

Habitat Use by the 'Amakihi, *Hemignathus chloris* (Aves: Drepanidinae) in a Suburban Setting: Possible Evolutionary and Conservation Consequences

By Robert Lovich^{1,2}

Abstract

O'ahu 'amakihi (*Hemignathus chloris*; AOU, 1995) in Manoa Valley, O'ahu, Hawai'i, were observed in 1995 to gather baseline information on both habitat preferences and relative utilization. 'Amakihi were observed at the Harold Lyon Arboretum in upper Manoa Valley on thirteen different dates between July 6 and August 17 of 1995. Sixty-two independent visual observations of 'amakihi were made in forested and cleared areas. Observations were made with respect to use of cleared versus forested areas, and native versus alien plant species.

Observations of 'amakihi were significantly correlated with cleared rather than forested areas ($\chi^2 = 11.75$, $df = 1$, $P < 0.001$), and with alien versus native plant species ($\chi^2 = 4.51$, $df = 1$, $P < 0.05$). Observations of foraging were also correlated with cleared rather than forested areas ($\chi^2 = 2.78$, $df = 1$, $P > 0.05$), and with alien rather than native plants species ($\chi^2 = 2.37$, $df = 1$, $P > 0.10$). Data from this study are important in providing a better understanding of 'amakihi populations at low elevations and in suburban settings, both of which are atypical habitats for present day Hawaiian forest bird populations.

Introduction

The susceptibility of Hawai'i's forest birds to a host of alien and unnatural threats has led to the recent extinction of many species, and threatens the long-term persistence of an extraordinarily diverse example of vertebrate adaptive radiation. Some of the direct causes of the extinctions, as well as the current threats to extant species include habitat loss, introduction of alien species by the Polynesians (e.g. *Rattus exulans*, *Sus scrofa*, and *Canis familiaris*), and Europeans (*Felis catus*, *Rattus rattus*, *Rattus norvegicus*, *Herpestes auropunctatus*, *Bos taurus*), as well as disease (Scott et al. 1986, and Freed et al. 1987). Disease is thought to be one of the principal causes of avian species decline in the Hawaiian Islands (Warner 1968, and van Riper et al. 1986, Atkinson et al. 1996), specifically avian malaria and avian pox that are transmitted through a mosquito vector (*Culex spp*) that has had significant impacts on native bird populations



O'ahu 'Amakihi

photo courtesy of Tom Dove

between 900 and 1,500 m in elevation. Since the mosquitos currently present in the Hawaiian Islands are apparently confined to lower elevations, the higher forested areas in the islands have become refugia for many of the remaining native bird species.

Amakihi on the island of O'ahu, especially within Manoa Valley, can be found in a variety of habitats ranging from suburban neighborhoods to alien and mixed-native vegetation in upland areas (pers. Obs),

indicating they are less specialized than other forest bird species in Hawai'i, along with their relatively wide geographic range and broad use of habitat types. Research has shown that 'amakihi in Manoa Valley, O'ahu avoid infection to avian malaria, while other bird species in the same area do not (Cann et al. 1996).

Because the 'amakihi of Manoa Valley occur in a predominantly alien landscape in sympatry with a known vector for a detrimental avian virus (Cann et al. 1996), information on the habitat use and behavior of the 'amakihi can be useful in determining what factors may have led to their success in coping with a disease that has been implicated as a killer of native Hawaiian forest birds (Warner 1968, and van Riper et al. 1986). The persistence of a native Hawaiian forest bird population in close proximity to the city of Honolulu merits further analysis. In this paper, baseline observations of the 'amakihi in Manoa Valley are summarized.

Materials and Methods

Seven viewing stations were selected to test whether 'amakihi randomly chose habitat types. The seven viewing stations were chosen so as to represent the diversity of habitat types found within the arboretum, and encompassed areas already known to contain 'amakihi populations. Four viewing stations were situated within forested areas of the arboretum, while three were in cleared or more open habitats. Native vegetation was confined to only a single viewing station, and thus represented approximately one seventh of the observed habitat. Overstory height

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'TAKE BACK AUDUBON' Group Seeks Proxies

As many Auduboners are aware, the National Audubon Society has made changes in its relationship with local Chapters that have significantly impacted Chapter finances, and the role of the Audubon grassroots in our organization.

