

Sightings of Ka-ho'olawe Birds

by Marie P. Morin¹, Carter T. Atkinson², Paul C. Banko², Reginald E. David³, and Michelle H. Reynolds²

From 11 to 13 December 1996, and again between 23 to 25 February 1997 (RED only), we visited Ka-ho'olawe Island as members of the U.S. Geological Survey Biological Resources Division (BRD) Faunal Restoration Recommendation team, under a contract from the Ka-ho'olawe Island Reserve Commission (KIRC). Other members of the 14-person team concentrated their efforts primarily on mammals, reptiles, invertebrates, wildlife diseases, and habitats, while we focused our efforts on the avifauna. The intent of our visits was to gather information for a series of recommendations addressing faunal restoration and management, that were submitted to KIRC in August of 1997 (Lindsey et al. 1997). Although we realized that December through February were possibly the worst months to do a bird survey, we were limited by both the Ka-ho'olawe Island visitation schedule available to us and the need to complete the recommendations for KIRC on time. Other than Albatrosses and Boobies, seabirds are not nesting in the main Hawaiian Islands between December and February, so our detections of seabirds were necessarily limited. Due to our limited time on the island, as well as safety restrictions on our travel imposed by the U.S. Navy explosives, ordnance, and demolition (EOD) personnel, this report is limited in scope and should not be construed as a complete list of avian species occurring on Ka-ho'olawe. Other than seabirds and shorebirds, no indigenous species were detected except the Pueo (*Asio flammeus sandwichensis*), the endemic Hawaiian subspecies of the Short-eared Owl. No new species records were discovered during our visits.

Although Ka-ho'olawe is no longer used as an ordnance impact area by the military, it was bombed for over 50 years, and

considerable amounts of live ordnance still remain. Visiting persons are required to sign liability waivers, and agree to follow the orders of explosive ordnance personnel assigned to the group. Due to Ka-ho'olawe's long history of land abuse and low numbers of human inhabitants, flora and fauna records for the island are limited (Forbes 1913, Lamoureux 1970, Balazs 1978, Conant 1983, Gon et al. 1992, Olson 1992).

In this paper, common and scientific nomenclature follow Pyle (1997) and the American Ornithologists' Union (AOU 1998) for bird species, and Wagner et al. (1990) for plants.

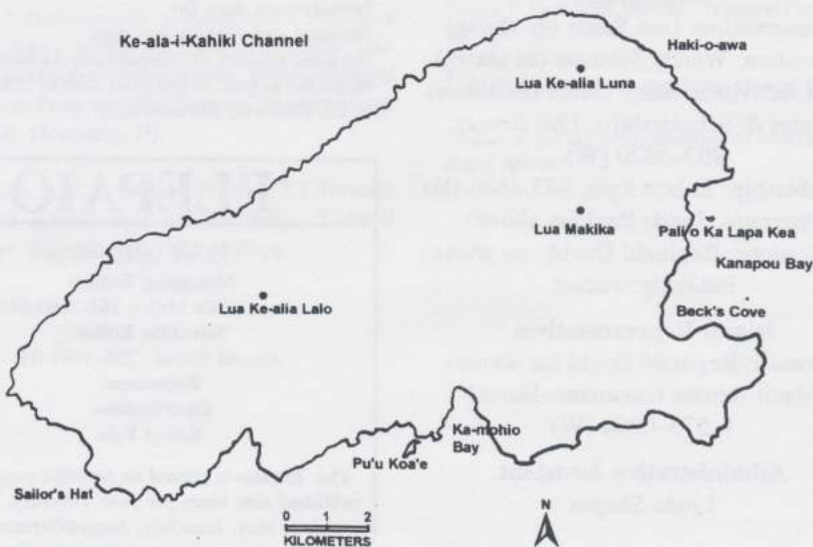
Summary of December Visit

Individual bird species' sightings and locations are reported under the Species Accounts section that follows. On 11 Dec. 1996, we landed at about noon at the "LZ1" or Lua Makika (literally translated "mos-

quito pit") helipad on the eastern side of the island after uneventful helicopter flights across Ke-ala-i-Kahiki Channel from Ka-hului Airport on Maui. Ka-ho'olawe looked surprisingly green from the air, and we were told it had rained the night before and had been generally wet recently. Before landing at Lua Makika, Bill Steiner, Greg Brenner, and CTA landed at the mouth of Haki-o-awa Stream. CTA set up two Reiter oviposition traps (for mosquitoes) in kiawe forest approximately 100 m from the shoreline. These were operated until we left the island on 13 December. At Lua Makika, we noticed introduced kiawe trees (*Prosopis pallida*) and also nonnative Australian saltbush (*Atriplex semibaccata*). We visited the planted area on top of the island near Lua Makika. There we saw planted drought-tolerant natives like 'akoko (*Chamaesyce* sp.), 'akulikuli

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KA-HO'OLAWE ISLAND



The Hawaii Audubon Society, the National Audubon Society and the Hawaii Nature Center Explore Forming a Partnership

by Linda Paul

The Hawaii Audubon Society, the National Audubon Society and the Hawaii Nature Center have taken some preliminary steps towards exploring the possibility of forming a unique education-based

partnership as a first step in a long range attempt to fundamentally change the face of conservation in Hawai'i. Our three independent non-profit organizations share a common belief that site-based, hands-on

environmental education, supported by science, and evolving into positive citizen action and stewardship is the key to the future of conservation. In addition we share a common commitment to stop and eventually reverse the trend of net habitat loss and native species decline in Hawai'i. While each of our organizations currently fills a unique niche in the environmental movement and has achieved credibility in its area of expertise, by working together we may be able to significantly increase our collective ability to instill a conservation ethic in the 1.2 million citizens of Hawai'i. Some of the long-term goals we share jointly include the following:

- Create a network of nature centers throughout the State of Hawai'i;
- Provide environmental education opportunities for families, community groups, and the general public;
- Provide intermediate and high school students with classroom and field based science programs and environmental studies emphasizing critical thinking in the area of natural resources;
- Create opportunities for people to connect with Hawai'i's unique natural resources in perpetuity;
- Develop an expanded, informed and involved volunteer corps;
- Reverse the trend of native species and net habitat loss in Hawai'i through all forms of education and communication to the nation at large;
- Foster community values that result in the protection and restoration of native ecosystems and conservation of natural resources through education positive action, and stewardship in Hawai'i and the Pacific.

