

Friends of Hakalau Forest National Wildlife Refuge



Volume V, June 2010

From the President's Perch

Aloha Friends of Hakalau Forest NWR (FOHF).

Your Board has some exciting plans for the remainder of 2010. We recently applied for a grant from the National Fish and Wildlife Foundation to provide funding to assist with guided birding/natural history trips to Hakalau Forest National Wildlife Refuge. If granted, the funds will be used to hire a guide, pay for transportation, purchase binoculars and develop educational materials to enable student and cultural groups to visit the refuge during 2010-11. The binoculars and educational materials will also be available for future activities at the refuge, including the annual Open House.

The long-awaited construction of a water tank to provide irrigation for the refuge greenhouse is a second project on which we are working. A Cooperative Agreement between FOHF and the refuge will combine \$5,000+ of designated donations collected by FOHF since 2008 with a matching Challenge Cost Share grant from the Fish and Wildlife Service, to construct a 20,000 gallon tank to finally provide an adequate water supply for the greenhouse. We would like to say "mahalo nui loa" to those listed below for your generous donations to this important cause.

Finally, your Board is pleased to note Congresswoman Mazie Hirono's introduction of the Hakalau Forest National Wildlife Refuge Expansion Act of 2010 (HR 5380). When signed into law, the Act would encourage the acquisition of two privately-owned parcels of land which adjoin the refuge. Congresswoman Hirono's News Release and FOHF's response are printed on page 5 in this newsletter. I encourage each of you to express your personal support for the expansion act through contact with Congresswoman Hirono.

Stay tuned for information about additional FOHF activities. The Board would love to hear from FOHF members. Please send me an email (friendsofhakalauforest@gmail.com) or call me (808-935-7027) with your comments, suggestions and stories. We welcome all feedback on how to improve the organization and better serve the refuge.

Dick Wass, President

Donors that helped make the greenhouse Water Tank a reality:

Christine Ahia, Puanani Akaka, Alina Alvarado, Donna Ball, Norina L. Barcenas, Judith Ann Bird, Deborah Blair, Joyce H. Brown, Jean Campbell, Randy Ching, Conservation Council for Hawaii, Sophie DeLaCour, Julie Denslow, Debbie, Niklass & Kas Dumroese, Lorraine Ellison, Ken & Darlene Fiske, Steven & Sandra Foster, Kathryn Jo Frost, Glen Fujinaga, Betsy Harrison Gagne, David Iacobucci, Mychale Inasaki, Ruth Iwata, Casey Jarman & Bill Gilmartin, Valentine Judge, Pauline Kawamata, Tracy Kazunaga, Ken & Patty Kupchak, Jerry Leinecke, Karen Liliker, Andrew & Brandon Lockwood, Kaye Lundberg, Dr. Tom & Ellen Maeda, Dennis Martino, Ruth Migita and friends, Ron & Emily Needham, Stan Oka, Douglas Powless, Jim & Patsy Purvis, Patricia Richardson, Brooks Rownd, Nancy Russell & Kathy Hagler, Jacob D. Seabury & family, Patricia Tummons, Dr. Anne P. Underhill, Deborah J. Ward, Jim & Deborah Wiley, J.D. Wyatt.

Mahalo nui loa!

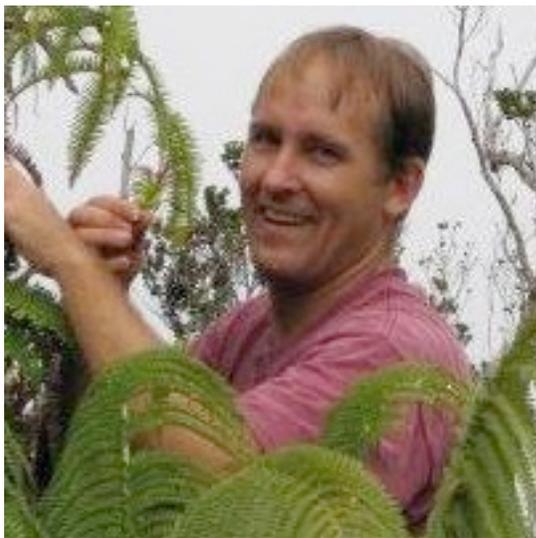
SYMBIOSIS SUPERHIGHWAY

by Dr. Jonathan Price UHH Dept of Geography & Environmental Study

It is almost impossible to overstate the importance of birds to Hawaiian ecosystems. To begin with, a majority of Hawaiian flowering plants owe their very existence to birds: 75% of the original colonists arrived either attached to or inside of birds. Furthermore, 17% of Hawaiian plant species are pollinated by birds, including highly important species like 'Ōhi'a lehua. All of this may sound like the plants (or at least their seeds and pollen) are getting a free ride, but these relationships turn out to be a two-way street.

