

FRIENDS OF HAKALAU

Forest National Wildlife Refuge

Inside issue 17

- 1 Koa trees comeback
- 2 Spring Open House
- 3 President's Roost
- 4 Refuge Manager's Report
- 5 Watershed Alliance

FOHF PO Box 6065, Hilo, HI 96720 www.friendsofhakalauforest.org



THE KOA TREES ARE COMING BACK !

In 2013 koa trees all over Hawaii Island were defoliated by an unprecedented outbreak of the koa looper moth, *Scotorythra paludicola*, leaving bare trees reminiscent of a northern hardwood forest in winter.

A year later most but not all trees are recovering. Researchers, many working at Hakalau, have begun to quantify the effects of the attack.

The 2013 outbreak of the Hawaii endemic koa looper moth began in forests above the Hilo area and quickly spread north and south around the island, eventually affecting over 70,000 acres of koa forest. While outbreaks of the moth have occurred on Maui every few years, this outbreak was by far the largest and the first on Hawaii Island since 1953. By April 2013 the moth had spread to Hakalau Forest NWR. Faith Inman-Narahari (UH) and Paul Scowcroft (US Forest Service) found that trees in naturally regenerated stands had been, on the average, 75% defoliated, while trees in the reforestation areas averaged 84% defoliation, although there was significant tree to tree variation. Bob Peck and colleagues from the UH Hilo Cooperative Studies Unit and the USGS monitored populations of koa moth larvae and adults and their predators. They estimated that there were 1.8 to 7.7 million caterpillars per acre at Hakalau during the peak of the infestation in May and June of 2013. They also found there were so many caterpillars that fewer than 5% were many parasitoids preying on the koa moth caterpillars, but

attacked and the parasitoids probably had little effect on the population. They did not observe a second outbreak at Hakalau, which at least was good news for the koa. Meanwhile, Paul Banko of the USGS and colleagues monitored defoliation of koa and bird activity. Although birds were found more in 'ōhi'a, since it is more common, they appeared disproportionately attracted to koa during the caterpillar outbreaks, showing that they were indeed eating the caterpillars. After defoliation bird activity decreased in koa, both in the reforestation areas and in old growth areas.

Currently most of the koa up to the Refuge is leafing out again, although some trees are showing branch dieback and sprouting the immature feathery true leaves, showing that the tree is under stress. Few trees seem to have been killed outright, but growth is no doubt set back on most. Koa looper caterpillar populations are back to normal. There is no consensus on what environmental factors might have caused last year's population explosions, but clearly insect outbreaks, along with fires, droughts, and frosts are challenges managers have to deal with in bringing back the koa forest.

J.B. Friday

OPEN HOUSE SPRING 2014



HAKALAU ON THE MAP



First Annual Spring Open House Well Attended...

After the government shutdown cancelled the Hakalau Open House last October, the Refuge staff wanted to make it up to the public by offering the first annual spring Open House. The event, held on April 18th, drew hundreds of visitors under sunny skies. People had the chance to see the historic koa cabin, visit the plant nursery and the nature trail, and most of all hike into the forest and see rare native birds. In addition to the usual Open House events, the Friends of Hakalau Forest offered guided bird tours of



the Refuge with Jack Jeffery and Rob Pacheco and a photography tour of the Maulua section of the Refuge by Rob Shallenberger.

Friends assisted in guiding visitors, staffing the parking lot and the barn, and guiding people through the nature trail. Jack Jeffery also offered prints of his photos for sale at the

Friends of Hakalau Forest tent and donated half of the proceeds. Thanks, Jack! The event went well enough that Refuge manager Jim Kraus plans to make it an annual event.

This year the usual fall Open House will be held on October 18, 2014.

PRESIDENT'S PERCH

Greetings everyone,

My name is Layne Yoshida, and I am serving as the President of the Board of our group, the Friends of Hakalau Forest NWR for 2014. This is the third year that I have been a member of the Board and was elected to the position of President in January. The Board has been meeting monthly and we have been actively working to fulfill our mission which is to provide assistance and support to the Hakalau NWR.