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Thanks to Dr. Robert Shallenberger and the FWS for the use of the cover photo of Black-footed Albatross in the November 1998 'Elepaio

Short-tailed Albatross Proposed for Endangered Status Within the U.S.

The U.S. Fish and Wildlife Service published a proposal in early November to extend endangered status for the short-tailed albatross to include the species' range within the United States.

The short-tailed albatross has been listed as endangered under the U.S. Endangered Species Act since the Act was passed in 1973. However, as a result of an administrative error in the original listing, the United States was specifically excluded from the area in which the endangered status applies for this species. Therefore, individuals that occur in the United States are not currently protected under the provisions of the Act. If made final, this proposal would extend the protective provisions of the Act to short-tailed albatrosses when they occur in the United States.

Short-tailed albatrosses were originally designated as endangered under the Endangered Species Conservation Act of 1969 on the list of foreign-listed species. When the Endangered Species Act replaced the 1969 Act in 1973, short-tailed albatrosses were included as a foreign species but not as a native species. This omission may be partially attributable to

the fact that the worldwide population of short-tailed albatrosses was perilously low at the time, and sightings in U.S. waters were uncommon.

Short-tailed albatrosses occur across the North Pacific Ocean south to the northwest Hawaiian Islands, north to the Aleutian Chain, west to the Asian coast, east to the coast of North America, and in the Bering Sea.

Breeding for this species is restricted to remote Torishima and Minami-kojima islands in Japan; unconfirmed reports indicate breeding may also have occurred on Midway Atoll in the Hawaiian Islands and two adult birds have occupied separate breeding sites there in recent years, although no eggs have hatched.

The worldwide population of short-tailed albatrosses is extremely small; there are fewer than 500 breeding age birds, and approximately 1000 birds in the world.

Breeding habitat and future survival and recovery are threatened by volcanic activity and monsoon rains on Torishima Island, and by disputed ownership of Minami-kojima Island. Mortalities caused by longline fishing, plastics pollution, and oil spills may also affect

conservation of this species at the current low population level.

The U.S. Fish and Wildlife Service has been working extensively with the fishing industry and the National Marine Fisheries Service to minimize the effects of longline fishing on the short-tailed albatross and other seabirds. Longline fishers are required to use seabird deterrent devices while fishing. The agencies expect short-tailed albatross mortalities will not exceed four birds over two years if deterrent methods are used effectively. If more than four birds are taken, the industry could face additional requirements or restrictions to minimize short-tailed albatross mortalities and to ensure that the survival and recovery of the worldwide population is not jeopardized.

The public comment period on the proposal will close March 2, 1999, 120 days after publication of the proposal in the Federal Register. The Fish and Wildlife Service invites all interested parties to comment. A final rule will be published within a year from the proposed rule.

Source: U.S. Fish and Wildlife Service News Release; for more information, contact Barbara Maxfield, 808/541-2749.

HAS Receives Fisheries Conservation Grant

by Linda Paul

The Hawaii Audubon Society has received a large education grant to promote resource protection and sustainable use of fisheries in the central and western Pacific. The grant, funded by PEW Charitable Trusts, the Rockefeller Brothers Fund, the David and Lucille Packard Foundation and the Homeland Foundation, finances a collaborative marine conservation education and advocacy effort that targets several high priority needs for the State of Hawai'i, including the need to:

Educate fishers on the need to reduce of the large number of albatrosses taken as bycatch by the Hawaii-based longline fleet and the large number of sharks taken for their fins only;

Educate both fishers and the public on the need to implement the State's

bottomfish management plan, which has set aside several no-fishing-zones as a means of stock replenishment;

Educate the public on the destruction that lay net gill nets do to our inshore fisheries, and our tourist-based economy;

Create and implement a recreational fishing license program, which will significantly help fisheries management in Hawai'i both in terms of increased information and dollars;

Educate the public and the legislature on the need to increase the budget and rule-making authority of the Division of Aquatic Resources, which is charged with managing the State's living marine resources.

HAS was chosen to administer the Western Pacific Fisheries Coalition grant

because 1) HAS is the only local conservation organization that monitors fisheries issues and advocates for fisheries conservation in Hawai'i at the present time, 2) the broad-based conservation efforts of the Society take the traditional Hawaiian watershed ecosystem conservation and management approach (ahupua'a), which extends from the top of the mountain ridges to the outermost edges of the reefs, and 3) there is considerable expertise in the area of marine resource conservation among the Society's board of directors and members. HAS is coordinating the project with the advice of an advisory group composed of fishermen, conservationists, and state and federal fisheries experts. The project covers a 12 month time frame.

Kawai Nui Education Center Project Takes a Time Out

by Linda Paul

"Kawai Nui Marsh is a 1000 acre expanse at the base of the Ko'olau Mountains where time and nature has created what is today the largest remaining wetland in the State of Hawai'i.... It is also the habitat for four endangered Hawaiian waterbird species, the site of early Hawaiian fishponds and wetland agriculture, and numerous archaeological remains. It serves as a flood basin for protecting Kailua Town and provides recreational and educational potential for the people of O'ahu and the State." (Preface to the "Resource Management Plan for Kawai Nui Marsh", 1983)

The Hawaii Audubon Society, the Kawai Nui Heritage Foundation, 'Ahahui Malama I Ka Lokahi, and the Conservation Council for Hawai'i have taken a time-out in their quest to obtain a lease on five acres of State land in Kawai Nui Marsh to build an Environmental and Hawaiian Cultural Education Center. It was felt best to take a time-out because 1) the construction of 71 acres of mud flats and shallow ponds immediately adjacent to the chosen site by the Army Corps of Engineers is currently not scheduled to begin until the year 2000, and 2) the misleading misinformation generated by north shore cattle interests was causing unnecessary stress on the health of the current renters and uninformed opposition to what was supposed to be a win-win project. Unfortunately this also means a time-out in terms of pursuing funding for the Center, which represents a real loss for the Oahu community. The Partnership is now on a timetable that will have its final EA and request for a lease submitted in the fall of 1999.

