



'ELEPAIO

Journal of the
Hawaii Audubon Society

For the Protection of
Hawaii's Native Wildlife

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MARCH 2001

State of the Society for 2000

by Wendy Johnson, President

MISSION STATEMENT: *To foster community values that result in the protection and restoration of native ecosystems and conservation of natural resources through education, science and advocacy in Hawaii and the Pacific.*

The Hawaii Audubon Society was founded in 1939 as an independent, non-profit membership association with specific aims pertaining to the protection of Hawai'i's native wildlife and habitats through education, research and advocacy. The Society has a membership of approximately 1,700 individuals and operates in accordance with a constitution and by-laws under the supervision of a Board of Directors elected by the members. The Society became a certified chapter of the National Audubon Society in 1978, but continues to function independently in all fiscal, policy and programmatic matters. Several part-time employees and independent contractors provide administrative and professional services for the Society and for specific programs, but many necessary tasks and responsibilities are accomplished through the efforts of dedicated volunteers statewide. The Hawaii Audubon Society operates a website at www.geocities.com/tantaris/audubon/ (Click on Hawai'i).

Education (see also the Education Committee Report): In its ninth year of operations, the 2000 Paradise Pursuits program offered seventeen teams of high school students the opportunity to show how much they know about Hawai'i's environment. Lively competitions on O'ahu, Maui and Hawai'i culminated in semi-final and final games, which were televised by KITV in May. This unique education program operates in cooperation with the Environmental Education branch of the state Department of Education and receives major funding from Hawaiian Electric Industries, with addi-

tional assistance from Aloha Airlines and Sheraton Hotels, and further support from over fifty local companies and individuals. At the 43rd Hawai'i State Science and Engineering Fair, the Society awarded two prizes for outstanding research relating to Hawai'i's natural history. The Society continued to monitor habitat restoration plans at Kawai Nui marsh as part of a long-term goal to establish a site-based education center on O'ahu.

Conservation and Advocacy (see also the Aquatics Program Report and Conservation Committee Report): The Society's legislative analyst tracked bills and provided expert testimony on behalf of Hawai'i's native wildlife and habitat, as did several Society volunteers. Successful efforts were made to ensure that bills sanctioning feral cat colonies did not pass, while the Society's Western Pacific Fisheries Coalition project supported the introduction of bills strengthening protection against the introduction of alien aquatic species and enacting strict limits on shark finning, which were passed and signed into law. The Society's Conservation Committee, working to prevent threats to native wildlife and habitats, reviewed and submitted comments on a variety of proposed projects and activities statewide, including plans for timber harvesting at Waiakea, Hawai'i.

Programs and Membership: Six bi-monthly membership meetings were scheduled by the Society in 2000. These meetings are open to all Society members and the general public, and include informational presentations on a wide variety of topics. Programs offered in conjunction with membership meetings included the following: Wildlife biologist Sharon Reilly showed slides illustrating her experiences in bird and mammal conservation, including both captive propagation and field work projects at a variety of locations around the world; Kamehameha Schools wildlife biologist Tonnie Casey spoke about various techniques of preda-

tor control in areas supporting endangered bird and plant populations on the island of Hawai'i and an off-shore island in New Zealand; Dr. Michael Hadfield presented a unique slide show on the subject of "Multiple Approaches to the Conservation of Hawaiian Tree Snails," USFWS biologist Beth Flint shared her knowledge on the "Conservation and Status of Seabirds in Hawai'i and the Tropical Pacific," USGS wildlife biologist Dr. Paul Banko discussed "Progress in Palila Conservation: Restoration in a dry Hawaiian Forest," Dr. Fred Kraus, alien species coordinator for the state Department of Land and Natural Resources, described the recent invasion by Caribbean frogs when he spoke on "The Threat of Reptiles and Amphibians to Hawai'i's Native Ecosystems."

Field Excursions and Service Activities (see also Field Activities Report): Field excursions in 2000 included several new destinations. Groups guided by Society volunteers visited the following sites: two trips to Marine Base Hawai'i to view the Red-footed Booby colony at nesting season and again after the chicks had fledged; 'Aiea Ridge Trail to view native plants and bird typical of the upper elevation forest on O'ahu; Poamoho Trail to the Ko'olau summit to spot native birds and enjoy spectacular vistas; Moanalua Valley family walk along the Kamananui Valley trail to view historic sites and natural beauty; Keauhou on the island of Hawai'i where participants visited the Keauhou Bird Conservation Center and traveled up the mountain to see a variety of birds in the wild; Pelagic birding trip aboard a 42-foot sailboat cruising off the leeward coast of O'ahu: Rowland's Pond, a 5-acre artificial wetland at the Chevron Refinery near Barber's Point that is home to endangered native waterbird species; the 'Ewa Plains limestone sinkholes to view fossil remains of extinct Hawaiian birds; the Forest Bird

