



## Keep Cats Safe Indoors

Susan Scott, Hawaii Audubon Society (HAS) President

Susanne Spiessberger, HAS Interim Executive Director

In light of Hawai‘i’s free-roaming cat (FRC) situation and its associated problems, we recently looked into differing opinions about how to best reduce the FRC population. Because cats are skilled predators, people have transported them around the world to reduce rat and mice populations on ships, in farms, and around homes. Unfortunately, even well-fed cats also kill birds, taking a heavy toll on Hawai‘i’s ground-nesters and other protected and endangered species.

Another concern is *Toxoplasma gondii*, a widespread disease-producing parasite that reproduces only in cats’ digestive systems. Rainwater and runoff transport millions of toxoplasma eggs shed in cat feces from Hawai‘i’s mountains to the ocean. The parasite can infect and kill the endemic Hawaiian Goose (nēnē) and Hawaiian monk seal (‘ilio-holo-i-ka-uaua).

Exactly how many cats roam free on Hawai‘i’s main islands is unknown, but most people agree they number in the tens of thousands. What people disagree about is the best way to end the suffering of these animals left to fend for themselves.

The following is a summary of what we learned about the various ways individuals and public and private organizations are dealing with free-roaming cats.

**Ignore them.** A lot of Hawai‘i residents have a live-and-let-live attitude, either not noticing outdoor cats or accepting them as part of the landscape. Condo and other property-owner associations have strict rules about pet dogs and their feces, but cats get a pass.

**Euthanize them.** This is a tough choice on several levels. Hawai‘i has no private or public organizations that routinely euthanize wild cats. Citizens must trap the cats themselves, and pay a veterinarian to euthanize it. Or do it themselves. This is an ugly alternative, but it happens.

**TNRM: Trap, Neuter, Return, Monitor (meaning feed).** This is the policy of the Hawai‘i Humane Society, the Humane Society of the United States, the American Society for the Prevention of Cruelty to Animals (ASPCA), the American Animal Hospital Association, other animal nonprofits, and countless individuals who carry out grassroots TNRM programs. Because of the neutering, proponents say this eventually reduces the number of free-roaming cats in the environment.

Others differ, because TNRM doesn’t address bird kills, the spread of toxoplasmosis, or cats outside of managed colonies. Some groups that do not endorse TNRM are People for the Ethical Treatment of Animals (PETA), all bird conservation organizations, NOAA Fisheries, and public health officials.

**Rehome them in cat sanctuaries that sponsor adoption of kittens and socialized adults.** Several of us from Hawaii Audubon visited two facilities to see how this works. On Lāna‘i, we met with the executive team of the well-known Lāna‘i Cat Sanctuary, a 3.5-acre facility that currently houses about 680 cats (<https://lanaicatsanctuary.org/>). For Maui, Voice of the Sea TV (<https://seagrant.soest.hawaii.edu/about-voice-of-the-sea/>) recently aired a video called *Managing Cats and Saving Native Wildlife on Maui*

that discusses Maui officials' and residents' ideas for helping abandoned cats ([https://www.youtube.com/watch?v=ccCDy3H\\_jRg](https://www.youtube.com/watch?v=ccCDy3H_jRg)). On O'ahu, we met with the director of a new, all-volunteer rescue center called Lucky Paws Animal Foundation (<https://www.luckypaws.org/>). In all cases, we were impressed by managers' compassion and caring for birds and cats alike. Both Lucky Paws and the Lāna'i Sanctuary have five-star facilities for homeless cats and kittens. The rub, however, is that they have limited space, money, and workers.

**Reeducate cat owners** to keep pet cats indoors, micro-chipped, leashed when outdoors, and/or provide them with so-called catios, outdoor enclosures for pet cats. This doesn't address the current situation of thousands of homeless cats, but it's a way to keep it from being an endless problem in the future. Creating such a new mindset, however, takes time, patience, and understanding.



*This cat enjoyed her beach walk with harness and leash; leash-training has to start at kitten age, photo credit Susan Scott.*

Whether a person adores them or fears them, is a pet owner or wildlife worker, is allergic or lives happily covered in fur, nearly everyone has a strong opinion about cats. But if we work kindly with those who have differing viewpoints, change is possible through education efforts by government agencies, bird and cat nonprofit organizations, and caring citizens.

