

Discovery of an 'I'iwi Population in the Ko'olau Mountains of O'ahu

by Eric A. VanderWerf¹
and Joby L. Rohrer²

On 5 December 1995, Joby Rohrer and Kapua Kawelo of the U.S. Army Directorate of Public Works Environmental Department, and Pauline Sato of The Nature Conservancy of Hawaii were hiking on the Schofield-Waikane Trail in the Ko'olau Mountains of O'ahu when they observed an 'i'iwi (*Vestiaria coccinea*). The bird first flew overhead, and it attracted the attention of the observers because it was red but lacked the white undertail coverts characteristic of the 'apapane (*Himatione sanguinea*). It flew into a grove of koki'o ke'oke'o (*Hibiscus arnottianus*) trees in a valley north of the ridge and was lost from view, but vocalizations that sounded like 'i'iwi could be heard from the valley below. Joby climbed an 'ohi'a (*Metrosideros polymorpha*) tree for a better view, and about ten minutes later the bird flew up toward the ridge directly at Joby. He watched it approach through binoculars, and it passed within twenty-five feet of him. The bird was red, lacked white undertail coverts, and had a long decurved, salmon-colored bill. After the first bird left, 'i'iwi-like songs

were still audible from the valley, and after another ten minutes a second bird was seen visiting flowers in a hibiscus tree. The identification as an 'i'iwi was again confirmed by the red color, black wings, lack of white undertail coverts, decurved salmon-colored bill, and salmon-colored legs.

Eric VanderWerf visited the site on 6 December to verify the sighting, determine how many individuals were present, and attempt to document the presence of 'i'iwi with photographs and sound recordings. When he arrived at the site, 'i'iwi songs were audible in the valley, and he descended into the valley among the hibiscus trees. After almost an hour Eric saw an 'i'iwi about twenty meters away and had excellent views as it foraged at hibiscus flowers for several minutes. The long, decurved, salmon-colored bill, salmon-colored legs, black wings and tail, and small white patch on the wings were clearly visible. Later, two 'i'iwi were visible simultaneously and a third was singing further down the valley. 'I'iwi were present and active in the valley all day. Eric made several minutes of sound recordings

of the 'i'iwi, but was unable to obtain a photograph.

The site is located in a tributary of the north fork of Kaukonohua Stream, approximately four miles from the Schofield-Waikane trailhead. Land north of the ridge followed by the trail is owned by the State of Hawaii, and land south of the ridge is controlled by the U.S. Army. Permission to hike the trail must be obtained from the Army. The elevation is 1860 feet on the ridge, and 1740 feet in the valley where the 'i'iwi were foraging. The topography of the area consists of deep, steep-sided valleys separated by narrow ridges. Overall vegetation type of the region is diverse native wet forest with a somewhat open canopy. The most common overstory plant in the valley where 'i'iwi were observed was *Hibiscus arnottianus*. Other trees present in the overstory were, in order of decreasing abundance, 'ohi'a, koa (*Acacia koa*), hame (*Antidesma platyphyllum*), kopiko (*Psychotria mariniana*), 'ahakea (*Bobea brevipes*), and ho'awa (*Pittosporum sp.*). The understory was dominated by Koster's curse (*Clidemia hirta*) on the valley floor and lower slopes, but uluhe (*Dicranopteris linearis*) was predominant on the higher slopes. Other understory plants, in order of decreasing abundance, included hibiscus and 'ohi'a saplings, kanawao (*Broussaisia arguta*), hahala (*Cyrtandra paludosa*), *Cyrtandra hawaiiensis*, 'ala'ala wai nui (*Peperomia oahuensis*), naupaka (*Scaevola gaudichaudiana*), 'ohe naupaka (*Scaevola glabra*), 'ohi'a ha (*Syzygium sandwicensis*), and ko'oko'olau (*Bidens macrocarpa*).

