

Current Distribution and Abundance of the O'ahu 'Elepaio

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ABSTRACT

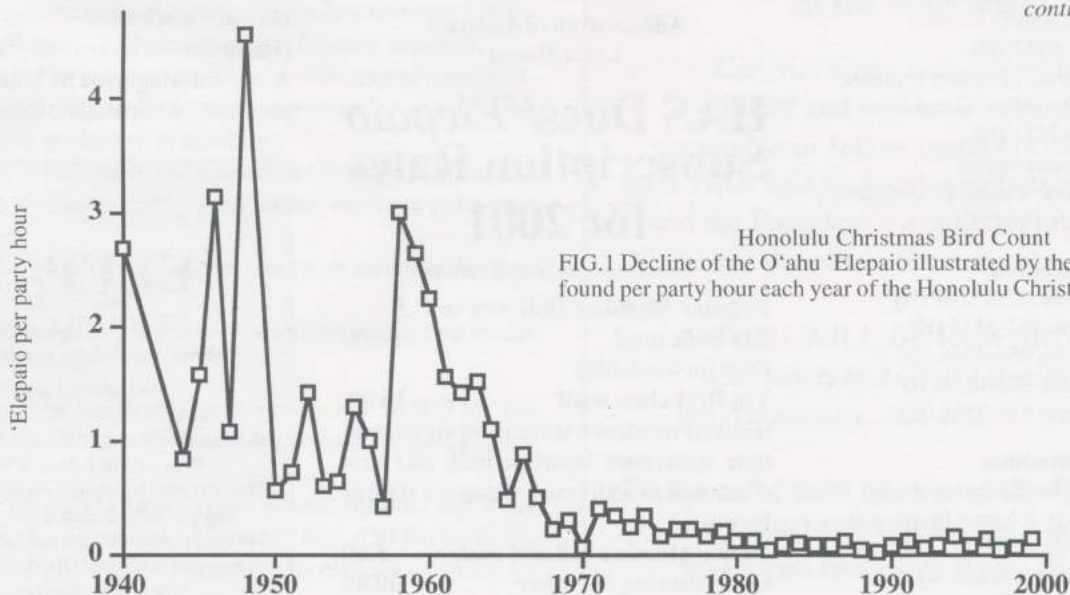
The O'ahu 'Elepaio (*Chasiempis sandwichensis ibidis*) is a monarch flycatcher endemic to the Hawaiian island of O'ahu. This forest bird has declined seriously in the last few decades, and was listed as endangered under the federal Endangered Species Act in May 2000. The current distribution and population size of the O'ahu 'Elepaio are poorly known, and this information is vital to designing a recovery plan and implementing recovery actions. We surveyed most of O'ahu for 'Elepaio from 1992-2000 and compiled published and unpublished observations to estimate the current population size and construct current, recent historical, and prehistoric distribution maps. Based on 411 observations since 1991, we estimate the current population to be 1973 birds in six large subpopulations and several smaller ones. The breeding population consists of about 1768 birds due to a male-biased sex ratio, and the genetically effective population size is even lower because of the fragmented distribution. Total area of the current range is approximately 5486 ha, only 4% of the prehistoric range, and 25% of the range in 1975. Habitat loss to urbanization and agriculture caused large range reductions in the past, but cannot explain more recent declines. 'Elepaio disappeared first from areas of

higher rainfall, possibly because epizootics of introduced mosquito-borne diseases are more frequent where wetter conditions provide more mosquito breeding habitat. Management is urgently needed to prevent further declines and extirpation of smaller subpopulations.

INTRODUCTION

The 'Elepaio (*Chasiempis sandwichensis*) is a territorial, nonmigratory monarch flycatcher (*Monarchidae*) endemic to the Hawaiian Islands (Conant 1977, van Riper 1995, VanderWerf 1998). 'Elepaio on the islands of Hawai'i and Kaua'i (*C. s. sandwichensis* and *C. s. sclateri*, respectively) are fairly common and widely distributed at higher elevations (Scott et al. 1986, VanderWerf 1998), but the O'ahu 'Elepaio (*C. s. ibidis*) has declined seriously in the last few decades (Fig. 1), disappearing from many areas where it was formerly common (Shallenberger 1977, Shallenberger and Vaughn 1978, Williams 1987, Cowell 1995, VanderWerf et al. 1997). 'Elepaio are generalized in habitat selection, flexible in diet and foraging behavior, and are one of the most successful Hawaiian birds in terms of adaptation to disturbed forests composed of alien plants (Conant 1977; Scott et al. 1986; VanderWerf 1993, 1994; VanderWerf et al. 1997). The decline of such an adaptable bird is puzzling, and the causes of the decline are currently under investigation (EAV, unpubl. data). The O'ahu 'Elepaio was listed as endangered under the federal Endangered Species Act on 18 May 2000 (USFWS 2000). The current distribution and

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Honolulu Christmas Bird Count
FIG. 1 Decline of the O'ahu 'Elepaio illustrated by the number of birds found per party hour each year of the Honolulu Christmas Bird Count.