The HAS Board of Directors is committed to collaborating with members of the community toward solutions that ease the suffering of free-roaming cats and save wild birds. As a

policy, HAS encourages cat owners to keep pet cats safely indoors, walk them on leashes, and provide them with catios. You can join us in this effort by donating to the Society, to Lucky Paws, whose managers pledged to help us protect the 'ua'u kani (Wedge-tailed Shearwaters) at our Black Point seabird preserve, and/or to other groups, who are working toward the same goals.

## **KEEP CATS SAFE INDOORS**

Keep Cats *and* Birds Safe

### **KŌLEA COUNT UPDATE**

The 2021-2022 Kōlea Count season successfully ended June 30. Find a summary on <https://www.koleacount.org/kolea-count-2021-2022-update/>. The new 2022-2023 season started on July 1, and many Pacific Golden-Plover watchers already reported returnees.

A volunteer survey project monitors the plover population of around 70 birds at the National Memorial Cemetery of the Pacific (Punchbowl). Plover expert Oscar Wally Johnson and volunteers equipped 10 kōlea with small GPS trackers, 10 with identical tags sending no signal, and 10 with only leg bands. We have been taking turns to check for returning kōlea daily, and the first one was spotted on July 31.

### **MANU-O-KŪ UPDATE**

**White Tern Banded as a Chick Resighted on O'ahu after Two Years**, by HAS Vice President Rich Downs

Watching and studying White Terns (manu-o-kū in Hawaiian) provides a lot of instant gratification. You look up in a tree and notice a couple of White Terns interacting with their chick. Watch for any length of time and you're likely to discover something you didn't know before. It's satisfying to be able to add to our understanding of this special bird, and we've been able to learn quite a bit by just watching the terns in front of us.

But much of what we still don't know about the White Terns will take time to discover. A lot of time in some cases. Banding birds when they are chicks with the hope that you, or more likely someone else, will see them again is an

important part of studying birds. As part of their ongoing study of White Terns breeding on O‘ahu, the Hui Manu-o-Kū sometimes places metal and colored plastic bands on tern chicks when they are 4 to 6 weeks old, before they’re able to fly. They then fledge and fly off but where they go remains a mystery. Since adult terns look exactly alike (to us), there’s no way of knowing with confidence how old they are or where they came from. At some point after learning to fly and fish on their own, White Terns leave the area where they hatched and disappear out over the ocean. They’re seabirds - that’s what they do.

At some point though, some of them return to the island where they hatched. Exactly when that happens is one of the things the Hui hopes to learn by watching for terns that were banded as chicks and that return as adults. Since 2010 over 150 White Tern chicks have been banded on O‘ahu but very few have been seen again as adults. Recently, however, Hui Manu-o-Kū volunteer and nature photographer Melody Bentz noticed that an adult hanging out near a chick in a tree near the School of Ocean and Earth Science and Technology at University of Hawai‘i, Mānoa (UH) had a red plastic band with the number 82 on its left leg.



*White Tern with red band #82, recently seen at UH, photo credit Melody Bentz.*

To help us better understand the behavior of White Terns breeding on O‘ahu the Hui Manu-o-Kū maintains a database of all the terns banded on island. Information in the database shows that this tern has returned to the area near where it hatched in the spring of 2019. It was banded as a chick in a tree in the courtyard at the Biomedical Sciences Building less than a half mile away in October of that year and had

not been seen since. Now, two and a half years later, that same bird has returned. White Terns reach sexual maturity at two to three years of age, so it is presumed to have returned to find a mate and to begin breeding.



*White Tern #82 as a chick, banded in October 2019, photo credit Rich Downs.*

Now that our banded birds are reaching breeding age we can expect to see more of them coming back to O‘ahu. It’s very possible that more banded chicks have actually been seen as adults, but the bands on their legs have not been detected. All sightings of banded White Terns should be reported to the Hui Manu-o-Kū Hotline at 808-379-7555. The Hui will want to know when and where you saw the bird. And if you have binoculars or a camera with a telephoto lens and are able to recover the number on the band, that information will be especially useful. Note that the plastic bands come in various colors, can have numbers or combinations of letters and numbers on them, and can be on either leg.

A tern with a colored plastic band will also have a silver metal band with an eight- or nine-digit number, usually on the other leg, but these can be much harder to see. Don’t worry if you’re not able to see all the numbers on the band as incomplete band numbers may be enough to identify the bird. The Hui will alert volunteers with powerful optical gear to keep watch for the bird and attempt to recover the entire number. The more sightings we have of banded terns, the more we can learn about their lives after they fledge.

