



HONOLULU CHRISTMAS COUNT — 1986

Robert L. Pyle

Despite some rain and high winds in the upland areas, near record numbers of individuals and species were found on Honolulu's 43rd consecutive Christmas Bird Count conducted 21 December 1986. Participation and coverage were down a bit from previous years. The 68 observers in 31 parties spending 138 party-hours afield are all among the lowest figures for the past five counts.

Nearly half the coverage was in parks and residential areas (45%), another third in lowland woods and scrub (30%), and only 14% this year in mountain forests. For comparison, in the 1976 count ten years ago, habitat coverages were 45% in mountain forests, 30% in parks and residential areas, and 10% in lowland woods and scrub. Some of the drop in mountain forest coverage this year was because last minute problems prevented access to the Halawa Ridge, one of the count's best mountain forest trails.

The total of 28,690 birds tallied is only 113 shy of last year's all time record high total. Fifty different species were found in 1986, compared with 51 last year. Again, Zebra Doves (7860) far outnumbered all other species. The count of 5420 Common Mynas was much higher than in any previous year since 1967 when a special effort was made to count mynas roosting in downtown Honolulu. Other species with counts exceeding 1000 were, in order, House Sparrow (2633), Spotted Dove, Red-vented Bulbul, Lesser Golden-Plover, and Japanese White-eye (1078). This order is unchanged from last year.

The count of 7860 Zebra Doves is not only a new record high for the species but is the highest total for any one species ever recorded on the Honolulu Count. Java Sparrows continue to increase with a new high mark of 754 found in the count circle this year. The only other species for which new high counts were recorded this year are White Tern (12) and Yellow-fronted Canary (31).

The most unusual species found on the count was a Peregrine Falcon seen well as it flew by the observers in Kailua. It may have been the same Peregrine reported earlier in December in downtown Honolulu. A Peregrine was observed once before on the 1976 count. Nine Wedge-tailed Shearwaters seen in the ocean off Lanikai is an unprecedented total for the count. Most Wedge-tails depart Hawaiian waters in winter, and only one or two have been recorded on 3 previous Honolulu Christmas Counts.

A Pueo was seen in Hoomaluhia Park on the day before the count. Feral species recorded on count day, but not included in the count totals, were 54 Mallards, 164 mixed Mallard/Muscovy ducks, 2 feral chickens, and 4 Rose-ringed Parakeets.

SECTORS COVERED — 1986

- 1-A: **Aiea Trail:** John Obata, Susan Schenck
- B: **Halawa Ridge Trail:** Joseph Bussen, Steve Berendzen
(access prohibited; no coverage)
- 2-A: **Moanalua Valley:** Bob and Doris Strickland, Pauline Sato, Patrick Ching, Dorothy Myers
- B: **Tripler Hospital, Tripler Ridge Trail:** Peter Donaldson
- C: **Ft. Shafter, Kahauiki Trail, Shafter Flats:** Dennis Hodsdon
- D: **Sand I., Keehi Park, Moanalua Park:** David Bremer
also offshore Sand Island (outside count circle)
- E: **Kalihi Valley:** Tim Sutterfield, Darcy Hu, Don Schug
- F: **Alewa Trail:** Chuck Burrows, Edward Rios
- G: **Kamehameha Schools, Kapalama:** Sigrid Southworth, Teena Melo, Dana Nakasato
- H: **Nuuuanu Valley:** Rick Williams, Dan Takata, Beverly Lee, Jack Mitchell
- 3-A: **Punchbowl:** George Campbell, Betty Johnson, Helen Marston, Ed Coffin, Margaret Clark (2 parties)
- 4-A: **Ala Moana Park, Ft. DeRussy:** same parties as 3-A
- B: **Manoa Valley:** Sheila Conant, Karen Falkenmayer
- C: **Woodlawn Trail:** Stephanie Nagata
- D: **Waahila Ridge Trail:** Leonard Freed, Ted Mashima
- E: **Lyon Arboretum, Paradise Park:** Jack Mitchell, Barbara Heil, Helen Bryan (feeder)
- 5-A: **Honolulu Zoo, Kapiolani Park, Na-laau Arboretum, Diamond Head Crater:** Mike Ord
- 6-A: **Kahala to Paiko Lagoon, Niu Valley:** Andrew and Mary Engilis, Susan Mill, Warren Wagner, Clyde Imada (2 parties)
- B: **Waialae-iki Trail:** Bruce and Robin Eilerts, Maura O'Connor, Chris Chesne
- C: **Kuliouou Valley Trail, Kuliouou, Niu:** Norris Henthorne
- D: **Palolo Valley:** Keith Leber
- E: **Kamilonui Valley, Hahaione Valley, Paiko Lagoon:** Jay Munns
- 7-A: **Old Waimanalo Road, Bellows AFS, Waimanalo:** Robert Pyle, David Woodside, Phil Bruner
- 8-A: **Keolu Hills, Mid-Pac Golf Course:** Carl McIntosh
- B: **Lanikai:** Carmelle Crivellone
- C: **Kaelepulu Canal, Kawainui Canal to Kailua Road:** Helen Sing, Marlene Lemke (by canoe)
- D: **Kawainui Canal and Dike, Kailua:** Don and Doris Huddleston
- E: **Kawainui Marsh, Quarry Road, Kapaa Landfill:** John Engbring, Celestino Aguon