'I'iwi have declined considerably in numbers on O'ahu, where they are now very rare. They are considered by the State of Hawaii to be endangered on this island. There have been very few recent reports of 'i'iwi on O'ahu, usually of single individuals in scattered locations (Hawaii Natural Heritage Program 1996, R. Pyle, Occurrence and Status of Birds in Hawaii sightings database), and very little is known about 'i'iwi on O'ahu. We (Joby Rohrer and Eric VanderWerf) returned to the

**Photograph
of a Hawai'i
'i'iwi taken
at Hakalau
Forest
National
Wildlife
Refuge by
Eric
VanderWerf**



Schofield-Waikane Trail location three times, on 10 and 15-16 December 1995, and 21 January 1996, to learn as much as possible about this population that might help in understanding the decline of 'i'iwi on O'ahu and aid in their conservation. As part of this effort, we attempted to catch 'i'iwi in mist-nets in order to band individuals and take a small blood sample. Banding and measuring individuals and collecting blood greatly increases the

amount of information learned about rare species such as O'ahu 'i'iwi, much of which cannot be obtained in any other way. Resightings of banded individuals provide information on movements, dispersal, survival, and population size. Morphometric data and genetic information obtained from blood can be used to answer questions about similarity and taxonomy of 'i'iwi among islands. Whether the O'ahu population is distinct from others could be important in

conserving biodiversity. Introduced diseases are one of the most serious threats to native forest birds. The presence of avian pox can be determined by inspecting birds in the hand for external sores and swellings, and the blood can be tested for malaria. Whether other bird species in the area carry malaria or pox may help demonstrate whether the 'i'iwi have been exposed to these diseases and if they might have developed resistance. We were not successful in capturing any 'i'iwi, but we plan to return and try again, perhaps in the summer when the weather is more likely to be favorable. The following is a composite of our observations from all five visits we made to the area.

'I'iwi were probably present in the area because of the large number of flowering hibiscus trees. There were roughly 300 of these trees up to ten meters tall in the valley, many of which had numerous flowers throughout the period of our visits. Such a large number of trees likely constitutes an important nectar resource that may have concentrated 'i'iwi and other species. Up to twenty 'apapane, ten common 'amakihi (*Hemignathus virens*), and many Japanese white-eyes (*Zosterops japonicus*) were also visiting flowers of hibiscus trees in the valley. This grove may have been particularly important at the time because very few 'ohi'a trees were flowering and little other nectar was available over a wide area. Some koa trees in the area were flowering, and the 'i'iwi were occasionally visiting koa flowers, but 'apapane were using koa flowers more often than 'i'iwi. The heads of some 'apapane were colored yellow by koa pollen. All birds we saw visiting hibiscus flowers, including 'i'iwi, were nectar-robbing by piercing the base of the corolla with their bill. Only introduced sphinx moths (*Macroglossum pyrrhostictum*) were entering from the front of the corolla and possibly pollinating the flower. 'I'iwi are known to be facultatively territorial over flowering trees, but we saw no aggression by 'i'iwi against 'apapane or 'amakihi, perhaps because the nectar resource was superabundant and defending it was not practical (Carpenter and MacMillen 1976, Carothers 1986). Additional observations at other seasons are needed to determine whether 'i'iwi are resident in the area, or if they are attracted seasonally by the abundance of hibiscus flowers. Movements of 'i'iwi may depend on the phenology of these hibiscus trees and on the availability

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of nectar elsewhere. 'I'iwi are known to move long distances (MacMillen and Carpenter 1980), and these birds may be present at the site only temporarily and may disperse widely in the Ko'olau Mountains at other seasons in search of nectar concentrations (Pimm and Pimm 1982).

We observed 'i'iwi on all five trips to the site. The fewest we found were two, and on several occasions we saw three 'i'iwi together. On 10 December we heard at least six individuals singing simultaneously. The minimum number of 'i'iwi present was thus six, but we believe the area probably supports a larger population than this. It seems unlikely that all individuals in the valley would be singing at once, so there probably were more than six present. There also may be additional 'i'iwi in other nearby valleys. We twice heard 'i'iwi singing on the opposite side of the Schofield-Waikane Trail in a tributary of the south fork of Kaukonohua Stream. These may have been some of the same individuals as those observed on the north side of the trail, or they could have been different birds. Several times we did see 'i'iwi fly over the ridge from one side to the other. On 21 January we hiked farther down the valley to the main branch of the north fork of Kaukonohua Stream and then continued upstream for approximately half a mile. We found small groves of flowering hibiscus trees along several parts of the main stream and in two tributaries upstream, but none were as large as the grove where we first found the 'i'iwi. Adam Asquith and Ron Englund, who accompanied us that day, reported that five to six upstream tributaries contained flowering hibiscus trees. We did not see or hear any 'i'iwi in the other tributaries, but noise from the stream made it difficult to detect birds. The other tributaries contained vegetation very similar to that in the valley where we observed the 'i'iwi, and it seems reasonable that 'i'iwi may be found in all such tributaries in the area and that they may move among them. 'I'iwi thus may occur over a much larger area than where we actually observed them, and there were probably more than the six individuals we observed.

