

2022

ANNUAL WORKPLAN

Maui Forest Bird Recovery Project





TABLE OF CONTENTS

- Mission & Vision - Pg. 2
- Staff - Pg. 3
- Partners - Pg. 4
- Focal Species -Pg. 5
- 2022 Project Timelines -Pg. 6
- 2022 Project List - Pg. 7
 - Monitoring kiwikiu in Hanawi Natural Area Reserve - Pg. 8
 - An assessment of current avian malaria conditions and extinction risk within the Hanawi NAR on Maui - Pg. 10
 - Endangered Maui forest bird population research, management, and habitat restoration - Pg. 11
 - Hawai'i forest bird surveys - Pg. 14
 - 'Alalā research, recovery, and management - Pg. 15
 - Establishing 'alalā in the wild in Maui Nui - Pg. 16
 - Environmental assessment for the releases of 'Alalā within Maui Nui - Pg. 17
- Partnerships Projects - Pg. 18
- MFBRP Future Needs - Pg. 19
- Project Needs - Pg. 20-22



Maui Forest Bird Recovery Project

MISSION

Our mission is to develop and implement techniques that recover Maui's endangered birds and to restore their habitats through research, development, and application of conservation techniques.

STRUCTURE

Maui Forest Bird Recovery Project (MFBRP) was formed by the State of Hawai'i Division of Forestry and Wildlife (DOFAW) and the U.S. Fish and Wildlife Service (USFWS). Our efforts are funded and guided by these agencies to accomplish state and federal recovery actions. MFBRP operates as a project under the Pacific Cooperative Studies Unit of the University of Hawai'i and Mānoa, Nā Koa Manu Conservation Inc. and Big Island RC&D Council.



MFBRP TEAM



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AVIAN DISEASE
ASSOCIATE
Position to be filled

AVIAN DISEASE
ASSOCIATE
Position to be filled

PARTNERS

All of our work is done in partnership, under advisement, and in collaboration with a number of partner agencies and organizations. As a part of these collaborations, MFBRP participates in advisory working groups addressing various aspects of our work (e.g. Hui 'Alalā, Kiwikiu Working Group, etc.)



NĀ KOA MANU
CONSERVATION



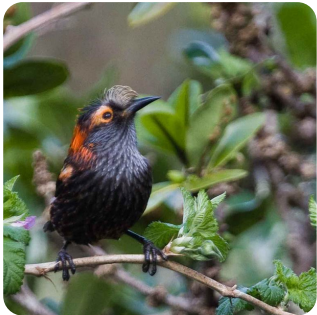
**San Diego Zoo
Wildlife Alliance**



FOCAL PROJECTS



*We focus our efforts on the conservation of the most critically endangered of the surviving Maui honeycreepers, the Maui Parrotbill/kiwikiu (*Pseudonestor xanthophrys*) and 'ākohekohe/Crested honeycreeper (*Palmeria dolei*).*



*These species and other forest birds such as the 'alauahio or Maui Creeper (*Paroreomyza montana*) and 'i'iwi (*Drepanis coccinea*) are declining on Maui for many reasons including habitat loss and degradation, introduced predators and ungulates, and introduced diseases.*

We have recently begun the initial steps of a conservation translocation for 'alalā within Maui Nui. This would help restore ecosystem services that are currently missing.



DISEASE

Today, exotic diseases, such as avian malaria and avian pox, restrict forest birds to high elevations where low temperature slow the transmission of mosquito borne diseases and often prevent the survival of the disease organisms.



POPULATION MONITORING AND HABITAT MANAGEMENT

We combine habitat management with ornithological research to understand reasons for declines and the ways in which we can help endangered forest bird species recover.



SPECIES RESTORATION

We are working with partners to establish a wild population of 'alalā within Maui Nui, fulfilling historical ecological functions that are currently missing within our native forests.

KIWIKIU AND AVIAN DISEASE PROJECT TIMELINE



LOCATION:
TNC Waikamoi Preserve
OBJECTIVES:
•Mosquito Survey and Sampling

LOCATION:
Hanawi NAR
OBJECTIVES:
•Mosquito Survey and Sampling
•Bird Banding and Blood Sampling
•Predator Control Grid Installation



LOCATION:
Hanawi NAR
OBJECTIVES:
•Mosquito Surveying and Sampling
•Bird Banding and Blood Sampling
•Kiwikiu Rapid Assessment Surveys



LOCATION:
Hanawi NAR
OBJECTIVES:
•Mosquito Surveying and Sampling
•Predator Control Trap Checking
•Bird Banding and Blood Sampling
•Kiwikiu Rapid Assessment Surveys