HONOLULU CHRISTMAS COUNT — 1986

SECTORS	1	2	3	4	5	6	7	8	9	10	Total
Wedge-tailed Shearwater	—	—	—	—	—	—	—	9	—	—	9
Brown Booby	—	—	—	3	1	4	—	—	1	—	9
Red-footed Booby	—	—	—	—	—	6	—	5	391	—	402
Great Frigatebird	—	—	—	—	—	—	—	—	6	—	6
Cattle Egret	—	7	—	—	—	17	58	731	69	106	988
Black-crowned Night-Heron	—	—	—	—	—	—	1	23	32	—	56
Hawaiian Duck (Koloa)	—	—	—	—	—	—	3	9	—	4	16
Peregrine Falcon	—	—	—	—	—	—	1	—	—	—	1
Gray Francolin	—	—	—	—	1	—	—	—	—	—	1
Ring-necked Pheasant	—	—	—	—	—	—	6	—	—	—	6
Common (Haw'n) Moorhen	—	—	—	—	—	—	—	4	—	—	4
American (Haw'n) Coot	—	5	—	—	—	—	1	17	—	—	23
Black-bellied Plover	—	—	—	—	—	1	—	—	—	—	1
Lesser Golden-Plover	1	392	68	92	20	265	109	125	248	162	1482
Black-necked (Haw'n) Stilt	—	—	—	—	—	—	—	6	97	—	103
Wandering Tattler	—	1	—	—	—	3	1	—	15	—	20
Ruddy Turnstone	—	51	—	—	—	31	—	—	231	4	317
Sanderling	—	—	—	—	—	1	2	—	2	—	5
Pomarine Jaeger	—	—	—	—	—	1	—	—	—	—	1
Black Noddy	—	—	—	—	—	—	—	1	1	—	2
White Tern	—	1	—	—	3	8	—	—	—	—	12
Rock Dove	—	14	—	195	—	55	65	86	3	40	458
Spotted Dove	38	135	12	132	102	258	570	925	263	98	2533
Zebra Dove	15	821	110	1131	675	726	3375	550	329	128	7860
Common Barn-Owl	—	—	—	—	—	—	1	—	—	—	1
Eurasian Skylark	—	4	—	—	—	—	—	—	—	—	4
Red-vented Bulbul	35	494	80	139	71	354	160	311	107	272	2023
Red-whiskered Bulbul	—	63	13	90	1	12	—	—	—	1	180
Japanese Bush-Warbler	—	4	—	1	—	1	2	—	—	6	14
(Oahu) 'Elepaio	—	6	—	—	—	7	—	—	—	—	13
White-rumped Shama	18	39	1	24	—	43	23	9	2	27	186
Melodious Laughing-thrush	—	1	—	—	—	—	—	—	—	—	1
Red-billed Leiothrix	—	—	—	—	—	13	5	—	—	—	18
Northern Mockingbird	—	9	7	1	—	1	2	—	—	—	20
Common Myna	4	573	49	438	335	553	506	2334	417	211	5420
Japanese White-eye	67	318	7	164	40	235	40	68	33	106	1078
Northern Cardinal	—	94	12	14	14	39	24	36	20	10	263
Red-crested Cardinal	1	125	35	108	22	50	38	91	44	45	559
Yellow-faced Grassquit	—	2	—	—	—	—	—	—	—	—	2
House Finch	4	270	—	31	65	89	51	69	14	3	596
Yellow-fronted Canary	—	—	—	—	24	7	—	—	—	—	31
Common (Oahu) 'Amakihi	—	70	—	25	—	15	—	—	—	—	110
'Apapane	64	12	—	1	—	8	—	—	—	—	85
House Sparrow	—	816	71	431	288	452	125	231	146	73	2633
Lavender Waxbill	—	—	—	—	1	—	—	—	—	—	1
Orange-cheeked Waxbill	—	—	—	—	—	—	—	—	21	—	21
Red Avadavat	—	—	—	—	—	—	—	2	—	—	2
Warbling Silverbill	—	—	—	—	3	—	—	—	—	—	3
Nutmeg Mannikin	—	155	27	—	12	61	7	56	28	11	357
Java Sparrow	—	242	100	35	22	200	—	126	28	1	754
Total Individuals	247	4724	592	3055	1700	3516	5176	5824	2548	1308	28690
Species	10	28	14	19	19	31	25	24	25	19	50
Party-hours	4	35	3	15	4	33	8	18	11	7	138

Moku Manu (outside count circle): Masked Booby, 6; Brown Booby, 26; Red-footed Booby, 127; Great Frigatebird, 174.

Offshore Sand Island (outside count circle): Brown Booby, 1.

Seen in count circle during count period but not on count day: Pueo

- 9-A: **Mokapu Peninsula, Kaneohe makai:** Ronald Walker, Lance Tanino
also **Moku Manu** (outside count circle)
- 10-A: **Old Pali Road, Pali Golf Course, Hawaii Loa, Hawaii Memorial Park, Heeia Marsh:** Marie Morin, Joel Simasko
- B: **Haiku to Kahaluu to Heeia:** Dennis Wysong, Stewart Fefer, Harvey King
- C: **Hoomaluhia Park:** Martha McDaniel (not covered count day)

Sixty-four observers in 31 parties plus 1 observer at feeder plus 3 additional participants. Total party-hours, 138.1 (97.6 by foot, 37.5 by car, 3.0 by canoe). Total party-miles: 319.8 (77.8 on foot, 240 by car, 2.0 by canoe).

Habitat coverage (% of party-hours): parks and residential 45%, lowland woods and scrub 30%, mountain forest 14%, marshes, ponds and canals 8%, beach and ocean 3%.

741 N. Kalaheo Ave.
Kailua, Hawaii 96734

The Waipio, Oahu, Christmas Bird Count: 1986 Results and a Review of the First Decade, 1977-1986

David Bremer

The Waipio, Oahu, Christmas Bird Count (CBC) has now been conducted for ten consecutive years following guidelines established by the National Audubon Society. The count circle for the Waipio CBC is defined as being centered at Kipapa School in Mililani with a 7.5 mile radius which includes important areas of wetland habitat at Pearl Harbor, trails in the Koolau and Waianae Mountains, plus a large central region of agricultural and residential land extending from Pearlridge to Poamoho. The present report first details the findings of the 1986 Waipio CBC, then reviews trends from the ten year Waipio CBC history.

The 1986 Waipio, Oahu, CBC

A total of 45 species and 7285 individual birds were tallied on Saturday, December 22, 1986 (Table 1). These figures are low compared to other recent Waipio CBCs, but it was a good year for counts of owls, pheasants, 'Apapane, Red Avadavats, waxbills, and some other species. One new species was recorded, bringing the Waipio CBC list for all years to 77 species.

Audio identification of rare birds were highnotes of the day. Two Gray-sided Laughing-thrush were heard along the Poamoho Trail. Although this is the first Waipio CBC report of this species, Taylor and Collins ('Elepaio 39:79-81) clearly observed two of these *Garrulax caerulatus* on the Poamoho in February, 1978, and cited accounts of 17 apparent sightings of the species on the trail between 1947 and 1960. They expressed puzzlement over the 18 year absence of reported sightings between 1960 and 1978, but nearly 9 years has elapsed between the "rediscovery" and the 1986 CBC's new record. Also in the 1986 CBC, an 'Iiwi was heard for the first CBC record of that species along the Palikea Trail.

'Apapane were present in large numbers in flowering eucalyptus groves along the jeep road access to the Poamoho Trail. Engilis commented that these birds could have easily been missed if

the party had been driving rather than walking. Recent heavy rains coupled with general deterioration of that road made it necessary to walk from the edge of the cane fields upward. Added to the Sector 3 total were three 'Apapane seen from the Manana Trail by Munns and Cooper.

Donaldson and Pyle rose early to complete a predawn hour of well-rewarded owling on the Waiawa and Waipio peninsulas. In addition to their observations of 4 Common Barn-Owls and 2 Pueo, another Pueo was sighted by the Palehua party.

Some changes in distributions of exotic species were apparent this year. Cattle Egrets appear to be flying in larger numbers up the central plain. There were 168 egrets counted in Sectors 4 and 5 where previously no more than 27 had been observed during a CBC day. A tally of 22 Java Sparrows on Wheeler AFB marks the first CBC record of more than 2 of this species outside of Sector 2. Red Avadavats were present in record numbers in Sector 4 and also in Sector 7. The Common Waxbill count increased substantially this year though most observations continued to be from Sectors 1 and 2. Large swarming flocks of Chestnut Mannikins were observed this year, and the reported total of 767 of this species may underestimate the numbers actually seen.