continued on page 12

Propagation Unit at the Honolulu Zoo for a close look at a variety of rare and endangered endemic birds; the James Campbell National Wildlife Refuge to observe many species of migratory and wetland birds in their natural habitat. Three service trips were also conducted in 2000. A two-night stay at the Kilauea National Wildlife Refuge on Kaua'i included maintenance on a new trail that the team had helped to build last year, which leads to viewing point for the Red-footed Boobys' nesting area. In May, volunteers planted native seedlings at Pahole Natural Area Reserve, a lowland mesic forest habitat in the Mokule'ia foothills. A cleanup of the Black Point nesting area for the Wedge-tailed Shearwaters involved volunteers in picking up trash and abandoned fishing tackle along the rocky coastline. Nearby residents were encouraged to control disturbance of the site and predation by pets, rats and mongoose. In December, the annual Christmas Bird Counts were held at several locations on O'ahu, Kaua'i, Moloka'i,

Maui and the Big Island. Society volunteers served as organizers and team leaders of the event which operates in conjunction with Christmas Bird Counts at thousands of locations in the U.S. and around the world.

Volunteer Activities: Hawaii Audubon Society volunteers continued monitoring seabird restoration efforts on selected islands offshore of O'ahu and at Ka'ena Point in conjunction with efforts by the State of Hawai'i Department of Land and Natural Resources and the National Audubon Society. Volunteers also participated in clean-ups and habitat restoration at several shore-line and wetland sites. Members also represented the Society at conferences and public hearings, and on several teams, task forces and workshops, including the Permit Process Task Force, the 'Alala Recovery Team, the Forest Bird Recovery Team, the Natural Area Reserve Commission, and the Marine Fish Conservation Network Advisory Board. **Other Society Activities:** The January, 2000 Annual Chapter Leaders' Retreat featured lively discussions of conservation issues and the Hawaii

Audubon Society's role in promoting the protection of wildlife and habitats. Plans were made for upcoming activities which support and enhance the Society's goals and mission. In November, the Society's annual awards dinner was held at McCoy Pavilion to honor eleven educators, volunteers, public figures and corporate leaders for their contributions to environmental education and the protection of Hawai'i's wildlife and habitats. Rob Shallenberger, Deputy Project Leader for Hawaiian and Pacific Refuges for the USFWS, presented a fascinating slide show entitled "Palmyra: A New Pacific Refuge." Among those honored were Tim Johns (President's Award) who, in his role as Director of the Department of Land and Natural Resources, has demonstrated that government agencies and non-government resource conservation organizations can work together for the protection of Hawai'i's natural resources. Dr. Phil Bruner received the Charles Dunn Lifetime Achievement Award in recognition of his many years of service to the

continued on page 13

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Society and his dedication to conservation education in Hawai'i.

Grants and Scholarships: the Society's George C. Munro Environmental Law Award included a small grant which was presented to Adrienne S. Yoshihara, a second year student at the William S. Richardson School of Law. A full tuition scholarship for use in the University of Hawai'i system was provided in memory of Rose Schuster Taylor to UH freshman Colin McCormick who graduated from Maui High School and is a former Paradise Pursuits participant. Two researchers working on projects relating to Hawai'i's natural history received funds from the Society's small grants program in 2000. Whitney Nekoba is studying habitat selection for nest cups in the genus *Pluvialis* at Nome, Alaska, and Amber Whittle plans to assess coastal fisheries conservation by comparing larval supply and recruitment within a Marine Life Conservation District to other ocean areas off O'ahu.

Externally Funded Programs: The Western Pacific Fisheries Coalition project (see also Aquatics Program Report) successfully completed its second year activities and continues to be funded by supporting foundations (Pew Charitable Trusts, the Rockefeller Brothers Fund, the David and Lucile Packard Foundation and the Homeland Foundation).

This unique marine conservation project is designed to promote collaboration between fishermen and conservationists in a variety of education and advocacy efforts to protect living marine resources in Hawai'i and the Pacific. Funding to conduct an international Shark Conference in conjunction with the Western Pacific Fisheries Coalition and WildAid, was received by the Society from several sources including, the Barbara Delano Foundation, the Homeland Foundation, the David & Lucile Packard Foundation and the AVINA Foundation. The conference was held in February and focused on the status of sharks around the globe. Shark experts from fourteen countries presented research and data on declining shark populations and expanding fishing/finning operations. The Hawaii Audubon Society received a small grant from Tesoro Hawai'i to participate in a joint public education project with DLNR, USFWS, Partnerships for Wildlife and the community advisory group Na Maka O Ka'ena. An informational sign was unveiled in December at Ka'ena Point State Park, informing the public, in both English and Hawaiian, about the need to protect the native species, cultural sites and fragile dune habitat there. Work continued in a new direction on a project for which the Society was awarded funds by the Atherton Family Foundation IN 1999. Support for

waterbird habitat restoration activities using aerially applied herbicides at the James Campbell National Wildlife Refuge on O'ahu was diverted to provide for operation of a new amphibious excavator which has been purchased with the assistance of the City and County of Honolulu. The funds received have been matched by Federal monies in support of this project which will be carried out by USFWS employees and contractors. The new equipment will be available for the mechanical removal of alien vegetation at several wetland sites on O'ahu on a regular basis.