MFBRP 2022
Field Project
Timeline



January–February

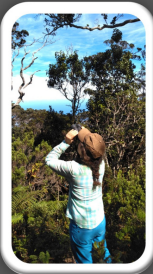
May–June

September–October

March–April

July–August

November–December



LOCATION:
Hanawi NAR
OBJECTIVES:
•Mosquito Surveying and Sampling
•Finish Predator Control Trap Installation
•Predator Control Trap Checking
•VCP Count Surveys
•Hawaii Forest Bird Surveys
•Bird Banding and Blood Sampling
•Kiwikiu Rapid Assessment Surveys



LOCATION:
Hanawi NAR
OBJECTIVES:
•Mosquito Surveying and Sampling
•Predator Control Trap Checking
•Bird Banding and Blood Sampling
•Kiwikiu Rapid Assessment Surveys



LOCATION:
TNC Waikamoi Preserve
OBJECTIVES:
•Mosquito Survey and Sampling
•Kiwikiu Rapid Assessment Surveys

LOCATION:
Hanawi NAR
OBJECTIVES:
•Mosquito Survey and Sampling
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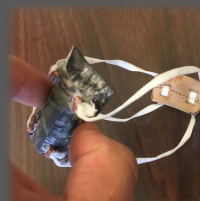
THE 'ALALĀ PROJECT TIMELINE



ACTIVITIES:
• Select 3 preferred release sites (SWOT)
• Online media outreach
OBJECTIVES:
• Coordinate site-selection process
• Administer 'alalā reintroduction project
• Conduct public outreach



ACTIVITIES:
• Hold EA public scoping
• Write EA
• Write 'alalā release plan
• Online media and targeted communication
OBJECTIVES:
• Develop EA
• Administer 'alalā reintroduction project
• Develop release plan
• Conduct public outreach



ACTIVITIES:
• Build trap covers
• EA/CIA and public meetings
• Create infrastructure plan
OBJECTIVES:
• Develop EA
• Hold public meeting
• Manage 4 invasive species within release area
• Construct program support facilities

'Alalā 2022
Project
Timeline



January–February

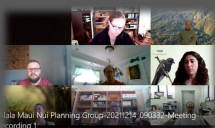
May–June

September–October

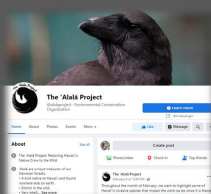
March–April

July–August

November–December



ACTIVITIES:
• Release site visits
• Write 'alalā release plan
• CIA contractor selection
• Online media and targeted communication
OBJECTIVES:
• Develop EA
• Administer 'alalā reintroduction project
• Develop release plan
• Conduct public outreach



ACTIVITIES:
• Write EA
• Work with CIA contractor
• Online media and targeted communication
• Test radio transmitters
OBJECTIVES:
• Develop EA
• Manage ≤10 wild 'alalā through reintroduction, monitoring, and recovery
• Conduct public outreach



ACTIVITIES:
• Improve field camp
• Install predator control grid
• Finalize EA/CIA
• Online media outreach
OBJECTIVES:
• Develop EA
• Manage 4 invasive species within release area
• Construct program support facilities
• Conduct public outreach



2022 PROJECTS

- Monitoring kiwikiu in Hanawi Natural Area Reserve - Pg. 8
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MONITORING KIWIKIU IN HANAWI NATURAL AREA RESERVE