For the past 30 years members of the partnering organizations and many others helped develop the 1973 Kawai Nui Heritage Foundation Directional Plan, the 1983 Resource Management Plan for Kawai Nui Marsh, as well as the 1994 proposed Wilson Okamoto Master Plan, in order to conserve, protect and educate the public about Kawai Nui Marsh and the Kailua Ahupua'a. The site along the old Pali High-

way below Castle Hospital was chosen as the best location for the Education Center because: 1) It is immediately adjacent to the large ponds that the Corps will be dredging for wetland waterbird habitat; 2) It is quiet and well away from highway noise and traffic, with large trees, a running stream, and abundant bird life; 3) It has spectacular views, not only of the Marsh, but of the Ko'olau Mountains as well; 4) Located on the old Pali Highway, it provides easy public access to the Marsh and its many resources, including the bird pond habitat, taro terraces, marsh vegetation and stream life, for young elementary students as well as senior citizens; 5) It is immediately adjacent to the trail system provided in the master plan and connecting trails from Center will lead to Hawaiian archaeological sites where students of all ages can learn about early Hawaiian house sites, taro growing, and adze manufacturing; 6) It is adjacent to the ethnobotanical garden and nursery indicated in the master plan where the community can learn about the Hawaiian cultural uses of plants as well as obtain seedlings and cuttings of native plants to restore the Marsh ecosystem; and 7) This site was not designated for any other purpose in the master plan, including cattle ranching.

The Visitor Center site, which Wilson Okamoto Associates placed at the corner of Kalaniana'ole Highway and the Old Quarry Road was not chosen for several reasons: 1) It was always intended to be a small park-entrance type visitor center by the State Parks Department, which still plans to build one in that location some day; 2) the actual area that can be built on at that site is less than a half an acre, much smaller than indicated in the master plan and too small for a comprehensive education center, and much of that area is composed of unconsolidated fill that was dumped there when the Kailua Drive-In was constructed; 3) The site is degraded by traffic noise, street lights, and is subject to vandalism; 4) It is located too far away

from the location designated for ponds and waterbird habitat by the Corps to provide good viewing of the wildlife; and 5) It is located too far away to allow easy public access out into the restored wetlands.

Locating an Education Center below Castle Hospital will not require amending the proposed Wilson Okamoto Master Plan. Neither the Kailua community nor any government agency ever formally adopted that proposed plan as a legally binding statement or guideline of what can and cannot be developed in Kawai Nui Marsh. Wilson Okamoto Associates acknowledged that their proposed plan was never intended to be set in concrete. On page 1-1 of their plan it states: "although a specific master plan is presented herein, the planning process is expected to continue as an ongoing effort with the master plan subject to revisions in response to changing conditions and new information." Furthermore, the building of an Environmental and Cultural Education Center helps fulfill the conceptual recommendations contained not only in the 1994 Wilson Okamoto Plan, but in the 1983 Resource Management Plan and the 1973 Directional Plan for more public access and environmental and cultural education throughout Kawai Nui Marsh.

Finally, the Partnership never intended to displace the current renters from their home to build the Education Center in this location. The five acres of State land on which the Partnership would like to build the Center is well away from the Knotts' home and their horse stables, horse corals and paddocks. Horses and riders will still be able to use the existing road past the Education Center to access the Marsh. In addition, the dredging of ponds by the Army Corps of Engineers will mean that any cattle retained by the State for grass control in the Marsh will have to be permanently moved to the mauka side of the ponds even if the Education Center is not built in this location.

1998 Annual Awards Dinner Initiates 60th Anniversary Celebration

In November 1999, HAS will celebrate the 60th anniversary of its founding. On November 5, 1998 old and new members and friends of the Society gathered to kick off that celebration with dinner, the reminiscences of a panel of long-time members, and presentation of awards to our hard-working members and community friends for their service to the environment. The evening ended with a slide-illustrated talk on the restoration of Kaho'olawe by Stanton Enomoto, Remediation Program Manager for the Kaho'olawe Island Reserve Commission.

Sheila Conant, Bob Pyle, and Ron Walker shared thoughts about the ways HAS has changed - from a greater focus on birds and birding to the more recent focus on advocacy - and the ways it has remained the same - even though part-time staff now carry out some tasks once done by volunteers such as Grenville Hatch, Unoyo Kojima, and C. J. Ralph, the Society's backbone is still its members volunteering their time in aid of Hawai'i's native wildlife and its habitats.

We honored the following public figures, volunteers, and long time supporters for their many contributions, both direct and indirect, to the protection and restoration of Hawai'i's native ecosystems and conservation of its natural resources:

We applauded the following volunteers and supporters for their contributions:

• **President's Award: Senator Andrew Levin** for his many years of statesmanship and integrity. First elected to the House of Representatives in 1981, and subsequently to the Senate in 1989, Senator Levin has consistently brought a measure of calm thoughtfulness into the turbulent political arena. As co-chair of the Senate Committee on Health and Environment, he presided in recent sessions over the often acrimonious debate surrounding revision of the State's Endangered Species Act. As a consequence of his tireless hours in and out of session devoted to bringing proponents of conflicting positions together, our Legislature last session passed a revised measure that address significant concerns of each of the participants in the debate. His skill as a mediator, his insistence on fairness, and above all, his recognition of the crucial significance to Hawai'i's endangered species of the outcome of the negotiations



John Harrison, Sen. Andy Levin, Linda Paul

enabled Senator Levin to achieve a reasonable compromise in a realm of debate considered by many to be hopelessly untractable.

• **Charles Dunn Lifetime Achievement Award:** To **Ron Walker** for his long term, exemplary contributions to and support of the Society and its many activities (including designing our logo), and for his long public service to wildlife conservation in Hawai'i as a wildlife biologist for the State of Hawai'i and for the U.S. Fish and Wildlife Service.

• **Program Award: Renate Gassmann-Duvall** for serving for many years as the Society's Maui Representative and for providing continuing support and assistance to the Paradise Pursuits program on Maui;

• **Service/Volunteer Award:** To **Yvonne Izu** for her long-term, low-key, selfless, incredibly efficient and competent handling of the Society's T-shirt "business". Many, many thanks for always coming through absolutely every time we needed you.

• **Education Partnership Award: Chuck Burrows** for long-standing support and coaching excellence in the Paradise Pursuits program and for tirelessly conducting hands-on education projects for students and community members in Kawai Nui Marsh;

Corporate Education Sponsor Awards:

• **Hawaiian Electric Company** in recognition in recognition of the vital role that its support has played in the Paradise Pursuits

environmental quiz program since its inception. Because of HECO's ongoing commitment to this unique project, Paradise Pursuits is currently in its eighth year of operations and has reached thousands of high school students and many thousands of television viewers.