The term "symbiosis" describes any deeply embedded interaction between different species of living things, and a more specific term for situations where both species benefit is "mutualism". In the case of pollination, plants offer nectar to birds in return for their pollen being transported to another plant to ensure reproduction. As with any well-run business, a fair bit of advertising is involved; in the case of plants, this means large, showy, and typically red flowers that birds can spot easily. Many of Hawai'i's most visible and extraordinary flowers fit this description. 'Ōhi'a lehua (*Metrosideros polymorpha*) is certainly the most abundant tree at Hakalau Forest NWR. Hakalau staff and volunteers have outplanted lobelioids such as 'Ōhā wai (species of *Clermontia*), and Koli'i (*Trematolobelia grandifolia*) are known from deep within the forest. Our extraordinary endemic mints (species of *Stenogyne*) appear frequently in Jack Jeffrey's dramatic photography alongside the 'I'iwi, whose bill so neatly fits the flowers. Indeed the close fit of the flowers to the bills of birds means that many of these relationships are specialized: only certain birds can pollinate certain flowers. Amazingly the ancestors of many of these plants were insect pollinated, and they developed these specialized relationships only after arriving in Hawai'i.

Fruit dispersal by birds similarly makes up an array of symbiotic relationships, in this case involving many more plant species. As with pollination, advertising is key: fruits typically have pigments in every color of the rainbow to tell the birds that dinnertime has arrived. On the Big Island, the 'Ōma'o feeds on a wide variety of fruits, although some favorites include 'Ōlapa (*Cheirodendron trigynum*), 'Ākala (*Rubus hawaiiensis*), and 'Ōhelo (two species of *Vaccinium*). As with pollination, not all of the ancestors of fleshy-fruit bearing plants arrived that way. In several cases, ancestral plants with dry seed capsules developed sweet, fleshy, attractive fruit "from scratch" here in Hawai'i; examples include the lobelioids 'Ōhā wai (species of *Clermontia*) and Hāhā (species of *Cyanea*), and the endemic mints (species of *Stenogyne*).



Jon Price

Adding up all of these highly specialized relationships between birds and plants makes it clear that Hawaiian ecosystems are not so much a two-way street as a "symbiosis superhighway". This complex set of interactions can be readily viewed in a healthy forest, such as at Hakalau: an 'I'iwi feeds on 'Ōhi'a nectar then dashes down to sample some 'Ōhā wai nectar; the 'Ōhā wai then develops juicy orange fruit that catch the eye of an 'Ōma'o who goes to feed on the fruits of *Stenogyne* (which by the way had been pollinated by an 'I'iwi). Unfortunately not all of these relationships have remained intact. Only two of the five original pollinating birds known from the Big Island remain, and these mostly are restricted to the highest quality forests such as at Hakalau. Of the three fruit-eating birds known from the Big Island, only one remains, the 'Ōma'o. By maintaining and restoring quality bird habitat, staff and volunteers at Hakalau are helping to maintain the essential interactions many plant species need to survive and keep the traffic moving.

STAFF

Aloha, my name is Andrew Kikuta. Most folks know me as Andy. I've been at Hakalau Forest since 1992 and am tasked with habitat management and facilities maintenance. Prior to that, I spent nine years at Hawaii Volcanoes National Park starting in the Research Division before transitioning over to Resources Management. My time there prepared me for the job that I do now. At Hakalau I lead a small team and we inspect and maintain 45 miles of fence, conduct ungulate control and get rid of invasive weeds. We also maintain off-grid facilities and any equipment that is used to get our jobs done. The wide variety of jobs enhances job satisfaction. I also get to play with fire trucks, helicopters, and dozers. The only thing that changes with boys is the size of their toys.