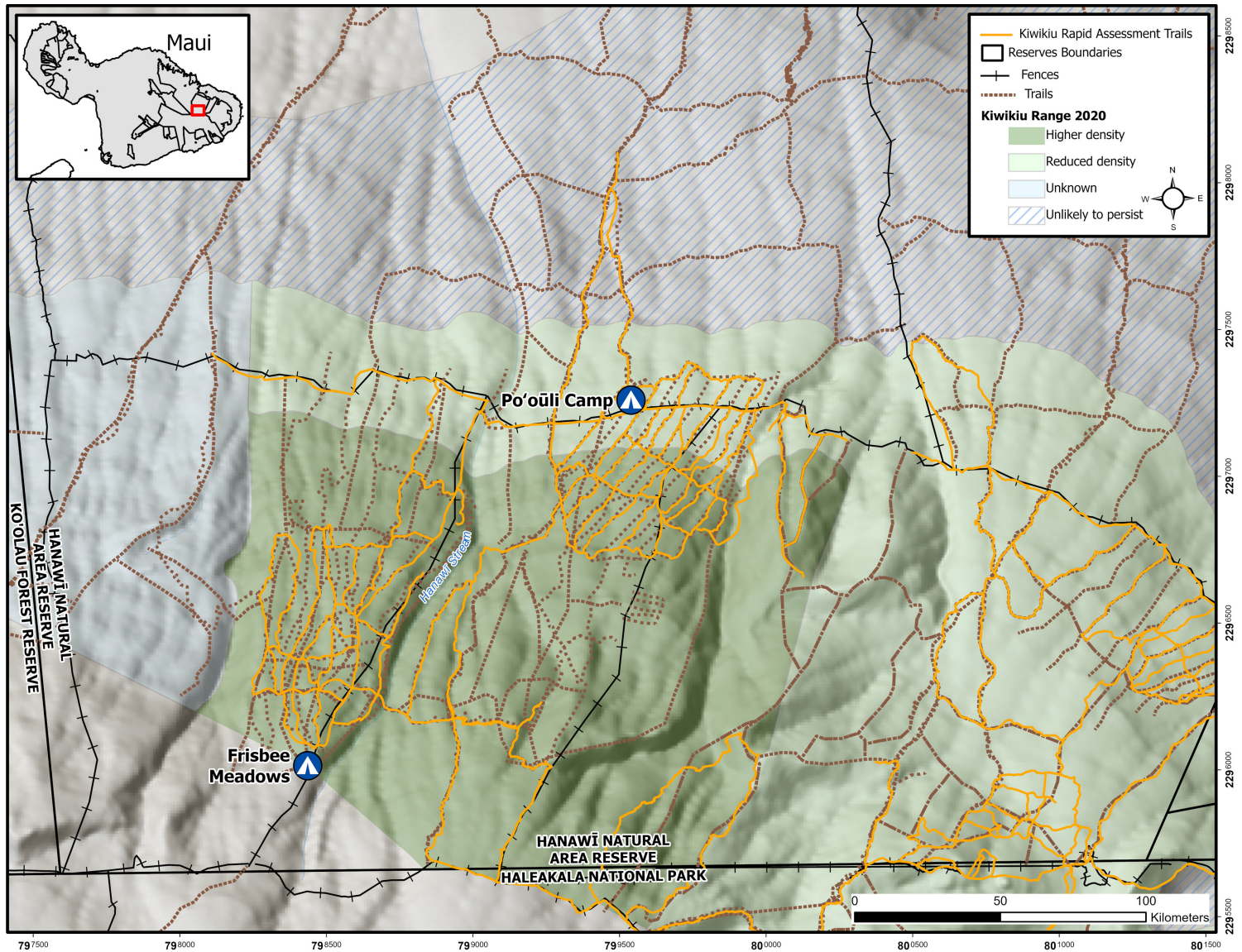
GRANT OBJECTIVES

- Map current kiwikiu upper and lower population range within Hanawi NAR by September 2023.
 - Carried out by rapid assessment surveys and bird banding in Frisbee and Po'ouli Camps as well as the East Maui Hawai'i Forest Bird Surveys
- Determine abundance of kiwikiu in Hanawi NAR by September 2023.
 - Carried out by rapid assessment surveys and bird banding in Frisbee and Po'ouli camps
- Assist with two Wolbachia project needs (e.g. mosquito, larvae, or avian blood sample collections) by September 2023 as needs are determined to implement this management as quickly as possible.
 - Carried out by collecting egg rafts, from ovicups to send to Verily, and mosquito and bird blood samples that are sent to Jeff Foster for avian malaria testing.



These efforts are funded and supported by the U.S.
Fish and Wildlife Service
Pacific Island Fish and Wildlife Office

MONITORING KIWIKIU IN HANAWI NATURAL AREA RESERVE



RESEARCH LOCATIONS - HANAWI NAR

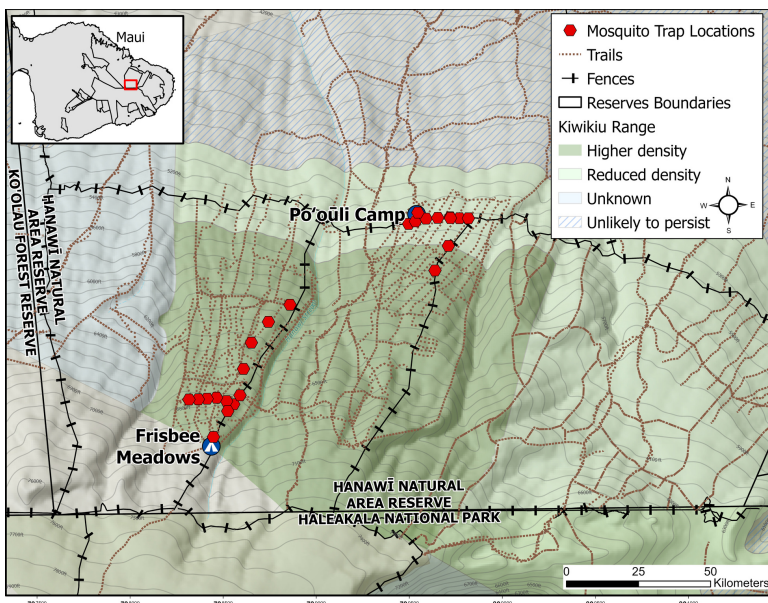
Rapid assessment surveys, bird banding, and blood sampling are carried out from Po'ouli Camp and Frisbee Meadows within Hanawi NAR.