• **KITV** in appreciation for providing complimentary air-time for Paradise Pursuits and for a sincere dedication to quality production and state-wide broadcast of the Paradise Pursuits semi-final and final competitions.

• **Outrigger Hotels Hawai'i** in appreciation for providing complimentary deluxe accommodations for eight teams of high school Paradise Pursuits competitors and their coaches during the qualifying and final rounds of yearly competition.

• **Aloha Airlines** in appreciation for providing complimentary interisland air transportation to Honolulu for each neighbor island Paradise Pursuits team and their coaches during the qualifying and final rounds of yearly competition.

• **Ironworkers Union Local 625** in appreciation for sponsorship of the Paradise Pursuits television production broadcast statewide on KITV. This contribution represents a meaningful commitment to environmental education in Hawai'i.

• **Corporate Conservation Award:** To **AECOS**, long a leader in the competitive field of environmental consulting in Hawai'i. For 27 years, AECOS has offered high-quality consulting services in aquatic

CONTINUED ON PAGE 60

sciences to public and private entities in Hawai'i and throughout the Pacific Basin. During that time, they have built a reputation for attention to detail and candid, comprehensive collection and analysis of data in order to provide an accurate informational base for environmental decisionmaking. They also are recognized for their numerous contributions to the community, both through active leadership in the Hawai'i Association of Environmental Professionals, and through their construction and maintenance of an informative and educational website highlighting environmental and conservation management issues of concern to the state.

(At the recent Annual Awards dinner, the following excerpt from "THE ELEPAIO", volume 1, number 1 (November, 1939) was presented by a member of our panel of long-time members. We thought others would find it of interest—the author was the first President of the Society. Look for additional excerpts from the first volume of the "THE ELEPAIO" during 1999.)

Field Work

by J. d'Arcy Northwood

Field work with the birds may be approached in two ways, it depends largely on the temperament of the observer which way be taken. They may be headed the statistical and the philosophic, or even the factual and the fanciful.

The former is the most popular approach. It is concerned with bird censuses; counts of birds in a particular area at different times of the year and over a period of years. In this way valuable information is gathered about the increase or decrease of certain birds. Each year "Bird-Lore" publishes a Christmas census from reports sent in from all over the United States. Our society is preparing to take one this year.

Then there is the gathering of information about the food habits, distribution, breeding habits, etc. of birds for presentation to legislative bodies. People who make the laws and regulations pay far more attention to properly attested records than they do to pleas based largely on sentiment.

Many other lines of work suggest themselves. One is bird banding which is giving valuable records of individual bird's [sic] habits.

Photography offers far more tests of ingenuity and skill than the mere hunting of birds for sport, with the advantage of sparing a joyous life. We have no right to kill for our own pleasure.

The philosophic approach deals with intangible values, with an appreciation of birds for their beauty and for the delight in watching their free joyous lives.

The birds can teach us how to live more happily and completely. There are a few of us these days who do so, some have too much and are afraid of losing it, some have too little and envy those who have more. Greed and envy are likely to destroy our civilization, let us learn wisdom from the birds before it is too late.

33 Schools in Paradise Pursuits

By Sylvianne Yee, Paradise Pursuits Coordinator

The eighth season of Paradise Pursuits is off and running with 33 public and private high school teams looking forward to some exciting competitions.

O'ahu teams and their coaches include 'Aiea (Jason Brennan), Campbell (Fred Nakaguma), Castle (Sheila Cyboron), Farrington (Sandra Nakagawa), Hanalani (Robert Araki), 'Iolani (Susan Nishiura), Kahuku (Anne Zellinger), Kailua (Fred Kobashigawa), Kaimuki (Jeanine Nakakura), Kaiser (Jami Muranaka), Kalaheo (Kim Koopman), Kamehameha (Richard Mills), Leilehua (Robert Keane), McKinley (Alison Iwamoto), Mid-Pacific Institute (Annette Lee), Moanalua (Erron Yoshioka), Pearl City (Theodore Brattstrom), St. Louis (Timothy Ho), Wai'anae (Glenn Lee), Wai'anae (Michele

Hauschulz), and Waipahu (Stephen Nakano).

From the Big Island we have Hilo (Jeanette Wong), Konawaena (Patricia Stover), Pahoa (Ann Caldwell), St. Joseph (Pamela Lyman), and Wai'alea (Gerod Victorine). Teams from the Valley Isle are King Kekaulike (Ron Pisciotto, Warren Liu), Lahainaluna (Ed Bartholomew), and Maui (Ron Lau). Kaua'i has Kapa'a (Raynard dela Pena), Kaua'i (Elena Morel), and Waimea (Deborah Chaffin) participating - the first time in many years that all three Kaua'i high schools have taken part in Paradise Pursuits. A team from Lana'i High School (Kuikahi Baricuatro) is competing for the second year.

Dates and sites for the preliminary games are as follows:

O'AHU: February 20 and 27,
'Olelo the Corporation
for Community Television

HAWAI'I: March 6
(site to be determined)

KAUA'I: March 13,
National Tropical Botanical Garden

MAUI: March 20,
Hawai'i Nature Center

The emphasis this season will be the marine environment, especially appropriate as this is the Year of the Ocean. Please come out and cheer on your favorite team!

Christmas Bird Count Opportunities

The Christmas Bird Count is a coast-to-coast annual bird census. Volunteers count every bird and bird species over one calendar day. Birds are indicators of the overall health of our environment. Christmas bird count data in any given area can provide valuable insight into the long-term health of bird populations and the environment.

Over 45,000 people from all 50 states, every Canadian province, the Caribbean, Central and South America and the Pacific Islands participate in more than 1700 counts held during a two and a half week period!

Join our Christmas Bird Counts during the official count period, December 18, 1998 through January 3, 1999. If you want to do something good for birds and meet other "bird people", call one of the coordinators to sign up. There is a \$5.00/person charge to support compiling and publication of the nationwide results. *NOTE:* Special information is needed by the coordinator of the popular "Kulani Prison" count, so call the Big Island Volcano coordinator by December 14, 1998 to ensure your spot.