Publications and Products: The Society published nine issues of 'Elepaio, a journal that includes peer-reviewed articles on research and management of Hawai'i and Pacific natural resources in addition to Society news and notices. Other educational products produced by the Society include the following: Hawaii's Birds, a definitive, full color paperback now in its fifth edition; a companion cassette set "Voices of Hawaii's Birds," and checklist of the Birds of Hawai'i; "Hidden Treasures of O'ahu," a map featuring locations and detailed information on sites for exploring nature and ancient Hawaiian culture; "The Edge of Forever," an art-quality limited edition print featuring two endangered Nene. The Society also offers several T-shirt designs and an embroidered patch featuring the 'Elepaio.

2000 Aquatics Program Report

Linda Paul, Executive Director for Aquatics

The Hawaii Audubon Society's mission statement includes protecting the marine ecosystems that sustain both sea birds and shore birds. In February, the Society hosted an international shark conference that brought in shark experts from 14 countries to discuss the status of sharks around the globe. The conferees recommended the creation of a global strategic plan to conserve and manage sharks, skates and rays.

In 2000 the Society continued to administer the Western Pacific Fisheries Coalition (WPFC) project, a collaborative marine conservation, education and policy effort begun in 1998. Achievements in the year 2000 included getting two important bills passed through the Hawai'i legislature and signed by the Governor: 1) H.B. 1337, which strictly limits the harvesting and landing of shark fins in State waters by requiring that sharks be landed whole, and 2) H.B. 1949, which designates the Department of Land & Natural Resources as the lead state agency to

prevent the introduction of alien aquatic organisms into Hawai'i's aquatic environment. The WPFC played a major role in accomplishing the creation by presidential executive order of the Northwestern Hawaiian Islands Coral Reef Reserve. WPFC members represented Pacific ocean conservation interests at the 6th and 7th meetings of the Multilateral High Level Conference as members of the U.S. delegation, testified at the U.S. Coral Reef Task Force meetings in Washington DC and American Samoa, participated in the Marine Protected Areas workshop in San Francisco, and helped plan the International Marine Debris Conference.

The Society is a member of the Board of Advisors of the national Marine Fish Conservation Network. The WPFC community outreach coordinator produced some outstanding education materials and the WPFC web site continues to post information about issues, with linkages to many sources of fisheries-related information www.westpacfisheries.net

2000 Conservation Committee Report

by Dan Sailer, Conservation Chair

As many of our longtime members of the conservation community know, our islands and their supporting ecosystems continue to face the same formidable challenges to greater environmental protection. These challenges include funding for the acquisition and management of native habitat, greater legal protection for rare and endangered species, better prevention, detection and control of alien species including feral hoofed animals, and the need for greater protection of native wildlife and habitat in the face of proposed developments or other projects like timber harvesting which directly impact habitat quality. HAS continues to advocate and act in areas where other organizations may not have filled the conservation niche; these include the review and analysis of proposed projects going through the environmental review process, support for local and national appropriation measures which place lands and waters under greater legal protection or more active resource management for conservation purposes, or more recently, HAS been active in increasing coordination with other agencies, institutions, businesses and individuals to concertedly tackle the invasive species problem on O'ahu and across our state. With these objectives in mind, the following summary highlights the activities of the Conservation Committee over the past sixth months.

National issues: The most significant Congressional issues HAS supported was the broadbased effort to secure permanent state and local funding for conservation programs from the Conservation and Reinvestment Act (CARA). CARA is funded with revenues from oil drilling on

federal lands and waters. Despite widespread support for the measure, the measure failed to pass last Congressional session.

Northwest Hawaiian Islands: Please see the Aquatics report on page 13 regarding HAS action on issues related to the Northwest Hawaiian Islands.

Kaua'i and Ni'ihau: Recently, HAS supported the U.S. Fish and Wildlife's proposal to designate critical habitat for 76 endangered plants on these two islands. We believe the designation process is a useful means of gathering information on the species ecology and threats to their recovery

O'ahu: As noted previously, HAS has been an active participant in the newly formed O'ahu Invasive Species Committee (OISC), a voluntary partnership of over 40 government agencies, non-profit organizations, private businesses and individuals. OISC is committed to combating invasive alien species before they spread. Control efforts are ongoing for the alien tree miconia and fountain grass and survey efforts are underway for Caribbean frogs, a threat to the nursery and tourist industry as well as to native invertebrates. Parrot surveys are being planned for the near future.

