



'ELEPAIO

Journal of the
Hawaii Audubon Society

For the Protection of
Hawaii's Native Wildlife

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Listing Changes Sought for Two Species

The U. S. Fish and Wildlife Service (USFWS) is proposing to reclassify the 'Io, or Hawaiian Hawk, from an endangered species to a threatened species, based on improved biological knowledge of and status information on the species. "Threatened" and "endangered" are legal distinctions for animal and plant species listed by the USFWS under the Endangered Species Act (ESA). A threatened species is one facing potential endangerment, while an endangered species is facing the immediate prospect of extinction. Both designations provide full legal protection under the ESA.

When the 'Io was first listed as endangered in 1967, its population was believed to number in the low hundreds. Due to improved survey techniques and better knowledge of the 'Io's ecology and life history, the estimated population today is considered relatively stable, numbering between 1,400 and 2,500 birds.

The 'Io recovery plan, approved in May 1984, sets a population level of 2,000 as a target to reclassify the species to threatened status. Although the 'Io still faces the threats of human disturbance, shooting, contaminants, and some predators, Federal biologists believe reclassification is warranted.

The 'Io is restricted to the island of Hawai'i, where it nests in a variety of habitats. Unlike some native species that exist only in undisturbed habitat, the 'Io also occupies human modified habitats such as agricultural lands and exotic forests. The Hakalau National Wildlife Refuge and Hawai'i Volcanoes National Park on the Big Island are managed to provide habitat for the 'Io and other native forest birds.

A complete description of the proposal is available from the USFWS, Prince Kuhio Federal Building, 300 Ala Moana Boulevard, Room 6307, Honolulu, HI 96850, or by calling (808) 541-2749. Public comments will be accepted until 4 October.

The USFWS is also proposing to remove *Bidens cuneata*, an herb with small, yellow, daisy-like flowers found only along the slopes of Diamond Head Crater, from Federal pro-

tection under the ESA.

According to the USFWS, recent taxonomic studies have concluded that *Bidens cuneata* is an outlying population of the *Bidens molokaiensis*, which is a common species found along the windward cliffs of Moloka'i. Thus, the USFWS has concluded *Bidens cuneata* is not threatened with extinction. It was listed as an endangered species in 1984.

The proposal to delist the flower was published in the 7 July issue of the *Federal Register*. Source: USFWS

Excellent Response to Questionnaire

HAS Task Force Director Stan Michaels wishes to thank everyone who replied to the questionnaire in the August 'Elepaio. Said Michaels, "it is heartwarming to receive such strong response from our members, especially from those who took the time to write out their specific concerns." The questionnaire sought information that would give us a better understanding of the interests of our diverse membership. The most interesting response was the strong desire (over 70% of respondents) for additional birding activities, especially on the neighbor islands. The Board is seriously considering, and will attempt to plan in the future, some neighbor island hikes led by expert birders.

Michaels would also like to thank everyone for the promptness of their reply, and remind everyone that the second questionnaire included in the recent appeal letter is of equal interest. He said, "taking the time to answer the brief questions enables the Board to deal intelligently with those issues that concern all members. And while you're at it, take a little time and please drop a donation in the envelope enclosed with the appeal letter. Your spare change or check, whether it's a single dollar or a little more than that, will do a world of good in protecting Hawai'i's native wildlife and habitat."

Protection of Native Species

On 9 August, the Board of Directors adopted the following position regarding the protection of native species and ecosystems:

The Hawaii Audubon Society supports the increased management of Natural Area Reserves (NARS) and other important ecological areas for the benefit of native Hawaiian plants, animals, and ecosystems, which are among the most endangered in the world.

The Society notes that introduced species, including game and feral mammals, pose the most significant threat to native Hawaiian species/ecosystems. The secondary impacts of introduced mammals in Hawai'i include degradation of watersheds, erosion, and siltation of streams and nearshore fishing grounds, further affecting the quality of human life.