KAUA'I

Waimea	Saturday 1/2/99	Koke'e Museum (Michelle Ho'okano)	1-808-335-9975
Kapa'a	Tuesday 12/29/98	Barbara Stuart	1-808-826-9233

O'AHU

Honolulu	Saturday 12/19/98	David Smith, compiler Arlene Buchholz, organizer	HAS office, or 988-9806
Waipi'o	Saturday 12/26/98	David Bremer	623-7613

MAUI

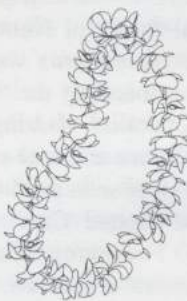
Pu'u O Kaka'e	Saturday 12/19/98	Renate Gassmann Duvall or Fern Duvall	1-808-572-1584
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MOLOKA'I

Kualapu'u	Date TBA	Rick Potts (Kalaupapa Nat'l Park) Joan Yoshioka (The Nature Conservancy)	1-808-567-6802 x7 1-808-553-5236
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HAWAI'I ISLAND

North Kona	Date TBA	Reginald David	1-808-329-9141
Volcano	Saturday 12/26/98	Larry Katahira	1-808-985-6088



A HEARTFELT MAHALO

to Hattie Higa, Wendy Johnson, Larry Kimmel, Liz Kumabe, Doug Maier, Caroline Mee, Susan Miller, Lynnea Overholt, Sharon Reilly, Hideko Taketa and Linda Shapin for achieving a record for getting out the annual appeal/ballot mailing! On Saturday, November 21st, they folded, stuffed, and sealed just under 1,600 envelopes in four and a half hours, and had a really good time (and great pizza) while doing it!

MEMBERSHIP MEETING

Week of February 22 (exact day to be announced later) HAS Membership Meeting and Program Dr. Oscar W. Johnson ("Wally") from Montana State University will give a slide presentation on some new plover information from Argentina. In January 1999 Wally will be traveling to Argentina, where he will be observing American Golden-Plovers on their pampas wintering grounds. He is anxious to compare wintering behavior there with the kolea in Hawai'i. He will also report on his visits with Argentine shorebird biologists and museum collections of plovers. It should be a very interesting talk about a very different part of the world. In addition, he has some really outstanding close-up video of kolea parents with chicks filmed last summer near Nome. Join us in Paki Hall Conference Room, from 7:30 - 9:00 p.m. Refreshments provided. HAS books, tapes & t-shirt will be available for purchase.



Now you can wear the 'Elepaio logo on almost anything—jacket, backpack, you name it! It is now a patch—the brown bird is in a circle of brown lettering reading "Hawaii Audubon Society" above and "Established 1939" below on white background.

Available through HAS office for \$3.00 ea.

**SIGHTINGS OF KA-HO'OLAWÉ
BIRDS CONTINUED FROM PAGE 55**

(*Sesuvium portulacastrum*), 'aki 'aki grass (*Sporobolus virginicus*), as well as species of more questionable indigenity, such as hala (*Pandanus tectorius*), and the volunteering 'uhaloa (*Waltheria indica*). The indigenous bush 'ilima (*Sida fallax*) was also seen volunteering. The nonnative grasses, buffelgrass (*Cenchrus ciliaris*) and natal redbud (*Rhynchelytrum repens*), were identified. Afterward, we were driven by vehicle and walked down along the main dirt road to the permanent camp at Smuggler's Cove on the western tip of the island. CTA set up two other Reiter traps at the permanent camp; these were also operated until we left on the morning of 13 December. Fifty rat and mouse traps were set along roads near camp by Gerald Lindsey.

On Thursday, 12 December, several of us went to "LZ Seagull", near Lua Ke-alia Lalo. The area was mainly open savannah type habitat, with kiawe and clumps of grass cover. Cherry tomatoes (*Lycopersicon pimpinel-liforlium*) and again 'ilima and 'uhaloa were noticed near the abandoned buildings. From here, we hiked with the EOD specialist down a draw to the beach. At one site along the way, Hawaiian moon flower (*Ipomoea tuboides*) was seen on a rocky slope. In addition to numerous common bird species, feral cat (*Felis catus*) scat and cat footprints were seen along the hike down, and fresh scat was found (and collected to be analyzed by Gerald Lindsey) at the base of the draw. Cat tracks were very abundant in the sand along the coast. CTA did not find any mosquito larvae in the stream bed that we followed to the coastline from LZ Seagull. Greg Brenner and Rick Warshauer reported finding the mosquito *Aedes albopictus* when they were looking for plants and invertebrates near Lua Makika. Adult mosquitoes probably originated from stream gullies near the summit that were filled with discarded tires.

On Friday, 13 December, most of us walked or drove along the "rocky road" from base camp along the western end of the island and later along the western and northwestern beach. The native Hawaiian cotton, ma'o (*Gossypium tomentosum*), was plentiful and lush along the road, mixed with grass and kiawe: everything was relatively green due to the recent rain. Once on

the beach, Paul Higashino pointed out an interesting small native strand plant, *Cressa truxillensis*, in rocky cobbles and sand. This silvery plant appears to be indicative of beaches with low human disturbance. Ma'o was common along the shoreline, and cat tracks were numerous. After we had hiked on the beach past the last road that goes to the northwest beaches, there was a red dirt swale that appeared to be intermittently washed by an upslope watershed. This area is apparently an ephemeral wetland, with abundant tufts of lush 'akulikuli.

One hundred trap-nights (50 traps for 2 nights) of rodent trapping on the hardpan and a low coastal site captured 9 house mice (*Mus musculus*). No rats were trapped (Lindsey et al. 1997).

No mosquitoes were caught in 4 trap-nights at the permanent camp, and a single mosquito (*Culex quinquefasciatus*) was captured in the 2 traps (4 trap-nights) at Haki-owa (CTA). On the helicopter flight out from Ka-ho'olawe, CTA was able to see many potential oviposition spots (i.e. semipermanent pools) in stream gullies along the north slope of the island. Their potential as larval habitat for *Culex* and *Aedes* needs to be investigated.