Concurrently with ungulate and weed control, reforesting former pasture lands has helped to expand the habitat for common and endangered forest birds. One way I've been able to help in this effort is to create planting sites for the koa trees that are planted by volunteers each spring. With the use of the dozer and a mini blade, the ground is scalped every twelve feet wherever there is room. Scalping removes any competition by grasses and improves survival.

One of my most important jobs is to hire and train the next generation of natural resource managers. Skills needed include native and alien plant identification, pesticide safety, ungulate control techniques, chainsaw use, firearms safety, ATV operation, wildland firefighting, helicopter safety, and fence building and repair techniques. There are many other disciplines which help one to be effective in this field. But my greatest challenge is to pass on a legacy to preserve our natural resources for the appreciation and enjoyment of future generations.

ANDY KIKUTA

Look for this friendly face at the next open house.



Photo credit: Lorri Ellison

“The Wahine Gang”

Friends Project 2/13/10, Scrubbing & painting interior of the volunteer cabin. Left to right: Lorri Ellison, Carole Chun, Ruth Iwata, Christine Ahia & Lori Sawran.

**Congresswoman Hirono Introduces the Hakalau Forest
National Wildlife Refuge Expansion Act
May 25, 2010**

Washington, D.C. – Congresswoman Mazie K. Hirono (D-Hawaii) today introduced the **Hakalau Forest National Wildlife Refuge Expansion Act of 2010**, H.R. 5380, which authorizes the expansion of this Refuge on the island of Hawaii. Once signed into law, the National Wildlife Refuge would encompass two adjacent parcels containing native forest habitat that supports some of the most endangered forest birds in the nation and the world.

In introducing the bill, Congresswoman Hirono expressed her determination to preserve Hawaii’s unique animals and plants. **“Hawaii, much like the Galapagos, is a hotspot of species diversity and unique adaptations,” said Congresswoman Hirono. “As members of Congress, it is our duty to help to preserve our precious natural heritage for future generations”.**

The Hakalau Forest National Wildlife Refuge’s purpose is to protect and manage endangered Hawaiian forest birds and their rainforest habitat. The proposed areas for addition already provide habitat for Hawaiian forest birds but alternative uses, such as harvesting koa trees, could endanger that habitat. Inclusion of these lands as part of the refuge will ensure that these areas can continue to contribute to the survival and recovery of Hawaiian forests and the native birds, plants, and insects that depend on them.

As a result of its geographic isolation—more than 2,000 miles from a major land mass—these bird species and plants only exist in the Hawaiian islands, and, in many cases, are restricted to this one island. The current owners of the two parcels authorized for acquisition under this Act are willing sellers. Due to its ecological importance, there is strong interest in Hawaii’s conservation community to help provide some of the financing needed to secure the parcels for ultimate acquisition by the U.S. Fish and Wildlife Service. **“Opportunities like this—to secure such valuable habitat from willing sellers—don’t come along often. I am committed to protecting our natural world’s biological diversity,” said Congresswoman Hirono, “and naturally I feel a special responsibility because my Congressional district contains some of the most beautiful and ecologically important places in our world.”**

For more information on the Hakalau Forest National Wildlife Refuge, please visit the refuge’s website at <http://www.fws.gov/hakalauforest/>

Jeremy Albano (L) and Darcey Iwashita (R), undergraduate students from the Department of Natural Resources and Environmental Management at the University of Hawaii at Manoa, survey vegetation in one of two permanent plots located in the Hakalau Forest NWR. These plots are a part of a network of permanent plots at Hakalau Forest NWR and the Hawaii Experimental Tropical Forest that are being used to study the impacts of rising temperatures from global climate change on native Hawaiian wet forest ecosystems.



Photo Credit: Dr. Creighton M. Litton

Dear Congresswoman Hirono:

On behalf of the Friends of Hakalau Forest National Wildlife Refuge (FOHF) Board of Directors, I would like to personally thank and commend you for the recent legislation that you introduced (H.R. 5380) to expand the Hakalau Forest NWR. As you are well aware, Hakalau Forest NWR was established in 1985 to protect and manage endangered Hawaiian forest birds and their native tropical rainforest habitat. The work that the Refuge addresses on a daily basis to protect and manage this highly unique ecosystem, and the fauna and flora that reside there, is critical. As the Friends group whose mission is to support the Refuge and the activities that take place there, we were very heartened to hear of the legislation that you recently introduced.

