

KIWIKIU NEWS

Newsletter from Maui Forest Bird Recovery Project



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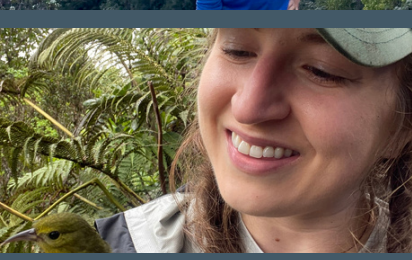
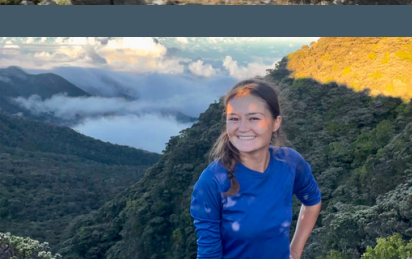
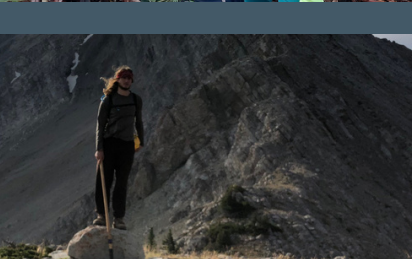
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Project Updates

STAFF CHANGES & UPDATES

The crew at MFBRP has continued to expand and change since our last update! We have welcomed many new staff to our Mosquito Research & Control team, including Field Associates Bailey Wallace, Aiden Callahan, and Kayla Takakura, Field Supervisor Nicole Ferguson and Coordinator Christa Seidl. We also welcome Erin Johnson as the MFBRP Program Associate and Nikki Preston as the 'Alalā Research & Logistics Senior Technician.

Recently we had to say goodbye to Natalie Wronkiewicz. We will soon be saying a hui ho to Hunter Craft and Erin Bell as they pursue further education and begin doctorate programs.

Former MFBRP Kupu 'Aina Corps members Layla Rohde and Laura Navarrete have recently been able to join the MFBRP team as part of the Mosquito Research & Control Team as their Kupu terms finished. Layla joins as a Mosquito Research & Control Technician and Laura joins as a Mosquito Research & Control Field Associate. We are so happy to have them continue to work with us here at MFBRP.

MFBRP BLESSING & INTENTION SETTING 'AHA

With so many changes to our project, MFBRP recently held a blessing and intention-setting 'aha ceremony to help the project move forward and create new beginnings while honoring the work and dedication it has taken to get to this point. Staff from the MFBRP team were joined by representatives from Hawai'i DLNR/DOFAW, NPS, TNC, and ABC attended. This 'aha ceremony was led by members of Hālau 'Ōhi'a and Lonoa Honua. Mahalo to all of our partners and supporters for helping to get our project to this point.



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The 'Alalā Project

The 'Alalā Project is continuing to work on creating the plans for future releases of 'alalā on Maui. The team is writing the Environmental Assessment (EA) and the Reintroduction Plan for 'alalā releases on Maui.

While the EA and Reintroduction plans are being written, the team will start to do supportive work on the ground to prepare the locations and infrastructure needed to carry out the releases if approved. Nicole Preston joined the MFBRP team as the 'Alalā Research & Logistics Senior Technician.

With all of the planning for the future release, spring also brings the beginning of the 'alalā's breeding season. Our partners at the conservation breeding programs are busy caring for, watching, and helping to raise the next generation of 'alalā.

Mosquito Research & Control

BIRDS NOT MOSQUITOES PARTNERSHIP

Maui Forest Bird Recovery Project has been working with partners as part of the Birds, Not Mosquitoes partnership. This partnership is dedicated to saving Hawai'i's native honeycreepers from extinction. To read their last newsletter click [here](#). To learn more about the partnership or the project visit their website www.birdsnotmosquitoes.org.