The Society notes that maintaining habitat for introduced mammals in certain areas has been to the detriment of native Hawaiian species/ecosystems, and that multiple and incompatible uses in such areas need to be reexamined.

The Society recognizes that hunting is important in Hawai'i for recreation and food, and that, in some areas, serves as an important land management tool. The Society supports the preservation of both native Hawaiian species/ecosystems and local lifestyles, which may include hunting. The Society believes there is room in Hawai'i to support both mandates, but that native species protection and game management are not compatible in most NARS and important ecological areas.

Therefore, the Society urges public and private land managers, including the Hawai'i Department of Land and Natural Resources, to work with citizens' groups in identifying important ecological areas to be managed for native Hawaiian species/ecosystems and those areas that are appropriate for game management. The Society also urges land managers to involve citizens' groups in managing those areas, including ungulate control, weed control, fencing, and improving public access to appropriate game management areas.

Alan Ziegler Receives Take Pride in America Award

by Doug Lamerson

For most people, the notion of species extinction is primarily an intellectual proposition. How else to get a handle on the "was" that isn't or the "is" that may cease to be?

For Alan Ziegler, however, transforming theoretical abstraction into compelling material really is as simple as wriggling into one of dozens of sinkholes that dot an 8-acre parcel of Campbell Estate land near the 'Ewa coast. There, in the cramped geologic oddities of the vast limestone reef that is the 'Ewa Plain, he has become intimately familiar with that which is no more.

For some eight years, the vertebrate zoologist has been examining the holes' hidden secrets—bones—to piece together a fascinating picture of the past. Recently, the long-standing HAS member and volunteer was honored for his work by the United States Fish and Wildlife Service (USFWS), receiving its Take Pride in America Award.

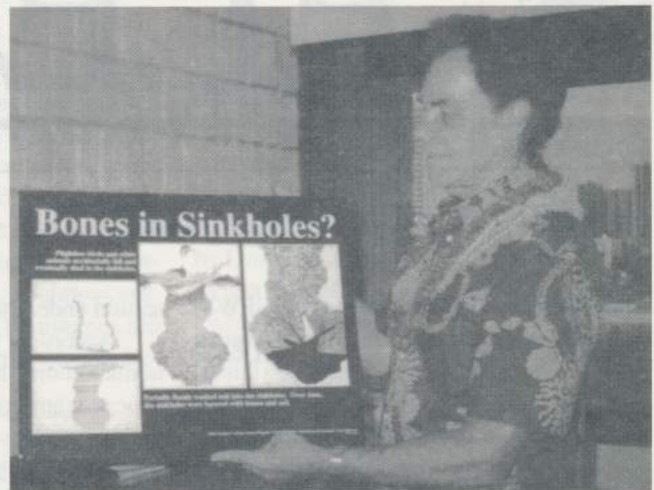
In presenting the award, USFWS Western Regional Director Marvin Plenert cited Ziegler's work in excavation, education, and preservation of "a unique resource that provides information about Hawai'i's natural past." That past was different from our present. The evidence extracted from the sinkholes reveals the scope of change.

Today, the area around Campbell Industrial Park is a parched, scrubby tract dominated by kiawe and introduced grasses. It's difficult to imagine that this arid expanse once supported an extensive native dryland forest of naio, sandalwood, and lama with a healthy and varied understory. Yet, that is precisely what the research of Ziegler and others suggests.

For example, the limestone sinkholes, which vary in depth from 5 to 15 feet, have offered up numerous extinct snails as well as bones of the Palila, a forest bird presently found at higher elevations on the Big Island. It posits as well the possible presence of the mamane tree, the Palila's principal food source and habitat.

The 'Ewa Plain, having survived erosion, and until now, man-made phenomena, is a remnant of raised limestone reefs that typically once ringed most of the islands. The sinkholes were formed when collections of rain water gradually dissolved the coral. Later, through accident or predation, they became a repository for a variety of endemic Hawaiian birds,

Vertebrate zoologist Alan Ziegler receives a national Take Pride in America Award from the USFWS.



including an eagle and several species unknown to have existed on O'ahu until the discovery of their bones in the vault-like pits.