Summary of February Visit

A second visit was made to Ka-ho'olawe between 23 and 25 February, 1997 (RED). The details of travel to and arrival at the island were the same as those for the December 1996 trip. The party arrived at Lua Makika just before noon on the 23rd. Extremely heavy winds were encountered on both the 23rd and the 24th. Following lunch at the helipad, the group hiked to the southern coast to look at Pu'u Koa'e, Ka-mohio Bay, and the coastline running west towards Wai-ka-halulu Bay. It was so windy that it was hard to look through binoculars. Along the coast line White-tailed Tropicbirds (*Phaethon lepturus dorotheae*) were seen, and several Black Noddies (*Anous minutus melanogenys*) in Ka-mohio Bay. Along the route to and from the coastline, Pacific Golden-Plover (*Pluvialis fulva*), and Sky Larks (*Alauda arvensis*) were encountered. On the way to Smuggler's Cove, a detour was made in order to find the "lake" that had been seen from the air during the December

trip. Lua Ke-alia Lalo was located, and found to have quite a bit of water in it (estimated size 70 meters by 40 meters, 15-20 centimeters deep). Judging from the exposed mud banks and high water marks on the kiawe trees, the level of the water must vary considerably. The exposed mudflats represent a good forage resource to migratory shorebirds. The vegetation around the perimeter of the wetland was predominantly alien species, with a fairly dense growth of sedge along the eastern end. The water was highly turbid, looking almost like cafe latte. A few Black-bellied Plover (*Pluvialis squatarola*) and Pacific Golden-Plover (*Pluvialis fulva*) were seen around the "lake", and Northern Mockingbirds (*Mimus polyglottos*) and Gambel Quail (*Callipepla gambelii*) were heard. Upon returning to the permanent camp area, RED spent several hours scanning the ocean using a turret mounted set of 20 X 120 binoculars. A lone Newell Shearwater (*Puffinus newelli*) was seen flying offshore at 6 p.m.

On 24 February, the day started by checking several invertebrate traps that had been left the day before at Lua Ke-alia Lalo. Several plovers were seen on the shoreline, and several flocks of Nutmeg Mannikins (*Lonchura punctulata*) were feeding in the grass surrounding the "lake". Within the kiawe thickets abutting the wetland, numerous Japanese White-eyes (*Zosterops japonicus*) were seen and heard, as well as a few Red-crested Cardinals (*Paroaria coronata*). Following our visit to Lua Ke-alia Lalo, several persons hiked down to the eastern cliff line at Pali o Ka Lapa Kea, overlooking Kanapou Bay from the summit area. From the Pali, the cliff face from Kaula o'Ka-moho-ali'i, south to Beck's Cove, were scanned. The habitat from the summit area down to the top of the cliff shows an extreme degree of erosion: there is little or no ground cover on the bulk of this area. What little vegetation exists is found just at the top edge of the cliff. No birds were recorded in this area. Following our return to the permanent camp in the afternoon, several persons hiked over to Sailor's Hat to collect invertebrates in the anchialine pond inside the crater. A couple of Brown Boobies (*Sula leucogaster plotus*) were seen fishing just offshore from the crater. Early evening binocular scans of

the ocean from Smuggler's Cove detected several Wedge-tailed Shearwaters (*Puffinus pacificus chlororhynchus*) and a single Laysan Albatross (*Phoebastria immutabilis*) offshore.

On 25 February, the invertebrate traps were retrieved from the shores of Lua Ke-alia Lalo, and personnel drove to Lua Makika, hiked down the north slope to Haki-o-awa Bay, and were picked up by helicopter and returned to Maui. During the hike down to Haki-o-awa, all of the more common bird species found on Ka-ho'olawe were seen or heard, and two owl roosts were seen in the banks of the stream beds on the way down to the bay.

During the February trip, rodents were trapped for 50 trap-nights (25 traps for 2 nights) at both a coastal cliff edge near Kamohio and at tamarisk windbreak plantings near Lua Makika. A total of 26 house mice were trapped at the cliff edge and 41 house mice were captured at the tamarisk plantings. No rats were trapped (Lindsey et al. 1997).

Species Accounts

Moli, Laysan Albatross (*Phoebastria immutabilis*). - A lone bird was seen offshore from Smuggler's Cove, on the afternoon of 24 February. Laysan Albatrosses are not believed to be a breeding resident on Ka-ho'olawe nor its offshore islet, Pu'u Koa'e.

'Ua'u kani, Wedge-tailed Shearwater. (*Puffinus pacificus chlororhynchus*). On 24 February, 6 were seen offshore from Smuggler's Cove. During the 1980s, Wedge-tailed Shearwaters were heard calling at night during July and August on Ka-ho'olawe (Conant 1983), and 100-300 pairs are reported to breed on Pu'u Koa'e islet (Harrison 1990).

'A'o, Newell Shearwater (*Puffinus newelli*). - This threatened endemic species was seen offshore from the permanent camp on the afternoon of 23 February. It was seen at 6:00 p.m. flying in a southerly direction approximately 200 m offshore parallel to the coast line. This species is not currently believed to be a breeding resident on Ka-ho'olawe nor its offshore islet, Pu'u Koa'e.

Koa'e kea, White-tailed Tropicbird

(*Phaethon lepturus dorotheae*). - Several persons reported seeing White-tailed tropicbirds during the helicopter flight over to Ka-ho'olawe from Maui on December 11. At least 10 White-tailed Tropicbirds were seen along the south coast on the afternoon of 23 February; it appeared that there were groups of 2 - 4 birds in each of the bays that could be seen. Of interest is the name of Ka-ho'olawe's biggest offshore islet, Pu'u Koa'e, which literally means "tropicbird hill". Harrison (1990) reports that 5-10 pairs of Red-tailed Tropicbirds (*Phaethon rubricauda rothschildi*), but not White-tailed Tropicbirds, breed on Pu'u Koa'e islet.

'A, Brown Booby (*Sula leucogaster plotus*). - One was seen on 12 December plunge diving offshore near "Sailor's Hat": on 24 February, 2 were seen feeding just offshore at the same location. On 13 December along the west northwest shore, Carter Atkinson and Alan Burdick found a seabird skeleton on a small overlook (about 15 ft. above sea level). The skeleton was clean; long bones and part of the skull and beak were recovered. A metal band (# 977-48725) was found on a leg bone, which was subsequently sent to the federal Bird Banding Lab (BBL) for identification. BBL identified the bird as a Brown Booby, originally banded near Sand Island, Johnston Atoll, in May 1987 when it was too young to fly.

Gambell Quail (*Callipepla gambelli*). - The Gambell Quail was the only game bird we detected on Ka-ho'olawe, other than the two common dove species. On 11 December a coveys of Gambell Quail (including one of about 15) were sighted near some kiawe trees not far from where we landed in the helicopter, but the species was also seen repeatedly in open grass/kiawe areas on 12 December at Lua Ke-alia Lalo and during our December hike down the draw, and again (including a covey of 12) seen 13 December along the rocky road at the west end of the island. On 23 February, they were again heard around Lua Ke-alia Lalo and were regularly seen during the February visit.