The 'i'iwi were very vocal on our first four visits, but they were quiet on 21 January after several days of heavy rain. On 6, 10, and 15-16 December, one 'i'iwi spent considerable time singing and calling in a large koa tree high on a slope, sometimes for as much as an hour. They gave a variety

of creaking, whistling, and gurgling songs and calls. Some were very similar to songs and calls of 'i'iwi on other islands, including the characteristic "rusty hinge" call. Other songs were higher-pitched and more 'apapane-like than songs of 'i'iwi on other islands. A few sounds were unique to O'ahu. One of the most common song types was a repeated series of rolling notes that we had never heard before. The 'i'iwi responded to tape recordings of their songs by approaching the speaker, flying back and forth nearby, and singing. Playbacks of recorded songs were also used successfully to attract 'i'iwi by Shallenberger (1978).

On 10 December, two 'i'iwi were associating closely with each other, and we suspected they might be a pair. On 15 December we observed a courtship feeding. One bird landed in a hibiscus tree, crouched, fluttered its wings, and gave high-pitched begging calls. A second bird, presumably the male, immediately landed next to it and fed the female. Both birds had full adult plumage and were not fledglings. Eddinger (in Berger 1981, p. 156) found that on Kaua'i courtship feeding in 'i'iwi occurs before and during nest building and during incubation, suggesting that 'i'iwi probably nest in this area. We hope to make additional visits to look for more evidence of reproductive behavior and to search for nests or fledglings.

Native birds were generally abundant along the entire trail, and this area appears to support one of the largest remaining concentrations of native Hawaiian forest birds on O'ahu. In addition to the 'i'iwi, we observed an average of forty 'apapane and fourteen common 'amakihī during the two-hour hike to the 'i'iwi site on our five trips, but we never observed an O'ahu 'elepaio (*Chasiempis sandwichensis gayi*). On some hikes 'apapane were the most abundant species, outnumbering even Japanese white-eyes.

This area has been seldom-visited by birders or ornithologists, and it is perhaps not surprising that a population of 'i'iwi has gone undetected. The activity level and amount of vocalization varied considerably among our visits, and at certain seasons the 'i'iwi may be difficult to find. The last (and apparently only) previous record of 'i'iwi on the Schofield-Waikane Trail was of four birds in March of 1978 (Shallenberger 1978), but very few trips have been made to the area. The Schofield-Waikane Trail is sometimes covered during the Waipio

Christmas Bird Count, but usually not as far as where we found 'i'iwi (David Bremer, pers. comm.). There are numerous historical reports of up to nine 'i'iwi from Poamoho Trail, only 2.7 miles north of Schofield-Waikane, through the late 1970s (Shallenberger and Vaughn 1978, R. Pyle, Occurrence and Status of Birds in Hawaii sightings database). 'I'iwi have been reported several times on Kipapa Trail, 2.2 miles south of Schofield-Waikane, most recently in May 1977 (Shallenberger 1978). The last report was of a single bird, but in the past as many as six were reported. Kipapa Trail also has rarely been surveyed, particularly in the last fifteen years. The last time more than just a few 'i'iwi were seen on O'ahu was in 1977, when at least thirteen were found on the southeastern slope of Mt. Ka'ala in the Waianae Mountains (Shallenberger 1977). Another recent report of 'i'iwi on O'ahu was a single bird seen by Ken Wood in February 1993 just west of the Ko'olau Summit Trail south of Castle Trail. Many of these areas where 'i'iwi occurred in the past and where recent observations have been made are visited very infrequently. It is quite possible that additional 'i'iwi populations still remain in other remote areas of O'ahu.

