'ELEPAIO

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Man-Made Debris and Marine Wildlife in the Northwestern Hawaiian Islands

During the summer of 1981 I spent 3½ months on Nihoa Island, Northwestern Hawaiian Islands. The island is a breeding site for 17 species of seabirds, on which I made incidental observations. This note documents my observation of an immature Masked Booby *(Sula dactylatra)* entangled in a piece of fishing net, and is intended to encourage systematic collection of data on manmade debris in Hawaii especially in the Northwest Hawaiian Islands, with their colonies of seabirds, threatened Green Sea Turtles *(Chelonia mydas),* and endangered Hawaiian Monk Seals *(Monachus schauanslandi).*

Cases of marine animals becoming entangled in fishing gear or other forms of floating debris are increasingly common (Parslow and Jeffries 1972, Andre and Ittner 1980, Day 1980, DeGarge and Newby 1980, Coleman and Wehle 1983, Pyle 1983). DeGarge and Newby (1980), in their review of this topic, listed citations documenting entanglement of birds in nets. In addition, ingestion of plastics has been documented for seabirds (Rothstein 1973, Hays and Cormons 1974, Kenyon and Kridler 1969, Pettit *et al.* 1981). Other scientific and popular articles have described the widespread problem of floating debris, especially plastics, in the oceans (Venrick 1973, Wehle and Coleman 1983, Wong *et al.* 1974).

There are relatively few articles that document these phenomena in the Hawaiian Islands (Kenyon and Kridler 1969, Andre and Ittner 1980, Pettit *et al.* 1981, Pyle 1983), although unpublished records are not uncommon (S. Fefer pers. comm.). For example, Great Frigatebirds *(Fregata minor)* may swallow fishing tackle (E. Shallenberger pers. comm.) or pick up floating debris and bring it ashore (pers. obs.). Depending on the nature of the material, this latter behavior could prove damaging or fatal to seabirds that become entangled in objects such as plastic six-pack holders or fishing net. Wehle and Coleman (1983) include a photograph of a gull with a six-pack holder wrapped around its head and lodged between its mandibles. I observed numerous cases of ingestion of plastics by albatrosses on Laysan, Lisianski, and Midway Islands in the summer of 1983. In July of 1981 on Albatross Plateau, Nihoa, I found the carcass of a Black-footed Albatross chick *Diomedea nigripes* with six nearly entire plastic bags and four plastic bottle caps among the numerous plastic objects in its stomach, most of which were small fragments.

In late June, 1981, on Albatross Plateau, the site of Nihoa Island's largest Masked Booby colony (approximately 150 breeding pairs), I saw an immature Masked Booby that had become entangled in a piece of fishing net (Fig. 2). One end of the net was tangled in an 'aweoweo *(Chenopodium oahuense)* bush. The booby had stuck its head through one of the holes in the net and was bound to the bush by the net. After photographing the bird I briefly examined and then released it. There were no signs of emaciation or dehydration; thus, it appeared that the bird had not been in its predicament for more than a day or two. As soon as it was released, the bird walked rapidly away from me, but did not take flight. The net was made of bright green nylon line and its mesh was about 8-10 cm square. Because Nihoa has only one small beach on which I never saw Masked Boobies, I suppose that the bird picked the net up at sea. The net fragment seemed too bulky to have been brought to shore by a bird as a piece of nest material, although not too heavy to have been carried by the bird in flight once it was entangled.

Man-made debris in the world's oceans has become a serious problem for many marine animals, as indicated by a number of articles documenting entanglement in and ingestion of these pollutants (see Literature Cited for examples). The beaches and inland areas of virtually all of the Northwestern Hawaiian Islands, especially the atolls, have large accumulations of man-made debris that has washed ashore, including fishing nets and net fragments of a great variety of sizes, designs, and materials (pers. obs.). There is a considerable variety and amount of plastic and glass debris.