Black-bellied Plover (*Pluvialis squatarola*). - These shorebirds regularly migrate to the Hawaiian Islands in small numbers. A few of the plovers seen along

the shore in December were not seen in good light, and may have been Black-bellied Plovers. During the February visit, 3 were seen on 23 February on the shore of Lua Ke-alia Lalo, and 2 were seen there again on the following day. During a previous visit to Ka-ho'olawe, R. David saw 19 Black-bellied Plovers on the "hard pan" on the top of the island. Although regularly seen on the other Hawaiian Islands, Black-bellied Plovers are usually recorded singly or in very small numbers.

Kolea (*Pluvialis fulva*), Pacific Golden-Plovers. - Kolea are one of the four most common shorebird species that migrate to all the Hawaiian Islands: the other three common shorebirds are Ruddy Turnstones (*Arenaria interpres*), Sanderlings, and Wandering Tattlers. Kolea were seen on the beach in base camp on the west end of the island, and also heard during our hike along the rocky road at the island's west end on 13 December. There were 5 seen on 23 February along the walk to and from the coastline, and 5 seen on the shore of Lua Ke-alia Lalo. On 24 February, 3 were seen on the shore of Lua Ke-alia Lalo, and on the 25th of February 7 Pacific Golden-Plovers were seen there.

'Ulili, Wandering Tattler (*Heteroscelus incanus*). - One or more were seen on 13 December along the cobble beaches past the rocky road on the west northwest end of the island.

Hunakai, Sanderling (*Calidris alba*). - A Sanderling was seen on the beach at base camp on 12 December, and one or two were seen on the beach on the west northwest end of the island past the rocky road on 13 December.

Noio, Black Noddy (*Anous minutus melanogenys*) - Black Noddies were seen near Pu'u Koa'e on 11 December and several in Ka-mohio Bay on 23 February. Harrison (1990) estimates 100-300 breeding pairs for Ka-ho'olawe Island, where they certainly must breed on the cliff faces.

Spotted Dove (*Streptopelia chinensis*). - Detected in vegetation along the rocky road at west end of island on 13 December, but nowhere common. This species was not detected in August or November of 1978, nor in August 1980 (Conant 1983).

continued...

SIGHTINGS OF KA-HO'OLAWE
BIRDS CONTINUED FROM PAGE 63

Zebra Dove (*Geopelia striata*). - Detected in vegetation along the rocky road at west end of island on 13 December, but nowhere common. This species was detected in August and November of 1978, but not in August 1980 (Conant 1983).

Barn Owl (*Tyto alba*). - A fresh Barn Owl carcass was recovered on 13 December from Haki-o-awa Cliffs on the east end of the island, where most of the remaining seabirds are believed to roost and nest. The carcass was given to Bishop Museum in Honolulu. On 25 February, a Barn Owl and two Barn Owl roosts were seen along the banks of the stream beds on a hike down from Lua Makika to Haki-o-awa.

Pueo, Short-eared Owl (*Asio flammeus sandwichensis*). - Seen on 11 December near Lua Makika during midday, and the same or another bird later the same day..

Sky Lark. - Sky Larks were seen and heard on 11 December near Lua Makika and again on 12 December in the open grass/kiawe habitat around Lua Ke-alia Lalo. They were also recorded on 23 February in the grasslands along the southern shore.

Japanese Bush-Warbler (*Cettia diphone*). - Bush-Warblers were detected once on 11 December and again at Lua Ke-alia Lalo on 12 December, but were not singing often. These birds were first reported from Ka-ho'olawe during The Nature Conservancy surveys (Gon et al. 1992).

Northern Mockingbird (*Mimus polyglottos*). - A Mockingbird was heard well at Lua Ke-alia Lalo on 12 December and more were detected in the kiawe trees on 13 December along the "rocky road" on the west end of the island. Several were heard on 23 February around Lua Ke-alia Lalo and on the 25th of February on a hike down to Haki-o-awa Bay.

Japanese White-eye (*Zosterops japonicus*). - This bird is probably the most common species on Ka-ho'olawe, detected at most vegetated sites on all days during both the December and February visits.

Northern Cardinal (*Cardinalis cardinalis*). - This species was detected in the kiawe at Lua Ke-alia Lalo on 12 December and in the kiawe woodland

along the "rocky road" along the west end of the island on 13 December.

Red-crested Cardinal (*Paroaria coronata*). - Seen on 12 December at Lua Ke-alia Lalo. Also, 2 were seen at Lua Ke-alia Lalo in the kiawe thickets on 24 February. This species was apparently first reported from Ka-ho'olawe during The Nature Conservancy surveys (Gon et al. 1992).

House Finch (*Carpodacus mexicanus*). - Apparently fairly common, seen on all three days in December and all three days in February at various sites around the island.

House Sparrow (*Passer domesticus*). - Sparrows were numerous in kiawe trees near the permanent camp, and many nests were noticed (this species breeds year-round). They were not detected in areas away from camp, clearly indicating their strong association with human habitations.

Warbling Silverbill (*Lonchura malabarica*). - Seen at Lua Ke-alia Lalo area on 12 December and also down along the draw seen during the December hike; a possible nest at Lua Ke-alia Lalo and also a silverbill nest in a tree at the bottom of the draw.

Nutmeg Mannikin (*Lonchura punctulata*). - This species was seen on all 3 days of the February trip around Lua Ke-alia Lalo. Several flocks were seen feeding in the grass on 24 February, and were also present in the area on the following day.

DISCUSSION

Unlike the rest of the main Hawaiian Islands (except Kaua'i), Ka-ho'olawe does not have introduced populations of moneys (except *Herpestes auropunctatus*) nor Norway rats (*Rattus norvegicus*), and Black rats (*Rattus rattus*) and Polynesian rats (*Rattus exulans*) have not been trapped on Ka-ho'olawe since the early 1970s (Lindsey et al. 1997). However, bones of Polynesian rats have been found since then in Pueo pellets from Ka-ho'olawe, suggesting that they might still be present (Snetsinger et al. 1994). Feral cats appear to be a significant predator, and we speculate that their presence (as evidenced by

numerous cat tracks on the beaches) may help to explain the low numbers of shorebirds present in habitats where they should have been more commonly seen. The presence of cats on the island restricts the ability of ground- and burrow-nesting seabirds to naturally recolonize appropriate habitats, but a serious concern regarding cat eradication is that the removal of cats might cause or intensify a rodent population explosion.