Two mainland birders, O'Brien and Takeuchi, contributed a monumental effort in covering suburban and rural regions from Pearlridge to Wahiawa, including Ewa and Kunia. The need this year to thinly spread this and other parties across the large residential areas may account for lower counts of some introduced species.

SUMMARY DATA

Weather: Mostly cloudy, little wind, some light rain, trails wet

Participants: 19 observers in 7 parties

Party hours: 27.4 hr on foot, 20.6 hr by car, 48 hr total

Party miles: 22.1 mi on foot, 219.5 mi by car, 241.6 mi total

Owling: 1 party hour and 4 party miles

Habitat: 13.3 hr mountain, forest; 7 hr lowland woods, scrub;

3.8 hr agricultural, 17.1 hr parks, residential; 6.5 hr wetlands

OBSERVERS

Party A: Peter V. Donaldson, Robert L. Pyle, W. Michael Ord

Party B: John O'Brian, David M. Takeuchi

Party C: David and Sara Bremer, John Hall

Party D: David Cooper, Jay Munns

Party E: Andrew Engilis, Carl McIntosh

Party F: Charles and Karen Falkenmayer

Party G: Patrick Ching, Bruce and Robin Eilerts, Mark Merlin, Maura O'Connor

SECTORS

1. (Party A) Waipio Peninsula, Honouliuli NWR, Waiawa NWR
2. (Party A) Neal Blaisdell Park, Pearl Ridge watercress farm
(Party B) Pearl Ridge, Pearl City residential
(Party C) Crestview, Waikele, east Waipahu
(Party D) west Waipahu
3. (Party D) Manana Trail
(Party E) Poamoho Trail
4. (Party A) road to Kipapa Trail
(Party B) Whitmore, Wahiawa, Leilehua golf course
(Party C) Mililani, Mililani Cemetery Road
5. (Party B) part of Wheeler AFB
(Party F) Schofield, part of Wheeler AFB
6. (Party B) Kunia, Ewa plain, Pearl Harbor shoreline
7. (Party G) Palehua road, Palikea Trail

Table 1. Species Observed in the 1986 Waipio CBC by Sector

SPECIES	SECTOR							Total
	1	2	3	4	5	6	7	
Cattle Egret	116	82	—	159	19	10	—	386
Black-crowned Night-Heron	14	—	—	—	—	—	—	14
Green-winged (Am.) Teal	3	—	—	—	—	—	—	3
teal, sp.	4	—	—	—	—	—	—	4
Hawaiian Duck (Koloa)	7	2	—	—	—	—	—	9
Northern Pintail	4	—	—	—	—	—	—	4
Northern Shoveler	19	—	—	—	—	—	—	19
Lesser Scaup	2	—	—	—	—	—	—	2
Erckel Francolin	—	—	—	—	1	—	4	5
Ring-necked Pheasant	4	—	—	1	—	—	—	5
American (Haw'n) Coot	21	10	—	—	—	—	—	31
Lesser Golden-Plover	172	31	—	117	133	13	—	466
Black-necked (Haw'n) Stilt	112	3	—	2	—	11	—	128
Lesser Yellowlegs	2	—	—	—	—	—	—	2
Wandering Tattler	14	1	—	—	—	—	—	15
Ruddy Turnstone	36	—	—	—	15	4	—	55
Sanderling	69	—	—	—	—	20	—	89
Pectoral Sandpiper	1	—	—	—	—	—	—	1
Dunlin	1	—	—	—	—	—	—	1
dowitcher, sp.	5	—	—	—	—	—	—	5
Rock Dove	2	4	—	—	—	—	—	6
Spotted Dove	68	147	8	148	40	2	—	413
Zebra Dove	76	162	10	219	60	3	9	539
Common Barn-Owl	4	—	—	—	—	—	—	4
Short-eared (Haw'n) Owl	2	—	—	—	—	—	1	3
Eurasian Skylark	17	1	—	3	4	—	—	25
Red-vented Bulbul	104	138	56	178	43	6	11	536
Japanese Bush-Warbler	—	—	13	21	—	—	13	47
(Oahu) 'Elepaio	—	—	1	—	—	—	4	5
White-rumped Shama	7	7	36	11	9	—	10	80
Gray-sided Laughing-thrush	—	—	2	—	—	—	—	2
Northern Mockingbird	4	—	—	—	—	—	1	5
Common Myna	48	182	—	461	352	7	3	1053
Japanese White-eye	28	68	225	111	29	—	31	492
Northern Cardinal	23	12	20	36	7	—	7	105
Red-crested Cardinal	28	32	9	80	34	5	5	193
House Finch	32	52	79	53	157	—	51	424
Common (Oahu) 'Amakihi	—	—	12	—	—	—	26	38
'I'iwi	—	—	—	—	—	—	1	1
'Apapane	—	—	134	—	—	—	25	159
House Sparrow	46	204	—	214	118	11	—	593
Common Waxbill	187	50	—	3	—	—	—	240
Red Avadavat	57	23	—	85	—	—	8	173
Nutmeg Mannikin	4	2	—	66	21	—	12	105
Chestnut Mannikin	225	13	—	479	50	—	—	767
Java Sparrow	—	11	—	—	22	—	—	33
TOTAL INDIVIDUALS	1568	1235	605	2449	1114	92	222	7285
TOTAL SPECIES	37	22	13	21	18	11	18	45

The First Decade of the Waipio CBC: 1977-1986

The ten annual Waipio CBCs provide an informative picture of birdlife in the central Oahu region. The number of species per CBC has ranged from 49 to 33 with a median of 47 (Table 2). Of the 77 different species identified in one or more of the Waipio CBCs, 39 have been accounted for in the majority of the ten counts and 25 have been counted in all ten of the CBCs. All 10 native species known from this area have been observed, though 3 ('I'iwi, 'Oahu Creeper, and Pueo) have been seen in less than half of the CBCs. Of 30 introduced species reported, all but 3 (Red-whiskered Bulbul, Saffron Finch, and Lavender Waxbill) appear to be established in the district, though 4 others have been counted in less than half of the CBCs. With the exception of one tropicbird and two straggler gulls, no seabirds have been seen over this inland circle. Of 12 migratory duck species counted, only 4 (Green-winged Teal, Northern Pintail, Northern Shoveler, and Lesser Scaup) have been observed regularly. Of 15 migratory shorebirds, 6 (Lesser Golden-Plover, Wandering Tattler, Ruddy Turnstone, Sanderling, Dunlin, and dowitcher spp.) have been counted in the majority of CBCs. Including the Black-crowned Night-Heron the above categories sum to a total of 38 resident species and 10 regularly observed migrants in the Waipio CBC circle, though no single CBC year has included all 48 of these species.

Monitoring of waterbird habitat in the Pearl Harbor region has been very consistent throughout the CBC history. Waipio Peninsula has been the richest waterbird habitat in number of species present; however, Honouliuli and Waiawa National Wildlife Refuges (NWR) have provided essential habitat to some endangered Hawaiian species. For example, just one Common (Haw'n) Moorhen has been reported from Waipio Peninsula, but moorhens have been observed at Honouliuli NWR in the majority of CBCs. Black-necked (Haw'n) Stilts generally have been present at all three locations. American (Haw'n) Coots have usually been present at Waipio and Honouliuli and less frequently at Waiawa, though the majority seen one year were there. Thus, although nearly all of the observations of less common migratory ducks and shorebirds have been at Waipio Peninsula, coverage of Honouliuli and Waiawa NWR has been important.