Field Trips for 2001

All trips with an * are still in the process of being planned. Details will be provided as the scheduled dates get closer. A donation of \$2 per participant on all field trips is appreciated.

October 13 (Saturday) James Campbell National Wildlife Refuge to see Hawai'i's endangered waterbirds and other migratory waterfowl at one of O'ahu's few remaining wetlands. Birds seen in past years include Hawaiian stilt, Hawaiian moorhen, Hawaiian coot, Hawaiian duck, Northern Pintail, Northern Shoveler, Lesser Scaup, Wandering Tattler, Ruddy Turnstone, Sanderling, Red Knot, Semi-palmated Plover, Bristle-thighed Curlew, and Peregrine Falcon. This is a good place for unusual sightings! We will meet at the wildlife refuge at 3:30pm. Bring water, snacks, binoculars, spotting scope if you have one, and sunscreen. Call the HAS office to register, 528-1432.

October 27 (Saturday): With the help of our Maui liaison, Renate Gassmann-Duvall, a field trip to **Hosmer Grove and to The Nature Conservancy's Waikamoi Preserve on the north slope of Haleakala** has been planned on the lovely island of Maui. We will hike 2 miles into the Preserve and 2 miles back. The hike is *moderate* so participants should be in reasonably good physical condition. Weather is "iffy" - often cold (45-50

degrees) and sometimes rainy. Birds that may be seen include the 'I'iwi, 'Amakihi, 'Apapane, 'Akohekohe, Maui Parrotbill, Maui Creeper, and Red-billed Leiothrix. Participants will be responsible for all of their own travel arrangements (air, hotel, car, food, etc.). As we will be getting an early start, an overnight stay on Friday night is suggested. In addition, The Nature Conservancy is asking for a \$20.00 donation per person to enter Waikamoi Preserve. Trip limited to 10 participants. Call the HAS office to register, 528-1432.

November 17 (Saturday): 'Ewa Plains Sinkholes to look for fossils of extinct Hawaiian birds with Dr. Alan Ziegler, who will also share information about the geology of the area. We will meet at Kalaeloa Harbor (formerly known as Barber's Point Deep Draft Harbor) on Malakole Road at 9am. Bring hat, sunscreen, water, and, if you like, a picnic lunch to eat at Kalaeloa Beach Park. This is one of our most popular trips, and Dr. Ziegler's knowledge of this topic is encyclopedic. A non-strenuous trip suitable for those who don't care to hike. Call the HAS office to register, 528-1432.

***December - Christmas Bird Count** (to be scheduled)

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Subpopulation	Number of territories observed	Number of territories estimated	Total population size	Breeding population size	Area (ha)
Wai'anae Mountains					
A. Southern Wai'anae (Honouliuli Preserve, Luaualei Naval Magazine)*	73	249	458	418	1165
B. Schofield Barracks West Range*	92	185	340	310	532
C. Makaha, Wai'anae Kai Valleys*	17	67	123	112	459
D. Pahole, Kahanahaiki	14	14	16	4	134
E. Schofield Barracks South Range	6	6	6	0	20
F. Makua Valley	3	3	3	0	19
G. Ka'ala Natural Area Reserve	3	3	3	0	21
H. Makaleha Gulch	2	2	2	0	7
I. Kaluakauila Gulch	1	1	1	0	6
Ko'olau Mountains					
J. Southern Ko'olau (Pia, Wailupe, Kapakahi, Kuli'ou'ou, Wai'alaie Nui)*	130	258	475	432	1063
K. Waikane, Kahana Valleys*	25	144	265	242	523
L. Central Ko'olau (Moanalua, north and south Halawa, Aiea, Kalauao)*	32	123	226	206	1396
M. Palolo Valley*	6	25	46	42	78
N. Waihe'e Valley	3	3	5	2	32
O. Manoa Valley	2	2	2	0	16
P. Hau'ula	1	1	1	0	4
Q. Waianu Valley	1	1	1	0	8
TOTAL	411	1087	1973	1768	5486

TABLE 1. Size and area of O'ahu Elepaio subpopulations. The location of each subpopulation is shown in Fig. 2 by the corresponding letter. Sizes of subpopulations marked with an asterisk (*) were estimated by extrapolation (See Methods).

abundance of the O'ahu 'Elepaio are poorly known, and this information is vital to designing a recovery plan and implementing recovery actions. The only previous population estimate (200-500 birds; Ellis et al. 1992) was made when little information was available. In 1992 we began conducting surveys to determine where 'Elepaio still occurred on O'ahu and to estimate more accurately the current population size. Preliminary results from surveys in southeastern O'ahu were reported by VanderWerf et al. (1997). In this paper, we estimate current population size for the entire island, present range maps depicting the current, recent historical, and presumed prehistoric distributions of 'Elepaio on O'ahu, and examine chronological and geographical patterns that help reveal the causes of population decline.