These revelations offer a singular reference and help bring into focus the impact of natural processes and human behavior on the physical environment.

Yet, the presence of this rich resource was barely known until Ziegler volunteered to guide field trips to the area several years ago. Among the early takers was Nicholette Pestana, a resource teacher with the Department of Education. "I grew up in the Leeward area and never even knew these things were here," says Pestana. "It was absolutely fascinating to learn what was in those sinkholes."

Furthermore, Pestana and her colleagues quickly recognized the potential of the sinkholes for capturing the imagination of uninspired students. Working with Ziegler, a cadre of Leeward District environment and science teachers developed a complete curriculum around the sinkholes, including trips to the site. Ziegler accompanied the classes, instructed them in excavations, and identified their finds. "Dr. Ziegler was really very helpful, reviewing the curriculum, conducting workshops, and taking us out there," says Pestana. "And it has really worked. The kids love the sense of discovery."

Motivated by curiosity and an interest in fossil birds, Phyllis Ha is another who took advantage of Ziegler's expertise. An ecologist with the USFWS in Honolulu, Ha was captivated by the experience. "Dr. Ziegler took us right down in the sinkholes, let us find the bones, and then identified them for us. It was fascinating, but I was concerned for the protection of the sinkholes because they don't come under any agency's jurisdiction," says

a concerned Ha.

Her concern produced the nomination of the Berkeley-trained zoologist for the USFWS honor. Recalls Ha, "I was hoping that this award would call attention to the resource and Dr. Ziegler's valuable work."

Protection continues to be a primary concern. The Campbell Estate has agreed to protect the area only until 1995. After that, the holes may be filled in for development like the thousands of others that were once scattered around O'ahu. The rich historical harvest of the sinkholes notwithstanding, Ziegler believes they still have much information to yield. To ensure their preservation, he has proposed establishment of a park that would include a landscaped picnic area for employees of the nearby industrial park while maintaining the sinkholes for educational and scientific purposes.

The Campbell Estate has expressed some interest in Ziegler's proposal but has not committed to it. Similarly, neither the City nor State has offered any protection initiatives, although individuals like County Council Chair Gary Gill have voiced support. Meanwhile, time is running out on the opportunity to learn more about a world that time has left behind.

Publications Available

The Hawaii Audubon Society publishes books, checklists, and field cards relating to birds of Hawai'i and the Pacific. For a complete price list, send a self-addressed stamped envelope to Publications List, Hawaii Audubon Society, 212 Merchant Street, Suite 320, Honolulu, HI 96813.

Volunteers Needed for HAS Projects

by Lynne Matusow

A volunteer organization is only as good as the efforts put forth by its members. Without the assistance of members like you, the Hawaii Audubon Society will be hard pressed to continue and expand its services. At press time we were seeking to fill the following positions:

Program Committee Chair. This committee is responsible for running the general membership meetings six times a year. The committee finds guest speakers, prepares press releases concerning the meeting, conducts the meeting, and serves refreshments. Most of the work can be done from your home or office. If you can spare four hours a month to coordinate these activities, call Lynne Matusow, 532-4260 (H) or Phil Bruner, 293-3820 (W).

Phone Tree Coordinator. You will be responsible for maintaining the list of persons participating in the telephone tree and giving information to phone tree participants when calls need to be made. We need a self starter who is a good communicator and who can devote four to eight hours a month for a minimum of a year. This work can be done from home. Some knowledge of environmental issues and legislators is a plus. To volunteer call David Hill, 988-7460 (H).

Phone Tree Callers. We are growing a phone tree—a chain of people who can make calls to decision-makers on environmental issues. This allows the environmental community to respond very quickly with public pressure on important issues. To join our phone tree, call David Hill at 988-7460 (H).