Numbers of migratory ducks and of some endemic waterbirds appear to have decreased, perhaps reflecting lower water levels in Waipio Peninsula due to declining sugar production and development of alternative habitat in the Kahuku region. No migratory ducks were seen at Waipio Peninsula in the 1986 CBC, and 2 pintails were the only ones present there in the 1985 count. Additionally, canefield reservoirs just north of Waipahu which have been providing nesting habitat for coots and moorhens will soon be lost due to conversion from agriculture to suburban use. The pattern of shorebird observations does not suggest a specific trend, just considerable variation from year to year in the occasional visitors present.

The 5 species of native forest birds are of particular interest in the Waipio CBC (Tables 2 and 3). 'Apapane are typically present in substantial numbers on all trails, except for that lower portion of the Manana Trail included in the count circle, where smaller numbers have been seen with less consistency. 'Elepaio have been reported regularly from Palikea and from Kipapa Trail when surveyed. Poamoho and Manana trails have yielded fewer 'Elepaio sightings. 'Amakihi have usually been seen on all of the trails, except for Manana Trail, where 2 were reported on one year only. Single 'I'iwi have been found during four CBCs, twice from Poamoho and once each from Kipapa and Palikea trails. The only 'Oahu Creeper

observation was from Poamoho in 1985. The data may be of value in indicating the relative importance of various habitats to particular species; however, differences in weather conditions, observer expertise, time in field, and other variables need to be considered.

The status of several introduced species on trails also may be noted. All of the Waipio CBC reports of Red-billed Leiothrix and Melodious Laughing-thrushes have been from the Poamoho Trail, except for a possible but uncounted leiothrix call from Manana Trail in 1985. Manana Trail has been the only source of reports of Yellow-faced Grassquits. Other introduced species regularly reported on mountain trails, particularly at lower elevations, include Japanese White-eyes, White-rumped Shammas, Japanese Bush-Warblers, Spotted Doves, Zebra Doves, Red-vented Bulbuls, Northern Cardinals, House Finches, and Nutmeg Mannikins. Nevertheless, the residential counts have to some extent been successful in portraying trends and distributions of urban birds.

Taking into account the varying levels of coverage as reflected most clearly in the total party hours figures in Table 2, fairly consistent counts of populations have been obtained for Spotted Doves, shamas, Common Mynas, white-eyes, Northern Cardinals, and some other species. It is difficult to interpret some isolated fluctuations such as the great drop in House Sparrows counted in 1986, the peak of Zebra Dove numbers in 1984, or the increase in the Northern Mockingbird count in 1985; however, these figures may be due to differences in coverage rather than a reflection of real population shifts.

Some definite changes in bird distribution are apparent from the ten-year CBC record. Red-vented Bulbuls certainly have moved from being relatively few in number to being ever present throughout the area. Common Waxbills, previously mistaken for Red-eared Waxbills, have shown dramatic increases in numbers, as have Red Avadavats. Both species are difficult to census due to their small size and flighty habits. Nutmeg and Chestnut Mannikins fluctuated greatly in number and/or distribution from year to year. Despite a lower tally in 1986, Java Sparrows are believed to be rapidly increasing in numbers and spreading throughout the residential areas; the drop in count in 1986 may have resulted from overlooking birds that were present rather than from a real decrease in numbers. Changes in Cattle Egret range also seem to be occurring, as discussed in the 1986 CBC section above, Eurasian Skylarks also may be more widely spread in recent years, though again it is difficult to determine whether or not increased counts simply reflect changes in birder awareness. Despite some uncertainties regarding the relationship of CBC numbers to actual populations, overall the annual CBC are contributing to our understanding of bird distributions in the central Oahu area.

For the future, several recommendations can be made based on the foregoing analysis. First, consistent coverage of waterbird habitat needs to be maintained, especially in view of changing zoning, reducing the role of sugar cultivation and hence jeopardizing Waipio peninsula wetlands. Second, mountain trail counts could be expanded to include more regular coverage of Kipapa Trail, obtaining authorization for annual access to Palikea and to previously untapped Puu Kanehoa trail above Kunia, adding parties to cover the Schofield Waikane Trail and the first four miles of Waimano Trail, plus maintaining monitoring of Poamoho and Manana trails. Third, reliability of the residential census might be improved either through increased participation or by developing some sampling procedure to have a better sense of the relation of

Table 2. 1977-1986 Waipio CBC Species Totals¹.

SPECIES	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977
Red-tailed Tropicbird ²	—	—	—	—	—	—	—	1	—	—
Cattle Egret	386	163	285	215	87	47	66	94	165	108
Snowy or Little Egret	—	—	—	1	—	—	—	—	—	—
Black-crowned Night-Heron	14	5	22	25	8	10	3	18	10	13
White-faced Ibis ³	—	—	1	1	—	—	1	1	1	—
Greater White-fronted Goose	—	—	—	—	—	2	—	—	—	—
Canada Goose	—	—	—	—	—	3	—	—	—	—
Green-winged (Am.) Teal	3	—	3	1	—	8	3	37	—	19
teal, sp.	4	—	—	—	—	—	—	—	—	—
Mallard	—	—	3	5	—	—	5	5	—	—
Hawaiian Duck (Koloa)	9	18	20	8	12	5	7	13	7	8
Northern Pintail	4	3	6	12	—	1	163	—	80	14
Northern Shoveler	19	28	46	51	—	26	161	112	50	411
Garganey	—	—	—	—	—	—	1	—	—	—
Gadwall	—	—	—	—	—	—	—	—	—	2
Eurasian Wigeon	—	—	—	2	—	—	—	—	1	—
American Wigeon	—	—	—	2	—	—	—	1	19	—
Canvasback	—	—	—	—	—	—	—	2	—	—
Tufted Duck	—	—	—	—	5	—	—	2	—	—
Lesser Scaup	2	—	—	—	—	2	—	8	10	—
scaup, sp.	—	1	—	—	—	—	—	—	1	6
Bufflehead	—	—	—	—	—	2	—	—	1	—
duck sp.	—	—	—	4	—	—	1	—	—	—
Osprey	—	1	—	1	—	—	—	—	—	—
Erckel Francolin	5	1	6	—	—	4	2	6	—	—
Ring-necked Pheasant	5	1	1	1	—	2	2	3	2	1
Common (Haw'n) Moorhen	—	3	6	3	3	4	—	2	1	—
American (Haw'n) Coot	31	21	61	118	177	5	46	42	15	8
Black-bellied Plover	—	—	2	—	1	3	3	—	—	4
Lesser Golden-Plover	466	451	508	416	220	293	547	301	400	480
Semipalmated Plover	—	1	—	—	—	—	—	—	1	5
Killdeer	—	—	—	—	—	—	—	—	—	1
Black-necked (Haw'n) Stilt	128	45	173	191	229	138	189	236	72	250
Lesser Yellowlegs	2	2	—	—	2	—	—	—	6	—
Wandering Tattler	15	14	14	9	7	10	29	15	11	9
Ruddy Turnstone	55	68	74	30	22	7	219	24	41	150
Sanderling	89	97	74	57	91	29	125	54	96	64
sandpiper, sp. (Least Sandpiper or Long-toed Stint) ⁴	—	—	2	1	—	—	—	—	1	1
Pectoral Sandpiper	1	1	2	—	—	1	—	—	—	—
Sharp-tailed Sandpiper	—	—	2	—	—	—	—	1	2	4
Dunlin	1	4	2	4	3	1	3	3	2	8
sandpiper, sp.	—	—	1	—	—	1	—	—	—	—
Long-billed Dowitcher	—	—	—	6	9	—	—	—	—	—
dowitcher, sp.	5	6	4	—	—	5	1	—	7	3
Common Snipe	—	—	—	—	—	—	—	1	—	1
Ruff	—	—	2	—	—	—	1	1	—	—
Bonaparte's Gull	—	—	—	—	—	—	—	—	1	—
Ring-billed Gull	—	—	—	—	—	1	—	—	—	—