In 2000, the NAS Board of Directors changed the long-standing policy of sharing membership dues with Chapters. Under the new policy that will be fully implemented next year, the dues share will drop to near zero for most Chapters. This loss of revenue has forced Chapters to cut back on newsletters and to reduce their conservation and education activities—the most effective activism in all of Audubon.

In 2001, the NAS Board enacted a new Chapter Policy over the written objections of 74 Chapters and over 88 Chapter leaders who signed on to a letter urging the Board to reconsider this policy. The letter asked NAS to engage in a true dialogue over this document and to seek a policy "that meets the needs of ALL of Audubon, including Chapters."

At the 2002 Annual Meeting, the NAS leadership voted down resolutions brought by Chapter members to reform the governance of NAS by providing for access to information, competitive elections, and a greater voice for Audubon members and Chapters.

In addition, National Audubon has embarked on a major effort to establish hundreds of Audubon Centers, which many Chapter leaders fear will ultimately replace Chapters by draining funds and volunteers from local conservation work. A number of Chapters have already had serious conflicts with NAS over this issue.

In response to these actions by NAS, a grassroots organization, 'Take Back Audubon' (TBA) has sprung up, whose mission is "to restore a true partnership between the independent Chapters and the National Audubon Society through a real voice in the NAS organization and in all decisions that affect Chapters." To date, 37 Audubon Chapters and over 100 Chapter leaders have endorsed Take Back Audubon.

Presently, TBA is engaged in an effort to elect an alternate slate of candidates to the NAS Board of Directors at this year's Annual Meeting on Dec. 6, 2003. They are seeking proxies from Audubon members to bring to the meeting to vote for this slate, and to support resolutions that will be presented to democratize Audubon and to restore the Chapter dues share.

Biographies of the candidates, copies of the proposed resolutions, and background information on Take Back Audubon can be found at www.smbas.org/tba.

'ELEPAIO

ISSN 0013-6069

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The 'Elepaio is printed on recycled paper and published nine times per year: February, March, April, May, June/July, August/September, October, November, and December/January

The Board of Directors of Hawaii Audubon Society Invites You to Attend

The Society's 10th Annual Awards Dinner

Monday, October 20, 2003 From 6:00 to 98:30pm
Hawai'i Imin Conference Center, UH Manoa
Garden Level
\$25.00 Per Person

Dinner Catered by Kaka'ako Kitchen:
Mesclun of Greens with Lemon Miso Dressing
Asian Potato Salad
Sautéed Mahi with Tomato-Ginger-Butter Sauce
Wok-Fried Vegetables
Steamed Rice
Double Chocolate Brownies

This marks the tenth year that the Society has recognized outstanding volunteers, corporate leaders, and public servants for their contributions in protecting Hawai'i's native wildlife and habitats. The following presentation is planned for your enjoyment:

Endangered Bird Propagation – A Conservation Tool for Recovery

by Tracey Goltz, Keauhou Bird Conservation Center

Initiated in 1993 by The Peregrine Fund and now administered by the Zoological Society of San Diego, the Hawai'i Endangered Bird Conservation Program manages the Keauhou and Maui Bird Conservation Centers as well as several reintroduction programs in the field. Over the past 10 years, the program has hatched over 300 chicks of native Hawaiian forest birds to include the 'Akepa, 'Akohekohe, 'Alala, 'Amakihi, 'Apapane, 'Elepaio, Hawai'i Creeper, 'I'iwi, Maui Parrotbill, 'Oma'o, Palila, and Puaiohi. Ms. Goltz will present a Power Point show to tell the story of captive propagation, from egg to reintroduction, and its potential impact on the recovery of the endangered native forest birds of Hawai'i. Ms. Goltz has worked at the International Crane Foundation in Wisconsin and has been a member of the Hawai'i Endangered Bird Conservation Program since 1996. She is currently the Facility Manager at the Keauhou Bird Conservation Center and is responsible for the daily operations of the facility and the care and well-being of the bird inventory.

Reservations must be made and payment received no later than October 15th. Make your reservations by calling the office at 528-1432 or emailing us at hiaudsoc@pixi.com. Checks may be mailed to the office at 850 Richards St., #505, Honolulu, HI 96813.