One solution to this problem in Hawaii might be to actively clear the beaches and inland areas of remote islands with important wildlife populations of their man-made debris. For example, at the request of U.S. Fish and Wildlife Refuge Manager Dr. R.J. Shallenberger, National Marine Fisheries Service researchers on Lisianski removed fishing net fragments from areas occupied by monk seals. As a result the number of 1983 (as compared to 1982)

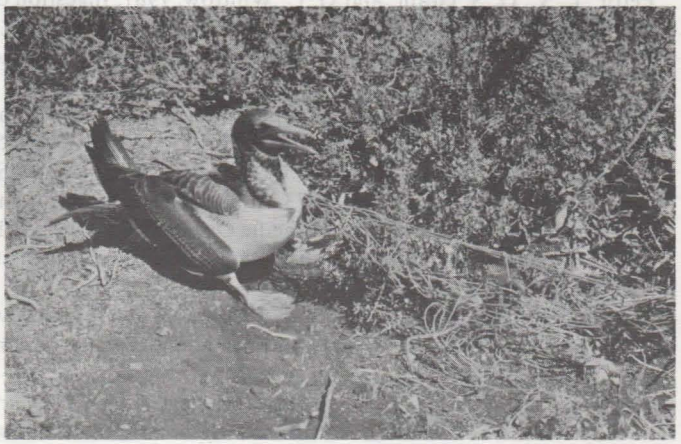

Figure 1. Immature Masked Booby. *(Sula dactylatra)* entangled in fishing net.

Photo by Sheila Conant

incidents of monk seal pup entanglement in such gear was reduced (T. Johanos and A. Kam pers. comm).

Another approach to the solution of debris pollution in the oceans is to determine the source of the pollutants and attempt to reduce the ways and means by which these materials are introduced into marine environments. This approach would be greatly benefited by systematic record keeping of the types and characteristics (e.g., mesh sizes of nets, net material) of debris. National Marine Fisheries Service monk seal researchers have already begun to do this. While it is important to record debris involved in actual cases of animal entrapment, it is also desirable to record the occurrence of any debris judged to be potentially harmful to wildlife in order to provide a more complete picture of the problem.

Solutions to this problem are particularly important in the management of endangered or threatened species such as the Hawaiian Monk Seal or the Green Sea Turtle whose populations are small, somewhat unstable and subject to a variety of environmental stresses.

Acknowledgements

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An Albinistic 'Amakihi Sighted on the Island of Hawaii

Thea Johanos and Dawn Breese

Partial albinism has been described in two species of endemic forest birds on the island of Hawaii: the 'Elepaio *(Chasiempis sandwichensis sandwichensis)* of the old world flycatcher family Muscicapidae (van Riper 1974) and the 'Apapane *(Himatione sanguinea sanguinea)* of the endemic Hawaiian honeycreeper subfamily Drepanidinae (van Riper and van Riper 1978). This note describes the second record of albinism in any of the honeycreepers.

The 'Amakihi *(Hemignathus virens)* is the second most abundant endemic bird in Hawaii (Berger 1981). The 'Amakihi is usually sexually dimorphic in coloration; the male is yellowish-green with black lores, whereas the juveniles and females are a duller gray-green with grey lores. Both sexes have slate grey bills and legs, and black eyes.

On 20 November 1980 we observed an albinistic Hawaii 'Amakihi *(Hemignathus virens virens)* near Puu Ahumoa in the Kaohe Game Management area on the western slope of Mauna Kea, Hawaii. The albinistic 'Amakihi was in the company of another normally-plumaged 'Amakihi with juvenile or female coloration. The bird was a partial albino; the back was pure white, the underparts white with a light yellow wash, and the head and neck feathers white with a peach colored wash. There was no lore color evident, and the bill was light grey and the eyes light brown. The brightest part of the bird was the highly visible brilliant orange tarsus and feet.

Aside from the unusual coloration, the albinistic bird appeared to be normal. It called repeatedly using the high "tseet" or the "mew" call characteristic of the species. The albinistic and normal 'Amakihi foraged in typical 'Amakihi fashion: they probed into mamane *(Sophora chrysophylla)* flowers and gleaned from the leaves. Both individuals moved together between trees during our observation.

Acknowledgements

We thank Andrew J. Berger, Charles van Riper, and C. J. Ralph for comments on this manuscript.

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HONOLULU CHRISTMAS BIRD COUNT
-1983-

Robert L. Pyle

With almost ideal weather, a record number of participants found almost a record number of birds on the Honolulu Christmas Bird Count conducted 18 December 1983. Clear skies in the morning and only high thin clouds in the afternoon, together with light winds, provided excellent observing conditions from the sea coasts up to the highest mountain ridges.

Perhaps encouraged by the good weather, the 1983 count drew 94 observers compared to 72 last year and to only 54 as the highest in any prior year. They worked in 33 parties and spent 146 party-hours afield, both higher than ever before. Most of the increased coverage was in lowland woods and residential areas. Thus, more of the coverage time was spent this year in these two habitats, and percent of coverage time in mountain forests dropped to third place.

