

# Haleakalā National Park

Suppression of Invasive Mosquito Populations to Reduce Transmission of Avian Malaria to Threatened and Endangered Forest Birds on East Maui

National Park Service  
US Department of the Interior



## You Are Invited to Participate

The National Park Service (NPS) is requesting your input on an Environmental Assessment (EA) in which the proposed action is to suppress invasive mosquito populations to reduce transmission of avian malaria to threatened and endangered forest birds on East Maui. The project area includes lands within Haleakalā National Park, adjacent State lands, and private conservation lands that are managed independently or by The Nature Conservancy (TNC). The EA was prepared in cooperation with the State of Hawai‘i Department of Land and Natural Resources (DLNR).

Release of the EA is part of the National Environmental Policy Act (NEPA) and Hawaii Environmental Policy Act (HEPA) process and begins a 45-day EA public review period from December 6, 2022 to January 23, 2023.

You are invited to attend two virtual meetings (please note the agenda will be the same for both) to learn more about the EA and ask park and state representatives questions. For additional information on the NEPA process, public meetings, and how to provide comments, please visit the project website at: <https://parkplanning.nps.gov/HALE-mosquito>.

## Proposed Action

The NPS and DLNR propose to reduce the risk of extinction of threatened and endangered forest birds due to avian malaria infection by suppressing mosquito populations on East Maui. The proposed action consists of repeatedly releasing incompatible male southern house mosquitoes to reduce the reproductive potential of invasive mosquitoes. This approach employs the Incompatible Insect Technique (IIT), which uses a naturally occurring bacteria called Wolbachia that is present in the eggs and sperm of many insect species, including the southern house mosquito. Releases under the proposed action must be conducted repeatedly over time to achieve and maintain significant suppression of the mosquito population. Monitoring of mosquito populations would guide the frequency, number, and location of releases, and would need to continue for as long as the proposed action is implemented. Specific information on frequency and locations of mosquito releases can be found in the [EA](#).

## Project Area

The NPS and DLNR identified the project area through a collaborative process, during which all public lands within much of the current and historic ranges of threatened and endangered forest birds on East Maui were evaluated for inclusion. The project area (see page 2) includes areas downslope from many birds' current ranges that may serve as high-density mosquito breeding grounds from which mosquitoes may move upward in elevation into native forest bird habitat. The project area is approximately 64,666 acres in size.