Table 2 continued

SPECIES	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977
Rock Dove	6	116	104	73	18	5	8	2	14	25
Spotted Dove	413	402	447	444	58	142	159	143	61	106
Zebra Dove	539	646	1054	875	111	159	355	308	225	420
Common Barn-Owl	4	1	—	4	—	—	—	2	—	—
Short-eared (Haw'n) Owl (Pueo)	3	—	2	1	—	—	—	—	—	—
Eurasian Skylark	25	50	38	18	12	19	13	13	4	4
Red-whiskered Bulbul	—	—	—	—	—	—	—	—	—	2
Red-vented Bulbul	536	541	467	409	43	101	65	27	47	68
Japanese Bush-Warbler	47	53	29	17	—	24	16	32	2	3
(Oahu) 'Elepaio	5	—	8	4	—	4	7	4	2	5
White-rumped Shama	80	78	78	88	9	72	89	44	7	2
Gray-sided Laughing-thrush	2	—	—	—	—	—	—	—	—	—
Melodious Laughing-thrush	—	1	—	—	—	3	—	—	—	—
Red-billed Leiothrix	—	1	2	—	—	3	—	—	—	—
Northern Mockingbird	5	23	7	2	3	10	4	3	5	1
Common Myna	1053	1234	1475	1333	290	656	812	224	394	380
Japanese White-eye	492	633	657	606	60	446	398	422	152	334
Northern Cardinal	105	144	124	144	26	109	69	132	33	64
Red-crested Cardinal	193	254	285	268	148	70	117	97	62	100
Great-tailed Grackle	—	—	—	1	—	—	—	—	—	—
Saffron Finch	—	—	—	—	—	—	2	—	—	2
House Finch	424	382	484	209	120	118	120	177	68	150
Common (Oahu) 'Amakihi	38	14	59	15	—	55	41	53	12	16
Oahu Creeper	—	2	—	—	—	—	—	—	—	—
'Iiwi	1	—	—	—	—	1	—	1	1	—
'Apapane	159	83	114	116	—	165	258	160	141	86
House Sparrow	593	1385	1419	1208	362	287	609	209	241	326
Lavender Waxbill	—	—	—	—	1	—	—	—	—	—
Common Waxbill	240	199	56	18	12	12	—	—	—	—
waxbill, sp. ⁵	—	—	—	—	3	—	—	—	—	5
Red Avadavat	173	58	67	58	32	19	21	9	29	58
Nutmeg Mannikin	105	304	131	163	75	93	185	142	197	168
Chestnut Mannikin	767	962	94	364	46	83	667	256	66	1250
Java Sparrow	33	194	68	5	—	—	—	—	—	—
Yellow-faced Grassquit	—	5	—	5	—	15	17	18	—	5
TOTAL INDIVIDUALS	7285	8699	8589	7612	2305	3281	5610	3461	2766	5150
TOTAL SPECIES	45	47	48	49	33	49	43	48	46	47
CUMULATIVE SP. TOTAL	77	76	75	75	70	69	63	62	55	47
TOTAL OBSERVERS	19	24	28	27	NA	14	18	17	15	19
TOTAL PARTIES	7	8	8	9	NA	5	9	7	7	10
TOTAL PARTY HOURS	48	56	49	46	NA	36	45	41	33	41
TOTAL PARTY MILES	242	246	215	219	NA	92	151	130	60	160

¹ This table corrects for discrepancies in data reported for some Waipio CBC counts. The 1977 totals are particularly affected by the addition of observations from a portion of Sector 2 which were omitted from that CBC report. Waipio CBC reports may be found in annual CBC editions of *American Birds* and in the 'Elepaio: 1978, 38: 89-91; 1979, 39: 122-123; 1981, 42: 19-22; 1984, 44: 98-101; 1985, 45: 115-117; and 1986, 46: 132-135.

² The tropicbird was listed as White-tailed in the CBC report, but the Manana trail field checklist had the Red-tailed species checked.

³ The 1978 and 1979 CBC reports listed an ibis sp., because the bird had not yet been positively identified as the White-faced Ibis.

⁴ A Least Sandpiper was listed in 1977 and 1978, but subsequently the possibility of the presence of the nearly identical Long-toed Stint was raised.

⁵ The identification of Red-eared Waxbills in 1977 and 1982 CBC reports are now questionable (see Ord, W.M. 'Elepaio, 1982, 42: 89-90) and are listed here as waxbill, sp.

Table 3. Native Forest Bird Observations by Trail

SPECIES	MANANA 8 CBCs ¹		KIPAPA 4 CBCs		POAMOHO 9 CBCs		PALIKEA 7 CBCs	
'Elepaio	38% ²	.4 ³	100%	1.5	45%	.7	100%	3.4
Common 'Amakihi	13%	.3	75%	12.8	100%	9.8	86%	22.1
Oahu Creeper	0%	.0	0%	.0	11%	.2	0%	.0
'Iiwi	0%	.0	25%	.3	22%	.2	14%	.1
'Apapane	63%	3.4	100%	39.8	100%	89.3	100%	31.1

¹Number of years trail surveyed in CBC.²Percent of CBC trips during which species was observed.³Average number of birds of this species seen per CBC trip.

count figures to actual populations. Also, some special procedures might be introduced, such as counting egrets either leaving or returning to roost at their West Loch mangrove rookery. With these and other changes, the Waipio CBC could provide increasingly reliable and valid data in years to come.

94-265 Ihuauu Place
Mililani, Hawaii 96789

Editors note: The common names for all species listed in the Christmas Count articles follow the American Ornithologists' Union's (1983) Checklist of North American birds, Sixth Edition. Scientific names of the birds may also be found in that checklist as well as in Pyle's (1983) Checklist of the birds of Hawaii ('Elepaio 44: 47-58).