This year will be a year of transition as the Board will be entering into a written agreement with the Refuge. The agreement will broadly ensure that our organization is able to meet our commitment to be of assistance to our Refuge. The agreement is still a work in progress and will be sent to our members when it is completed. This year has already been a busy as we have already helped with an open house at the Refuge in April and participated in an environmental job fair.

We are seeking volunteers from the membership to help at another open house at the Refuge to be held on Oct. 18, 2014. If you are interested in helping you may choose to help with the Friends booth on the day of the open house or you may volunteer to help the Refuge as they will need help with parking control, set-up, break down and other duties. If you would like more information on this you may call me.

In December we will be sponsoring a volunteer project at the Refuge. This project is open to all members of our Friends group and will include an opportunity to spend the night at the Refuge. Again if you desire more information concerning this activity you may call me at the number listed above. It is an honor to serve as the President of this great organization and also to work with the members of the Board. The individuals on the Board are truly committed to



Layne Yoshida
2014 President

assisting the Refuge with their time and ideas. If you have any ideas on how we can be of greater assistance to the Refuge or how our organization can improve, you can share your ideas by calling me. Finally we are looking for people who are willing to share their time or talents for maintaining our website, publicity or public relations.

I am excited to see what all we can do this year with the cooperation of this wonderful board and our willing members.

Layne Yoshida
(808)640-0435

Mission statement

To foster enjoyment, understanding and conservation of Hakalau Forest NWR and its surrounding ecosystems as well as fundraise to support the mission of Hakalau Forest NWR. We are volunteers working cooperatively with the Refuge to conserve endangered plants and animals and their rainforest habitat.

Hakalau Forest National Wildlife Refuge has the distinction of being the only refuge in the entire system that is dedicated to the conservation of endangered bird species and their habitat. Its 38,030 acres are home to many rare plants and seven endangered

bird species. It also manages some of the finest remaining stands of native montane rain forest in Hawai'i. To many who have experienced the refuge and seen the beautiful birds, *Hakalau Forest NWR* is the 'jewel in the crown'. We think you might agree.

Staffing: No changes in staffing this calendar year. Our two supervisory vacancies from 2013, Deputy Project Leader and Maintenance Supervisor, are still in limbo. In total, we are down three full time employees from our 2012 level. Funding for one permanent FTE was shifted to the Kauai Complex. Re-organization of the Pacific Islands Marine National Monuments and Refuges is currently underway and will likely result in changes to supervisory structures and further "sharing" of positions among multiple refuge stations in the immediate future. A lot of things are in flux right now. Workforce planning to prioritize how, where, when, and if vacant positions are re-filled, and where any new positions should go will be ongoing.

Youth Employment: Two interns, Eric Ackerman (AmeriCorps/Kupu), and Danielle Guzman (University of Idaho) are finishing up their terms with us. Eric was with us for one year under Steve Kendall's direction and conducted predator control activities and habitat field work focusing on the Maulua rare plant recovery project. Danielle came to Hakalau earlier in the year with Jeremy Pinto's Native American Forestry students and expressed an interest in coming back for a longer experience. She very capably assisted Baron Horiuchi with greenhouse operations and Volunteer Service Groups for a 10 week period. We wish Eric and Danielle all the best

and a continued interest in conservation as a career path. Two new AmeriCorps interns are expected to begin working with the refuge.

Budget: Surprisingly, the 2014 budget is much better for us than we expected after last year's cuts, but once again, most of the funding received will go into modifying existing contracts for weed and ungulate control, new (Phase 2) fence construction at the Kona unit, additional water storage tanks for the greenhouse and volunteer programs, and badly needed road work.

Land Acquisition: The latest version of the inter-agency Land and Water Conservation Fund Collaborative (LWCF) Proposal including the Big Island NWR Complex acquisition plan properties was submitted to Washington by our Regional Realty program recently for potential FY16 funding. This is the third attempt for this project, called the "Island Forests at Risk" initiative. The proposal includes Fish and Wildlife Service, National Park Service, and U.S. Forest Service acquisitions, conservation and cooperative agreements to strengthen conservation efforts on a landscape level, focusing primarily on the Big Island. If the project is selected for funding after a competitive review, it could lead to progress in expanding the refuge management footprint. Hawaii's U.S. Senators Hirono and Schatz co-signed a strong letter of support for this collaborative project.