Kawai Nui Marsh Service Projects 2003

The Kawai Nui Heritage Foundation and 'Ahahui Malama I Ka Lokahi, in cooperation with Kailua Hawaiian Civic Club, DLNR Division of Hawaii State Parks, Windward YMCA invites you to kokua and malama Kawai Nui Marsh On Our 2003 Service Projects

NA POHAKU O HAUWAHINE (The rock formation of the Hawaiian Mo'ō goddess and guardian of Kawai Nui Marsh) is located on the right-hand side of Kapa'a Quarry road at the Y-intersection before entering the Kapa'a Landfill Transfer Station. It offers a panoramic view into the "piko" of Kawai Nui Marsh where one can observe in tranquility the wetland birds and marsh vegetation. Brush removal and trail construction has revealed ancient Hawaiian terraces that align the massive rock outcrops. We are planting the area with native plants to restore a dryland forest ecosystem. We are also working in the marsh to form a wetland bird habitat.

HOLOMAKANI HEIAU (The running wind) was presumed to be destroyed according to McAllister's account in 1933 but was rediscovered in 1987. Archaeological surveys suggest that this site may be a "possible prehistoric heiau or large platform terrace structure of some significance." This site is located on a 319 acre privately owned property on the mauka side of Kapa'a Quarry road about 0.7 miles from its intersection with Kalaniana'ole Hwy. A short hike of 15 minutes from the Quarry Road will lead to the site. Off road trucks have damaged the rock wall of the heiau in recent years and have caused erosional runoff in the watershed. We have cleared and maintained the heiau terraces of vegetative overgrowth and hope to make visitors aware and respectful of this sacred site.

ULUPO HEIAU (Night of Inspiration) one of the first sacred temples to have been built as a "mapele" (agriculture) heiau by the first people or menehune and dedicated to Kaneulupo. Later in the reign of high chief Ku'ali'i, the temple may have been reconstructed as a luakini or human sacrificial heiau. The Kailua Hawaiian Civic Club and Ka Pa Ku'i A Holo are the co-curators for this heiau and conduct service projects every second Saturday of the month. Ahahui Malama i Ka Lokahi has taken the lead to restore the ancient spring fed lo'i kalo (taro terraces) located behind the heiau.

KAWAI NUI ESTUARY WETLAND BIRD ISLET RESTORATION As part of the Ahahui Malama i ka Lokahi research program in Kawai Nui Marsh, an islet located at the Kaha Park side of the Kawai Nui estuary has been cleared of alien vegetation and will be landscaped as a wetland bird habitat. Service project dates to this site will be announced.

Meeting time for all service projects is 8:30 am and we will finish by 2:00 pm. Special arrangements can be made for groups or individuals to work on other weekends or during the week. Meeting places for Ulupo Heiau will be at the heiau parking area next to the Windward YMCA. For Na Pohaku o Hauwahine it will be inside the gated City Transfer Station on Kapa'a Quarry Rd. and/or at the trail entrance along Kapa'a Quarry Rd. Do not leave any valuables in vehicles.

Service Project Dates – Remainder of 2003

Saturday Oct. 11 - Ulupo Heiau – Lo'i Kalo
Saturday Oct. 18 - Holomakani Heiau.
Saturday Nov. 8 - Ulupo Heiau – Lo'i Kalo
Saturday Nov. 15 - Na Pohaku o Hauwahine
Saturday Dec. 13 - Ulupo Heiau – Lo'i Kalo
Saturday Dec. 20 - Na Pohaku o Hauwahine

Dates may be subject to change depending on weather or other circumstances. Check for updates at website: <http://www.ahahui.net/>

What to bring: backpack, lunch, 1 qt. water, rain gear, mosquito repellent, gloves. Tools needed if you have them: Sickles, pruners, handsaws, machete, weeders, cultivators.