The total number of birds recorded was 22,279, well above the 20,226 logged in 1980. All previous counts have been lower, except in 1967(22,641) when the count total was boosted by a special effort to count the downtown myna roosts, and by an early arriving flock of 6000 Sooty Terns counted off Mokapu Peninsula.

Forty-six different species were found, which is about average for recent years. As usual, the 3840 Zebra Doves (formerly called Barred Dove) and 3080 Common Mynas were the highest counts for individual species. Other species with totals above 1000 were House Sparrows (2518), Red-vented Bulbuls (2195), Lesser Golden-Plovers (1747), Japanese White-eyes (1706) and Spotted Doves (1606).

Among these, the totals for the two dove species and the Red-vented Bulbul were new high counts. The bulbul total, almost double last year's previous record high, reflects the continuing increase of this species on Oahu. Furthermore the bulbuls, like the doves, are found in all habitats from the mountains to the sea. Red-vented Bulbuls and Spotted Doves were the only species that were found by all parties (except for one party which worked a few minutes at Paiko Lagoon, concentrating only on shorebirds in the fading light.) Zebra Doves were missed by one party on a mountain trail. All other species were missed by at least several parties.

New high counts also were recorded this year for Hawaiian Gallinules(24 vs. 19), Red-whiskered Bulbuls(467 vs. 222), White-rumped Shamas(361 vs. 303), Japanese Bush-Warblers (129 vs. 113), Nutmeg Mannikins(formerly Spotted Munias; 820 vs. 747), Red-crested Cardinals(590 vs. 552) and Yellow-fronted Canaries (28 vs. 17).

The native forest birds, 'Elepaio, 'Amakihi and 'Apapane, were each about double last year's low counts, but in the usual range recorded in preceding years.

Unusual species found this year were a Glaucous-winged Gull, 2 Gray Swiftlets, 2 Yellow-faced Grassquits and 2 Red Avadavats (formerly called Red Munia). The gull was an immature found on Nuupia Ponds by Ron Walker's group. The swiftlets persist in very small numbers in the central Koolaus. They were found by Omer Bussen and Frank Howarth high on Halawa Ridge in the same area where the same party found one in 1979, the only previous record for this count. Peter Donaldson found the grassquits along a paved road above Tripler Hospital. They had been recorded twice before on the Honolulu count, 2 in 1978 and 1 in 1981. The avadavats were along Kawainui Dyke near where three had been found in 1977. The Lavender Waxbills at Kapiolani Park were the first since 1979, although they were regular on the count throughout the preceding 15 years.

Escaped cagebirds observed this year by count participants included 3 Hill Mynas, 8 Red-crowned Parrots, 6 cockatoos, a Budgerigar and a Common Peafowl. The Hill Mynas, down from last year's 9, and 1 Salmon-crested Cockatoo and 1 Citron Cockatoo were at Lyon Arboretum. Four more cockatoos were seen by the Wa'ahila Ridge party looking down into upper Manoa Valley. Two of these might have been the same ones seen at the arboretum. Only 2 of the parrots were at Kapiolani Park; the other 6 were heard at Makiki Environmental Education Center where they have been seen on previous occasions. These birds may commute regularly between the Center and Kapiolani Park. And finally, 194 feral Mallards and Muscovy Ducks and their crosses were recorded by three parties in the Kaelepulu-Kawainui area. Three more Mallards were at Mokapu Peninsula and a white domestic duck was at Ho'omaluhia Park.

Sectors Covered

1-A: Aiea Trail: John Obata, Susan Schenck
B: N. Halawa Trail: Tonnie Casey, Danene Jessup
C: Halawa Ridge Trail: Omer Bussen, Frank Howarth, Frank Howarth Jr., John Hall
2-A: Sand I., Salt Lake, Moanalua Park, Ft. Shafter, Tripler: Peter, Eugene and