Audubon Camps and Ecology Workshops

Come join us in a celebration of nature . . .

. . . as we embark on Audubon's 50th year of excellence in environmental education and field natural history studies.

In superb natural settings, in the company of distinguished naturalists and fellow students who share your interest in nature, you'll search a pond for whirligig beetles and damselfly nymphs. Or dredge the ocean floor for starfish and sea urchins. Or investigate the riparian grotto home of the nocturnal oilbird. Or follow paths blazed by mountain sheep.

Field studies range from geology and marine life to birds, mammals, plants, insects, weather, astronomy, and renewable energy. For recreation you may explore a wild island in Maine, go rafting in Wyoming, roam the lovely, lush, deciduous woods of Connecticut. In Trinidad your studies will focus on such subjects as sea turtles, manakin leks, and tropical forest ecology.

Camp sessions for adults run for one or two weeks. College credit is available. There is also a session for children in Maine; introductory field ecology for educators in Connecticut; field ornithology in Maine; wilderness research and nature photography in Wyoming.

You'll learn to better understand and protect the wild creatures and wild places that we love. As it has done for so many others, this Audubon experience will enrich the rest of your life.

For a free color brochure write:

National Audubon Society
Audubon Camps and Workshops
613-D Riversville Road
Greenwich, CT 06831



CONSERVATION NEWS

DLNR CHAIR PATY AND KAHAUALEA

Editor's note: In the April issue of 'Elepaio, Mae Mull reported on the status of the proposed natural area at Kahaualea on the Big Island. In her article she quoted new Department of Land and Natural Resources Chair William W. Paty as saying that the Executive Order establishing the reserve had been sent to the Governor for his signature. Unfortunately, this was not the case, as Mr. Paty reported in the following letter to Mrs. Mull:

"Following my letter of February 24 to you, it came to my attention that the Executive Order document to set aside 16,726 acres as the Kahaualea Natural Area Reserve was held in the Attorney General's Office for legal review and did not make it over to the Governor's office as I had been led to believe. I am doing what I can to get it loose and would expect that it will be in the hands of the Governor in the near future.

My apology for this further delay in getting the reserve formally established.

Sincerely yours, William W. Paty"

NEWS FROM THE LEGISLATURE

Hawaii Audubon Society members turned out to testify on several pieces of legislation during March and April.

Wayne Gagné testified in favor of House bills relating to the Hawaii State Natural Area Reserves System. These bills would establish funding for protective management and biotic surveys of the 18 reserves, and make some needed amendments to administrative procedures.

Hilde Cherry testified for HAS in favor of two resolutions. The first resolution encourages federal acquisition of lands adjacent to the Kilauea Point National Wildlife Refuge. These lands would afford greater protection for the breeding seabirds, including Laysan Albatross, in the area, and preserve the wild and scenic nature of the coastline. The second resolution urged State support and participation in the development of research and regulation programs dealing with the growing problem of plastic pollution (including lost and discarded fishing gear and a vast array of plastic trash items) in our oceans.

Rob Fleischer testified in favor of a resolution that would make the State Department of Agriculture the lead agency in de-

veloping inspection, control and educational programs aimed at preventing the introduction of the Brown Tree Snake (see February issue of 'Elepaio) to Hawaii.

HELICOPTERS IN VOLCANO

As a result of increased public concern and numerous complaints regarding the use of a heliport at the Volcano Golf Course, a public hearing regarding the continuation of Manuiwa Airways/Hilicopters use permit for the area will be scheduled sometime in May, probably about the 12th. Allegations regarding the company's use of the heliport complain that there has been a substantial increase in both the number of flights per day and the hours of operation. Complaints also charge that the operator is apparently allowing other helicopter operators to use the heliport. The original use permit placed limits on all of these aspects of use.

The first permit request was made in 1984, and operation began thereafter. This permit was renewed in 1986 after a hearing in July 1986 during which it was claimed that the helicopter traffic did not disturb the endangered Nene (Hawaiian Geese) present at the golf course. Few residents objected strongly to the operation at that hearing. However, during the recent spectacular eruptions of Kilauea, the operator appears to have dramatically increased the frequency of helicopter flights.

Concerned individuals should watch for a public hearing notice in early to mid May, and/or write about the problem to the Hawaii County Department of Planning, 25 Apunui St., Hilo, HI 96720, phone (Big Island) 961-8288. Documentation of disturbance to Nene and residents or use of the heliport by unauthorized operators would provide effective testimony at the hearing or in letters.

Sheila Conant

FEBRUARY 1987 PROGRAM

ISLANDS OF LIFE

Alan Holt, Director of Science and Stewardship for the Nature Conservancy, showed beautiful slides of native birds and plants in acreage presently owned by the Conservancy at the February meeting. His presentation focused on the Conservancy's "Islands of Life" campaign--an effort to raise ten million dollars over the next three years to preserve native ecosystems.

The Nature Conservancy, which began in New York in 1951, manages over 500 preserves throughout the United States. The Hawaii chapter began with the preservation of Kipahulu on Maui. Charles Lindbergh was involved in the effort to raise 18 million dollars for the acquisition of Kipahulu in 1970. The Nature Conservancy of Hawaii has acquired 13,000 acres of rainforest including Kaluahonu on Kauai, Hakalau on the Big Island, Kamakou on Molokai, and Waikamoi Preserve on Maui.

Holt mentioned that future projects include Koko Head on Oahu, Pelekunu on Molokai, and remnant forests on Lanai. Anchialine ponds on the Big Island are targeted for preservation in the campaign as are additional forested areas on Maui.

Six of the ten million dollars have been raised, and the additional funds are being sought in the Conservancy's effort to preserve the best of what remains of Hawaii's unique natural heritage.

Betty Johnson

MARCH 1987 PROGRAM

FLORA AND FAUNA OF NEW GUINEA

Our March program, on the flora and fauna of New Guinea, was presented by Allen Allison, vice-president of the Hawaii Audubon Society and chairman of the Vertebrate Zoology Department at the Bishop Museum.

Allen showed many beautiful slides of New Guinea plants and animals from a variety of tropical forest habitats. Papua New Guinea is the east half of the island, north of Australia, which granted it independence in 1975. It is about the size of California. The island is estimated to be about 25 million years old.

Various ecosystems abound, from dry eucalypt forests to rainforests that rival the Amazon basin in plant diversity. Mountains range up to 15,000 feet, and there is a wide range of temperature, with snowfall on the highest peaks. Steep slopes encourage many landslides, especially when human-caused fires remove soil-protecting vegetation. In 1937, the air strip at Wau was the busiest, unloading huge dredging machines to mine alluvial gold at Wau.

In 1961, the Bishop Museum established a field station at Wau, especially for the study of insects. It now covers 60 acres. A coffee plantation occupies part of the area to produce a cash crop for extra funding. An interesting study by Allen with Wayne Gagné used a fogging machine to collect canopy insects. The fogging is directed at the tops of trees; insects are killed and fall into collecting pans below. They fogged two genera of oaks, which are widespread in the forests.