There are many pestiferous nonnative plant, vertebrate, and invertebrate species that are not yet established on Ka-ho'olawe, or are established in small, "eradicatable" numbers. Many, if not most, of these species have the ability to retard or prevent restoration of native flora and fauna. The opportunity to exclude these nonnative species from the island should be seized, and vigorous quarantine of the limited incoming boats, helicopters, equipment, and personal gear and clothing (e.g. seeds on boots, socks, pant cuffs, etc.) should be a high priority. Currently established pestiferous species should be identified on Ka-ho'olawe, and their removal and/or control prioritized and initiated (Lindsey et al. 1997).

During the December 1996 and February 1997 visits, no Common Mynas (*Acridotheres tristis*) were found, suggesting that indeed this species is no longer present on Ka-ho'olawe. Mynas were not detected in 1980 (Conant 1983) and they were listed as an unconfirmed record by TNC in 1992 (Gon et al. 1992). Mynas tend to be rather noisy and usually associate with human habitations, so it is unlikely that this species was present but missed. Ruddy Turnstones (*Arenaria interpres*) were not seen during either the December or the February visit, but should occur there in small numbers as they do on all the other main islands.

We were aware that our visits were not made during the optimal months for detecting breeding seabirds. Even if the months had been optimal, we were not permitted to camp outside the permanent camp nor to do night surveys. Conant (1983) heard a Wedge-tailed Shearwater at night in August of 1980, and noted Betsy Gagne's report of hearing 'Ua'u or

Dark-rumped Petrel (*Pterodroma phaeopygia sandwichensis*) calling in flight during July 1982 at Pu'u Moa 'Ulanui near Lua Makika. Harrison (1990) suspected that Bulwer Petrel (*Bulweria bulwerii*) nested on Pu'u Koa'e islet next to Ka-ho'olawe, and Gon et al. (1992) reported recently dead Bulwer Petrel and Wedge-tailed Shearwater (*Puffinus pacificus chlororhynchus*) carcasses that suggested these species "...probably nest on Pu'u Koa'e or nearby 'Ale'ale". It appears that the seabird component of Ka-ho'olawe's avifauna is already relatively diverse for a main Hawaiian Island, and that predator control and simple habitat management could produce strikingly positive results.

Overall, we think that Ka-ho'olawe Island has good potential for being restored as a "mosquito-free" refuge, and is a prime site for reintroduction of native passerines (especially 'Amakihi, *Hemignathus virens*, and Finches, *Telespiza* spp.) and endangered waterbirds (perhaps Nene, *Branta sandvicensis*, and Laysan Duck, *Anas laysanensis*), once the ordnance has been removed, predators removed or controlled, and food and habitat resources are adequate. More data is needed on mosquito densities and seasonality, and whether natural ground pools in stream gullies and temporary wetlands are potential larval habitat for *Culex*. Given the low numbers of *Culex* that were captured during the short December visit, it is even possible that mosquito numbers are already low enough to be unable to support pox and malaria transmission: this could be further studied by collecting blood samples of resident nonnative birds on Ka-ho'olawe to see if malaria is present (CTA). If cats and rats (if the latter are present) can be removed, Ka-ho'olawe Island would be the only main Hawaiian Island where we have some hope of eliminating two of the main limiting factors for native birds: predation and avian disease.

ACKNOWLEDGEMENTS

We thank KIRC and especially Paul Higashino for inviting us to visit Ka-ho'olawe and to join them in visualizing its restoration. Special thanks to the other members of the Faunal Restoration team: Gerald Lindsey, Gregory Brenner, Earl Campbell, David Foote, Charlotte Forbes, Thane Pratt, William Steiner, Robert Sugihara, and Frederick Warshauer. Additional thanks to the helicopter, EOD, and camp personnel who made our visits safer and pleasant.

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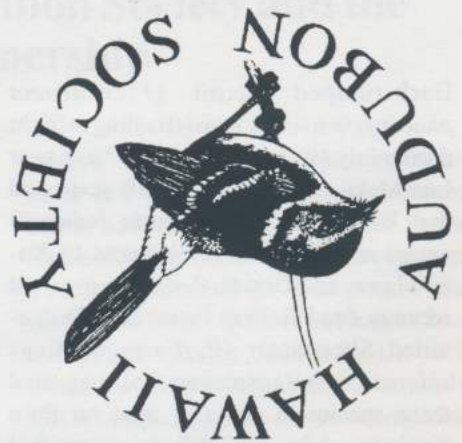
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Calendar of Events

Thursdays, December 3, 1998 and January 7, 1999

Education Committee monthly meeting, 7 p.m. at BaLe Sandwich Shop in Manoa Marketplace (near Safeway). For more information, call chairperson Wendy Johnson, 261-5957.

Monday, December 7, 1998

Conservation Committee monthly meeting at the HAS office at 5:45 p.m. For more information, call chairperson Dan Sailer, 455-2311.

Mondays, December 7, 1998

HAS Board meeting, always open to all members. 6:30 - 8:30 p.m. at the office.

Monday, December 14, 1998

Margo Stahl, Assistant Refuge Manager for the O'ahu Refuge Complex will show slides and talk about the new guided tours of James Campbell National Wildlife Refuge in Kahuku at our **Annual membership meeting and program**. She will also discuss her desire to revitalize the partnership between HAS and the FWS and her vision for developing a Friends of the National Wildlife Refuge Organization.

Election results will also be announced and the 1998-1999 officers and directors introduced. The meeting is from 7:30-9:30 p.m. at Bishop Museum, Paki Hall Conference Room. Refreshments provided; HAS publications, tapes, and T-shirts available for purchase.

Saturday, January 23, 1999

Our January field trip will take us to the Ka'ena Point Natural Area Reserve to combine our bird and mammal watching with some work in the area pulling up noxious weeds. We will see some rare plants along the way, and also albatross, whales and possibly monk seals. Bring work gloves, sturdy shoes, hat, binoculars, water, lunch, sun screen, and rain gear — never can tell what the weather will be like out there! Limited to 20 people. Call Mary Gaber, 247-0104, for reservations and further details. Suggested donation: \$2.00.

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