HONOLULU CHRISTMAS COUNT - 1983

Sectors	1	2	3	4	5	6	7	8	9	10	Total
Brown Booby	.	1	.	.	.	.	.	.	.	.	1
Red-footed Booby	.	.	.	.	.	.	.	370	.	.	370
Great Frigatebird	.	.	.	.	.	1	.	4	31	1	37
Cattle Egret	.	2	1	.	.	.	18	149	122	92	384
Black-crowned Night-Heron	.	4	1	.	.	3	3	35	38	3	87
Koloa(Hawaiian Duck)	.	1	.	.	.	.	.	17	.	5	23
Ring-necked Pheasant	.	.	.	.	.	.	2	.	.	.	2
Hawaiian Gallinule	.	.	.	.	.	.	.	23	.	1	24
Hawaiian Coot	.	51	30	.	.	.	6	30	6	12	135
Lesser Golden-Plover	20	353	82	91	31	104	142	120	613	191	1747
Hawaiian Stilt	.	2	.	.	.	5	.	24	79	.	110
Wandering Tattler	.	2	.	.	.	3	1	10	9	1	26
Ruddy Turnstone	.	15	.	.	.	7	7	20	182	38	269
Sanderling	.	.	.	.	.	.	2	.	6	.	8
Pomarine Jaeger	.	1	.	.	.	.	.	.	.	.	1
Glaucous-winged Gull	.	.	.	.	.	.	.	.	1	.	1
Black Noddy	.	.	.	.	.	.	.	.	1	.	1
White Tern	.	.	.	.	4	.	.	.	.	.	4
Rock Dove	.	64	.	122	.	.	6	54	5	3	254
Spotted Dove	43	291	122	279	197	108	78	157	171	160	1606
Zebra Dove	52	918	180	655	933	102	158	350	174	318	3840
Gray Swiftlet	2	.	.	.	.	.	.	.	.	.	2
Red-vented Bulbul	105	492	294	154	127	151	174	262	149	287	2195
Red-whiskered Bulbul	7	42	244	170	4	.	.	.	.	.	467
Japanese Bush-Warbler	40	.	20	5	.	2	4	7	.	51	129
'Elepaio	5	6	.	.	.	2	.	.	.	.	13
White-rumped Shama	71	24	112	37	2	32	22	8	2	51	361
Melodious Laughing-thrush	.	.	.	.	.	3	6	.	.	1	10
Red-billed Leiothrix	.	.	.	.	.	.	3	.	.	.	3
Northern Mockingbird	.	8	3	.	1	.	.	1	.	.	13
Common Myna	19	732	62	429	414	97	108	568	450	201	3080
Japanese White-eye	299	214	429	209	48	57	155	63	45	187	1706
Northern Cardinal	45	45	75	20	9	39	14	15	26	31	319
Red-crested Cardinal	8	138	40	112	88	15	22	80	51	36	590
Yellow-faced Grassquit	.	2	.	.	.	.	.	.	.	.	2
House Finch	39	122	44	81	77	48	5	38	19	16	489
Yellow-fronted Canary	.	.	.	.	28	.	.	.	.	.	28
Oahu 'Amakihi	33	26	30	49	.	.	.	.	.	2	140
'Apapane	77	7	22	.	.	.	.	.	.	.	106
House Sparrow	33	954	71	306	579	122	35	74	160	184	2518
Lavender Waxbill	.	.	.	.	2	.	.	.	.	.	2
Orange-cheeked Waxbill	.	.	.	.	8	.	.	.	.	.	8
Red Avadavat(Red Munia)	.	.	.	.	.	.	.	2	.	.	2
Nutmeg Mannikin(Spotted Munia)	75	68	168	93	6	57	51	21	35	246	820
Chestnut Mannikin(Black-headed Munia)	.	2	.	.	.	.	.	.	.	.	2
Java Sparrow	4	227	44	15	29	17	.	8	.	.	344
No. of Individuals	977	4814	2074	2827	2587	975	1022	2140	2745	2118	22,279
No. of Species	19	30	21	17	19	21	23	26	24	24	46

Moku Manu Island (outside Count circle): Masked Booby: 8; Brown Booby: 39; Red-footed Booby: 347; Great Frigatebird: 366. Total: 760 individuals, 4 species.