The EA for East Maui has been approved. This means that on Maui, MFBRP and our partners are starting to pilot small-scale releases of Wolbachia-incompatible male mosquitoes as part of a phased approach to landscape-scale mosquito control (Incompatible Insect Technique). The partnership is excited to take this step toward mosquito control on Maui.

While the next phase of the IIT project has begun on Maui, the Birds, Not Mosquitoes partnership is beginning to write the Environmental Assessment (EA) for the implementation of mosquito control on Kaua'i. This EA will have public input opportunities in the near future.



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PILOT MOSQUITO RELEASES

The MFBRP Mosquito crew has started the first pilot releases for mosquito control efforts using Wolbachia IIT on East Maui. These releases consist of a mark-release-recapture (MRR) technique that can be used to understand how mosquitoes disperse across a landscape, how long they live, and whether other environmental factors such as temperature and rainfall affect these results. MFBRP and partners will use this information to determine the numbers, density, and frequency of male Wolbachia IIT mosquito releases in the Fall.

To conduct an MRR, a group of mosquitoes is first "marked" and then "released" at a central point in a study area. Mosquito traps are placed at set intervals across the site, extending from the release point and out to the furthest distance that a mosquito might be expected to fly. These traps are baited with mosquito lures, the type depends on the mosquito species or sex the MRR is using. In our case, MFBRP is interested in marking, releasing, and recapturing male *Culex quinquefasciatus*, southern house mosquitoes, and their marker is their incompatible Wolbachia strain. Over a span of many consecutive trapping days, the traps will catch a number of the released mosquitoes. A trap's distance and the collection date will help determine how far mosquitoes flew from the release point and how long they lived. Any trapped males are frozen and tested for their Wolbachia infections by our partners at Verily.

We are currently waiting excitedly for the results from our first round of trapping and are using lessons learned from our efforts to inform the next releases. In the mean time, the team has been fighting the invasive ginger found in the forest.

OTHER MOSQUITO WORK

The MFBRP crew has been researching avian disease in two sites in Hanawi NAR, Frisbee at 7,000ft and Poouli at 5300ft. There are two week-long trips per season (Feb/March, April/May, July/August, and October/November). We will be wrapping up the project at the end of the year. During the trips, we have two sets of traps that we set. One will collect adult female mosquitoes overnight and the other type to collect mosquito eggs. We caught mosquitoes at Po'ouli camp but not Frisbee. We also collect blood samples for avian disease prevalence. Mosquitoes and blood samples will be analyzed in the next few months.



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Avian Research & Management

HAWAI'I ISLAND PALILA COUNTS

Three MFBRP crew members had the amazing opportunity to help Mauna Kea Forest Restoration Project on Hawai'i Island survey palila this year. Palila are a large, critically endangered honeycreeper now restricted to the high elevation, alpine, dry forest on Mauna Kea, where they eat māmane seeds, build their nests, and sing beautiful songs. This experience was a great opportunity for our crew to learn about a new bird species and experience a very different kind of Hawaiian landscape. Instead of the mud and rain of Haleakalā's rainforests, the beautiful slopes of Mauna Kea had frigid temperatures and frost on the ground each morning and dry wind and intense sun by the afternoon. For the first time in a long while, our crew did not even have to hike with rain gear on!

Everyone was able to see palila and sharpened their point count skills in preparation for MFBRP's own forest bird surveys on Maui. Our crew also enjoyed meeting members of the conservation community from other parts of the pae 'āina and are glad to know that the manu from other islands have incredible people dedicated to protecting them too! Mahalo nui loa iā Mauna Kea Forest Restoration Project for allowing us to be part of their amazing work.



SEABIRD BANDING

Maui Forest Bird staff members continued the tradition of helping with Maui Nui Seabird Recovery Project's semiannual 'ua'u kani banding. Staff members went to 'ua'u kani colonies as the sun set and met other members of the conservation community, volunteers from the public, and MNSRP staff to monitor the overall health of the seabird populations. The staff enjoyed getting up close and personal with these incredible birds. The skills necessary to capture and band seabirds are quite different from the normal work MFBRP staff does with Maui's much smaller songbirds. It was a great opportunity for many staff members to gain new skills and work with a new species!