### Virtual Public Meeting Dates and Details

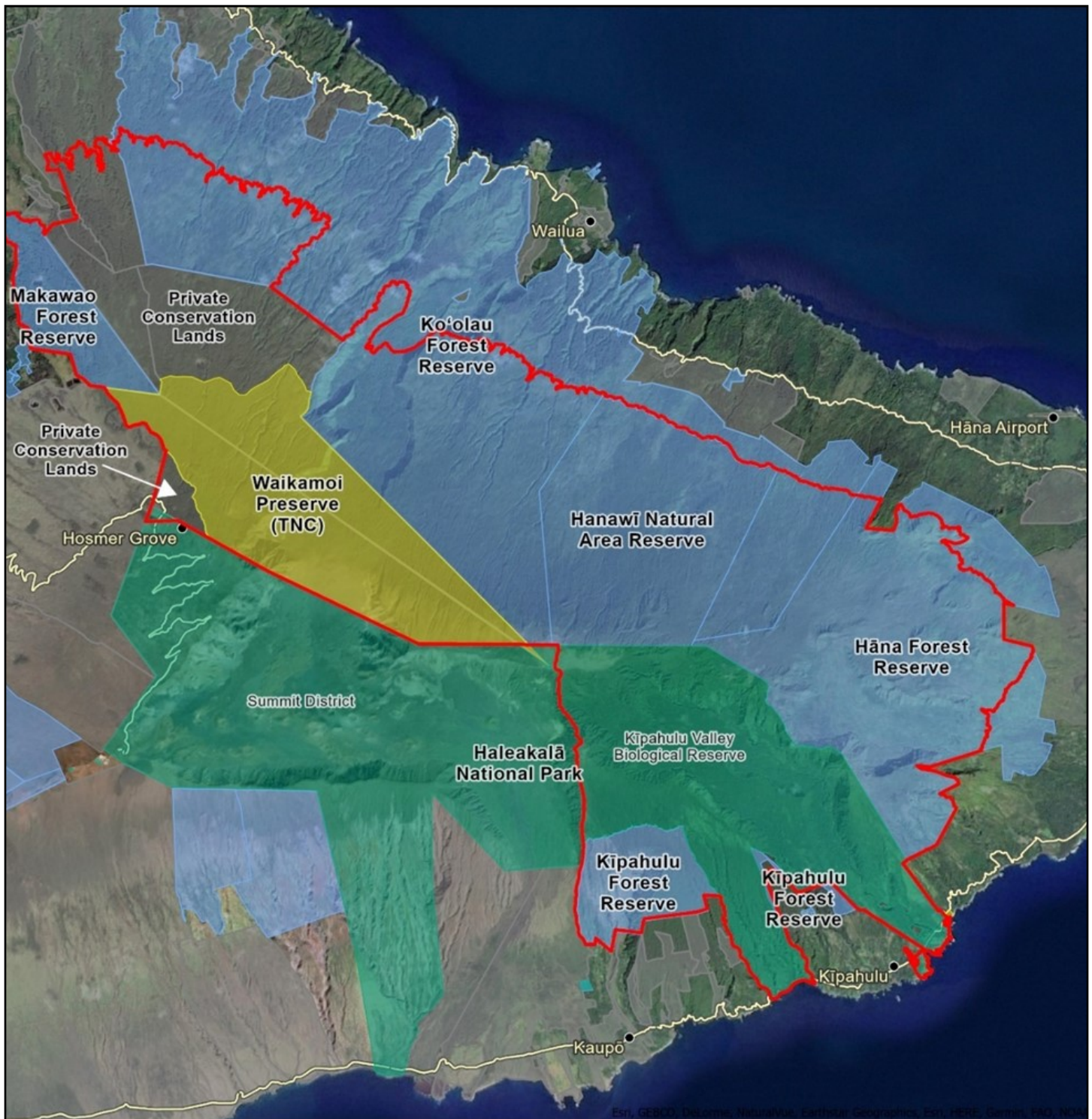
**Virtual Meeting 1 - Tuesday, January 3, 2023;**  
5:30pm—7pm HT

**Virtual Meeting 2 - Thursday, January 5, 2023;**  
5:30pm—7pm HT

To attend a virtual meeting, please visit <https://parkplanning.nps.gov/HALE-mosquito> and click on the “Meeting Notices” tab on the left side of the page. Then click on the link for the meeting you would like to attend at the date and time the meeting is scheduled.



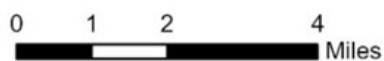
‘Ākohekohe. Maui Forest Bird Recovery Project



# **East Maui Mosquito Suppression Environmental Assessment**

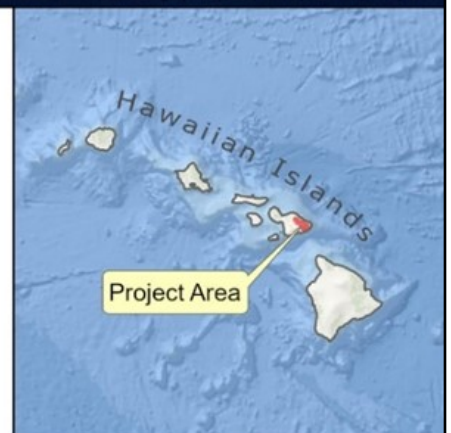
*Project Area*

1 inch equals 2 miles



## **Legend**

- Project Area
- Landmarks
- Major Roads
- Federal (National Park Service)
- The Nature Conservancy (TNC)
- State (DLNR/DOFAW)
- Private Lands



## Release Methods

Aerial release by drones would be the primary method for releasing incompatible mosquitoes throughout the project area. This method has been successfully used elsewhere for other mosquito control projects. Drones would be flown from locations accessible by roads and trails. The use of helicopters for releasing incompatible mosquitoes is proposed as a short-term, temporary release method if drones are not available. In that event, helicopters would release incompatible mosquitoes for up to two months (per year) in management units where population suppression can be sustained. Pedestrian release would only be possible within portions of Makawao Forest Reserve, TNC's Waikamoi Preserve, and adjacent private lands; thus, aerial methods are expected to be the most common methods of release, with drone release being the primary method. Mosquito releases would only occur during daylight hours on weekdays.