There were colorful slides of butterflies, several species of orchids, violets, gentians, and buttercups. Rhododendrons occur on grasslands at mid-elevations; some grow into small trees, and some are pollinated by birds, while others by moths. Some plants have chambers for ants, which supply nitrogen to the plant. The plant reciprocates by providing protection to the ants. Some plants house small frogs.

A variety of lizard exists there which has green blood, why green no one knows. Geckos, similar to those in Hawaii, are widespread in the Pacific as well as New Guinea. Snakes are not particularly numerous, but some are venomous and dangerous. Bowerbirds flip their topknots to attract females, as they perform in front of a "bower" of twigs. Among odd mammals are the egg-laying spiny echidna and a variety of marsupials, including five species of tree kangaroos. Some marsupials and rats are hard to tell apart, because of close, convergent resemblance.

Gold mining is developing, and New Guinea may become the primary gold producing area in the world. But mining has destroyed large areas and has been ruinous to rivers and streams. Slash-and-burn agricultural methods are also devastating to forests. Attempts are being made to alter agricultural methods to save the land and trees. Even so, 65-75% of the forests are presently intact. A question and answer period followed, during which Allen reported that cannibalism no longer exists.

Betty Johnson

ALOHA TO NEW LOCAL MEMBERS

We welcome the following new members and encourage them to join in our activities.

New Life Member:

Cameron Kepler, Athens, Georgia

New Local Members:

Samuel Aucoin, Honolulu, HI; Gerald Barros, S. Dartmouth, MA; Aaron Carey, Kailua, HI; Patsy Dunnington, Federal Way, WA; John Enright, Pago Pago, Samoa; Andy Field, Carmichael, CA; Michael Fischer, Hamden, CT; J. D. Fitzgerald, Kula, HI; Mike Fitzpatrick, Mt. Clemens, MI; Harold Fogleman, Rising Sun, MD; Thomas Freitas, Honolulu, HI; Naomi Goldstein, Mililani, HI; Thane Hancock, Kamuela, HI; Kevin Hintsa, San Ramon, CA; Alice Horn, Waimanalo, HI; W. Scott Hubbartt, Miami, FL; Patricia Karz, Pukalani, HI; Michael Koenigsberg, New Haven, CT; Collette Kuo, Bellevue, WA; Diann MacRae, Bothel, WA; Susan Mandle, Kailua, HI; Charles Martin, Honolulu, HI; Ellery McClintock, Atlanta, GA; Patricia McIntyre, Ewa Beach, HI; Joan Ellen McFee, Kapaa, HI; Brian McKnight, Honolulu, HI; Gail Okuma, Honolulu, HI; David Piatt, Highlands Ranch, CO; Steven Perlman, Honolulu, HI; J. Scott Pratt, Friday Harbor, WA; Dorna Sakurai, Los Angeles, CA; Ralph Schreiber, Los Angeles, CA; Thomas Shields, Kailua, HI; Daniel Simberloff, Tallahassee, FL; Susan Spilman, Loveland, CO; Robert Stoupa, Falls Church, VA; Craig Tamanaha, Kaneohe, HI; Dean Townsend, Las Vegas, NV; John Walters, San Diego, CA; Misbeth Wollam, Kamuela, HI.

MAHALO TO 'ELEPAIO DONORS!

'Elepaio would like to thank those of you who have generously contributed to the 'Elepaio Computer fund. Our gratitude to Susan Schenck, Mary Dillingham, C.J. Ralph, and Daniel Luten, donors who have contributed in the past two months. Contributions to the fund now total over \$1,000!

These contributions, together with funds allocated by the Hawaii Audubon Society, have enabled us to purchase a MacIntosh computer, printer and software for production of the 'Elepaio. Readers wishing to help out should send contributions to the 'Elepaio Computer Fund, c/o Hawaii Audubon Society, P. O. Box 22832, Honolulu, HI 96822.

MARCH FIELD TRIP REPORT

The March 15th field trip to the Makapuu Lighthouse was a great success. Twenty-seven people turned out for the hike which began at the Makapuu lookout at 8:30 A.M. The weather was partly cloudy, warm and windy. The coastal vegetation was in full bloom, and the ilima covered the ground like an orange carpet. A native *Bidens*, *B. lepidium*, was also observed, along with native morning glories and many exotic plants.

Sooty Terns were seen flying and calling as they traveled back and forth from Makapuu Point to Manana Island, and Red-footed Boobies were frequently observed gliding above the ocean. A Red-tailed Tropicbird flew along the cliffs as the group ascended to the lighthouse, and thousands of Sooty Terns and several Iwa could be seen through binoculars as they swarmed over Manana Island. Four Green Sea Turtles were spotted at the base of the cliffs.

The group reached the lighthouse around 9:45 A.M. and sighted three Humpback Whales swimming and breaching just offshore. A few sharp-eyed observers spotted a pod of porpoises swimming just beyond the whales. Everyone was treated to a beautiful view of Oahu's east shore, and the wildlife was putting on quite a show. Large flocks of pigeons were observed flying along the cliffs, and to everyone's delight a Peregrine Falcon in hot pursuit of a meal was sighted zooming past the point. The group lost sight of the falcon when it flew towards Makapuu Beach.

The hike back started around 11:00 A.M., and on the way down the trail several people watched as three Red-tailed Tropicbirds performed a courtship flight. One of the birds flew towards the cliff and landed near some Naupaka. It then waddled under a rock outcrop suspected of being its nest. This may be the first nesting record of this species for Oahu. Three members of the group sighted a Warbling Silverbill, and most everyone caught glimpses of House Finches and Red-vented Bulbuls throughout the hike.

See you all next month!

Bruce Eilerts

H.A.S. FIELD TRIP CALENDAR, 1987

Sunday, May 17: Palikea (Waianae Mts.)

Leader: Mark Merlin

Features: Native and introduced forest, rare plants, native and introduced birds

Type of hike: Moderate

Sunday, June 21: Kaluanui (Sacred Falls)

Leader: Andy Yuen

Features: Plants, birds and native streamlife

Type of hike: Easy

Sunday, July 19: Aiea Ridge

Leader: Bruce and Robin Eilerts

Features: Native and introduced forest and birds

Type of hike: Moderate

Sunday, August 16: Tantalus

Leader: Steve Perlman

Features: Introduced forest, native and introduced birds

Type of hike: Easy

Sunday, September 20: Moanalua Valley (Haiku Stairs?)

Leader: Partick Ching

Features: Native and introduced plants, birds, streamlife, and valley history

Type of hike: Easy/moderate

Sunday, October 18: James Campbell NWR

Leader: Bruce and Robin Eilerts

Features: Native and migratory waterbirds, shorebirds, and seabirds

Type of hike: Easy

Saturday, November 21 (evening): Koko Head tide pools

Leader: Bruce Eilerts

Features: Marine life

Type of Hike: Easy

Sunday, December 13: Waialae Nui Ridge

Leader: Steve Perlman

Features: Native forest, native and introduced birds

Type of hike: Moderate

Sunday, January 16: Hoomaluhia Park

Leader: Patrick Ching

Features: Flora from several Pacific regions, introduced birds, native waterbirds, shorebirds

Type of hike: Easy

MAY 17TH FIELD TRIP TO PALIKEA

The May 17th H.A.S. field trip will be a hike to Palikea in the Waianae mountains.

