 3B, Madison, Wisconsin 53705 Kimo Tabor, P.O. Box 87, Honolulu, HI 96810 Library, Kalaheo High School, 730 Iliaina St, Kailua, Oahu 96734 \*\*\*\*\*

Donations: MAHALO! Following members have generously included donations with their dues and purchases: Anonyms-\$7.00, \$50.00; Mrs. Nancy T. Greenleaf-\$15.00; Dr. Dan F. Keeney-\$1.93; J.L. Long-\$4.00; Gerald H. Ohta-\$2.00; Richard C. Smith-\$7.00; Ron Squibb-\$5.00. MAHALO NUI LOA for your KOKUA!

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The annual index for Volume 37 will be mailed to members only upon request, so if you are interested in receiving a copy, please send in your reservation before June to Kojima, 725-A 8th Avenue, Honolulu, Hawaii 96816.

Please report all bird sightings to field observation recorder, Dr. Robert L. Pyle, 741 N. Kalaheo Avenue, Kailua, Oahu 96734, telephone 262-4046. +++++

When you find a bird's nest, please call Dr. Andrew J. Berger at the Department of Zoology, University of Hawaii, telephone 948-8655 or 948-8617.

Field Checklist of Birds of Hawai'i is now available either on heavier card stock or on lighter paper. Mail order-25¢ each or 10¢ each for 10 or more, postpaid; direct purchase-10¢ each or 5¢ each for 20 or more.

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HAWAII'S BIRDS, a field guide, is available for \$3.00 + postage & tax. Postage: U.S. 25¢ book rate, 57¢ first class; foreign-variable, weight 502s; sales and mailing in Hawai'i-add 12¢ sales tax. Send in orders to Book Order Committee, Hawaii Audubon Society, P.O. Box 22832, Honolulu, Hawaii 96822. \*\*\*\*\*

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- MAY ACTIVITIES: <u>15</u> May Field trip to Ulupa'u Head booby colony. Bring lunch, water, and if possible your car. Transportation cost (\$1.00) to be paid to the drivers. Meet at the <u>NOTE</u> State Library on Punchbowl Street at 7:00 a.m. Leader: Dr. Sheila Conant, telephone 988-6522 (home), 948-7535 (office). 9 May Board meeting at Waikiki Aquarium Auditorium, 7:00 p.m. Members welcome. 16 May General meeting at Waikiki Aquarium Auditorium at 7:30 p.m. Program: Feather-ruffling and Bill-passing and Clutching at Straws (A Review of State Wildlife Program) by Ronald L. Walker

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