Currently at the State legislature, a number of bills relating to the control of alien species in Hawai'i are being supported by OISC and our HAS Legislative Analyst, Sunny Greer. Additionally, HAS supported a number of measures providing for the increased funding of the State Natural Area Reserve System. HAS has also opposed the hunting community's attempts to prohibit the use of snares by the Dept. of Land and Natural Resources

(DLNR) and to criminalize its use by DLNR employees. HAS supports the elimination of all feral hoofed animals through all effective means from lands not designated as game management areas.

Maui Nui: HAS also supported the designation of critical habitat for plants on Maui, Moloka'i, Lana'i, and Kaho'olawe.

Big Island: HAS supported our state Congressional delegation's successful efforts to appropriate \$1.5 million dollars in seed money to further the negotiations between the National Park Service and Damon Estate for the potential sale of Kahuku Ranch. Adding Kahuku Ranch to the Hawai'i Volcano National Park would represent a major step toward the greater protection of endangered native forest bird habitat in the south Kona region.

HAS also joined the Sierra Club and the south Kona community in successfully blocking permit approval for the proposed Hokulia development which would have immediately bordered the northern edge of Kealahou Bay.

HAS has also voiced repeated opposition to the State's attempts to move forward with timber harvesting plans for the Waiakea and Hamakua region. We opposed the harvesting plan given the lack of adequate safeguards for the protection of native wildlife and the failure by the State to adequately address the cumulative impacts of a State sponsored timber industry in the region.

If you would like to assist in the Conservation Committee's efforts, feel free to contact our HAS office and we would be happy to enlist your kokua!

Program Meeting on April 16th

Our April Program Meeting will feature Hawai'i Division of Forestry and Wildlife veterinarian Greg Massey and International Bird Rescue and Research Center's Linda Elliott, who will speak on "Oiled Wildlife Response in the Hawaiian Archipelago." The pre-

sentation will review of the effects of oil spills on wildlife with specific information on tropical island factors. The recent history of spills in the Hawaiian Islands will be discussed, along with the development of Hawai'i's oiled wildlife response program, its proposed future direction, and how the public can assist in

these efforts.

Program meetings are held at Henry Hall Room 109 on the Chaminade University campus from 7:30 to 9:30pm. Refreshments are served, and HAS publications, T-shirts, and maps are available for purchase.

2000 Education Committee Report

by Wendy Johnson,
Education Chair

The HAS Education Committee works to provide opportunities and motivation for learning about Hawai'i's native wildlife and habitats. In 2000, our unique environmental quiz program known as Paradise Pursuits successfully completed its ninth year of operations. Seventeen public and private high schools throughout the state fielded four-person teams which competed against each other by answering a wide variety of questions in the categories of natural history, human impact, alien species and native species. The single-elimination format resulted in the top four O'ahu teams and one team each from Maui and Hawai'i advancing to the play-off round held on O'ahu and televised on 'Olelo's channel 56. 'Aiea, Hilo, 'Iolani and Leilehua High Schools then proceeded to the final competitions held at the KITV studios and moderated for the fifth consecutive year by top news anchor, Paula Akana. After three rounds of exciting competition a young team from Hilo High School emerged as the 2000 Paradise Pursuits

Champions. Sophomore Emma Yuen described her experience on the Hilo team: "All of us love practicing with the buzzers and are looking forward to a chance to be on TV if we win the district competition. But when we think harder about it, we realize what the competition is really giving us: a deeper love and appreciation for Hawai'i's natural history in all its aspects."

Support for the Paradise Pursuits program is derived from a variety of sources, with major funding in 2000 again provided by Hawaiian Electric Industries. Vital services and donations were received from Aloha Airlines, Sheraton Waikiki, and the Environmental Education Branch of the Hawai'i State Department of Education. Other sponsors pledged support which helped to cover television production costs, and these sponsors included Chevron Products Co., First Hawaiian Bank and Ironworker's Union Local 625. More than fifty companies and individuals donated prizes. HAS and community volunteers worked as question reviewers scorekeepers, timers and judges for the games, while other non-profit groups and government agen-

cies supplied valuable assistance and sites for the games.

Judges from the HAS Education Committee presented two awards for outstanding research relating to Hawai'i's natural history in 2000 at the 43rd Hawai'i State Science and Engineering Fair. Jonathan Valdez and Rueban Arreola-Sotero received the Senior Division Research award for their project on "Determining the Suitability of Leeward O'ahu Streams for the Reintroduction of 'O'opu: Water Quality and Biotic Index Comparisons between Wai'anae and Waikolu Streams."

These students from Wai'anae High School monitored chemical, biological, and hydrological parameters vital to the successful reintroduction of 'O'opu to the Wai'anae Stream. The Junior Division Research award went to Dara Balazs, a sixth grader who spent many hours in the field in an effort to answer the question: "What Are The Turtles Doing at a Little Lagoon Named Wawamalu?" She observed up to seventeen green sea turtles feeding and sleeping in Wawamalu Lagoon near Sandy Beach on O'ahu.