METHODS

We surveyed most forested areas of O'ahu from 1992-2000. We attempted a complete census in as many areas as possible by surveying entire valleys or ridges. 'Elepaio often respond aggressively to tape recordings of their song, and we used playbacks to increase our efficiency at finding birds (Johnson et al. 1981, Marion et al. 1981). Because 'Elepaio are nonmigratory and each pair defends an all-purpose territory year round (Conant 1977, van Riper 1995, VanderWerf 1998), we estimated the population size by mapping and counting territories (Falls 1981). Successive observations were considered to represent different territories if neighboring pairs were seen or

heard simultaneously, if they could be distinguished by age-related plumage differences (VanderWerf 1998), or if the observations were farther apart (>150 m) than the diameter of the average territory (2 ha; Conant 1977).

In addition to our own surveys, we compiled observations from the literature (e.g., Banko 1981, field trip reports published in the 'Elepaio) and from unpublished sources, including the Natural Heritage Program database of The Nature Conservancy of Hawai'i, the Sightings database from the Occurrence and Status of Birds in Hawai'i project maintained at Bishop Museum in Honolulu, and the O'ahu Forest Bird Survey conducted in 1991 by the Hawai'i State Division of Forestry and Wildlife. A few additional observations were obtained by interviewing land managers and amateur birders.

We constructed the current range map by plotting locations of 411 'Elepaio observations since January 1991 (334 from our surveys and 77 from other sources) on digitized USGS topographic maps, and then drawing polygons around clusters of observations with ArcView GIS software (ESRI 1996). We used 1991 as a cutoff for the current range because we were unable to find 'Elepaio in several locations where they had been reported until 1989 or 1990. In some areas we were able to determine the complete elevational distribution, but in other areas we did not know the upper or lower range limit. In these cases, we used data from a neighboring area with similar habitat and topography in which we knew the elevational limits, and assumed that 'Elepaio occurred at similar elevations in both areas.

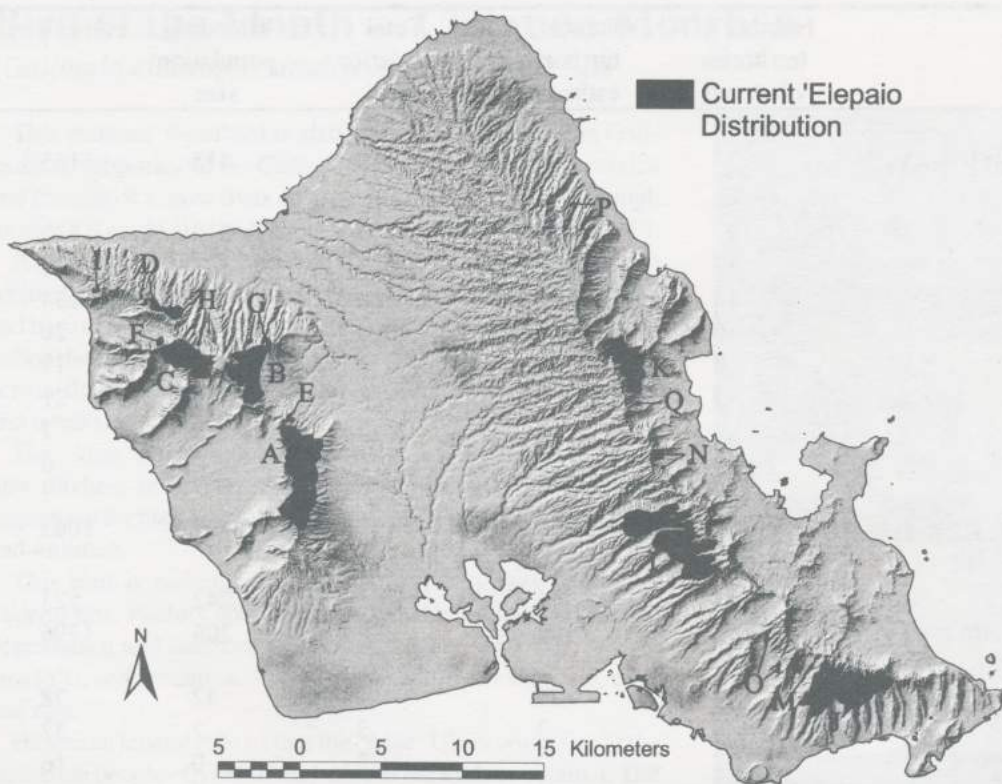


FIG. 2 Current distribution of the O'ahu 'Elepaio. Subpopulations are identified by letters corresponding to those in Table 1.