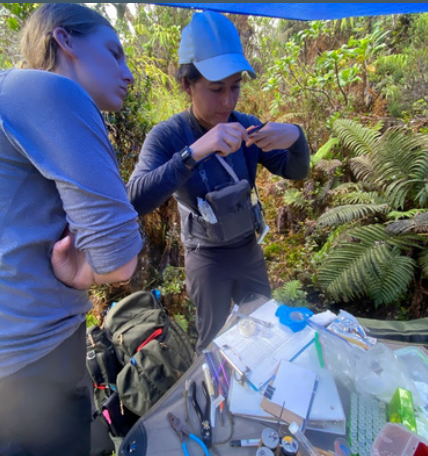
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KIWIKIU SEARCHING/BANDING

Rapid kiwikiu and mosquito assessments were conducted in The Nature Conservancy's Waiakamoi Preserve in December 2022. Fortunately, mosquitoes were not captured at this time and kiwikiu were detected, although we did not have as many detections as prior years. We did detect juvenile kiwikiu and at least one male that was over 10 years old!

We are continuing to collect samples from all bird species to survey for avian disease at various elevations on windward East Maui. This past spring, we sampled at three different areas.



We conducted Variable Circular Plot point counts on 9 transects between 7,200 and 5,000 ft in elevation across windward East Maui. Stations on transects were surveyed three times to collect more accurate data to determine population sizes. Data will be used to help monitor rare bird populations as well as base line population estimates prior to mosquito control implementation.

THE WILDLIFE SOCIETY WESTERN SECTION CONFERENCE

MFBRP staff member, Laura Berthold presented about kiwikiu recovery at The Wildlife Society Western Section conference in Riverside, CA in February. Several people working in conservation in Hawai'i were present at the conference including Cali Crampton of Kau'i Forest Bird Recovery Project, who was on a plenary panel about endangered species decision-making and recovery. Also presented at this conference was the presentation titled "Assessing avian malaria at the landscape scale in Hawai'i" presented by Cara Thow from Hawai'i Island DOFAW, coauthored by Hanna Mounce MFBRP, Cali Crampton KFBPR, Lainie Berry DOFAW, and Alex Wang DOFAW. If you are interested in Laura's presentation you can see it [here](#).



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Habitat Restoration

PREDATOR CONTROL

We continue to control invasive predators in the core area of the kiwiku population. This year we expanded the predator control to cover more area and thus protect more nesting birds.

NAKULA NATURAL AREA RESERVE

The MFBRP team recently returned from a weeklong trip to Nakula Natural Area Reserve (NAR) on the leeward slope of Haleakalā. Annual point count surveys were conducted along three transects allowing our team to monitor local bird populations. The team also planted native seedlings behind coconut coir. These coir were installed over a year ago within erosion scars to prevent soil eroding further. Our hope is that by planting behind the coir is that they will help build up eroding material and keep the soil in place. Additional out plantings were done under aʻaliʻi stands that have now grown so large that they are reducing non-native grasses below them. From our restoration monitoring, we've found that aʻaliʻi has naturally returned to the landscape post-removal of feral ungulates. To increase the diversity of this restoration in-progress forest, we will need to continue planting under aʻaliʻi. Species that were planted include ʻōlapa, olopua, māmakī, ʻukiʻuki, and more.

This year marks 10 years of restoration work in Nakula NAR! It is very exciting to see the changes between 2013 (when the area became ungulate-free) and 2023. We are seeing out plantings that are near substory height; their seeds are also spreading and creating more plants. In 2013, we created several different plots to try out various restoration methods to see what would be the most efficient and effective way to restore the local area. These plots were monitored over the next two years and we reported on our findings [here](#).



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NAKULA NATURAL AREA RESERVE CONT.