Please call Chuck "Doc" Burrows for more information and to register for these educational tours at: 595-3922 or email: <ahahui@hawaii.rr.com>

The Natural and Cultural History of the Kailua Ahupua'a and Kawai Nui Marsh

sponsored by Kawai Nui Heritage Foundation, 'Ahahui Malama I ka Lokahi and Kailua Hawaiian Civic Club

Educational tours of the Kailua Ahupua'a and Kawai Nui Marsh are designed to inform residents, visitors, educators and members of community organizations about the Hawaiian archaeological, historic and ecological sites of the marsh. Field study trips for elementary through college age student groups or other Hawaiian cultural groups are also available.

Tour groups meet at Ulupo Heiau next to the Windward Kailua YMCA at 8:30am and walk as well as car pool to the various sites. Return trip is usually back at the Windward YMCA by 1:00 pm. Donations of \$5.00 for non-members and \$3.00 for members will be gratefully accepted. Monies are used to support the cultural and ecological restoration work of Kawai Nui Marsh. Group size will be limited to 20 persons.

Dates of Remaining 2003 Tours

Saturday, Oct. 4 - Geology of the Kailua Ahupua'a
Saturday, Nov. 1 - Archaeological & Historic sites of Kawai Nui Marsh
Saturday, Dec. 6 - Birds of the Marsh

Dates of tours may be subject to change depending on weather or other circumstances. Check updates at website: <http://www.ahahui.net/>

What to bring: Backpack or fanny-pack, walking shoes, water bottle, mosquito repellent, sunscreen, rainwear, hat or cap, sunglasses. Optional: camera, binoculars, snacks.

Please call Chuck "Doc" Burrows for more information and to register for these educational tours at: 595-3922 or email: <ahahui@hawaii.rr.com>

ranged from 0 m (in clearings), to 30 m (in forested areas). The topography of the study area was varied and predominantly south and southwest facing. Overstory at viewing stations was comprised primarily of *Albizia sp.*, *Acacia koa*, *Brownia sp.*, *Cecropia sp.*, *Schefflera actinophylla*, *Aleurites moluccana*, *Cibotium sp.*, *Metrosideros polymorpha*, *Hibiscus spp.*, *Araucaria excelsa*, *Costus woodsonianus*, and *Michellia champaca*. Understory varied greatly from saplings of the above-mentioned trees to alien grasses, ginger (*Costus woodsonianus*), and scattered ornamental alien species. On each survey day, the seven stations were visited in same order, and observations were made for ten minutes per station. All observations of 'amakihi were recorded during each survey date, along with the type of plant species in which they were observed, approximate vertical location, duration of behavior, and any observations of foraging. Visual observations were aided by binoculars and were determined by visual and/or audible detection. 'Amakihi observations were made on thirteen different dates from July 6 to August 17 of 1995. All observations occurred between 0925 and 1313 h. Chi-square analysis using Yate's correction for continuity was used to test frequency of observations in various habitat and behavior categories.

Results

Sixty-two confirmed observations of 'amakihi were made over all viewing stations combined. Of the 62 observations, forty-five (62.2%) were in or along cleared areas, and seventeen (37.8%) were in forested viewing sites ($\chi^2 = 11.75$, $df = 1$, $P < 0.001$). Seven foraging observations (30.4%) occurred in forested areas, and 16 foraging observations (69.6%) occurred in or along the edges of clearings ($\chi^2 = 2.78$, $df = 1$, $P > 0.05$). Of sixty-four 'amakihi-plant associations, twenty-three (35.9%) involved 'amakihi utilizing native plant species, while forty-one (64.1%) involved non-native plants ($\chi^2 = 4.51$, $df = 1$, $P < 0.05$). 'Amakihi were observed foraging in native plants 9 (33.3%) times, and in alien plants 18 times (66.6%; $\chi^2 = 2.37$, $df = 1$, $P > 0.10$). Plant species were not recorded for four audibly detected observations out of the total of 62 observations, since the precise plant species from which they were heard calling could not be positively verified.