Rita Donaldson
B: Alewa Trail, Kamehameha School: Chuck Burrows, Leimomi Akana, Lisa, Nilo and Tina Melo, Steven Oshiro, Kevin Sasaki
C: Nuuanu, Alewa Hts., Iwilei: Betty Joao, Janice and Paul Sweet
D: Downtown Parks: Jack and Alice Mitchell
3-A: Manoa Cliffs (west), Pauoa Flats, Puu Ohia, Round Top Dr.: Wayne Gagné, Allen Allison, Melinda and Stephen Pruett-Jones
B: Manoa Cliffs (east), 'Aihualama Trail, Manoa Falls Trail: Peter Galloway
C: Makiki Environmental Education Center: Faith Roelofs, Marilyn Waterhouse
D: Makiki Valley Loop Trail: Lorin Gill, Fenny Cox, Diane Trembly
E: Punchbowl: George Campbell, Pauline Brown, Betty Johnson, Ed Coffin
4-A: Manoa Valley, University: Sheila Conant, David McCauley, Phyllis Turnbull
B: Lyon Arboretum, Paradise Park: Leilani Pyle, Lewis Pyle, Tom Shields, Jeannett Simons, Suzy Strauch
C: Wa'ahila Ridge Trail: Pat Conant, Jerryne Cole, Leonard Freed, Mark McCann, Stephanie Nagata
D: Ala Moana Park, Ft. DeRussy, Waikiki: same party as 3-E
5-A: Honolulu Zoo: Peter Luscomb, Jane and Paul Field
B: Kapiolani Park, Nala'au Arboretum: Mike Ord, Walter Donaghho
6-A: Diamond Head Crater: same party as 5-B
B: Kuli'ou'ou: Norris and Karen Henthorne Althea Marrack(feeder)
C: Paiko Lagoon: Norris Henthorne
D: Hawaii Kai: Jay Munns
7-A: Old Waimanalo Rd., Bellows AFS: Phil Bruner, Robert Pyle, Dave Woodside, Bob Bone
B: Waimanalo mauka, Kaelepulu Pond: Robert Pyle
C: Maunawili: Richard and Kendall Smith
8-A: Lanikai: Mary Grantham
B: Kaelepulu Canal: Helen Sing, Sally Gribbin, Marlene Lemke(by canoe)
C: Kawainui Dyke, Kailua: Don, Colin and Doris Huddleston
D: Kawainui Marsh, Quarry Rd,: Bruce Eilerts, Stewart Fefer, Rob Shallenberger, Darcy Hu, Robin Hanford, Don Schug
9-A: Mokapu Peninsula, Kaneohe makai: Ron and Charlotte Walker, Diane Drigot, Robert Reed, Marjorie Chew, Kent and Vernon Story
B: Moku Manu(outside count circle): same as 9-A
10-A: Ho'omaluhia Park: Martha McDaniel, Wilfred Ho, Marie Morin, Joel Simasko, Mike McKenney(2 parties, 1 on horseback)
B: Old Pali Rd., Pali Golf Club, Hawaii Loa: Marie Morin, Joel Simasko
C: Haiku, Valley of the Temple: Tim Burr, Carl McIntosh, Lee Bauer, Melvin Kimmel
D: 'Ahuimanu, He'eia, Hawaii Memorial Park: Tim Burr, Carl McIntosh

Ninety-three observers in 33 parties plus 1 observer at feeder. Total party-hours, 146 (106 on foot, 34.5 by car, 4 by canoe, 1.5 by horseback). Total party-miles, 303(98 on foot, 199 by car, 4 by horse, 2 by canoe).

Habitat coverage: parks and residential 40%, lowland woods and scrub 25%, mountain forests 22%, marshes and ponds 10%, beach and ocean 3%.

AIEA RIDGE FIELD TRIP REPORT

A baker's dozen of birders, including visitors from Scotland and California, had a pleasant and successful birding hike on 13 November, 1983. There were light rains in the preceding days, but none on this Sunday. Eucalyptus flowers were of usual abundance, but only one ohia tree was seen in full flower.

On the upper loop trail, we heard the usual Spotted Doves, Northern Cardinals, Japanese White-eyes, Shama Thrushes, and occasional 'Amakihis.

We did not hear any 'Apapanes, but every time we stopped at a valley overlook, we saw groups of two or three flying over. We had a number of binocular identifications of these red, black, and white birds as they flew over.

At 10:00 a.m. some turned back, but about half of us left the loop trail and spent forty-five minutes on the very overgrown ridge trail. The increase in the percentage of endemic plants was dramatic, and we saw lots of lobellias in flower. Several of us got a good look at a yellow-breasted, curved-billed, male 'Amakihi, and we heard one 'Amakihi song, in addition to many call notes.

We heard no 'Elepaio. The same was true one week earlier when I took the Moanalua High School Science Club all the way around the loop trail.

Omer Bussen

CONSERVATION UPDATE

Dear Members:

Conservation Update is a new column created to let you know what Hawaii Audubon Society (HAS) is doing in the area of conservation and how you can help. Every month it will summarize the new conservation issues of the previous month and report progress on past actions taken to protect Hawaii's native wildlife. There is always much more information on any issue than can be included in a few paragraphs. So hopefully, this column will be supplemented by in-depth articles discussing individual issues or actions. Concerned members can help HAS and Hawaiian wildlife by volunteering to write such articles and spread the word. An informed and active conservation community is Hawaiian wildlife's best protection.