## FSP UPDATE

It has been a busy time at Freeman Seabird Preserve! On July 14, experienced volunteers were invited to the annual colony census. They worked hard during the habitat restoration season earlier this year, and it paid off: In the fourteenth year of nest counting we had a new record of 423 active Wedge-tailed Shearwater nests. Yay to the wedgies and our volunteers, and a big mahalo to our research partners Oikonos and Pelagicos!

To help educate the public about what is going on at the preserve year-round, we hung up the next seasonal sign (design by Greg Hester Graphics), which will stay up till November. This is the time when shearwater chicks are most vulnerable to predators.

**Please always keep your cats indoors and your dogs on a leash!**



*HAS Treasurer John Harrison attaches the Aug - Nov sign, photo credit Susanne Spiessberger.*

The following is a composite of two news releases by the Department of Land and Natural Resources (DLNR) about the importance of mosquito control from May 16, 2022, on <https://dlnr.hawaii.gov/blog/2022/05/16/nr22-068/> and from June 8, 2022 on <https://dlnr.hawaii.gov/blog/2022/06/08/nr22-077/>.

### **Race to Save Hawaiian Honeycreepers Bolstered by \$14 Million in Federal Infrastructure Aid**

Significant federal dollars are headed to Hawai‘i to help address the extinction crisis facing at least four species of native Hawaiian birds.

An unprecedented \$14 million for Hawai‘i ecosystem restoration is included in the Bipartisan Infrastructure Law, described as a major investment in the conservation and stewardship of America’s public lands.

According to the U.S. Department of the Interior (DOI), which will administer the law’s \$1.4 billion for Ecosystem Restoration and Resilience, this amount...“is a significant down payment in protecting our shared natural heritage.” The DOI is collaborating with states, Tribes, and local communities to invest millions of dollars annually to restore habitat connectivity for aquatic species around the country and advance habitat restoration, invasive species control, conservation of at-risk and listed species and benefits to several significant ecosystems.

“Several species of native Hawaiian forest birds are on the verge of extinction, possibly within the next two years. This federal funding could not come at a better time and will add significantly to projects and efforts already underway to try and save species, like ‘akikiki and kiwikiu from vanishing forever,” said Governor David Ige.

In April, federal and state conservation officials revealed the results of a bio-cultural study which describes the near-future extinction plight facing four Hawaiian honeycreeper species. The report indicated that without intervention the birds have grim prospects. There are many fewer of these birds when compared to the last two decades, and even the last few years.

Their available range has been significantly reduced as species move higher into the mountains to escape mosquitoes. Avian malaria, carried by mosquitoes, is wiping out birds. Both the disease and the mosquitoes that carry them are not native to Hawai‘i.

Already a large group of government agencies and conservation organizations have banded together in the *Birds, Not Mosquitoes* working group to develop a program to introduce incompatible male mosquitoes into the habitats of ‘akikiki and ‘akeke‘e on Kaua‘i, and kiwikiu and ‘ākohekohe on Maui, to suppress the populations of wild mosquitoes and to engage with local communities on this issue.

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Dr. Chris Farmer is the Hawai'i Program Director with the American Bird Conservancy and helps facilitate the *Birds, Not Mosquitoes* initiative.

“We have a huge group of scientists, conservationists, land managers, and others from non-profit, private, and government organizations engaged in a collaborative process to break the avian disease cycle and save these birds as quickly as we can. We can only do that by controlling non-native mosquitoes where our honeycreepers have their last mountain refuges,” Farmer said.

The DLNR is receiving \$6.5 million, through the U.S. Fish and Wildlife Service (USFWS), for the development of novel mosquito management using non-compatible mosquitoes on a landscape-scale basis and for the development of additional captive propagation facilities at the San Diego Zoo Wildlife Alliance's Maui Bird Conservation Center.

Other initiatives receiving funding:

\$1 million – USFWS Pacific Islands Fish and Wildlife Office to supporting inter-bureau endemic species extinction prevention efforts: novel eradication techniques for invasive mosquitoes

\$592,000 – US Geological Survey Pacific Island Ecosystems Research Center for supporting inter-bureau endemic species extinction prevention efforts: vector management for invasive mosquitoes

\$6 million – National Park Service to set up an interagency field deployment team and develop tools to suppress non-native mosquito populations at Haleakalā National Park.