Discussion

Data from this study indicate that 'amakihi are more frequently associated with clearings rather than forested areas, and with alien rather than native plant species. The association of 'amakihi with clearings at Lyon Arboretum may be due to the difference between present "forest" structure in this area as compared to native forest structure historically found in this area. 'Amakihi in Manoa Valley are likely to have evolved in concert with koa (*Acacia koa*) and 'ohi'a (*Metrosideros polymorpha*) forests similar to those remnants seen along ridges just above the Lyon Arboretum. Data from this study indicate that areas with a higher overstory produced by *Albizia sp.*, and in concert with primarily alien understory may be avoided by 'amakihi or represent atypical habitat. Conversely, clearings in the study area represented 'edges' between habitats more likely to contain greater forage diversity. The observed association of 'amakihi with alien plant species more than with native species

is probably due to the simple fact that little native vegetation remains at the Lyon Arboretum, or in Manoa Valley as a whole. Large open-space areas containing native vegetation remain only along the ridges surrounding this valley.

'Amakihi have a generalized feeding ecology; they feed on both nectar and insects (Freed et al. 1994; Pratt et al. 1987). Freed et al. (1994) speculated that 'amakihi radiation among the Hawaiian Islands was potentially limited by availability of insect food. Observations made in this study indicate some degree of resource use plasticity by 'amakihi. Data from this study shows an apparent switch to an almost exclusively alien habitat, and indicates that 'amakihi are able to exploit both native and alien vegetation as forage as well. These observations are consistent with those of VanderWerf (1997) who observed 'amakihi nesting at lower elevations and in a suburban setting within an entirely alien plant community in another area of Manoa Valley. 'Amakihi at that locality would likely be required to forage exclusively on alien vegetation given the prohibitive distance (e.g. several kilometers) to the nearest native vegetation.

The apparent ability of Hawaiian passerines to adapt to a changing environment has been noted in the 'I'iwi (*Vestiaria coccinea*; Smith et al. 1995), where it was shown that bill dimensions changed as food resources changed over a time period of only 80 years. It is also possible that a shift in avifauna community composition to predominantly alien species in Manoa Valley may have driven competition for food resources and an ecological 'shift' by 'amakihi in this area to different food and other resources.

'Amakihi from Manoa Valley appear to be persisting in an area with intermediate to high levels of ecosystem disturbance and high levels of avian malaria (Cann et al. 1996). A better understanding of 'amakihi in disturbed and altered habitats is important to their long-term conservation and management. Their tolerance to avian malaria is important to consider, since the O'ahu 'amakihi was recently recognized as a separate species based on genetic differences (Johnson et al. 1989; Tarr and Fleischer 1993; Am. Ornithol. Union 1995). While these birds are distinct evolutionarily from 'amakihi on neighboring islands, they retain the adaptability and generalized ecological habits of their congeners. Understanding what factors have led to the persistence of 'amakihi in Manoa Valley and other areas throughout their range can assist conservation of other Hawaiian forest birds that are under pressure from avian pox and malaria.

This species has already been used as a surrogate species for captive propagation of other critically endangered Hawaiian avifauna (Keuhler et al. 1996). In concert with land restoration and/or reforestation projects, there is the potential for 'amakihi from Manoa Valley to be used in captive propagation for repatriation efforts at lower elevations on O'ahu or other islands. While 'amakihi are known to inhabit Hawaiian forest habitats of various types (Scott et al. 1986; VanderWerf 1997), their behavior and habitat use in a suburban setting is an important topic when considering the long-term management and survival of this species. They provide a model system for analyzing changes to a different environment, and how they are able to evolve in light of increasing suburbanization. Further research is needed to understand how Hawaiian forest birds can co-exist with the environmental changes taking place. In recent times the Hawai-

ian Islands have seen rapid land conversion and habitat loss, along with the introduction, rapid spread and subsequent prevalence of avian diseases. The future provides even greater challenges as the present impacts persist, and the human population continues to grow. The 'amakihi population studied herein may be an important link in understanding how forest birds are able to cope with introduced species and altered habitats in an increasingly suburbanized region.

Acknowledgements – Thanks to L. Freed for guidance and technical expertise during the course of this project. S. Conant, J. Lovich, W. Boarman and an anonymous reviewer reviewed earlier drafts of this manuscript. Thanks to L. Freed, J. Rohrer, and M. Burt for introducing me to the 'amakihi of Lyon Arboretum.