Like all new endeavors, this column will undoubtedly evolve. First, we need a good title. Suggestions are welcome and should be sent to: Audrey Newman, c/o Hawaii Audubon Society, P.O. Box 22832, Honolulu, Hawaii 96822. Comments and suggestions for improving the format or content of the column are welcome at all times as well. If you want to write conservation articles, contact Marie Morin (533-7530) or Audrey Newman (732-7572). Finally, items for conservation action or reporting should be submitted in writing to the Conservation Chairperson, Carl C. Christensen, prior to the monthy HAS Board meeting, which is always the second Monday of the month.

KOA LOGGING AT PU'UWA'AWA'A RANCH:

"'Alala habitat at Puu Waawaa Ranch was seriously damaged during the study period (1 July 1982 - 30 June 1983) as a result of koa harvesting. Both live and dead trees were removed and skid trails cut in the Halepiula rain shed area. This operation effectively destroyed the only known 'Alala nesting site on the ranch." (Giffin 1983: Job Progress Report "Mapping and Analysis of 'Alala Habitat").

Puu Waawaa Ranch in North Kona includes state land leased to Mr. F. Newell Bohnett for cattle grazing. HAS believes that koa harvesting is in violation of the lease agreement between Bohnett and the people of Hawaii. In October 1983, HAS asked Governor Ariyoshi to prevent violations of the lease and protect essential 'Alala habitat. The Governor still has not replied. A second letter has been sent. Fortunately, the Puu Waawaa lease is currently being renegotiated, and Mr. Bohnett has asked to reduce the acreage included in his lease agreement. Various state Divisions have requested significant withdrawals from the lease to protect native wildlife. More specifically: 1) The Division of Forestry and Wildlife (DOFAW) has requested 3400 acres of promising crow habitat for an 'Alala preserve. This area would protect valuable Kona watershed as well. 2) The Natural Areas Reserve System (NARS) has requested an additional 3,000-4,000 acres to create a dryland forest ecosystem reserve. Puu Waawaa is one of the few sites where native Hawaiian dryland vegetation still persists. 3) DOFAW has agreed that *Kokia drynarioides* (a very rare native tree with beautiful red hibiscus-like flowers, which is also a proposed endangered plant) should be protected. This plant and other rare native plants are known to be present in the dryland forest ecosystem there. 4) Separate withdrawals for public hunting have been requested as well.

HAS has long supported a Hawaiian Crow Sanctuary or other protected status for the Puu Waawaa area ('Elepaio 42(10): 90-91). You can expect to hear more about this one!

TRI-FLY ERADICATION:

The latest report on eradicating Hawaii's troublesome trio of fruit flies considers widespread malathion spraying, male fly annihilation, more insecticides on Hawaiian soil, and interisland quarantine. Many proposed actions could have devastating effects on our native land snails, insects, and insectivorous birds, not to mention our local economy.

With the help of professional entomologists, Conservation Chairperson Carl Christensen prepared a pointed review of the plan's environmental oversights. Wayne Gagné read the testimony at a January hearing held by the U.S. Dept. of Agriculture to discuss the scope of the Tri-Fly EIS. (See related story in this issue of 'Elepaio.)

WILDLIFE TAX CHECK-OFF:

Refer to the article by Dr.Sheila Conant in the February 1984 issue of 'Elepaio. As of this Feb. 21, the Wildlife Check-off Bill is still with the House Finance Committee and still has not had a hearing. Please write or call you local representative or the Committee Chairperson Ken Kiyabu at 548-7860.

ADOPT-A-REFUGE:

Show your support for Hawaii's wildlife

and get your toes muddy! Grab your friends and join the action at James Campbell National Wildlife Refuge, which is HAS's potential "adopted" refuge in Kahuku on Oahu. (See the "Volunteers Needed" article in this issue.)

NEW PROJECTS:

In January, HAS commented on the EIS Preparation Notice for the proposed agricultural development at Kapua Farms in South Kona. We recommended that the EIS should consider possible effects on the adjacent Manuka Natural Area Reserve; possible increased siltation in adjacent coastal areas; and possible salt build-up from the proposed brackish water irrigation system. The EIS on this project is being prepared NOW. If you are interested, this is the perfect time to get involved.

Audrey Newman

GET THOSE FLIES ?