Dr. Lainie Berry, Wildlife Program Manager for the DLNR Division of Forestry and Wildlife (DOFAW) noted, “With an estimated 45 ‘akikiki remaining in the wild on Kaua‘i, and 135 kiwikiu left in the wild on Maui, it’s easy to see we have daunting and urgent work ahead of us.

This tremendous level of additional federal dollars will go a long way toward supplementing and increasing earnest efforts already in place to save these species; as well as the ‘akeke‘e and ‘ākohekohe, whose wild population numbers are slightly higher.” Ulalia Woodside, the Hawai'i and Palmyra Director for The Nature Conservancy, a core

partner in the *Birds, Not Mosquitoes* effort, added “With climate change moving mosquitoes to higher and higher elevations, the loss of more native species is imminent without clear action. The millions in extra funding will support the development and implementation of the tools needed to give these endemic Hawaiian birds a fighting chance.”

“When faced with such bleak prospects for our beloved honeycreeper species, there are certainly no guarantees,” commented DLNR Chair Suzanne Case. “However, the federal infrastructure aid targeted at preventing the extinction of these forest birds is a clear demonstration that the federal administration and lawmakers recognize the urgency with which we must use every tool available now, and in the future, to ensure the natural and cultural resiliency of our forest birds.”

### **Mosquito Control to Save Hawaiian Honeycreepers does not involve GMOs**

Despite misinformation circulating on social media, the importation of “incompatible-male” mosquitoes to control populations of wild mosquitoes and to save four native bird species from extinction, does not involve the use of any genetically modified organisms (GMOs) or genetically engineered (GE) organisms.

On Thursday, the Plant and Animal Advisory Committee of the Dept. of Agriculture will consider listing three species of mosquitoes on its Restricted Species List A. The listing would allow the importation of three species of mosquitoes, all of which are already present in Hawai'i.

One of these, the Southern House Mosquito (*Culex quinquefasciatus*) is responsible for sharp declines in the populations of many honeycreeper species on Kaua‘i, Maui, and Hawai'i Island. The other two species – Yellow Fever Mosquito (*Aedes aegypti*) and Asian Tiger Mosquito (*Aedes albopictus*) – transmit human diseases.

A collection of agencies and organizations working under the *Birds, Not Mosquitoes* partnership, plan to introduce a mosquito birth control into bird habitats to try and stop avian malaria from killing the last remaining populations of these birds...some of which have fewer than 100 individuals in

the wild and are expected to go extinct in less than two years. The birth control method uses male mosquitoes (which do not bite) with a strain of a bacterium called Wolbachia that is incompatible with the strain of Wolbachia currently found in wild mosquitoes in Hawai‘i. When these male mosquitoes mate with females in the forest, the mosquito eggs do not hatch and the mosquito population size drops.

No genes are modified in the mosquito or in the Wolbachia bacteria.

This mosquito birth control approach is being safely used in 15 different countries, including on the continental U.S. The *Birds, Not Mosquitoes* partnership is guided by the State’s top scientists and researchers, who collectively have many decades of experience studying Hawai‘i’s forest birds and mosquitoes. According to *Birds, Not Mosquitoes*, “We need these Wolbachia-incompatible male mosquitoes to be listed so that importation can commence.”

Landscape-scale control of disease-carrying mosquitoes is considered the most urgent conservation issue in Hawai‘i. A recent U.S. Department of Interior report estimated ‘akikiki on Kaua‘i are likely to go extinct in 2023, and the ‘ākohekohe, kiwikiu, and ‘akeke‘e, soon after that. Information from the *Birds, Not Mosquitoes* group notes, “The extinction of the Hawaiian honeycreepers is being driven by exposure to avian diseases transmitted by non-native mosquitoes.

Climate change is allowing non-native, disease-carrying mosquitoes to invade higher elevation forests, which was previously the last disease-free habitat where the honeycreepers were safe.” The facts:

- The Culex/Wolbachia process is not genetic modification or genetic engineering
- The Culex species involved is already in Hawai‘i
- The Wolbachia bacteria being implanted already occurs in Hawai‘i
- The only change is the strain of Wolbachia being implanted currently occurs in another mosquito genus (Aedes).
- The different Wolbachia strains in Culex will make the male and female mosquitos produce infertile eggs.

DLNR Chair Suzanne Case said, “It’s disappointing that some people are misinforming others by saying this is using GMOs or GEs. These are not genetically modified or engineered organisms.