Testimony Presenters. Here we need self-starters who can tactfully and effectively present testimony at the legislature, county councils, and hearings of governmental boards and agencies, usually on weekdays during daytime hours. If you can't write the testimony, we will have someone else do it. A knowledge of Hawai'i, including issues, politicians, and who the players are is a big plus. A minimum of four hours a month is required. To volunteer call David Hill, 988-7460 (H).

Volunteer Coordinator. This hardworking, gregarious individual will match volunteers with available jobs, see that volunteers are trained, and maintain contact with volunteers to see if they are happy or have suggestions for improving things, and plan volunteer recognition events. This job will take two hours or more weekly. To volunteer

call Lynne Matusow, 531-4260 (H).

Office Staff. Among the duties are answering the telephone, distributing the mail, referring problems to the appropriate officer or committee chair, inputting questionnaire data in the computer, filing, and responding to routine correspondence. To volunteer call Stan Michaels, 528-1432 (W).

Field Trip Leaders. You have asked us to expand our field trip offerings. To do so we need leaders on all islands. If you can donate a Saturday or Sunday once every few months and can lead a reef walk or have expertise in bird and/or plant identification call Lance Tanino, 247-5965 (H), 247-7878 (W).

Writers and Editors for 'Elepaio. If you can write stories, edit copy, know pagemaker, and come up with story ideas call Lynne Matusow, 531-4260 (H).

The above is only a partial list. If you have a particular skill or interest, call Stan Michaels, 528-1432 (W), or Lynne Matusow, 531-4260 (H). All of the above are volunteer positions.

Trivia Talent?

by Emily Gardner

Are you an environmental trivia buff? If so, this is a perfect opportunity to put all your stored up knowledge about the environment to good use. Questions are needed for the 1994 competitions of *Paradise Pursuits*, the environmental quiz show for Hawai'i's high school students.

Questions should be of the short answer or multiple choice variety (with three or four choices) and be suitable for inclusion in one of the following four game categories: natural history, human impact, native species, or alien species. When drafting questions, it would also be helpful to include the name of a reference where the information in the question can be found.

Send questions, with your name, address, and telephone number to: Emily Gardner, Education Committee Chair, Hawaii Audubon Society, 212 Merchant Street, Suite 320, Honolulu, HI 96813. Then, wait to see if your questions stump the players when the show airs on KHON-TV2 early next year.

In addition, we are also looking for volunteer coordinators on all islands to assist at the school and island wide competitions. To help in this area call Stan Michaels, 528-1432 (W).

Wish List

by Stan Michaels

When National Audubon Society decided to close its doors in Hawai'i last June, it took along some office equipment we had shared. As we spread our wings, Hawaii Audubon is looking to replace those items with donated used or new ones. They are:

A fax machine,

A copy machine,

An IBM compatible PC and printer, and

A large weatherproof banner, with the Hawaii Audubon Society name.

If you can donate any of these items, please call Stan Michaels, 528-1432 (W). All donations are tax deductible to the extent permitted by law.

Mahalo Donors!

The Hawaii Audubon Society thanks the following members and friends for their generous donations:

Joseph Bednar, Jr., Arlene Buchholz, Alan Davis and Peter Sharpe, Peter Donaldson, James Fernandes, Thelma Grieg, Robert and Rebecca Kimball Hommon, Carl McIntosh, Stan Michaels, Allen Miller, John Mitchell, Diane Nielsen, Julie Overdorf, Blanche Pedley, Joan Pratt, Mia Revels, Dan Sheedy, Richard Foster Smith, Walter Tokushige, and Michael Wong.

Research Grants

The Hawaii Audubon Society makes grants for research in Hawaiian or Pacific natural history. Awards generally do not exceed \$500 and are oriented toward small-scale projects within Hawai'i. Special consideration will be given to those applicants studying dryland forests and aeolian systems on Hawai'i.