Acknowledgments

We thank the U.S. Army for access to the area and Steve Kim of the Directorate of Public Works Environmental Department for his support of this project. We are grateful to Carol Terry of the Hawaii State Department of Land and Natural Resources Division of Forestry and Wildlife for expediting the permits to mist-net and band 'i'iwi. Bob Pyle contributed records of 'i'iwi on O'ahu from the Occurrence and Status of Birds in Hawaii sightings database housed at the Bernice P. Bishop Museum. The Nature Conservancy of Hawaii provided information on observations of 'i'iwi on O'ahu from their Hawaii Natural Heritage Program database. Adam Asquith identified the species of sphinx moth seen at the site.

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Angels in Paradise

by Sylvianne Yee

After a very successful television taping on March 30, Paradise Pursuits is ready to wrap up another year. With twenty-eight high school teams competing this year, it was a task to obtain enough prizes and sponsors to support the schools. I'm happy to report that some very generous individuals and companies stepped forward to help out. Benefactors who donated \$200 are **David Johnson, Suzanne Marinelli, and Linda Paul**. Companies who purchased television advertising time included **Finance Factors, Ltd., Atlantis Submarines Hawaii L.P., Castle & Cooke Homes Hawaii/Royal Kunia, Castle & Cooke Homes Hawaii/Mililani, and Long Distance/USA-Sprint**. Atlantis Submarines Hawaii L.P. also donated prizes. Their name was inadvertently left off of the list of donors in the March 'Elepaio. "Angels," such as these, help keep programs like Paradise Pursuits viable and thriving.

There are additional corrections to the April 'Elepaio article: **O'ahu** game volunteers should also have included Ronald Walker, Tina Xavier, Will Freeman, Janis McCain, Gerald Toyomura, Leanna Bartrom, and Naomi Kawamura; **Hawai'i** volunteers were Jeannette Wong, Jane Okamura, and Barbara Higa; on **Maui** we had Renate Gassmann-Duvall, Nan Cabatbat, Lloyd Loope, Ann Fielding, Cathy Davenport, Marko Cunningham, Sydney Jamison, and Joy Tamayose. Additional game volunteers on **Kaua'i** were Jan TenBruggencate, Stephen Yee, Jon Derby, Reg Gage and Lynn Sato. Mahalo to all of them for their help!

Drafts of Hakalau Forest Refuge Ungulate Management Plan, and Environmental Assessment Released

Two draft documents — one a management plan and the other its accompanying environmental assessment — addressing feral ungulate management on Hakalau Forest National Wildlife Refuge were released March 22 by the U.S. Fish and Wildlife Service for a 30-day public review period. Two public informational meetings on the Big Island were scheduled for April 2 and 3, to discuss the documents.

"Hakalau Forest National Wildlife Refuge was established in 1985 to protect five endangered Hawaiian forest birds and their rainforest habitat," explained Refuge Manager Dick Wass. "In order to meet that mandate, we began managing feral ungulates within the Refuge in 1986. Based on the experience gained since that time, we have now developed long-term specific guidelines regarding areas to be fenced and control methods to be used," Wass continued.

Management goals outlined in the Feral Ungulate Management Plan are:

- to design and construct a system of stockproof fences to create feral ungulate management units that prevent entry into the Refuge by cattle, feral pigs, and other large mammals;
- to eliminate cattle from the Refuge and prevent their re-entry;

- to eliminate pigs from fenced feral ungulate management units and minimize populations in unfenced areas of the Refuge; and
- to measure the success of these efforts by monitoring cattle and pig population declines and native forest recovery.

The draft environmental assessment analyzes anticipated impacts for four alternatives: a no action alternative, implementation of the feral ungulate management plan, a public hunting maximization alternative, and a contracted hunting alternative. The proposed action, implementing the draft management plan, is identified as the most effective and beneficial to the goals of the Refuge.