The hike will not be a difficult one, but participants should be ready for a few steep stretches along the trail. The trip leader will be Mark Merlin, who will guide the group through native forest in search of native plants, birds and of course, the introduced flora and fauna. Participants should meet in front of the state library on Punchbowl Street at 7:30 A.M., and everyone should pack a lunch, binoculars, rain jacket, and sun screen. There is a twenty-person limit for this trip, so call Bruce or Robin Eilerts at 941-5974 to get your name on the list.

MAY 18 PROGRAM

JEWELS IN THE FOREST:

HAWAII'S TREE SNAILS

Location: McCully-Moiliili Library

Speaker: William P. Mull

Title: Jewels in the Forest: Hawaii's Tree Snails

Big Island naturalist-photographer William P. Mull will show live color photos of over 30 species of "little gems" (Achatinellinae) from Oahu and Maui-nui in a slide show about this pure-Hawaiian subfamily of tree snails. With some 100 recognized species in 4 genera, Achatinellinae evolved in Hawaii from a single ancestor and radiated into a dazzling spectrum of shell colors, patterns, textures, and shapes. All 41 species in the Oahu genus *Achatinella* are on the State and Federal Endangered Species lists; 17 of these species will be pictured live in the program. Mull is a Bishop Museum Research Associate in Entomology and a past president of the Hawaii Audubon Society.

FREE ICE CREAM!

Will again be served to those volunteers who help with the typing, proof-reading, or paste-up of next month's 'Elepaio at Thane Pratt's house, 1022 Prospect St. on Saturday, 23 May, at 1:00 PM. Phone Sheila Conant at 988-3960 or 948-8241. Authors of articles, notices, etc. must submit these by 15 May to be included in the June issue.

Many thanks to Sheila Conant, Rob Fleischer, Bob Pyle, and Maura O'Connor for helping with the preparation of this issue.

HAWAII AUDUBON SOCIETY

BOARD OF DIRECTORS

President	Phillip Bruner	293-3820 (wk)
1st. V.P.	Peter Luscomb	923-4772 (wk)
2nd. V.P.	Allen Allison	848-4145 (wk)
Treasurer	Joel Simasko	529-2364 (wk)
Rec. Sec.	Tim Ohashi	734-4006 (hm)
Cor. Sec.	Michael Hall	293-3805 (wk)
Directors	Bruce Eilerts	541-2681 (wk)
	John Engbring	541-2749 (wk)
	Robert Fleischer	948-8884 (wk)
	Wayne Gagné	848-4166 (wk)
	Mae Mull	967-7352 (hm)
	Timothy Sutterfield	737-5874 (hm)

COMMITTEES

Adopt-a-Refuge	Tim Sutterfield	737-5874 (hm)
Conservation	Wayne Gagné	848-4166 (hm)
	Allen Allison, Brian McKnight	
	Mae Mull	
Education	Vacant	-----
Field Activities	Bruce and Robin Eilerts	941-5974 (hm)
	Patrick Ching, Steven Perlman	
Finance	Audrey Newman	537-4508 (wk)
	Mary Engilis, Norris Henthorne,	
	Marie Morin, Thane Pratt,	
	Joel Simasko	
Grants and Scholarship	John Engbring	541-2749 (wk)
	Allen Allison, Phillip Bruner,	
	Robert Fleischer, Robert Kinzie	
Mail Dist.	Leilani and Bob Pyle	262-4046 (hm)
Membership	Bob Pyle	262-4046 (hm)
	George Campbell, Beth Edwards,	
	Susan Schenck	
Programs	Allen Allison	848-4145 (wk)
	Peter Luscomb	
Publicity	Darwin Bohnet	293-1410 (hm)
Publications	Andrew Engilis	
	Phillip Bruner, Sheila Conant,	
	Peter Donaldson, Robert Fleischer,	
	Bob Pyle	
Sales	Martha McDaniel	235-6636 (wk)

ISLAND REPRESENTATIVES

Hawaii	Mae E. Mull	967-7352 (hm)
Kauai	Dr. David and Winona Sears	822-3045 (hm)
Maui	Fern Duvall	572-1584 (hm)

'ELEPAIO

Managing Ed.	Thane Pratt	524-8464 (hm)
		548-8850 (wk)

Scientific Editor	Sheila Conant	948-8241 (wk)
Editorial Committee	Robert Fleischer, David McCauley, Marie Morin, Robert Pyle	
Mailing	George Campbell, Beth Edwards, Susan Schenk, Alan Ziegler, Marjorie Ziegler	

(NOTICE TO CONTRIBUTORS: The 'Elepaio invites authors to submit scientific articles on natural history of Hawaii and the Pacific. Scientific articles are subject to peer review. The 'Elepaio also serves as a newsletter to inform members of conservation issues, Society events, and other subjects of interest to members. Manuscripts of articles and newsletter items may be sent to Thane Pratt at 1022 Prospect St., Apt. 1103, Honolulu, HI 96822. Articles not subject to peer review MUST be received by the 15th of each month to be considered for publication in the next month's issue.)

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 (19 and under).....	3.00
Subscriber (non-Hawaii residents)...	6.00
Life (payable in three equal annual installments).....	150.00

All Local Memberships and Subscriptions are for a calendar year, January through December.

CALENDAR OF EVENTS

- May 11 (Mon.) Board Meeting at Bishop Museum at 7:00 PM. Call Allen Allison, 848-4145, wk.
- May 17 (Sun.) Field trip to Palikea Trail. Meet at State Library on Punchbowl St. at 7:30 AM. Announcement on page 62.
- May 18 (Mon.) General Meeting at McCully-Moiliili Library at 7:30 PM. Bill Mull will speak on Hawaiian land snails.
- May 23 (Sat.) 'Elepaio paste-up at Thane Pratt's house at 1:00 PM. Call Sheila Conant at 988-3960 or 948-8241.

TABLE OF CONTENTS

Honolulu Christmas Count - 1986. <i>Robert L. Pyle</i>	51
The Waipio, Oahu, Christmas Bird Count: 1986 results and a review of the first decade, 1977-1986. <i>David Bremer</i>	53
Conservation News. <i>Sheila Conant</i>	59
February 1987 program: islands of life. <i>Betty Johnson</i>	60
March 1987 program: flora and fauna of New Guinea. <i>Betty Johnson</i>	60
March field trip report. <i>Bruce Eilerts</i>	61
H.A.S. field trip calendar, 1987.....	62

HAWAII AUDUBON SOCIETY
P.O. Box 22832
HONOLULU, HAWAII 96822

Non-Profit Organization
U.S. POSTAGE
PAID
Honolulu, Hawaii
Permit No. 1156

FORWARDING AND RETURN POSTAGE GUARANTEED
ADDRESS CORRECTION REQUESTED