The U.S. Dept. of Agriculture (USDA) continues to seek ways to get rid of three introduced fruit flies in Hawaii: the melon fly, the Oriental fly, and the Mediterranean fruit fly. The main purpose of the eradication program is to protect California's fruit industry. A relatively minor benefit to Hawaii would be to ease restrictions on export of Hawaiian papaya and other fruits.

In January, Hawaii Audubon Society (HAS) commented on the most recent report circulated for review by the USDA. The report entitled "Review of Alternative Methods and Programs for Eradication of the Tri-Fly Complex from the State of Hawaii" is part of the Tri-Fly Environmental Impact planning process. HAS believes "...the Tri-Fly program as proposed poses serious threats to the native ecosystems of our state, particularly to native insects, land snails, and insectivorous forest birds. Furthermore, we believe the economic benefits to the State of Hawaii will be outweighed by the economic costs and public inconvenience inherent in the Tri-Fly program. Finally, we believe the technology of the proposed eradication program to be unproven, and ...the serious costs of the program are unlikely to be offset by significant economic benefits."

Both the report and HAS comments on the report were complex and detailed. The following is a brief summary of HAS concerns regarding the major control and implementation tactics discussed:

1. Malathion: The report discusses the aerial spraying of Malathion, an insecticide, over major portions of the state to directly kill the offending fruit flies. However, it would also: a). Threaten our native snail and insect populations, including the endangered *Achatinella* tree snails on Oahu. b). Risk contamination of our groundwater, other water systems, native stream life and aquaculture programs. c). Possibly ruin the paint on our cars.

2. Annihilation of Male Flies: The report proposes using baited lures to attract and kill male flies and reduce the reproductive potential of the fruitfly populations. However, the method may not be species-specific. Unknown numbers of native insects might be eradicated as well, especially native drosophilids (Hawaii's endemic fruitflies).

3. Other Eradication Methods: HAS also opposed the application of organophosphorus insecticides in "areas inhabited by native invertebrates"; and the removal of guava, because it is the preferred host tree for the *Achatinella* in some parts of Oahu.

HAS questioned the proposed "inundative (fruitfly) parasite release" which might also affect the native drosophilids.

According to the report, implementation of these control tactics would require inter-island quarantine and inspections until statewide eradication is completed. HAS testified that such measures "...will prove to be an intolerable burden on the people of Hawaii..." and will probably be ineffective due to numerous uncontrolled air taxis, private planes, small boat traffic, and wind-borne dispersal between the islands.

The control program's direct costs were estimated between $141-493 million. Such "distressingly vague and indefinite" figures preclude serious cost-benefit analysis.

Finally, the proposed "Statewide Incremental Program" recommended testing the program on one island (Kauai) before it is used statewide. However, "...under the proposed time schedule it will be impossible to demonstrate that eradication on Kauai has or has not been successful before eradication efforts are begun on Hawaii. This strongly suggests that the statewide program, once begun, will never be subjected to a test of its effectiveness but will proceed regardless. We believe that if the eradication program is undertaken at all there must be a mandatory decision point early in the program to determine whether or not the program is likely to succeed....if the program is not proven to be successful during its first experimental phase, it should be stopped immediately before the public is subjected to further costs and inconveniences

and before more than a single island suffers massive applications of pesticides." According to the report's criteria, proof of eradication at a single site will require a minimum of 2-2.5 years from the commencement of preparatory baseline studies.
(This article was abstracted from comments prepared by Carl C. Christensen, HAS Conservation Chairperson.)

Audrey Newman

ANNUAL TREASURER'S REPORT 1983

Prepared by Norris Henthorne

Approved by the Auditing Committee: George Campbell, Marie Morin, and Audrey Newman.

HAWAII AUDUBON SOCIETY
Statement of Income for the year ending 31 December 1983.

1983 Revenue:

Dues	$ 7837.05
Donations	3032.14
Hawaii's Birds(profit on copies sold)	10151.36
Guide to Hawaiian Birding	144.39
Field Checklist	43.46
Preliminary List	56.00
Endangered Waterbirds	11.00
Posters	65.69
'Elepaio, back issues	28.50
Tinker's List	0
T-shirts	80.00
Postcards	103.70
R.S. Taylor Scholarship	450.00
Interest	6371.79
Miscellaneous	633.40
TOTAL REVENUE	$29,008.48

1983 Operating Expenses:

'Elepaio	$11,512.39
Office	1118.39
Telephone	10.78
Taxes	466.74
Assitance Grants	7200.00
Research Grants	1350.00
Professional Fees	0
Travel	385.08
Scholarships	900.00
Miscellaneous	245.90
TOTAL OPERATING EXPENSES	$23,189.28
1983 Net Income	$ 5,819.20