Written comments regarding the draft management plan and/or environmental assessment should be addressed to the U.S. Fish and Wildlife Service, Attention: Ron Walker, Box 50088, Honolulu, HI 96850. Anyone with questions regarding the documents or needing copies of the documents, may call Dick Wass in Hilo at 933-6915 or Ron Walker in Honolulu at 541-2749.

The draft documents have been mailed to a wide variety of constituents, including pig hunting organizations, environmental groups, and governmental agencies.

Source: U.S. Fish and Wildlife Service



Paula Akana moderates the competition between St. Joseph (Hawai'i) and Lahainaluna (Maui).

Legislative Report

by Katherine E. Puana
Legislative Analyst

The Hawaii Audubon Society is once again in hot pursuit of all legislative bills and resolutions which may affect our precious environment.

The first cross over of legislative bills took place last week, and unfortunately there was not a lot of great action taking place. Once again our state has found itself in financial hot water, and thus our environmental bills, not seen as a high priority amongst most legislators, will surely pay the price.

Thus far this session, some very active voices in our community have been working hard, and helping me get through this session, while also ensuring that our environmental concerns are being heard: John Harrison of the University of Hawaii Environmental Center, Dana Kokubun of the Kawai Nui Heritage Foundation, Henry Curtis and Kat Brady from Life of the Land, and Margie Ziegler of the Sierra Club Legal Defense Fund. These people are long time environmental advocates, and have been excellent leads for me to follow.

This past month in the legislature, the Hawaii Audubon Society submitted testimony on a few very important measures: SCR 102, SR 78, relating to increasing

protection of sea turtles, SCR 106, SR 82, urging the Congress of the United States to prohibit the participation of American corporations in the deforestation of tropical rain forests, and SCR 276, SR 222, requesting the Department of Land & Natural Resources to explore alternate mechanisms for funding the Kawai Nui Marsh Wetlands Restoration Project. This project is being undertaken by Dana Kokubun, the head of the Kawai Nui Heritage Foundation, who continues to work very hard to restore a very precious wetland.

With all the many attempts to ensure a safe environment, some bills receive great support from the community, yet, unfortunately, get slammed by the legislators. Among the few bills getting cut this week were: HB 3892, which would have eliminated the use of herbicides as roadside maintenance, and HB 3081, the Cultural Impact Statement Bill. Unfortunately, these two bills were very important to our environment, yet have been disregarded by the House committees.

As the legislative session moves forward, I will continue to keep Hawaii Audubon Society members informed of new environmental issues.

Glossary: SR — Senate Resolution; SCR — Senate Concurrent Resolution; HB — House Bill

Office Corner

by Susan Elliott Miller

Stalwart volunteer Lynnea Overholt, assisted recently by Dan Sailer and Katherine Puana, **finally** corralled all the Society's files in cabinets in alphabetic order! Now continues the weeding out of duplicates and absolutely useless material (like receipts with no dates or "what for" on them).

Membership help is needed

- Although Lynnea been updating and printing our mailing labels, she'd like to find a replacement soon..
- Bob Pyle has been overseeing membership, especially relationships with NAS over labels and records, for what seems — to him and to us — like eons! He needs to start breaking in a replacement — or two (shared burdens are always lighter). The work can be done from your home in a few hours monthly. Call Bob at 262-4046, evenings for more information..please?!

Brochure Promotes Midway to Ecotourists

The U.S. Fish and Wildlife Service is in the planning stages of a creative initiative at Midway Atoll National Wildlife Refuge near the northwestern tip of the Hawaiian Islands archipelago. Because the Refuge had relied heavily on the support provided by the Navy, which will be pulling out in 1997, the Service has been searching for alternatives to assure its continued operation.

With the help of a private sector partner the Service is proposing to open the Refuge to small groups of visitors for refuge-compatible recreational activities, wildlife enjoyment, and historical excursions.