We also attempted to reconstruct the recent historical and prehistoric ranges of 'Elepaio on O'ahu to provide measures of the degree and rate of decline. The recent historical range map was drawn using the same methods as the current range map, but included an additional 175 observations from 1975-1991. We chose 1975 as the cutoff for the recent historical range because extensive surveys were conducted then (Shallenberger 1977, Shallenberger and Vaughn 1978), and because most previous observations had already been compiled (Banko 1981). The prehistoric range was based on anecdotal accounts by early naturalists of 'Elepaio distribution (Seale 1900, Perkins 1903, Bryan 1905, MacCaughey 1919), and the original distribution of forested habitat prior to the arrival of humans (Hawai'i Heritage Program 1991). 'Elepaio are generalized in habitat selection, currently found in a variety of forest types, and able to forage and nest in many different plant species (Conant 1977; VanderWerf 1993, 1994, 1998; VanderWerf et al. 1997), so it is likely that they once inhabited most forests on the island.

To estimate the total current population size, we first calculated the size of each subpopulation using one of two methods. In areas with few 'Elepaio we attempted to conduct a complete census by surveying the entire area and locating every bird. We made a concerted effort to ascertain whether each bird had a mate, and we used the actual number of birds observed as the size of the subpopulation. In areas with many 'Elepaio, where it was not possible to conduct a complete census, we calculated the density of territories in the area that we surveyed, then determined the proportion of the area that we covered, and extrapolated to obtain an estimate of the number of territories in the entire area. Based on long-term monitoring of several large populations, the sex ratio of 'Elepaio is usually male-biased on

O'ahu, with about 84% of territorial males having a mate ($n = 147$; EAV unpubl. data). To estimate the total numbers of birds and breeding pairs in an area, we therefore multiplied the number of territories by 1.84 and 0.84, respectively.

RESULTS AND DISCUSSION

We estimate that the total current population of the O'ahu 'Elepaio is approximately 1973 birds distributed in six relatively large subpopulations and several smaller ones (Table 1, Fig. 2). We could have missed some small subpopulations, but almost certainly found all large subpopulations. The number of birds is divided about equally between the Wai'anae Mountains in the west and the Ko'olau Mountains in the east, with three large subpopulations in each mountain range. Although the central Ko'olau subpopulation covers the largest area (Table 1), 'Elepaio are sparsely distributed in this region and the number of birds is lower than in more dense subpopulations. At least eight tiny, remnant subpopulations consisting entirely of males remain in both the Wai'anae and Ko'olau mountains (Table 1), but because there is no chance of reproduction and rescue by immigration is unlikely, these relict subpopulations likely will disappear in a few years as the last adults die. Although the population estimate from this study is higher than the only previous estimate (200-500; Ellis et al. 1992), we emphasize that the number of birds has not increased and that the current estimate is higher because it is based on more thorough surveys.

A more useful measure of the current number of O'ahu 'Elepaio is the size of the breeding population, which is about 1768 due to a male-biased sex ratio; only 84% of territorial males have mates in large populations, and many small, declining populations contain only males (Table 1). One of the

primary threats to 'Elepaio is nocturnal nest predation by introduced black rats (*Rattus rattus*; VanderWerf in press), and the skewed sex ratio may be the result of greater predation on incubating females. Both sexes incubate, but only the female incubates at night (VanderWerf 1998), making them potentially more vulnerable to nocturnal rats.

The genetically effective population size, though unknown, probably is reduced by the geographically fragmented distribution (Grant and Grant 1992). Natal dispersal distances in 'Elepaio are usually < 1 km and adults are highly philopatric (VanderWerf 1998). Most subpopulations are separated by many km of unsuitable urban and agricultural habitat, so extensive exchange among subpopulations is unlikely. The current distribution superficially appears to constitute a metapopulation (Gilpin and Hanski 1991), but whether any exchange occurs among subpopulations is unknown. Habitat in most currently occupied areas is not saturated and there is space available, so young birds may not have to disperse far in search of breeding opportunities. The genetic population structure is unknown, but the degree of differentiation is likely to increase because most subpopulations are isolated.

The aggregate geographic area of the current range is approximately 5486 ha (Table 1), of which 55% is dominated by introduced plants and 45% by native plants (Hawai'i Heritage Program 1991). This does not imply that 'Elepaio prefer introduced plant species, but probably reflects a preference by 'Elepaio for riparian vegetation in valleys and the high degree

of habitat disturbance and abundance of introduced plants in riparian areas (VanderWerf et al. 1997). Of the 45% of the current range that is dominated by native plants, 23% is categorized as wet forest, 17% as mesic forest, and 5% as dry forest, shrubland, and cliffs (Hawai'i Heritage Program 1991).