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The Hawai'i Nature Center Hike

Honouliuli National Wildlife Refuge

SATURDAY, NOVEMBER 8, 2003

O'AHU - EXCLUSIVE WETLAND ADVENTURE

Join us at the Hono'uli'uli Pearl Harbor National Wildlife Refuge for a unique opportunity to explore and discover Hawai'i's endangered wetland environment, made possible only to the Hawai'i Nature Center under a USFWS special permit. Our morning will include bird watching, mucking in the mud, and exploring the homes of native Hawaiian endangered wetland birds. We'll look at how these magnificent birds find their food and make the most of their surroundings. Be sure not to miss this unique learning experience! FREE TO HNC MEMBERS!

* Time: 9:30-11:30 am

* Program Type: Family (Family programs require that children be accompanied by an adult)

* Age: 7 years and up

* Admission fees are \$6 for adults, \$4 for children ages 4-12 and children under 4 are free. Non-member parent/child team is \$14

* Requirements for all hikes include good hiking shoes (closed-toe shoes, no sandals), water, snack, sunscreen, insect repellent. Binoculars are suggested.

* Call 1-888-244-6503 for more information and to register for the hike.

HAS Members Discount at Waimea Valley Audubon Center

HAS members will receive a 10% discount at Waimea Valley Audubon Center's Gift Shop if they bring a current issue of 'Elepaio with their address on it. Admission to the Center is \$8.00 regular, \$5.00 Kama'aina. Children 4 through 12 years are admitted for \$3.00, as are Senior Kama'aina and Military with ID. The Center is open from 9:30 to 5:00 every day. Call them for more information at 638-9199.

Christmas Bird Count December 14, 2003 to January 5, 2004

The following information is taken from National Audubon's website. www.audubon.org. For more information, please visit the site. Count coordinator contact information will be published in the November issue of 'Elepaio.

Prior to the turn of the century, people engaged in a holiday tradition known as the Christmas "Side Hunt." They would choose sides and go afield with their guns; whoever brought in the biggest pile of feathered (and furred) quarry won. Conservation was in its beginning stages around the turn of the 20th century, and many observers and scientists were becoming concerned about declining bird populations. Beginning on Christmas Day 1900, ornithologist Frank Chapman, an early officer in the then budding Audubon Society, proposed a new holiday tradition—a "Christmas Bird Census"—that would count birds in the holidays rather than hunt them. So began the Christmas Bird Count. Thanks to the inspiration of Frank M. Chapman and the enthusiasm of twenty-seven dedicated birders, twenty-five Christmas Bird Counts were held that day. The locations ranged from Toronto, Ontario to Pacific Grove, California with most counts in or near the population centers of northeastern North America. Those original 27 Christmas Bird Counters tallied a total of 90 species on all the counts combined.

The primary objective of the Christmas Bird Count is to monitor the status and distribution of bird populations across the Western Hemisphere. The count period, which is from December 14th to January 5th, in North America is referred to as "early winter," because many birds at this time are still in the late stages of their southward migration, so it is not "true" winter. When we combine these data with other surveys such as the Breeding Bird Survey, we begin to see a clearer picture of how the continent's bird populations have changed in time and space over the past hundred years.

The information is also vital for conservation. For example, local trends in bird populations can indicate habitat fragmentation or signal an immediate environmental threat, such as ground-water contamination or poisoning from improper use of pesticides.

From feeder-watchers and field observers to count compilers and regional editors, everyone who takes part in the Christmas Bird Count does it for love of birds and the excitement of friendly competition — and with the knowledge that their efforts are making a difference for science and bird conservation. As long as there are birds to be counted, the Christmas Bird Count will go on being the most popular, fun, and rewarding bird census the world over!

Voices of Hawaii Tapes

Price
Reduced!

Our tape set of Hawaii bird calls, "Voices of Hawaii" is now priced at \$5.00 per set, plus \$3.00 postage. We hope to produce the set in CD format when we reach the end of our supply of tapes.

Field Trips for 2003/2004

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. Field Trip information is also available on the HAS office answering machine (528-1432) and on our website, <www.hawaiiiaudubon.com>

October 18, Saturday, James Campbell National Wildlife Refuge. See Hawai'i's endangered waterbirds and other migratory waterfowl at one of O'ahu's few remaining wetlands. This is a good place for unusual sightings! Past years have featured the Red Knot, Semi-palmated Plover, Common Pochard, Black-tailed Godwit, and a Peregrine Falcon. Bring water, snacks, binoculars, spotting scope if you have one, and sunscreen. This is a non-strenuous field trip, very little walking is involved. We will meet at 9am. Number of participants is limited to 15. Call the HAS office to register – 528-1432.