To promote this opportunity an eight-page brochure has been published. The publication is titled "Midway Atoll National Wildlife Refuge, Imagine the Experience." For further information, contact: Refuge Manager, Pacific/Remote Islands National Wildlife Refuge, Box 50167, Honolulu, Hawaii 96850, (808) 541-1201

Source: U.S. Fish and Wildlife Service

Tune in on June 1

by Sylvianne Yee

On March 30 in a tape delayed broadcast four teams went buzzer to buzzer in the Paradise Pursuits final competition. With Paula Akana as moderator, St. Joseph (Hawai'i), Lahainaluna (Maui), Waimea (Kaua'i), and Kahuku (O'ahu) competed to see who would emerge as the 1996 Paradise Pursuits Champion. In addition to lovely trophies presented to the top two teams by Charles Freedman, Vice-president at HEI, the teams won books, an all expenses paid camping trip to a neighbor island, organization memberships, gift certificates, and T-shirts.

Who won? Tune in to KITV4 on **Saturday, June 1** at 3:00, 3:30, and 7:00p.m. to see which team can call themselves the **1996 Paradise Pursuits Champions!**

The E'epa Have Been Busy

In case you've never met e'epa, it is said that they are the menchunes' mischievous relatives — and they were busy 'round here recently!

In the March 'Elepaio, the former HAS office address on Merchant Street slipped into the article on the birding guides.

We hope we've found ways to outsmart the mischievous ones this issue, so there will be nought amiss!

Moving?

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

Audubon Society Files Suit in Behalf of the Endangered 'Alala

by Linda Paul

On March 28, 1996, the Hawaii Audubon Society and the National Audubon Society filed a lawsuit in federal court against the owners of Kai Malino Ranch and the U.S. Fish and Wildlife Service for an injunction under the federal Endangered Species Act to stop koa logging on 5300 acres of essential habitat of the endangered 'alala (Hawaiian crow). On April 8, 1995, the owners of the Ranch agreed not to conduct any timber harvesting until the date of the pre-

liminary hearing — now scheduled for July 15, 1996.

The 'alala is endemic to Hawai'i. Once abundant throughout the Kona and Ka'u districts on the island of Hawai'i, it now survives in the wild only on the west slopes of Mauna Loa between 3000 and 6000 feet. The 'alala is one of the most critically endangered species in the nation. Only fourteen 'alala are thought to remain in the wild with another fifteen birds in a captive breed-

ing facility at Olinda on the island of Maui. Many factors have contributed to the steep decline of the 'alala, but the principal cause is the loss of native habitat due to logging, grazing, fire, and the introduction of alien plants and pathogens.

The core remaining 'alala habitat for breeding, nesting, and foraging is 5300 acres of the over 10,000 acres that make up Kai Malino Ranch, located in South Kona, mauka of Ho'okena. The owners of Kai Malino Ranch recently announced plans for "salvage" logging of koa trees in an area designated as essential habitat for the 'alala and three other endangered species by the U.S. Fish and Wildlife Service. As yet no tropical forest ecosystem biologist has been able to review the logging plan to see if it is compatible with the continued existence of the crow. However, it is known that the ranch owners plan to harvest mature, dead, and dying koa trees, and it is precisely those trees that are utilized by the 'alala.

Kai Malino Ranch is the site of the ongoing 'alala recovery efforts begun as a result of a lawsuit brought in 1991 by the Hawaii Audubon Society and the National Audubon Society. At that time only ten older 'alala remained in the wild with a much smaller number at Olinda that were too inbred to reproduce successfully. The 1991 action resulted in a three year settlement agreement in which the Service and the owners of the old McCandless Ranch agreed to carry out a Long-Term Management Plan for the 'alala developed by the U.S. Fish and Wildlife Service and the National Biological Service. The settlement agreement expired on December 31, 1995. Since the earlier action, the larger McCandless Ranch has been divided into three smaller ranches: Kai Malino Ranch, Kealia Ranch, and McCandless Ranch. The owner of Kealia Ranch and the U.S. Fish and Wildlife Service have agreed to a two year extension of the settlement agreement. The owners of Kai Malino and McCandless to date have not.

It is now a critical time of the year for the 'alala. 'Alala breed in the spring, and hatching occurs from May through July. Of the fourteen wild birds there is only one mature breeding pair left. The others are young birds, products of the recovery effort, which

HAS Awards for Student Research

by Wendy Johnson

The Hawaii Audubon Society presented two awards for outstanding research relating to Hawaii's natural history at this year's 39th Hawaii State Science & Engineering Fair.