## Effects of the Proposed Action

### Threatened and Endangered Wildlife Species and Wildlife Species of Concern

- The proposed action would result in limited impacts on federally listed wildlife species, designated critical habitat, and wildlife species of concern and their habitats. Potential impacts include brief wildlife disturbance, a low risk of wildlife collision, and potential for the introduction and spread of non-native weeds. Impacts to wildlife would be mitigated by using appropriate flight elevations and only using aerial release methods during daytime periods.
- The proposed action would help restore the forest ecosystem (including designated critical habitat) by substantially reducing the extinction risk of Hawaiian honeycreepers, which are culturally significant and vital pollinators and seed dispersers.



### Acoustic Environment

- The proposed action would have adverse impacts on the acoustic environment in terms of human and wildlife disturbance during mosquito release and monitoring activities. Noise would primarily be generated from the use of drones, helicopters, and motorized/mechanized uses in the project area.



### Threatened and Endangered Plant Species and State Plant Species At Risk

- The proposed action has the limited potential to cause damage to rare native plants and low risk of the introduction of weedy species or pathogens. Impacts to plants would be limited through the use of mitigation measures designed to prevent the spread of invasive species.
- The proposed action would support recovery of native Hawaiian forest birds which may benefit native Hawaiian plants, including listed plants and plant species at risk.

## Wilderness

- The proposed action would have limited adverse impacts on the qualities of wilderness character from the use of mechanized and motorized equipment used for incompatible mosquito releases.
- The proposed action would likely support a considerable recovery to natural conditions previously present on the island, thus benefiting the natural qualities of wilderness.

## Visitor Use and Experience

- The proposed action would contribute limited adverse impacts on visitor experience caused by drones, helicopters, and use of mechanized equipment. Impacts would largely be in the form of noise and visual intrusion near aerial release flight paths, landing zones, and in remote areas where periodic monitoring would occur. However, mosquito releases would only occur during the day on weekdays.
- A permanent beneficial impact on the visitor experience is anticipated under the proposed action if the mosquito control effort is successful and native forest bird populations stabilize or even rebound. For those who are visiting portions of the analysis area to enjoy a unique native rainforest ecosystem or birdwatching.



Kīwīkiū. Maui Forest Bird Recovery Project, Z. Pezillo

## The Planning Process

This public review period is an opportunity for you to be involved in this project's planning process by submitting comments on the EA. The public comment period for the EA will be open from December 6, 2022, through January 23, 2023. Important steps remaining in the planning process are shown in the schedule below.

### Schedule

Dec. 2022 - Jan. 2023	<ul style="list-style-type: none"><li>• EA Public Review Period (WE ARE HERE)</li></ul>
Jan. 2023	<ul style="list-style-type: none"><li>• Public meetings during EA review period</li></ul>
Jan. - Feb. 2023	<ul style="list-style-type: none"><li>• Review public comments on EA</li></ul>
Feb. - Mar. 2023	<ul style="list-style-type: none"><li>• NPS/DLNR Decision</li></ul>

### How to Comment



Submit comments electronically at the project website link to the right (preferred method). Once you are on the website, just click "open for comment" on the left side of the page and click on the link to the EA to submit comments.



Submit written comments to Haleakalā National Park by mail to:

#### Mosquito Suppression Project

Superintendent  
Natalie Gates,  
Haleakalā National Park,  
PO Box 369,  
Makawao, HI 96768

#### Project Website:

For more information, please visit:  
<https://parkplanning.nps.gov/HALE-mosquito>

**The public comment period ends  
January 23, 2023.**

*Note: Comments will not be accepted by fax, e-mail, or any other way than those specified above. Bulk comments in any format (hard copy or electronic) submitted on behalf of others will not be accepted. Please also note that your entire comment—including personal identifying information such as your address, phone number, and e-mail address—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.*