October 25, Saturday, Fort Kamehameha, Hickam Air Force Base. A rare glimpse at Hickam's waterbirds at the mud flats. Call Alice for more information and to register – 538-3255.

November 15, Saturday, Birding at Waimea Valley Audubon Center. The hike will last 3.5 hours and cover approximately 3.5 miles. We will aim to return to the Visitor's Center by 1:30.

A First-Name Basis

We apologize for the fact that some of our August/September newsletters went out to members' first names only. We are using a new printing company, and electronic addressing, and surnames were inadvertently omitted from part of the list. We should have corrected the problem with this issue – still working the bugs out!

Nominating Committee Report

Members Sal Pagliaro, Carol Bebb, and Larry Kimmel have been nominated to the Board of Directors, and will be on the November ballot. Sal plans to run for the Treasurer position. Director Arlene Buchholz will also be running for re-election.

The Society bylaws (Article VII, Section 4) provide that members may nominate 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, 2003.

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 at the Society's address by November 10, 2003. Nominating Committee members may be contacted by emailing the HAS office at hiaudsoc@pixi.com.

Morro Bay Winter Bird Festival, January 16-19, 2004

Migrate to one of the country's pre-eminent birding spots and join the Morro Coast Audubon Society (MCAS) for the 8th Annual Morro Bay Winter Bird Festival. Morro Bay — located on California's scenic Central Coast — is an important stop on the Pacific Flyway, and is recognized worldwide for its diversity of both resident and wintering birds. Over 200 species of birds have been identified during past Festivals.

The Morro Bay Winter Bird Festival is sponsored by MCAS and gives you the chance to join local and national birding experts on a variety of field trips and workshops. Field trip group sizes are limited to maximize spotting and identification opportunities. The Festival also offers workshops aimed at sharpening your birding skills, as well as evening programs with outstanding speakers.

Please note that the Morro Bay State Park campground will be closed during this year's festival; however, the area offers a number of other nearby campgrounds, such as Montana de Oro State Park and Atascadero State Beach.

For more information about the Festival, check out our website at www.morro-bay.net/birds, where you can request that your name be added to the mailing list for our 2004 brochure, due out in October. Registration deadline is December 31, 2003 and early signups are encouraged as the most popular events fill up quickly.

Volunteers Needed for Annual Mailing 2003

Saturday, November 22nd
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 Board election ballots, local membership renewals, and the Annual 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 (or email at hiaudsoc@pixi.com) and let her know when you can come by on that day.

2004 Membership in Hawaii Audubon Society

Regular US Member	(via bulk mail, not forwardable)	\$ 15.00	Mexico	\$ 21.00
First Class Mail		\$ 21.00	Canada	\$ 22.00
Junior Members (18 and under)		\$ 10.00	All other countries	\$ 28.00
Supporting Member		\$100.00		

Donations are tax deductible and gratefully accepted.

Name _____

Address _____

City, State _____

Country, Zip _____

Phone _____ Email _____

Membership \$ _____ + Donation \$ _____ = Total \$ _____

Please make checks payable to Hawaii Audubon Society.



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Calendar of Events

November 17, Monday, HAS Board meeting
 Open to all members, 6:30 to 8:30 p.m. at the HAS office. Education and Conservation Committees meet at 5:45 p.m. before Board meetings. Please note: Board Meetings have been changed from the second Monday of every other month (even months) to the third Monday, alternating with Program Meetings (odd months).

October 18, Saturday, Field Trip James Campbell National Wildlife Refuge *See page 56*

October 20, Monday, HAS Annual Awards Dinner *See page 52*

October 25, Saturday, Field Trip Hickam AFB *See page 56*

November 22, Saturday, HAS Annual Mailout *See page 57*

November 15, Saturday, Field Trip Birding at Waimea Valley *See page 56*

December 14, 2003 through January 5, 2004, Christmas Bird Count No details available yet.

December 15, Monday, Annual Membership Meeting at Chaminade University Details in November issue.

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