The Hakalau Forest NWR Land Protection Plan (2012) can be accessed online at:

http://www.fws.gov/refuge/Hakalau_Forest/what_we_do/planning.html

Fleet management: We understand that the USFWS vehicle fleet is likely to be reduced across the board in the future so it will be more difficult regularly replace refuge vehicles and this will impact our support for volunteer programs and Friends activities. Costs and logistics of travel and housing requirements for volunteers and interns, and other partners has been a significant limiting factor and this will require some creative solutions. We expect to reduce service programs and shift even further towards volunteer service groups that do not require transportation from the refuge as our capacity for supporting this declines. Options such as vehicle rental will need to fill the gap.

Impacts of Tropical Storm Iselle: Overall we were very lucky. Only minor impacts on the refuge were noted initially. Weather station data showed that we did not experience strong winds at HFNR altitudes although we did experience 13 inches of rain over a 2 days period, which could not have done our already rutted out roads any good. Dozens of tree falls along fence lines are still being discovered and repaired, but quick fly overs of both our units revealed only a small number of freshly broken trees and limbs in the forest canopy. Downed trees are being removed along refuge roads as they are encountered, but there is no widespread damage to report.

Jim Kraus, Refuge Manager

The Mauna Kea Watershed Alliance

Practicing Laulima (many hands)

The native forests of Hawai'i are among the most unique ecosystems on Earth, providing habitat for nearly 10,000 species of native flora and fauna, 90% of which are found nowhere else on Earth. Hawai'i's forests supply the state with fresh water, prevent sediment and run-off from destroying coral reefs, and provide a vital link to Hawaiian culture and traditional practices. Unfortunately, these unique natural resources are under threat: approximately 60% of Hawai'i's native plants and animals are endangered and Hawai'i has lost more than 50% of its native forest cover.

Watershed Partnerships in Hawaii were created to bring together communities to protect and restore native forests so that they continue to provide ample quantities, and good quality, of water for current and future generations. The Hawai'i Association of Watersheds comprises eleven island-based Watershed Partnerships that work collaboratively with more than 71 public and private partners on six islands to protect over 2.2 million acres of vital forested watershed lands. These Watershed Partnerships are making a critical difference for the protection of forested watersheds in our state and provide one of the best hopes for long-term forest conservation and management.

The Mauna Kea Watershed Alliance (MKWA) is one of the youngest watershed partnerships, just three years old, but is the second largest with bounds that encompass State, Federal, and Private lands. Most of MKWA's lands are on the eastern part of Mauna Kea in the moku (land division) of Hilo. The MKWA encompasses over 500,000 acres, or approximately 21% of Hawai'i Island's total land area, and the total partnership lands are 335,000 acres (Figure 1). The outstanding features of Mauna Kea's windward climate are the persistent northeasterly trade winds, regular patterns of orographic cloud formation, and heavy precipitation. Indeed, Mauna Kea captures the greatest amount of water in the State of Hawai'i on its massive windward slope, providing roughly 388 million gallons per day within the East Mauna Kea Aquifer.