Field Trips for 2001

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

March 25: Our trip to Hilton Hawaiian Village has been postponed again. Our request is apparently in someone's in-basket awaiting attention. We are being treated, instead, to a trip to Pia Valley with 'Elepaio expert Dr. Eric VanderWerf to look for this tiny endangered Native Hawaiian forest bird. We will meet at 8am for this trip. Food, water, rain gear, sturdy hiking shoes, and insect repellent will be needed. Please call the office (528-1432) to register and for instructions.

***April ??:** A trip to Marine Corps Base Hawai'i to visit the Red-footed Booby colony. Our request for this trip is still making its way through the Marine Corps' chain of command. Limited to 20 participants. Call the office the register.

HAS Gets a New Imac!

A HUGE MAHALO to Board member Alice Roberts for donating a brand new Indigo Imac computer to the HAS office!

We have needed another Macintosh for a very long time. All of our bookkeeping, accounting, 'Elepaio formatting and layout, Paradise Pursuits work, email and incoming faxes, and legislative analyst work was being done by the one Power Mac donated by Sibyl Heide several years ago.

Thanks to Alice, the Power Mac's busy social calendar will ease considerably. Thanks go our to Board member John Harrison also, who will soon perform a marriage (networking) between the Big Mac and the Little Mac.

Developing Partnerships to Conserve Hawai'i's Natural Resources

from USGS Volcano Watch - January 18, 2001

The Hawaiian Islands are home to thousands of plant and animal species found nowhere else in the world. Protecting these native species against the many threats to their survival - including habitat destruction and invasions of alien species - is a significant challenge, but also an important goal.

Landowners and natural resource managers realize that the management of large, continuous areas of native ecosystems is an effective and cost-effective means to conserve and protect Hawai'i's native species. Since ecosystem boundaries rarely coincide with land ownership boundaries, partnerships between private, state, and federal landowners are playing a critical role in conserving native habitats. This allows for the opportunity to manage the natural resources and control threats to their conservation across the landscape without regard for political or ownership boundaries within the designated partnership area.

One such partnership - the 'Ola'a-Kilauea Management Area on the island of Hawai'i - offers an unparalleled opportunity to preserve a large continuous area with relatively intact native ecosystems. This management program will not only help ensure the survival of a large number of endangered plant and bird species found in the 'Ola'a-Kilauea area, but will help keep the populations of other native species from declining.

The 'Ola'a-Kilauea Management area includes approximately 32,000 acres of land in the upper sections of the 'Ola'a and Waiakea Forests above the town of

Volcano. The partnership includes lands owned or controlled by four different entities: Kamehameha Schools, Hawai'i Department of Land and Natural Resources, Kulani Correctional Facility under the Hawai'i Department of Public Safety, and Hawai'i Volcanoes National Park. Other members of the partnership include the U.S. Geological Survey, U.S. Fish and Wildlife Service, and the U.S. Forest Service, who among them provide both research and management resources to the project.

The partnership area includes some of the best remaining intact native forest ecosystems on the island, with large tracts of koa and 'ohi'a rain forests and a series of upland bog communities. These highly diverse natural communities provide essential habitat for four endangered forest bird species, including 'akiapola'au, Hawai'i creeper, Hawai'i 'akepa, and the 'o'u. Additionally, two other endangered birds - the 'io or Hawaiian hawk and nene - and Hawai'i's only native land mammal, the ope'ape'a or Hawaiian hoary bat, also frequent the area. Twenty-two rare plant species, including ten endangered species, are also found within the project area.

Management efforts within the 'Ola'a-Kilauea partnership area have been focused on control of impacts of alien species on the native ecosystems, restoration of rare plant species found in the area, and restoration of the plant communities that form the matrix in which both the rare and common native species of plants and animals are found.

An added benefit of the partnership is the opportunity to provide both vocational training and environmental educational opportunities for the staff and inmates of the Kulani Correctional Facility. Kulani inmate crews have been instrumental in constructing the many miles of fencing that are necessary to keep the management areas clear of feral pig populations.

The inmates have also worked on many of the weed control projects and have recently become involved with the growing and outplanting of both rare and common native plant species as part of the species and ecosystem restoration programs. Over the past two years, they have helped with the reintroduction of over 2,000 rare Mauna Loa silversword plants into the bog and open forest habitats in the Kulani Correctional Facility.

Despite the many challenges involved with conservation of the natural resources in Hawai'i, the partners involved in the 'Ola'a-Kilauea partnership agree that the commitment of time and energy to this project is well worth the effort. Their hope is that these endeavors will not only result in the protection of the important natural resources within this priceless piece of native Hawai'i, but also will serve as a model for use in other equally deserving areas of the islands.