Balance Sheet 31 December 1983

Assets

Checking Account	$ 3779.08
Savings Accounts - Book Reserve	46094.35
- General	11787.73
- Funds	7640.63
- Life Reserve	7159.64
Inventory - Hawaii's Birds	7037.17
- Pacific Birds	13534.50
	$97,033.10

Equity

Retained Earnings from 1982	$ 91213.90
1983 Net Income	5819.20
	$97,033.10

MARCH MEETING: COOK ARCHIPELAGO BIRDS AND PLANTS

Our guest speaker for the Monday, 19 March general meeting will be Mark Merlin. The title of his slide show will be "Bird and Plant Life in the Southern Cook Island Group". He will discuss his observations of flora and fauna in the various ecological situations on the three basic types of islands in the Cook Archipelago.

PLEASE NOTE: THIS MEETING WILL BE AT THE MANOA LIBRARY AT 2716 WOODLAWN DR. BEGINNING AT 7:30 p.m.

VOLUNTEERS NEEDED

At 9:00 a.m. on Saturday 10 March, you are invited to help create nesting habitat for endangered waterbirds. Volunteers are needed to cut and hoe vegetation on nesting islands at the James Campbell Nat. Wildlife Refuge. USFWS personnel will be on hand to direct and help. Volunteers will have to wade out to the islands, so appropriate wading wear is necessary. Also, bring your own garden tools, lunch, and water. Contact Phil Bruner at 293-3820 before March 7 if you plan to come or want information.

HELP WITH 'ELEPAIO

The April issue of the *'Elepaio* will be pasted-up 17 March (Sat.) at 1415 Victoria St. beginning at 12 noon. The entry phone number is #198. Call Marie at 533-7530 after 5 pm or call Peter at 847-3511 ex. 156 during the day for more information. Everyone welcome to come and learn!

MARCH FIELD TRIP: POAMOHO

The Sunday, 11 March field trip will be to Poamoho Trail on Oahu. The trip will feature exotic as well as some native forest birds. The hike will be long and requires good hiking shoes.

Meet at 6:30 a.m. on Punchbowl St. next to the Hawaii State Library. Bring binoculars, water, a raincoat and a four-wheel-drive vehicle, if you have one! Please call the trip leader, Marie Morin, at 533-7530 if you need more information or if you have a four-wheel-drive vehicle which can take extra passengers.

IF NOT A MEMBER, PLEASE JOIN US

JOINT MEMBERSHIP
(National and Hawaii Audubon Societies)

Individual	$ 30.00
Family	38.00
Sustaining	50.00
Supporting	100.00
Contributing	250.00
Donor	500.00
Life (single payment)	1500.00
Dual Life (single payment)	2000.00

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

LOCAL MEMBERSHIP
(Hawaii Audubon Society Only)

Regular	$ 6.00
Junior (18 and under)	3.00
Subscriber (non-Hawaii residents)	6.00
Life	150.00

(payable in three equal annual installments)

All Local Memberships and Subscriptions are for a calendar year January through December. New Local Members and late renewing members who send in dues through September may obtain all previous issues of 'Elepaio in that calendar year, upon request and reimbursement to the Society for mailing costs. Dues received after September are applied to membership extended through the following calendar year, but do not include previous issues of 'Elepaio in the current year.

HAWAII AUDUBON SOCIETY

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'ELEPAIO

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Production Committee.....Anne Conibear, Kathy Harrington, Audrey Newman, Susan Schenck, and Joel Simasko.

ISLAND REPRESENTATIVES

Lanai	Peter Connally	565-6242

CALENDAR OF EVENTS

Mar. 10 (Sat.) Volunteer! See page 94.

Mar. 11 (Sun.) Field trip to Poamoho on Oahu. Meet 6:30 a.m. at the State Library on Punchbowl St. Call Marie at 533-7530 for info.

Mar. 12 (Mon.) Board meeting at the home of Norris and Karen Henthorne at 537 Kuliouou Rd, 7:00 p.m. Call 395-0422 for more information.

Mar. 19 (Mon.) General meeting at Manoa Library, 2716 Woodlawn Dr., at 7:30 p.m. Speaker Mark Merlin on *Cook Archipelago Birds and Plants*. NOTE THAT THIS MEETING IS AT MANOA LIBRARY.

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