These efforts are funded and supported by the U.S. Fish and Wildlife Service
Pacific Island Fish and Wildlife Office

AN ASSESSMENT OF CURRENT AVIAN MALARIA CONDITIONS AND EXTINCTION RISK WITHIN THE HANAWI NAR ON MAUI

GRANT OBJECTIVES

- Collect data on the relative abundance estimates of adult mosquito populations at the upper and lower bounds of the endangered forest bird ranges within Hanawi NAR and determine the proportion of native and introduced forest birds with avian malaria.
 - Mosquito trapping is being conducted at Frisbee and Po'ouli camps twice per season, totaling 16 weeks of sampling starting in January 2022. Blood samples collected from birds caught in mist nets are tested for avian malaria.



These efforts are funded and supported by the U.S. Fish and Wildlife Service through a competitive State Wildlife Grant



ENDANGERED MAUI FOREST BIRD POPULATION RESEARCH, MANAGEMENT, AND HABITAT RESTORATION

GRANT OBJECTIVES

- Support the assessment of the current kiwikiu distribution, limits, and demographic factors
 - Carried out by rapid assessment surveys & bird banding in Frisbee and Po'ouli camps located in the Hanawi Natural Area Reserve
 - Research trips provide an index of the kiwikiu population in the East Maui forests and are critical for planning and prioritizing the management activities to save this species.
- Support the assessment of mosquito distribution and malaria (*Plasmodium*) abundance in occupied and potential kiwikiu habitats and collect specimens for the investigation of genetic population structure
 - Carried out through mosquito surveys where CDC Co2 traps and Reiter-Cummings modified gravid traps are deployed at Po'ouli and Frisbee Camp

These efforts are funded and supported by the American Bird Conservancy through a National Fish & Wildlife Federation Grant