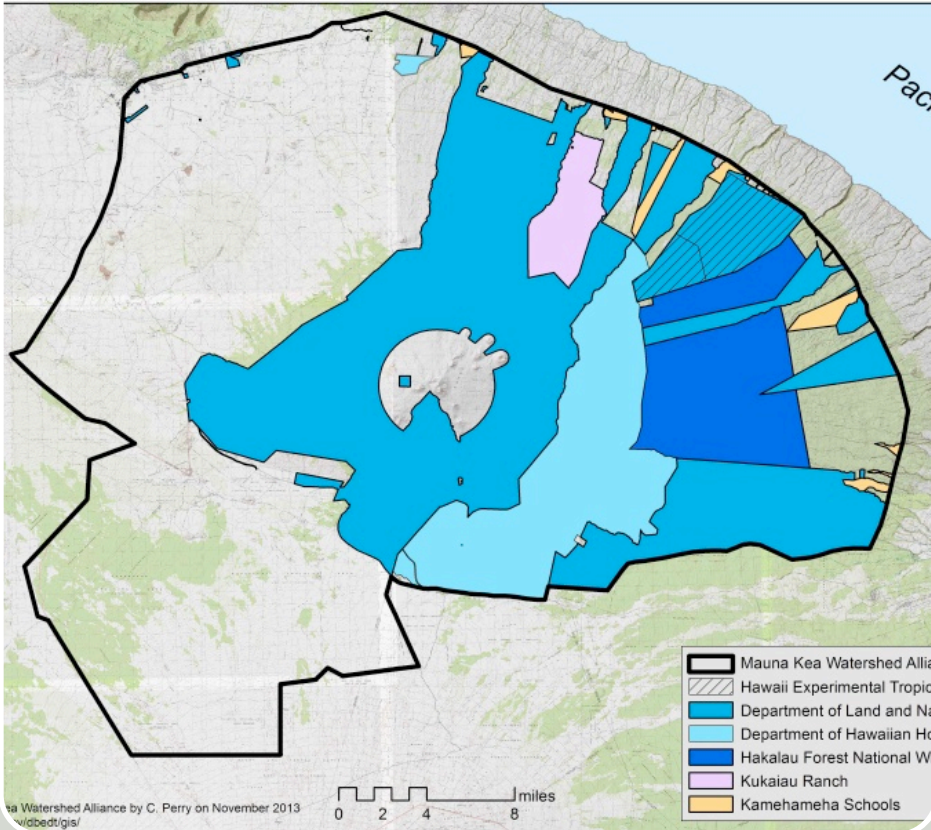
The MKWA is a voluntary coalition of landowners that recognize the importance of abundant and high-quality water and agree that management is needed to maintain healthy watershed areas. The Alliance partners that have signed the MKWA Memorandum Of Understanding (MOU) include the Department of Land and Natural Resources, Department of Hawaiian Home Lands, Hakalau Forest National Wildlife Refuge, Kamehameha Schools, and Kuka'iau Ranch. The affiliates who have signed

the MOU are: The Nature Conservancy, Pacific Islands Fish and Wildlife Office, and the Institute of Pacific Island Forestry.

The MKWA Executive Committee and the Mauna Kea Watershed Management Plan of 2010 identified the MKWA Watershed Projects listed in the draft five-year action plan. These on-the-ground projects include providing support to monitor the Palila Critical Habitat fence, ecological restoration at the Kanakaleonui Bird Corridor, and providing partnership support for the Mauna Kea Forest Restoration Project at Pu'u Mali and Ka'ohe. Future projects that were identified include ecological restoration at Kuka'iau Ranch and the Wailuku headwaters on Department of Hawaiian Home Lands. The MKWA also provides support for native forest protection and management within the Hakalau Forest National Wildlife Refuge, State of Hawai'i Forest Reserves, and Natural Area Reserve Systems lands. Specific collaborations with Hakalau Forest NWR include assisting with weed and ungulate surveys, and weed control. Overall watershed projects include developing operational infrastructure to address wildfire on Mauna Kea, increase access to weather information, store and access water strategically for wildfire and restoration, work in partnership with the County of Hawaii to improve roads, and bring together ecological restoration practitioners on collaborative projects.

continued on next page...

Mauna Kea Watershed Alliance Partnership lands



Na kumu of the “Starts with a Seed” workshops at Kipuka Pu‘u Huluhulu.



Students of Christian Liberty planting koa trees.

The Mauna Kea Watershed Alliance team is passionate about and committed to protecting the many natural resources that Mauna Kea provides to our local and global communities. We are steadfast and will work together to ensure these resources are here for future generations, and that our relationships to Mauna Kea remain strong. Indeed as summed up in the *‘ōlelo no‘eau* (poetical saying): ” ‘A‘ohe hana nui ke alu ‘ia.” No task is too big when done together by all.

Mālama ‘Āina. by *Cheyenne Hiapo Perry*,
Mauna Kea Watershed Alliance Coordinator



Hawaii Youth Conservation Corps relax at the end of a long field week. They are very serious about the work.

The Alliance
partners that have signed the MKWA Memorandum Of Understanding (MOU) include the Department of Land and Natural Resources, Department of Hawaiian Home Lands, Hakalau Forest National Wildlife Refuge, Kamehameha Schools, and Kukaia Ranch.

<http://maunakeawatershed.org/>