Before humans arrived, forest covered about 127,000 ha on O'ahu (Hawai'i Heritage Program 1991), and 'Elepaio probably once inhabited much of that area. Reports by early naturalists indicate that 'Elepaio were widespread and abundant on O'ahu. Bryan (1905) called the O'ahu 'Elepaio "the most abundant Hawaiian species on the mountainside all the way from the sea to well up into the higher elevations." Perkins (1903) remarked on its "universal distribution...., from the lowest bounds to the uppermost edge of continuous forest." Seale (1900) stated the 'Elepaio was "the commonest native land bird to be found on the island," while MacCaughy (1919) described it as "the most abundant representative of the native woodland avifauna" and "abundant in all parts of its range." Based on these reports and on the original distribution of forest, we estimate that the O'ahu 'Elepaio currently occupies only about 4% of its original prehistoric range (Fig. 3), and that its range has declined by as much as 96% since humans arrived in Hawai'i 1600 years ago (Kirch 1982). Much of this decline can be attributed to habitat loss, particularly at low elevations. Fifty-six percent of the original prehistoric range is currently zoned for urban or agricultural development, and practically no 'Elepaio remain in urban or agricultural areas. Habitat loss through development has thus had an important negative

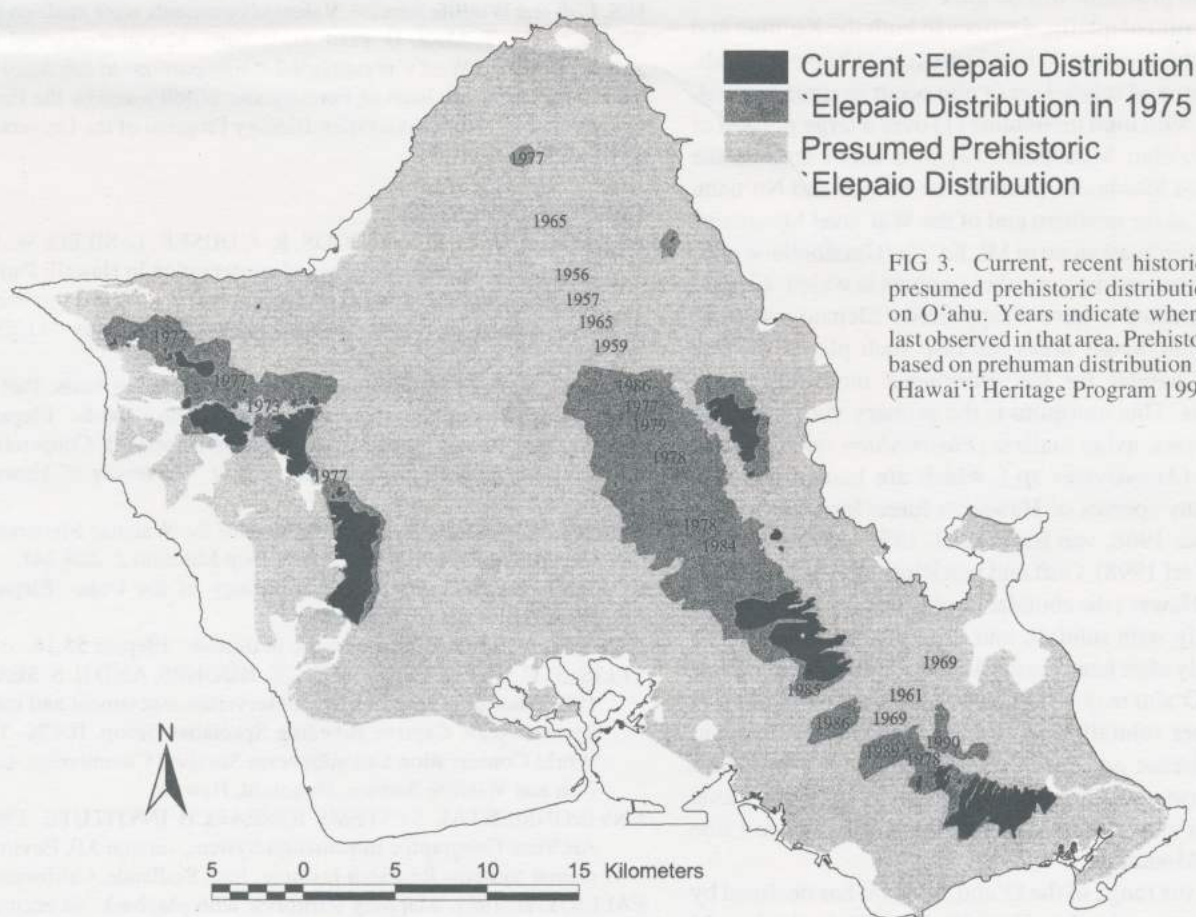


FIG 3. Current, recent historical (1975), and presumed prehistoric distributions of 'Elepaio on O'ahu. Years indicate when 'Elepaio were last observed in that area. Prehistoric distribution based on prehuman distribution of forest habitat (Hawai'i Heritage Program 1991).

impact on the distribution and abundance of the 'Elepaio, but habitat alteration in the form of gradual replacement of native forest with introduced forest appears not to have limited its distribution.