The deadlines for receipt of grant applications are 1 April and 1 October. For an application form send a self-addressed stamped envelope to Grants, Hawaii Audubon Society, 212 Merchant Street, Suite 320, Honolulu, HI 96813. For more information, call Phil Bruner, (808) 293-3820 (W).

How Live Rock Collection Impacts Coral Reefs Your Bequest Can Help

by Alexander Stone

At best a geologically renewable resource, live rock—coral rubble or reef outcroppings with attached marine life and other associated organisms—is a resource that cannot withstand commercial collection because its replenishment is not manageable or possible under standard fisheries management. That's why Hawai'i, Florida, and Puerto Rico have all taken action to halt the collection of live rock in their respective waters. However, the mining of live rock continues in most coral habitat areas under federal jurisdiction.

Coral reefs are generated on a vast and complex geological time scale. This cannot be compared to other marine organisms, which are generated on a much shorter biological time scale. Collected live rock cannot be replenished on a biological time scale, as can all other fishery resources.

Live rock is used in marine aquariums at the rate of 2 pounds per gallon of water. The live rock is placed on the bottom and rear of the aquarium to establish a reef profile. A 60-gallon aquarium requires 120 pounds of this coral substrate.

Several studies have shown that over the geological time scale, reproduction of coral is, at best, equal with bioerosion in the northern latitudes (Hawai'i, Florida, Puerto Rico, and the U. S. Virgin Islands) of coral reef development. In these areas, reef substrate is worn away by urchins, boring sponges, and other bioeroders as fast or faster than the corals can deposit new limestone. None of these areas can withstand additional loss of substrate from commercial live rock collection.

Elsewhere, live bottom is either eroding or just holding its own. In addition, bioerosion due to predation from species such as parrotfish and from wave action is more prevalent in shallower depths or 15 meters or less, which is where live rock collection occurs. Even without live rock collection, production of coral in most areas is at best equal with erosion.

Live rock collection causes the outright loss of habitat for a large number of marine organisms. Many larvae will only settle on a certain type of substrate. By permanently removing substrate, entire assemblages of species will be affected.

Removing live rock impoverishes overall habitat quality by reducing the number and complexity of crevices and apertures which

serve as shelter, refuge from predators, and spawning grounds. These rocks or ledge outcroppings are important refuges for many animals. Thus, when the rocks are collected, all invertebrates and fish that were hiding in the crevices are removed, or at a minimum displaced.

This depletion of suitable habitat will impact the survival and continued existence of numerous invertebrates such as crustaceans, echinoderms, and molluscs, all of whom are almost totally dependent on being able to hide in suitable rubble habitat.