This article was written by scientists at the Kilauea Field Station (ph. 808-967-7396), Biological Resources Division of the U.S. Geological Survey

Follow the Kolea to Alaska

Those enchanted by the Kolea, or Pacific Golden Plover (*Pluvialis fulva*) will be happy to learn that there is now a rare opportunity to see this marvelous bird in its summer breeding grounds along the northwestern coast of Alaska. For the experience of a lifetime, be one of a small, select group of ecotourers

who journey to the treeless Alaskan tundra to see the Kolea, one of Hawai'i's residents' favorite birds.

This 11 day ecotour departs from Honolulu on June 5th and returns June 16th. Several days will be spent in the natural and cultural landscapes of Kotzebue, above the Arctic Circle and Nome, on the Seward Peninsula in north-

western Alaska. The remainder of the trip will be spent exploring the Kenai Peninsula near the fishing village of Homer and end with a cruise across Prince William Sound from Whittier to Valdez.

For more information, contact Annette Kaohelaulii at 235-5431

February Field Trip Report

Our Field Trip to Sea Life Park took place on February 18th. Ten of us arrived at about 10am and meandered past the giant aquarium to gather at the Seabird Sanctuary where we met our guide and lecturer, Stephanie. She introduced us to the convalescent seabirds: many Wedge-tailed Shearwaters, some Sooty Terns, several Black Noddies, some Red-footed Boobies and a Blue-footed Booby. These birds are recovering from injuries and will leave when (and if) they are able. Some of them return from time to time for fish hand-outs! A pair of Red-footed Boobies has nested in a tree in the sanctuary and is now raising a chick.

Next door to the convalescents are the permanent residents, whose injuries prevent them from resuming a normal seabird life. A Laysan Albatross is the largest and oldest of these residents. (See picture at right) There is also a Masked Booby. Several Great Frigatebirds come and go and keep the residents company. Permanent residents are allowed to live out their lives at Sea Life Park, and are housed, fed, and taken care of.

A behind-the-scenes-tour followed, to the cages where recent arrivals are assessed and treated. Among those were several White Terns and a Glaucous-winged Gull that blew in from the Arctic several months ago. This bird's wing injury will cause it to become a permanent resident. Many thanks to Sea Life Park and Stephanie for making our field trip so educational and enjoyable!



Two New National Wildlife Refuges Approved in the Pacific

The establishment of two new National Wildlife Refuges has been approved by the U.S. Fish and Wildlife Service, extending enhanced protection to the lands and waters of two of the most undeveloped atolls in the Pacific Ocean. Palmyra Atoll and Kingman Reef—part of the Line Islands in the central equatorial Pacific—include both terrestrial and marine habitats for numerous species of wildlife, including seabirds, shorebirds, sea turtles, reef fishes, marine mammals, and terrestrial crabs. The atolls are located about 1,000 miles south of Hawai'i.

"I am pleased that these magnificent underwater coral gardens will now get the protection they richly deserve," Secretary of the Interior Bruce Babbitt said. "Safeguarding our nation's coral reefs has been one of the priorities of this administration, and today we have ensured that some of the most pristine coral reefs in U.S. waters will be forever protected within the National Wildlife Refuge System."

Secretary Babbitt also praised the role that The Nature Conservancy

played in negotiating the purchase of Palmyra Atoll from private landowners. "This latest addition to the National Wildlife Refuge System will be a lasting legacy for former Nature Conservancy President John Sawhill, who saw the incredible value of protecting Palmyra as one of the last undeveloped atolls in the Pacific," he said.

"Today we have ensured that some of the best examples of coral reef ecosystems, as well as one of the largest *Pisonia* rainforests and a significant seabird nesting site, will be forever protected within the National Wildlife Refuge System," said Anne Badgley, Pacific Regional Director for the Service.

Boundaries for the refuges, as approved by the Fish and Wildlife Service Director, include emergent lands, tidal lands, and submerged lands and waters within the 12-nautical mile U.S. territorial seas. The approximately 3 acres of coral islets at Kingman Reef and its surrounding submerged lands were transferred today by the Secretary from the Interior Department's Office of Insular Affairs to the Fish and Wildlife Service to actually establish the new refuge.

The boundaries for Kingman Reef National Wildlife Refuge include three unvegetated coral islets and approximately 483,700 acres of submerged lands and waters, including 25,874 acres of coral reef habitat. "The refuge will protect a spectacular diversity of coral reef fishes, corals, and other marine organisms, as well as provide habitat for migratory seabirds and shorebirds and threatened green sea turtles," explained Regional Director Badgley.