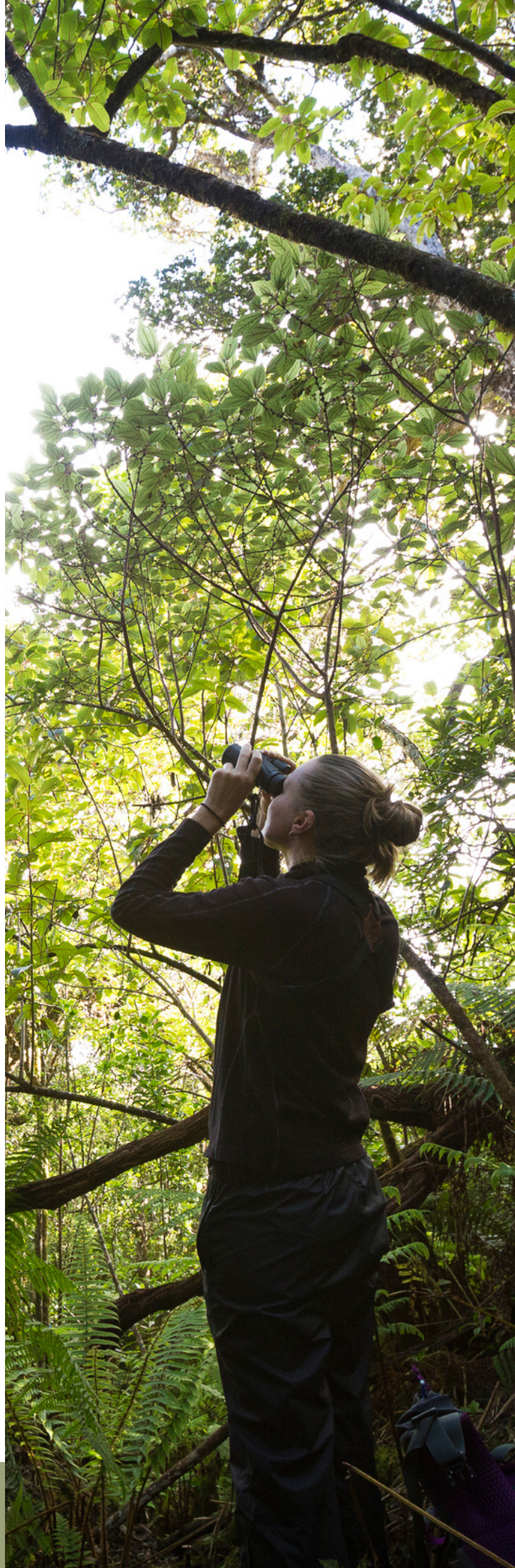


ENDANGERED MAUI FOREST BIRD POPULATION RESEARCH, MANAGEMENT, AND HABITAT RESTORATION

GRANT OBJECTIVES

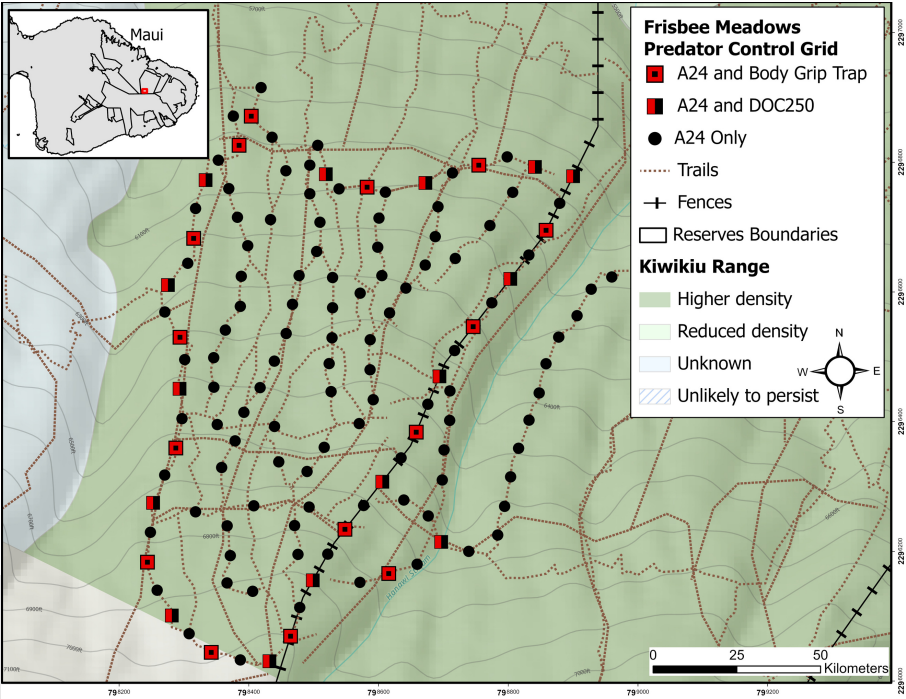
- Provide technical assistance to one organization in support of conservation and management of Maui forest birds and habitat restoration for the benefit of forest birds by September 2022.
 - Carried out by mosquito sampling, target survey of kiwikiu, and bird banding surveys, that include blood sample collection for avian malaria, conducted in the eastern portion of The Nature Conservancy's Waikamoi Preserve.
 - Additionally, MFBRP lends help to Maui Nui Seabird Recovery Project, Palama Lanai, and others as time allows.
- Conduct one investigation into forest bird populations at Nakula NAR by July 2022.
 - Hawai'i Forest Bird Surveys done in Nakula NAR
- Conduct one investigation into wildlife disease by September 2022.
 - Targeting kiwikiu captures to obtain blood samples to test for avian malaria at Frisbee and Po'ouli camps.