In 1975, 'Elepaio inhabited approximately 21,467 ha on O'ahu, almost four times the area of the current range (Fig. 3). Land use has not changed substantially over this period, so the recent decline cannot be attributed to habitat loss. Several areas of O'ahu that once supported 'Elepaio and still contain seemingly suitable forest habitat are currently unoccupied. 'Elepaio were observed regularly into the 1970s or early 1980s at Poamoho, Schofield-Waikane, Kipapa, Manana, and Waimano (Shallenberger 1977, Shallenberger and Vaughn 1978), but 'Elepaio have disappeared from all these areas, even though the forest is apparently little changed.

Based on the years when 'Elepaio were last observed in different parts of the island, a geographic pattern of decline is evident (Fig. 2). 'Elepaio first disappeared from the northern end of the Ko'olau Mountains in the 1950s and 1960s. By the 1970s the decline was more widespread, and 'Elepaio were extirpated from much of the northern and central Ko'olau Mountains and parts of the northern Wai'anae Mountains, including Mt. Ka'ala and its northern slopes. In the 1980s, the last 'Elepaio in the northern Ko'olau Mountains were lost at Poamoho and Waimano, and 'Elepaio began to disappear from portions of the southern Ko'olau Range, including Tantalus and Kalihi. Populations in Manoa, Waianu, Pahole, and Makua shrank drastically over the same period, and probably will be gone soon.

Perhaps not coincidentally, declines in both the Ko'olau and Wai'anae Mountains occurred first in areas with higher rainfall. Peaks in mean annual rainfall on O'ahu occur in three regions, each associated with high mountains (1) over a large portion of the northern Ko'olau Mountains, (2) in a small area of the southern Ko'olau Mountains centered on Manoa and Nu'uauu Valleys, and (3) at the northern end of the Wai'anae Mountains centered on the northeast slope of Mt. Ka'ala (Giambelluca *et al.* 1986, p. 138). These are the same three centers in which 'Elepaio were first documented to have disappeared. 'Elepaio may have declined earlier in wetter areas because such places provide more breeding habitat for the introduced mosquito *Culex quinquefasciatus*. This mosquito is the primary vector for two introduced diseases, avian malaria (*Plasmodium relictum*) and avian poxvirus (*Avipoxvirus sp.*), which are known to cause mortality of many species of Hawaiian forest birds, including 'Elepaio (Warner 1968, van Riper *et al.* 1986, Atkinson *et al.* 1995, VanderWerf 1998). Goff and van Riper (1980) found that on the island of Hawai'i the abundance of *Culex* mosquito larvae varied seasonally with rainfall, and that in some areas larvae were present only after heavy rains. Likewise, the abundance of mosquitoes on O'ahu may be higher or may peak more often in areas with higher rainfall, possibly leading to more frequent outbreaks of disease and more rapid declines in native bird populations. Most remaining O'ahu 'Elepaio occur in mesic areas of the Wai'anae Mountains and on the drier leeward side of the Ko'olau Mountains.

In summary, the range of the O'ahu 'Elepaio has declined by 96% since humans arrived in Hawai'i, by 75% in the last 25 years, and continues to decline. The total population is small, the

breeding population is even smaller, the distribution is highly fragmented, and most subpopulations are isolated. Management is urgently needed to prevent further declines and to begin recovery. The three primary threats to the O'ahu 'Elepaio are habitat loss, nest predation by introduced black rats, and diseases carried by introduced mosquitoes (VanderWerf 1998). Protection of forest habitat on O'ahu is essential for the continued survival of 'Elepaio. Rodent control programs have been started in several areas and have been successful at increasing nest success of 'Elepaio (VanderWerf *in press*), but should be expanded to protect more birds. Investigation of the genetic basis for possible disease resistance and identification of resistant individuals would be extremely valuable, and would greatly enhance the value of captive breeding as a recovery strategy.

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New York Learns Pesticide is Leading Cause of Bird Deaths Audubon Calls on Other States to Test for Pesticides, Release Data

A New York State wildlife official has discovered that of birds collected for a study on West Nile Virus, more died from pesticide poisoning than from the virus itself. In response to this early data, the National Audubon Society is calling upon Connecticut, Delaware, Maryland, New Jersey, Pennsylvania and Virginia to begin testing dead birds for pesticide poisoning, if they have not already, and to publicly release their findings.

"This data is very troubling," said John Flicker, President of National Audubon Society. "States owe it to their residents to get to the bottom of this."