The proposed technique does not modify the genes of mosquitoes or Wolbachia. It is similar process to taking antibiotics, then eating pro-biotics, to replace the existing community of bacteria with a different community within your stomach.”

All three of the mosquitoes are known to carry human diseases in Hawai‘i. Listing the species will enable the Department of Health to utilize this tool to reduce populations of mosquitoes of health concern in a safe, targeted manner, without the use of chemical insecticides.

\*\*\*END\*\*\*

### **Seeking Nominations for 2023 Board of Directors**

HAS members: would you like to serve on the Hawaii Audubon Society’s Board of Directors? Board members are volunteers who attend meetings, vote on decisions, conduct business, participate in a wide variety of discussions and learning experiences, lead field trips and educational activities, work on projects and committees, and advocate and support the HAS mission to foster an ethic of stewardship for Hawai‘i’s natural resources.

Nominating Committee members are John Harrison, Colleen Soares, and Elizabeth Kumabe-Maynard. Please email a letter of interest to the Nominating Committee at [office@hiaudubon.org](mailto:office@hiaudubon.org) prior to October 10.

The HAS Bylaws require that to be nominated, a person must have been a member of the Society for at least five (5) continuous years prior to the date of election, be a Hawai‘i resident, attended at least one Board meeting and one field trip and must have given written consent.

The five-year membership requirement may be set aside on a case-by-case basis if approved by the Board of Directors. The Nominating Committee will submit its recommendations to the HAS Board of Directors.

## Hawaii Audubon Society Membership and Donations

The mission of the Hawaii Audubon Society (HAS) is to foster community values that result in the protection and restoration of native wildlife and ecosystems, and conservation of natural resources through education, science and advocacy in Hawai'i and the Pacific. Founded in 1939, HAS is an independent nonprofit 501(c)(3) organization and does not receive dues paid to the National Audubon Society. Thank you for supporting your local Hawaii Audubon Society.

**Going forward, all annual memberships end on Dec 31. As a courtesy, all 2022 memberships (new or renewed this calendar year) will expire Dec 31, 2023. See details on <https://hiaudubon.org/membership>.**

Please choose your membership level on our website <https://hiaudubon.org/membership>:

- \$15 Hawaii Audubon Society Student Membership
- \$25 Hawaii Audubon Society Regular Membership
- \$40 Hawaii Audubon Society Family Membership
- \$100 Hawaii Audubon Society Supporting Membership

Or, make a tax-deductible donation in any amount on <https://hiaudubon.org/donate/>.

International membership is now only \$25.

All members will receive by email the bimonthly 'Elepaio journal, with peer-reviewed scientific articles and local environmental news and activities. To request the 'Elepaio by mail (**not available to international members**), contact [hiaudsoc@gmail.com](mailto:hiaudsoc@gmail.com).

**Mahalo for your support and commitment to protecting Hawai'i's native wildlife!**

### Announcements

For regular updates, check out

[www.hiaudubon.org/events](http://www.hiaudubon.org/events) and/or our social media sites

#### *Annual Meeting & Members Dinner 2022*

*Join the Hawaii Audubon Society's Board of Directors for a delicious "Taste of Hawaii" dinner, non-alcoholic beverages, and a captivating presentation about recent kōlea research results by Dr. Oscar (Wally) Johnson, world expert on Pacific Golden-Plovers.*

*When: Sunday, November 6, from 6 to 9 pm*

*Where: Sea Life Park, Beach Boy Lanai, a well ventilated terraced setting with views of the ocean and Rabbit Island.*

*Address: 41-202 Kalaniana'ole Hwy #7, Waimanalo Beach, HI 96795*

*Ticket price: \$40*

*Tickets will be available in our online store only soon. No tickets will be sold at the door. Event updates will be announced as they become available.*

#### Welcome Home to Shorebirds

#### Paikō Lagoon Wildlife Sanctuary Tour

**Saturday, September 10, 2022** at 9 am

Enjoy fall at Paikō! Let's welcome our unique and beautiful migratory shorebirds as they return from their extensive travel to enjoy the Hawaiian Islands for the fall and winter months.

RSVP: [MermaidsHI@aol.com](mailto:MermaidsHI@aol.com)

Leader: Alice Roberts

#### **Foodland's annual Give Aloha Program**

While shopping at any Foodland, Foodland Farms, or Sack N Save in September, please consider making a donation to HAS (tell the cashier our organization code **77189**). A portion (up to \$249) will be matched by Foodland.

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