These efforts are funded and supported by a
State Wildlife Grant



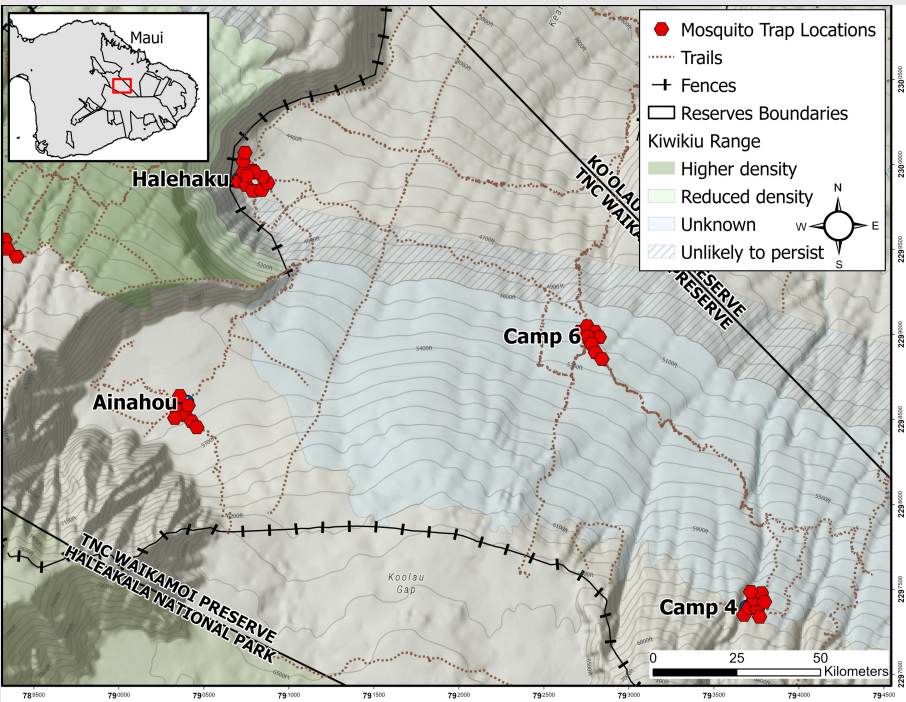
GRANT OBJECTIVES CONTINUED

- Directly manage one species by September 2022. Manage a predator reduction program (cats, mongooses, rats) for the benefit of the kiwikiu population by establishing and maintaining a predator reduction grid in the 6,000–7,000 ft. elevational area of the kiwikiu range. This area has one of the highest observed densities of kiwikiu in the wild.
 - Carried out through the establishment of a predator control grid at Frisbee camp. A total of 129 A24, 18 body grips, and 16 Doc250 traps have been deployed and will be monitored to document the number of predators caught.
- Participate in 10 in-person or virtual outreach events by September 2022.



PREDATOR CONTROL GRID

Established predator control grid for the reduction of cats, mongooses, rats, and mice within kiwikiu range of Hanwai NAR.



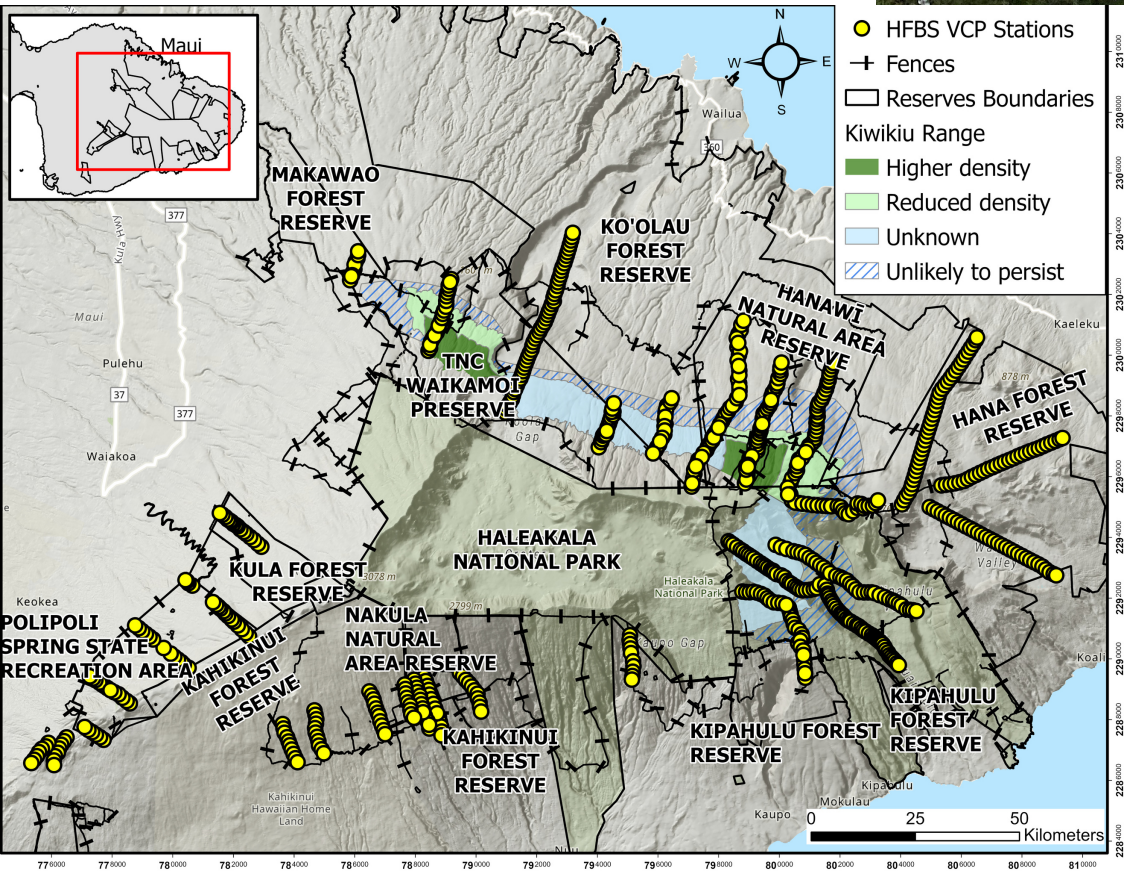
EASTERN WAIKAMOI MOSQUITO TRAPPING

Location of mosquito trapping sites with TNC's Waikamoi Preserve.