In early April, intermediate and high school students across the state submitted over four hundred science projects for review and judging by the Hawaiian Academy of Science, DOE and many local agencies. Representatives of the HAS Education Committee perused the relevant exhibits and interviewed students on the subject of their research.

Wahiawa Intermediate eighth grader Melanie Kim was chosen to receive the HAS Junior Division award for her project, "Effect of Substrate Inclination on the Competition Between *A. Koa* and Alien Flora

Species." Melanie had done an impressive investigation of this problem and her conclusions included some potentially useful information for the preservation of koa trees in Hawaii. In the Senior Division, our award went to Amy Shimabukuro whose project was titled "Roadside Biodiversity." Amy, a tenth grader at Pahoa high on the Big Island, presented research comparing two roadside habitats near Volcano, one of which had been disturbed by bulldozing within the last ten years. Plant, insect and bird identifications and quantifications along numerous transects at both locations revealed interesting results regarding human impact on Hawaii's ecosystems. Both students received a year's membership to HAS, and a copy of our publication, *Hawaii's Birds*, along with a trophy.

HAS award winners, Melanie Kim and Amy Shimabukuro whose Science Fair projects represent top student research in the field of Hawaiian natural history.



are just beginning to establish territories. The 'alala use mature, dead and dying koa trees as sentinel posts for those territories and to forage for insects under the bark. Due to years of grazing on the ranch there are very few young koa available to replace any logged trees. The mature trees also constitute a seed bank and are important to future forest regeneration. Kai Malino Ranch is also essential habitat for at least three other endangered forest birds that utilize koa, the 'akiapola'au, 'akepa, and Hawai'i creeper, and the Ranch is "important" habitat for the endangered 'io (Hawaiian hawk). The endangered 'ope'apea (Hawaiian hoary bat), and at least twelve listed or candidate endangered Hawaiian plants also occur on the ranch.

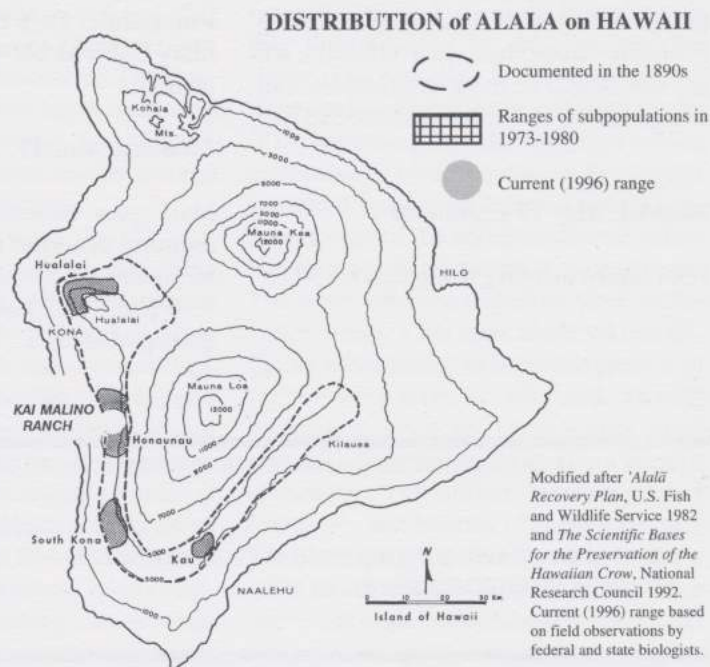
The Endangered Species Act is the federal law that protects endangered and threatened species and their habitat. Among other provisions, it prohibits people from killing, harassing, or harming endangered or threatened species, and destroying habitat such as nesting and breeding areas that are essential to these species' continued survival. The U.S. Fish and Wildlife Service has also been named as a party in the current lawsuit because it has stewardship/oversight responsibilities for the 'alala and has a pending request for funding to purchase 5300 acres of the essential habitat on Kai Malino Ranch to add to its National Wildlife Refuge system. In fact, it is first on the Service's national acquisition list. Last year the owners of Kai Malino agreed to sell the 5300 acres for \$7.7 million. Unfortunately, the purchase has been held up by the 1996

budget standoff in Washington, D.C. If the property is logged it will become an unlikely candidate for acquisition.