Last year, prompted by concern about the spread of West Nile Virus, New York State asked counties to report dead birds to its wildlife pathology laboratory. After receiving more than 80,000 birds, Dr. Ward Stone discovered that while the virus was a factor in some of the deaths, the leading cause was pesticide poisoning. Common lawn care chemicals were among the most common toxins.

"Millions of us use pesticides like Diazinon and Dursban at home," said Frank Gill, Audubon's Senior Vice President of Science. "We deserve to know as much as possible about their effect on us. Like canaries in a coal mine, birds warn of danger in our environment. If these chemicals kill birds, what are they doing to our kids?"

In addition to threatening wildlife, pesticides are believed to harm humans. According to Pesticide Watch, pesticides have been linked to a wide range of human health hazards, from short-term impacts such as headaches and nausea to chronic conditions like cancer, reproductive harm, and endocrine disruption.

Source: National Audubon Society news release dated June 20, 2001
Contact: John Bianchi 212-979-3026 jbianchi@audubon.org

Bird of the Month – Common Moorhen

(*Gallinula chloropus sandvicensis*) or 'Alae 'ula

This endemic waterbird is also known as the Hawaiian Gallinule. A subspecies of the Common Gallinule of North America and Eurasia, it is now lives only on Kaua'i and O'ahu, although formerly it could also be found on Maui, Moloka'i and Hawai'i.

A secretive bird, the 'Alae 'ula is dark grey, almost black, with white streaks on flanks and under tail. Frontal shield on forehead and base of bill is red. It is about 13 inches long, and has greenish/yellow feet and legs with long unwebbed toes that it uses to walk across floating vegetation. It utters soft, chicken-like cackles and croaks.

The 'Alae 'Ula is found in freshwater ponds, marshes, irrigation ditches, reservoirs and taro patches. It require lots of vegetation for hiding and nesting, and eats algae, aquatic insects, and moluscs.

This bird is endangered, and protected by both State and Federal law. Factors contributing to its decline include habitat degradation and destruction (draining/fill of wetlands, lack of taro lo'i), and predation of eggs and chicks by mongooses, cats, and rats.

Hawaiian legend tells us that the 'Alae 'Ula brought fire to the Hawaiian people, flying to the home of the gods to obtain it. The characteristic red coloration on the bird's forehead is from being scorched by the flames on its return trip.

The gallinule can be found on O'ahu at Ka'elepulu Pond in Kailua (Kiuke'e Place), at James Campbell National Wildlife Refuge in Kahuku, and (we've recently heard) at Ho'omaluhia Botanical Garden in Kane'ohe. On Kaua'i, try Hanalei and Wailua River Valley.

[information taken from *The Birds of Hawaii and the Tropical Pacific*, by Pratt, Bruner, and Berrett (1987), *Hawaiian Birdlife* by A.J. Berber (1972), *Enjoying Birds in Hawaii*, by H.D. Pratt (1993), and *Hawaii's Birds*, by Hawaii Audubon Society (1996).]



photo by Rob Shallenberger

Slate for 2001 Election Announced

Members encouraged to submit additional nominations

The Nominating Committee announces the following nominees for the 2001 HAS ballot for terms beginning January 2002: incumbent First Vice President Liz Kumabe, Second Vice President Dan Sailer, and Recording Secretary Tonnie Casey will be running for second 2-year terms; incumbent Directors up for re-election are Chad Castle, John Harrison, and Alice Roberts. The Treasurer position is also open for nomination, as are six more Director positions.

Continuing Board members are President Wendy Johnson and Director Trae Menard. Their terms will be completed in December of 2002.

The HAS Board is a dynamic group of committed individuals whose energy and expertise involve many aspects of environmental protection in Hawai'i from fund raising to education, and from birding to habitat cleanup. All members of the Board are expected to attend two-hour monthly meetings and a Leaders'

Retreat in January. Directors are also expected to be active on one of the Society's two standing committees: Conservation and Education. Persons interested in serving on the Board are encouraged to attend a Board meeting; the next one is listed in the Calendar section on the back page.

The Society bylaws (Article VII, Section 4) provide that members may nominate additional candidates by submitting their names in writing, along with their written consent to be nominated, to the Elections Committee at the HAS office address by November 10, 2000.

If you want to be a candidate, please submit a letter of interest and brief resume of your background and activities (in and/or outside of HAS) to the attention of the Nominating Committee by November 10, 2001. Nominating Committee members may be contacted as follows: Wendy Johnson, 261-5957, Trae Menard, 638-0178, Linda Paul, 262-6859.