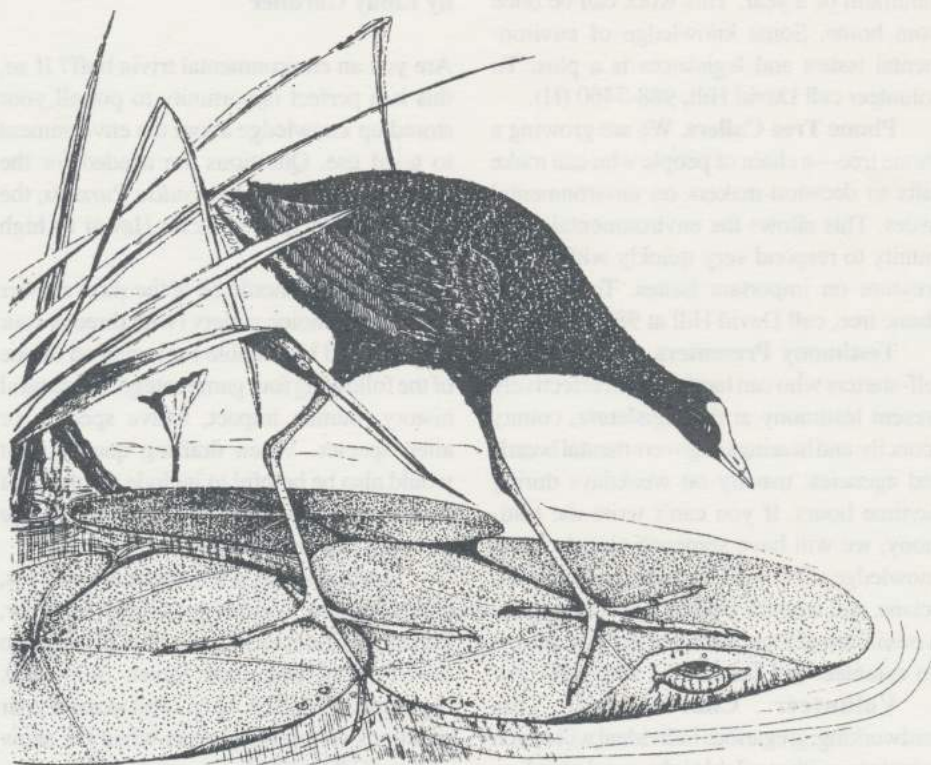
It is difficult to recognize tiny coral polyps on live rock. This does not give live rock collectors leeway in their collection practices under field conditions of limited visibility and bottom time. Live rock collection is the removal from sensitive coral reefs of a resource that is at best renewable only in a geological time frame, and that provides ecologically valuable habitat for marine life.

A bequest to the Hawaii Audubon Society is an excellent way to help in our conservation efforts. George C. Munro, enthusiastic and tireless field ornithologist and naturalist, provided for a fund to be used exclusively for the protection of native dry forests. Today, the George C. Munro Fund provides money for research projects on such forests.

Although an attorney should be consulted in the drafting of your will, a model clause for bequests is set forth below.

"I hereby give, devise, and bequeath to the Hawaii Audubon Society, Honolulu, Hawai'i, the sum of _____ dollars (or set forth a description of property), to be used for the general purpose of said organization."

For more information and assistance, contact the Hawaii Audubon Society, 212 Merchant Street, Suite 320, Honolulu, HI 96813, (808) 528-1432.



Hawaiian Moorhen © Mark Rauzon

Hawaii Audubon Society

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Publications: Reginald David (as above)

Publicity: E. J. "Jay" Lembeck (as above)

Island Representatives

Maui: Renate Gassmann-Duvall,
1-572-1584 (H)

T-shirts for Sale

The Hawaii Audubon Society has a stock of T-shirts designed to spread the Audubon message. Not only are they attractive personal apparel, but they make excellent presents as well.

T-shirts bearing the Society's 'Elepaio logo are available in ash (gray) with a black design. We also have a few in aqua, navy, white, and beige. In addition, the "hot" Kolea (Pacific Golden Plover) T-shirts are also available. This T-shirt is white with a three-color design of the Kolea and native hibiscus. Proceeds from the Kolea T-shirt go to help HAS fund research on shorebirds in Hawai'i and elsewhere in the Pacific region.

T-shirts are \$12 each, plus \$2.00 per shirt for postage. They are available in medium, large, and extra large adult sizes only. When ordering T-shirts, be sure to list size and first, second, and third choice of color. To order T-shirts send your check, payable to the Hawaii Audubon Society, to Yvonne Izu, 2069 California Avenue, #20B, Wahiawa, HI 96786. Don't forget to add \$2.00 per shirt for postage. Insufficient postage will delay your order until the proper amount is remitted. T-shirts are not available at the HAS office.

HAS Dues for 1994

All amounts are in U.S. dollars.
Includes delivery of 'Elepaio.

Regular Member

Delivery to U.S. zip code addresses

Via bulk mail \$ 10.00

(Not forwardable to new address)

Via first class mail 16.00

(Hawai'i residents: there is no significant time difference between bulk and first class mail to addresses within the state of Hawai'i.)