The Hawaii Audubon Society and the National Audubon Society are not seeking to deprive Kai Malino Ranch of all economic return on this portion of their property. The 5300 acres would make an invaluable location for ecotourism as well as the cultivation of native plants. Native forest ecosystems also provide natural laboratories for the study of evolution that attract scientists and researchers from around the world. Because of Hawai'i's unique location in the central Pacific Ocean, 2300 miles from the nearest land mass, this state has inherited an unparalleled collection of birds, plants, snails, and insects found nowhere else on earth. Yet, we are rapidly destroying this legacy — killing the "golden goose" that brings visitors to our shores from all over the world. Hawai'i is notorious for being the endangered species capital of the United States.

Among the birds alone 61 species went extinct prior to western contact, and out of the 69

species described in the historic period, 23 are now extinct. Of the extant 46 species/subspecies in the islands today, 32 are listed as threatened or endangered, and among these, thirteen may have already gone extinct. All six of Hawai'i's endemic waterbirds are listed as endangered species. To stop this downward plummet, Hawai'i must abandon shortsighted, unwise land-use practices and prevent the introduction and proliferation of alien species. If we do not act as good stewards, and soon, museum specimens will be all that is left of what was once an unparalleled assemblage of remarkable plants and animals.



----- PLEASE DETACH -----

Protection of the 'alala through the activities described in the article above consumes both the Society's volunteer time and its money. A number of people are supplying the former; but, we must turn to you, our members and other readers of the 'Elepaio, for help with the latter.

Whatever amount you can contribute or pledge will help us see this essential project to its completion!

Here's my contribution to help protect the 'alala and its habitat:

I can contribute \$ _____ at this time.

I pledge \$ _____ payable in _____ installments.

If contributing now, please make your check payable to "Hawaii Audubon Society." In either case, please return this coupon to the Society at the address on the back of this coupon. The information from your mailing label will be used to record the donation. Please correct it if necessary.

Calendar of Events

Monday, May 6 & June 3

Regular first Monday of the month meeting of the **Conservation Committee**, 6:00 p.m., at the U.H. Environmental Center (Crawford Hall, Room 317; 2550 Campus Road). All are welcome: May meeting will be a legislative wrap-up. For more information, call chairperson Dan Sailer, 455-2311 (evenings).

Thursday, May 9 & June 6

Monthly meeting of the **Education Committee**, 7:00 p.m. at BaLe Sandwich Shop in Manoa Marketplace (near Safeway). All are welcome. For more information, call chairperson Wendy Johnson, 261-5957.

Monday, May 13 & June 10

HAS Board meeting, 6:30 p.m. at the office.

Sunday, May 19

Hike with Dick Davis on a portion of the Likeke Trail (his namesake) to a beautiful waterfall and learn about the history of the area. Meet at the parking lot of the Ko'olau (Minami) Golf Course. Directions: take Pali Highway from Honolulu to Kane'ohe (turn left at Castle Junction — first traffic light); pass under H-3 Freeway and take an immediate left turn. Bring water, lunch/snacks, binoculars, camera; wear covered shoes and comfortable clothing — and don't forget the sunscreen and bug repellent. Contact Dick Davis at 247-3922, or Mary Gaber at 247-0104, for more information.

Monday, June 17

Mark your calendars for the next **bi-monthly program meeting** — feature to be announced in the June *'Elepaio* — at 7:30 p.m., Paki Hall Conference Room, Bishop Museum.

Table of Contents

Discovery of an 'Iwi Population in the Ko'olau Mountains of O'ahu by Eric A. VanderWerf and Joby L. Rohrer	25
Angels in Paradise by Sylvianne Yee	28
Drafts of Hakalau Forest Refuge Ungulate Management Plan, and Environmental Assessment Released	28
Legislative Report by Katherine E. Puana	29
Tune in on June 1 by Sylvianne Yee	29
The E'epa Have Been Busy	29
Office Corner by Susan Elliott Miller	29
Brochure Promotes Midway to Ecotourists	29
Audubon Society Files Suit in Behalf of the Endangered 'Alala by Linda Paul	30
HAS Awards for Student Research by Wendy Johnson	30

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