Next Program Meeting:

“Endangered Hawaiian Plants and their Propagation”

Monday, October 15, 2001, 7:30 - 9:30 PM
CHAMINADE UNIVERSITY CAMPUS
3140 Wai‘alae Avenue, Kaimuki
Henry Hall, Room 109

John Culliney and Bruce Koebele will be talking about the trials and tribulations of growing native Hawaiian plants and planting them out on the landscape. Among topics considered will be a survey of new approaches in Hawaiian plant conservation such as building seedbanks. A survey of some major extant native-vegetation restoration projects in Hawai‘i will follow, and elementary questions about longterm patterns of ecological succession will also be raised.

John and Bruce are the co-authors of the book “A Native Hawaiian Garden: How to Grow and Care for Island Plants.” John is professor of Biology at HPU, Hawai‘i Loa Campus and Bruce Koebele is native plant projects coordinator at Ka‘ala Farm, Inc. a not-for-profit, Wai‘anae-based community development organization.

Legislative Representative Needed

by Dan Sailer

For the tenth consecutive year, the Society is seeking a part-time legislative analyst to advocate the Society’s positions on bills affecting native wildlife and habitat. Following selected bills concerning agriforestry, endangered species, and land use planning, the position provides a much needed voice for conservation interests. The position runs roughly concurrent with the legislative session, December 2001 through May 2002.

Duties include:

- * extracting matters of concern to the Society from the 3,000+ bills, resolutions, and departmental funding requests;
- * consulting with appropriate Society officers and communicating with other environmental organizations to develop an dpresent testimony at hearings;
- * following certain bills and resolutions through the process, lobbying legislators and governmental resource personnel as needed;
- * submitting verbal and written reports at monthly Society Board meetings; and
- * preparing a written summary of activities within two weeks of session’s end.

The contractual position is compensated at \$4,000 for the period. Past experience with Hawai‘i’s legislative process is a plus.

To apply, please send a letter of interest, resume, and short writing sample to: Hawaii Audubon Society, 850 Richards St. #505, Honolulu, HI 96813. We need to receive applications no later than November 23, 2001.

A Service Trip to Midway

by Annette Kaohelaulii

For those of you who have always wanted to go to Midway Atoll, Sierra Club offers you a chance to participate in a service trip to a really remote and unique place. Veteran Sierra Club Service Trip leader Annette Kaohelaulii, Midway Phoenix, and the U S Fish and Wildlife Service are in the process of coordinating a week long service project to the far reaches of the Hawaiian Archipeligo. The dates will be November 24-December 1. If you are interested in participating in a service trip to this truly delightful and fascinating atoll in the Pacific, please contact Annette Kaohelaulii at 235-5431 or annettesadventures@juno.com.

If you like beautiful, tranquil turquoise lagoons, long white sand beaches, and many more birds than people, Midway Atoll is the ideal place for your week long get away. We will be doing trail building along West Beach, plus other tasks that USFWS asks us to do. You will see turtles, perhaps monk seals, fairy terns, Laysan albatross, brown noddys, wedgetailed shearwaters, and much, much more.

If there is enough interest, and enough projects to be done, we may have more than one service trip., so even if you can not make the week after Thanksgiving, contact Annette to let her know of your interest and which dates would work for you.

Approximate trip fee will be around \$1000. In order to keep the costs lower, we will be housed in a student dormitory. If you have 30,000 Aloha Miles you may be able to use those for your airfare and reduce your fee even further. You will also need a passport to go to Midway.

It’s Annual Mailing Time Again!! We Need Your Help

Sunday, November 18th, 10 a.m. to 4 p.m.
at the HAS office

Can you spare a couple of hours to stuff and seal envelopes so that you and your fellow members can receive 2001 HAS ballots, local membership renewals, and the President’s annual report/appeal??
Come for the whole time or just a few hours.

YOU WILL BE REWARDED
with lunch and other refreshments,
good company, and endless gratitude!

Please call Linda Shapin at the HAS office -
528-1432 and let her know
when you can come by on that day.



OCTOBER 2001

'ELEPAIO

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Calendar of Events

Mondays, Oct. 8 & Nov. 12
Conservation Committee and
Education Committee monthly
meetings at the HAS office at 5:45
p.m. For more information, call
Conservation Chair Dan Sailer,
735-5278 or Education Chair
Wendy Johnson at 261-5957.

Mondays, Oct. 8 & Nov. 12
HAS Board meeting always open to
all members, 6:30 to 8:30 p.m. at
the HAS office.

Saturday, Oct. 13
Field trip to James Campbell
National Wildlife Refuge. *See page 56.*

Saturday, Oct. 27:
Field trip to Hosmer Grove and to The
Nature Conservancy's Waikamoi on
the lovely island of Maui. *See page 56*

Saturday, Nov. 17:
Field trip to 'Ewa Plains Sinkholes to
look for fossils of extinct Hawaiian
birds with Dr. Alan Ziegler. *See page 56.*

Sunday, Nov. 18:
HAS Annual Appeal mailout party at
HAS office. *See article on page 63.*

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