HAWAI'I FOREST BIRD SURVEYS

GRANT OBJECTIVES

Every five years variable circular-plot (VCP) counts are conducted at stations along established transects. For VCP counts, an observer walks down a transect and then counts all the birds seen or heard around each station and estimates the horizontal distance to each bird. These numbers are then used to estimate population density in addition to relative abundance of native forest birds. This gives insight into the status and trends of native Hawaiian forest birds. At MFBRP, we focus on transects located on East Maui.



EAST MAUI FOREST BIRD SURVEY TRANSECTS

Transect station locations that will be surveyed during the 2022 East Maui Forest Bird Surveys to determine status and trends of Hawaiian Forest Birds.

These efforts are supported by State DOFAW funding and rely on the help of multiple partner organizations .

‘ALALĀ RESEARCH, RECOVERY, AND MANAGEMENT

GRANT OBJECTIVES

- Administer planning of one reintroduction project within Maui Nui through project coordination, administrative support, compliance, tracking project objectives and grant submission and reporting.
- Facilitate and organize the development of one reintroduction plan by project partners for the release of ‘Alalā at a new release area within Maui Nui.
- Coordinate and organize a moderated quantitative site selection process to select release sites within the selected new release area within Maui Nui.
 - The process involves communication with native Hawaiian community members and remote field visits to preferred sites.
- Provide technical support for an investigation on the natural predator (Io, Hawaiian Hawk) distribution and occurrence on Hawaii Island.
- Conduct outreach presentations or events and maintain project websites.

These efforts are funded by a USFWS Section 6 grant obtained and supported by State DOFAW

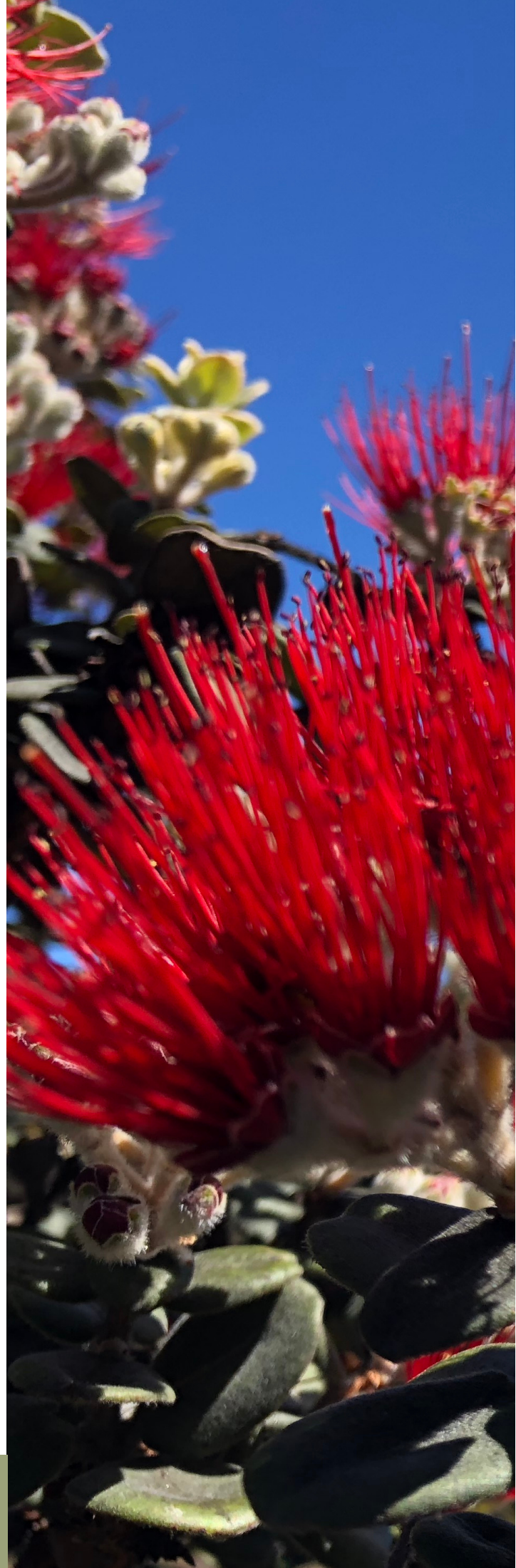


ESTABLISHING 'ALALĀ IN THE WILD IN MAUI NUI

GRANT OBJECTIVES

- By March 2023, construct program support facilities (a flight conditioning aviary and/or a release aviary) within Maui Nui
- By December 2022, develop one release plan for a new reintroduction site within Maui Nui.
- By December 2023, directly manage four invasive species (cats, mongooses, black rats and Polynesian rats) within the future release area within Maui Nui to prepare for reintroduction efforts.
- By December 2023, directly manage up to 10 'alalā within Maui Nui through reintroduction, monitoring, and recovery.