We monitored these plots again five years later in 2018 and are now monitoring them in 2023, 10 years later. There are four types of plots-natural regeneration (what comes up naturally post-ungulate removal and treatment method), out planting (how out plantings do post-treatment method), tree canopy (same as out planting but under koa trees), and seed scatter (seeds scattered within plot). The big findings were that survival was high in most out planted seedlings (dependent on species), and herbicide and removal of the non-native grasses super changed natural regeneration, particularly of a'ali'i. Based on our results, we recommended non-native grass biomass removal combined with out planting as the primary method of forest restoration in Nakula NAR and the surrounding region. We do not expect results from the 10-year monitoring to be that different; however it will be interesting to see how survival compares and if other species have naturally started growing in the plots.

NEWS & EVENTS

Here are some recent events that MFBRP has participated in:

- Whale Tales - 02/17/23-02/18/23
- Birds, Not Mosquitoes presentation at Makawao Library - 02/22/23
- Maui Ku'ia Estate Chocolate Tasting Event - 02/25/23
- Flatbread benefit night - 03/14/23
- Ho'omau Maui - 03/25/23
- Merrie Monarch Festival - 04/15/23-04/18/23
- Bishop Museum's Science & Sustainability Festival - 04/22/23
- UH-Maui College Earth Day Event - 04/26/23
- MFBRP presentation at Makawao Library - 04/26/23
- MFBRP & Maui Brewing Co Pint Night for the Birds - 5/26/23

Upcoming Events:

- Maui County Farm Bureau Ag Fest - 6/2/23
- Mākena Golf & Beach Club Community Tournament -6/25/23

Looking to donate stock to a worthy cause? You can now donate stock to our fiscal sponsor Nā Koa Manu Conservation. To find out more information or donate stock click [here](#).

Looking for a gift for that bird lover in your life? Head over to our online store and check out the MFBRP and 'Alalā Project merchandise that we have available. Money raised through our store purchases goes back to helping the birds and the work that we do. We currently have a sale on our keiki t-shirts! Visit <https://mauiforestbirds.org/shop/>

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MAHALO TO VOLUNTEERS & MORE

- Project assistance: Milly Boren and Mary Santa Maria
- Predator control assistance: Amber Saychek, Dave Hanna, Matthew Olenski, Jack Hagarty
- Mosquito trapping assistance: Jessica Egerer, Peter Conmy, Chloe Cadiz, Liz Stahl, Jeanne Schaaf, Robert Werner
- Nakula assistance: Grace Collins

We want to send a big mahalo to Windward Aviation. These talented pilots get us in and out of our field sites so that we can do the work we need to do to recover these special birds. Weather and terrain make flying more difficult in the areas where these birds are found. We are especially grateful to have the team from Windward Aviation working with us. Mahalo!



We appreciate all the support our friends and followers give throughout the year. Recently MFBRP received some thoughtful donations that will help us do our work. The first donation was from Rite in the Rain, providing some fantastic waterproof notebooks, paper, and writing utensils. The second donation was leather gloves from Lowe's Home Improvement. The third was a supply of kitchen utensils and cleaning materials for our field camps. All of these have been put to good use and are greatly appreciated. Mahalo for supporting MFBRP!



MAHALO FOR THE SUPPORT



Mahalo to everyone who supported us during our first Maui Chocolate Lulima Program event.



Mahalo to everyone who has supported us by donating HawaiianMiles. These donations help our crews to fly inter-island for meetings, workshops, presentations, and trainings.



We want to say a big mahalo to everyone who supported us during our Flatbread Co. benefit night and silent auction event.

A huge mahalo to the following sponsors for supporting our silent auction:

- Hike Maui
- PacWhale Eco Adventures
- Down The Hatch & Breakwall Shave Ice
- Maui Fruit Jewels
- U'i Gallery
- 808 Deli
- Skyline Eco Adventures
- Mala Ocean Tavern

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