More than 16,000 acres of coral reef habitat will be protected within the 515,232 acres of tidal and submerged lands at Palmyra Atoll National Wildlife Refuge. "The heavy rainfall in the equatorial region provides for lush vegetation on these islets, including rare stands of *Pisonia* rainforest," said Regional Director Badgley. "Palmyra hosts the second-largest colony of Red-footed Boobies in the world and large colonies of other seabirds, including 750,000 Sooty Terns. These birds rely on the surrounding waters to provide the food they and their chicks need, and it's critical that the entire atoll ecosystem be protected."

continued on page 18

continued from page 19

Palmyra also provides habitat for threatened and endangered sea turtles, marine mammals, migratory shorebirds, pelagic and reef fishes, manta and eagle rays, giant clams, and a host of terrestrial crabs. "The former landowners, the Fullard-Leo family of Hawai'i, greatly restricted access to Palmyra and, in doing so, safeguarded its tremendous natural

resources," Regional Director Badgley said. "I've only seen pictures of coconut crabs, some as large as basketballs, and they certainly are impressive!"

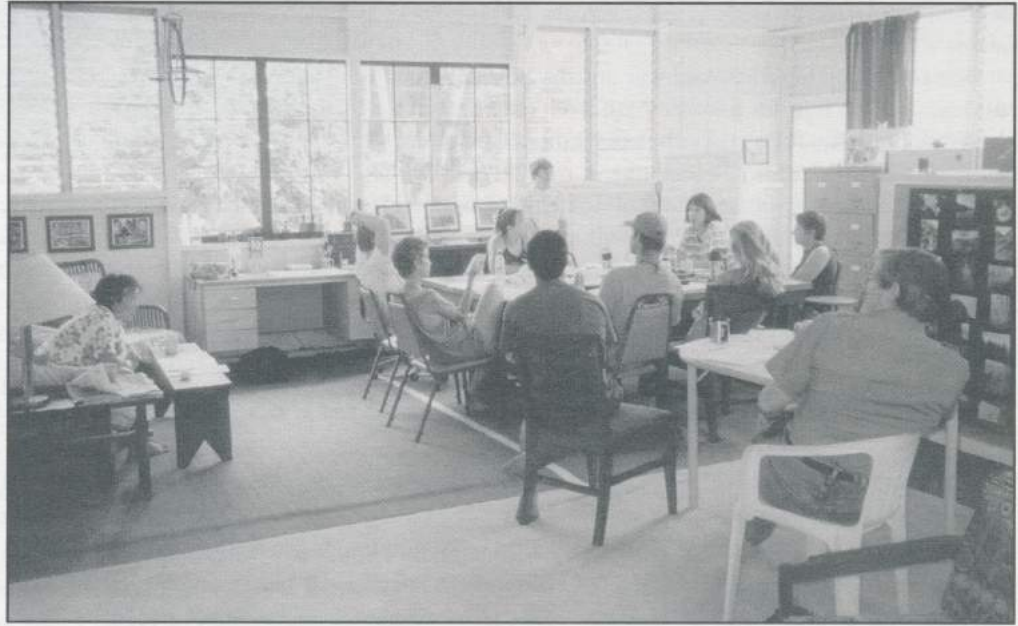
The 680 acres of emergent lands at Palmyra Atoll are owned by the Nature Conservancy, a private conservation organization. The Fish and Wildlife Service is negotiating with TNC to purchase a major part of the atoll, and both entities

would work together to conserve the atoll's rich biological diversity.

Source: U.S. Fish and Wildlife Service News Release dated 1/18/01

Contact: Barbara Maxfield, 808-541-2749

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Hawaiian Picture-wings Proposed for Addition to Endangered List

Twelve species from what biologists believe is one of most remarkable cases of habitat-specific evolution in any group of animals in the world have been proposed for listing as endangered under the Endangered Species Act by the U.S. Fish and Wildlife Service. These insect species, known as Hawaiian picture-wings, are part of the intensely studied Drosophilidae family found throughout the high islands of the Hawaiian archipelago.

A species is designated as endangered when it is in danger of becoming extinct throughout all or a significant portion of its range.

As many as 1,000 species of Hawaiian picture-wings may exist, each one adapted not only to a particular island but

also to a specific habitat type. Individual species have adapted to a wide diversity of ecosystems ranging from desert-like habitats to rain forests and swamplands. In many cases, a species requires a specific native plant host during portions of its breeding cycle.

"Over the years, Hawaiian picture-wings have provided the scientific world - and the general public - with extraordinary knowledge about evolutionary biology," said Anne Badgley, the Service's regional director for the Pacific Region. "It is distressing that these species are now in need of protection under the Endangered Species Act, and we want to ensure that these unique Hawaiian creatures are not lost to us forever."

Research on Hawaiian picture-wings has resulted in the development and test-

ing of new theories of evolutionary biology. More than 80 research scientists and 350 students and post-doctoral fellows have studied Hawaiian Drosophilidae, and at least 600 scientific documents have been published regarding their biology. A number of educational television programs produced by the British Broadcasting Company, NOVA, National Geographic Society, and others have used Hawaiian picture-wings to illustrate theories about evolution.