Eight of the 14 native bird species occurring at Hakalau Forest are endangered, and none of these are found anywhere outside of the Hawaiian archipelago. Thirteen migratory bird species and 20 introduced species, including eight game birds, as well as the endangered 'ope'ape'a (Hawaiian hoary bat) also frequent the refuge. Twenty-nine rare plant species are known from the refuge and adjacent lands and, again, none are found outside of Hawaii. Twelve are currently listed as endangered, and two endangered lobelias have fewer than five plants known to exist in the wild. Unfortunately, Hawaii is known throughout the world not only for the unique species that inhabit the archipelago, but also for having the dubious distinction as being the "extinction capital of the world", as more bird species have gone extinct in Hawaii than the rest of the world combined. This legislation, along with past, current, and future efforts inside and outside of the Refuge, will be crucial to the long-term sustainable management of these ecosystems and the species that reside in them.

H.R. 5380 would provide the opportunity for important land acquisitions in the future to expand the Refuge system on the Island of Hawaii. Given the threats that currently challenge habitat and species management in and around the Refuge, including land-use change, invasive species and global climate change, these future land acquisitions will be critical for the long-term mission of the Refuge. Your foresight and dedication to the unique ecosystems and biodiversity found in Hawaii is commendable.

Please do not hesitate to contact FOHF if you see a place for us to help in the challenges that lie ahead in preserving and managing Hawaii's ecological and cultural heritage. We currently have 135 members who are eager to support Hakalau Forest NWR and who treasure the resources it protects. Again, we thank you for your efforts along these lines and look forward to future support for all of the NWRs in Hawaii and beyond.

Sincerely, Richard C. Wass, President

Members Volunteer Service Trip

Date: August 28-29, 2010 Location: Hakalau Forest NWR

Activity: volunteer service trip doing active physical work planting native seedlings in the field.

Activity Level: moderately strenuous. This is a work trip. Participants must be able to work in the field, clearing grass, planting various native seedlings and walking over uneven terrain. Age requirement is 18 years and older. Planting equipment & transportation will be provided by the refuge. Participants will share the cost of central commissary.

Group size is limited and open to members; those interested please email Lorri Ellison at friendsofhakalauforest@gmail.com Details will be emailed back to you.

BOARD MEMBERS Friends of Hakalau Forest NWR

President: Dick Wass, Vice President: Creighton Litton, Treasurer: Cathy Lowder, Acting Secretary & Newsletter Editor: Emily Needham, Members at Large: Jonathan Price, Jim Wiley, and Deighton Emmons. Advisor: Jim Kraus: Refuge Manager

Membership Application: **Friends of Hakalau Forest NWR**

Print Name: _____

E-mail Address: _____

Mailing Address: _____

City/State/Zip: _____

Phone Number: _____

(Contributions gratefully accepted and are tax-deductable)

Annual membership dues:

Student \$10. Senior \$10. Individual \$25. Family \$35. Sponsor \$100. Corporate \$250.

New Membership:

Renewal: (please circle) with / without information changes from last membership.

Donation: (please circle) with / without membership at this time.

Tribute: In honor of _____.

Tribute is regarding _____.

Membership \$ _____ + Donation \$ _____ + Tribute _____ = **Total** _____.

Please make checks payable to Friends of Hakalau Forest NWR & mail to:

Friends of Hakalau Forest NWR, P.O. Box 6065; Hilo, Hawaii 96720

Periodically the Friends of Hakalau Forest NWR sends out a newsletter and updates via e-mail. We are grateful for you allowing us to send these by e-mail as it saves money, time and paper. For those who do not have e-mail we will send by regular mail and for those who would prefer nothing be mailed/e-mailed *please indicate by checking below.*

Please do not send newsletters and updates.

I do not have e-mail and need to have correspondence sent to my mailing address.

Please send to me by e-mail. This way more of my contribution will go to the Refuge.

Care to help out? We'd be happy to have you participate!

Volunteer Interests: (please circle)

Memberships' Database Fundraising Special Events Outreach

Newsletter Grant Writing Public Speaking Education Publicity

Website Design-Maintenance Accounting Interpretive Trail Maintenance

Other: _____.