Junior Member (18 and under) 5.00

Contributing Member 30.00

Sustaining Member 100.00

Life Member (one-time payment) 250.00

(three annual payments) 100.00, 100.00, 50.00

Benefactor (one-time payment) 500.00

Patron (one-time payment) 1,000.00

Delivery to non-U.S. addresses:

Mexico (airmail only) 16.00

Canada (airmail only) 17.00

All other countries (surface mail) 18.00

All other countries (airmail) 28.00

Introductory dues for

National and Hawaii Societies: 20.00

(Includes delivery of 'Elepaio and Audubon Magazine as bulk or 2nd class mail to U.S. zip codes. Renewal, \$30 annually.)

Hawai'i Office Proposed for Biological Survey

U. S. Senator Daniel K. Akaka has announced that Hawai'i will be given unique standing in the proposed National Biological Survey (NBS) program. According to Akaka, he was informed by Interior Secretary Bruce Babbitt that Babbitt is proposing Hawai'i be the focus of a special NBS subregional program.

Hawai'i is the only state where the comprehensive environmental protection program will be coordinated through a locally-based NBS office.

"Hawai'i has one-third of all the threatened and endangered species in the United States. Establishing a Hawai'i subregion with a direct link to Washington is the best way of ensuring that our precious natural resources receive proper attention," said Akaka.

On 15 June Akaka introduced S. 1110, a bill to catalogue and monitor the living resources of the United States and to provide a national focus for biological research through the establishment of an NBS. The legislation would give a statutory mandate to Secretary Babbitt to proceed with his biological research initiative. A measure similar to Akaka's has been approved by two committees in the House. Senate action on Akaka's proposal is expected this month.

Birding on O'ahu

A two-page guide listing areas on O'ahu where interesting birds may be found and where access is not a problem is now available. Written by Peter Donaldson, it offers important information for birders unfamiliar with Hawai'i. The guide is not designed to give detailed directions or information on bird identification. For a free copy, send a self-addressed stamped envelope to O'ahu Birding Guide, Hawaii Audubon Society, 212 Merchant Street, Suite 320, Honolulu, HI 96813.

Moving?

Please allow four weeks for processing address changes. Because our records are kept in order by zip code, we need both old and new addresses.

'ELEPAIO

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The 'Elepaio is printed on recycled paper.

Calendar of Events

Tuesday, September 7

Monthly meeting of the Conservation Committee, 6:30 p.m., at the Coffeeline, 1820 University Avenue (in the YWCA). To join or for more information call David Hill, 988-7460 (H).

Wednesday, September 8

Monthly meeting of the Education Committee, 7:00 p.m., at the Coffeeline, 1820 University Avenue (in the YWCA). To join or for more information call Emily Gardner, 734-3921 (H). The Committee is actively seeking new members. All are welcome.

September 13, Monday

Board meeting, 7:00 p. m., HAS office. Call Reggie David on Hawai'i, 329-9141 (W), for details.

September 19, Sunday

Field trip to Nu'upia Ponds led by Fred Zera. 20 person limit. To register call Lance Tanino at 247-5965 (H) or 247-7878 (W) after August 12. Suggested donation: \$2.00.

Monday, September 20

Postponed from August because of Hurricane Fernanda. General membership meeting, Paki Conference Room, Bishop Museum, 7:30 p.m. Peggy Hickok Hodge, kama'aina writer and traveller, will give a slide show on her recent trip to the Galapagos. The talk will include pictures of the marine iguanas, tortoises, Blue-footed Boobies, flightless cormorants, nesting frigatebirds, flamingoes, red crabs, and sea lions on different islands. Refreshments will be served.

Environmental Directory Available

In celebration of Earth Day 1990, the Hawaii Audubon Society published the Hawai'i Green Pages. The directory lists over 150 environmental efforts in Hawai'i. For a free copy, send a self-addressed stamped #10 envelope to Directory, Hawaii Audubon Society, 212 Merchant Street, Suite 320, Honolulu, HI 96813.

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