Hawaiian picture-wings are known for the elaborate markings on otherwise clear wings. They also have been called the "birds of paradise" of the insect world because of their spectacular courtship displays and defense of their territories.

Each of the twelve Hawaiian picture-

continued on page page 19

wings proposed as an endangered species is found only on a single island, and each breeds only in a single or a few related species of plants, some of which are also listed as threatened or endangered species. Six of the species are found on O'ahu, three on the island of Hawai'i, and one each on Kaua'i, Moloka'i, and Maui. One of the Big Island species was thought to be extinct until an extremely small population was rediscovered in 1993.

Threats to the continued existence of these species include habitat degradation caused by feral animals and alien weeds, habitat loss from fire, biological pest control, and predation from alien ants and wasps. Two picture-wing species exist in such a small number of populations that naturally occurring events such as hurricanes and landslides

could eliminate them.

If made final, this listing would provide both Federal and State protection for these species. The Service recently determined that it would be unable to initiate or finalize any new listings in Fiscal Year 2001 because court-ordered critical habitat designations had exhausted its listing budget. However, the Service is able to complete listing actions that were in the final stages of review at the conclusion of the last fiscal year. These proposed listings are among those.

The U.S. Fish and Wildlife Service is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. The Service manages the 93-million-acre National Wildlife Refuge System which encompasses more than 530 national wildlife refuges, thousands

of small wetlands and other special management areas. It also operates 66 national fish hatcheries, 64 fishery resource offices and 78 ecological services field stations. The agency enforces Federal wildlife laws, administers the Endangered species Act, manages migratory bird populations, restores nationally significant fisheries, conserves and restores wildlife habitat such as wetlands, and helps foreign governments with their conservation efforts. It also oversees the Federal Aid program that distributes hundreds of millions of dollars in excise taxes on fishing and hunting equipment to state fish and wildlife agencies.

Source: U.S. Fish & Wildlife Service
 News Release dated January 17, 2001
 Contact: Barbara Maxfield - 808-541-2749 or 342-5600

The species proposed for listing are:

Species	Island	Host plant(s)
<i>Drosophila aglaia</i>	O'ahu	<i>Urera glabra</i> (opuhe)
<i>Drosophila differens</i>	Moloka'i	<i>Clermontia</i> ssp. ('oha wai)
<i>Drosophila hemipeza</i>	O'ahu	<i>Urera</i> ssp. (opuhe) and <i>Lobelia</i> ssp. ('oha)
<i>Drosophila heteroneura</i>	Hawai'i	<i>Clermontia</i> ssp. ('oha wai) and <i>Lobelia</i> ssp. ('oha)
<i>Drosophila montgomeryi</i>	O'ahu	<i>Urera ka'alaie</i> (opuhe)
<i>Drosophila mulli</i>	Hawai'i	immature <i>Pritchardia beccariana</i> (loulu)
<i>Drosophila musaphilia</i>	Kaua'i	<i>Acacia koa</i> (koa)
<i>Drosophila neoclavisetae</i>	Maui	<i>Cyanea</i> spp (haha)
<i>Drosophila obatai</i>	O'ahu	<i>Pleomele forbesii</i> (hala pepe)
<i>Drosophila ochrobasis</i>	Hawai'i	<i>Clermontia</i> ssp. ('oha wai)
<i>Drosophila substenoptera</i>	O'ahu	<i>Cheirodendron</i> ssp. (olapa) and <i>Tetraplasandra</i> ssp. ('ohe mauka)
<i>Drosophila tarphytrichia</i>	O'ahu	<i>Charpentiera</i> ssp. (papala)



MARCH 2001

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Calendar of Events

Thursdays, March 1 and April 5: 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.

Mondays, March 12 and April 9: Conservation Committee monthly meeting at the HAS office at 5:45 p.m. For more information, call chairperson Dan Sailer, 455-2311.

Mondays, March 12 and April 9: HAS Board meeting, always open to all members, 6:30 to 8:30 p.m. at the HAS office.

March 25: Field Trip to Pia Valley to look for 'Elepaio. See page 15.

April 16: Program Meeting: Hawai'i Division of Forestry and Wildlife veterinarian Greg Massey and International Bird Rescue and Research Center's Linda Elliott will speak on "Oiled Wildlife Response in the Hawaiian Archipelago." See page 14.

Table of Contents

State of the Society for 2000.....	11
Aquatics Program Report.....	13
Conservation Committee Report.....	14
Program Meeting on April 16.....	14
2000 Education Committee Report	15
Field Trips for 2001.....	15
HAS Gets a New Imac.....	15
Developing Patnerships.....	16
Follow the Kolea to Alaska.....	16
February Field Trip Report.....	17
Two New National Wildlife Refuges	17
Hawaiian Picture -wings.....	18