These efforts are funded and supported by a competitive State Wildlife Grant



ENVIRONMENTAL ASSESSMENT FOR THE RELEASES OF 'ALALĀ WITHIN MAUI NUI

GRANT OBJECTIVES

- By December 2022, conduct one scoping period to consult with stakeholders and local landowners on the proposed action of the reintroduction of the 'Alalā to Maui Nui.
- By June 2023, hold one public meeting to gather public commentary to be documented in the environmental assessment document for the reintroduction of the 'Alalā to Maui Nui.
- By December 2023, develop one environmental assessment document for the reintroduction of the 'Alalā within Maui Nui.

These efforts are funded and supported by
USFWS Discretionary Funds



MFBRP is an active member of the following two projects/programs

BIRDS NOT MOSQUITOES

Birds, Not Mosquitoes is a multi-agency partnership, urgently working to save the native honeycreepers of Hawai'i from extinction. Our plan is to use common, naturally-occurring bacteria as a "mosquito birth control" to suppress mosquito populations in Hawai'i.



Mosquitoes carry serious diseases including avian malaria, which threatens to drive many native Hawaiian forest bird species to extinction in the next few years.

To combat this problem, scientists have developed a method to transfer a naturally-occurring "birth control" bacteria to local mosquitoes in a lab. Only male mosquitoes, which don't bite birds or people and therefore don't transmit diseases, would be released. These male mosquitoes would mate with wild female mosquitoes, but their eggs would not hatch.

This safe, targeted technique could drastically reduce mosquitoes in our forests and potentially save our birds from extinction.

www.birdsnotmosquitoes.org

MAUI MAUKA CONSERVATION AWARENESS TRAINING

MMCAT's goal is to create a mutually beneficial partnership between conservation professionals and tour guides that enhances the quantity and quality of environmental interpretation about Maui's unique species and environments.

In 2013, East Maui Watershed Partnership (EMWP), Maui Forest Bird Recovery Project (MFBRP), and Maui Invasive Species Committee (MISC) collaborated to develop Maui Mauka Conservation Awareness Training (MMCAT). These trainings focus on watersheds, native flora and fauna, and invasive species. Presentations are simple, educational, and fact-based. MMCAT is a train-the-trainer model of working with tourists.



www.mauimauka.org

MFBRP FUTURE NEEDS



MFBRP tries to stretch our funds as far as possible but there are always additional funding needs.

While public funds provide much of our annual operating costs, these funds are limited and the need for these funds is continually expanding to new challenges and new species.

The rest of our operating costs are fulfilled by small grants, corporate donations, and private donations of all sizes. MFBRP is financially sponsored by the not-for-profit Nā Koa Manu Conservation which allows us to accept financial support from these private sources.

www.nkmconservation.org



NĀ KOA MANU
CONSERVATION

MAJOR PROJECT NEEDS



VEHICLES

With the work our team does, reliable, safe, and field-appropriate vehicles are a constant need.

The roads we traverse are often rough on our vehicles so maintenance is important as well.

We desperately need two full-size 4WD trucks (~\$120K).

Additional funds will help us to maintain current vehicles, mostly >15 years old (~\$15K).

MAJOR PROJECT NEEDS



OFFICE AND BASEYARD SPACE

As our project is expanding we have been successful at attaining competitive grants for additional staff.

With each addition, the demands on our office and base yard space increase.


We need an office trailer to increase office space (\$75K)

We need two outside storage sheds (\$5K).

We need roof repairs to our office building, and to expand our roof to create covered work space (\$30K).

MAJOR PROJECT NEEDS

GEAR & OTHER SUPPLIES



We put our gear to the test! Some gear is specialized and expensive such as helicopter helmets, digital radios, and mosquito traps. Other gear is ordinary but adds up. All of it is needed to help keep our crew safe while they work hard to save our species.

We continually need >\$35K annually for field gear and general supplies and to keep the lights on at the office ;)

MAHALO NUI LOA

*Mahalo to all of our
partners, sponsors,
supporters, and dedicated
team members.*



WAYS TO FOLLOW/SUPPORT

