## Saving Hawaiian Honeycreepers with Mosquito Birth Control

Honeycreepers are a unique group of forest birds found only in Hawai'i.
There were once more than 50 honeycreeper species. **Today, only 17 species remain, some species with less than a few hundred individuals.** 

Without swift action, several species of honeycreepers will become extinct in the next ten years.

Avian malaria, a disease transmitted by invasive *Culex* mosquitoes, is driving the extinction of our forest birds. These birds can be killed by a single bite from an infected mosquito.

**FOREST BIRD ZONE** 

MOSQUITO ZONE

**OCEAN** 

Hawaiian honeycreepers are limited to upper elevation forests that are too cold for mosquitoes. As the climate warms, mosquitoes carrying avian malaria are moving further upslope into this last refuge of Hawaiian forest birds.

## A "mosquito birth control"

technique can suppress mosquito populations and help save our native forest birds.



## **How Mosquito Birth Control Works**

- The best way to protect native birds is to reduce the chance of being bitten by disease-carrying mosquitoes.
- A safe, effective technique is already being used around the world to stop the spread of mosquito-borne human diseases. This same strategy can help save our forest birds.
- Mosquito birth control uses a naturally-occurring bacteria called *Wolbachia* that lives in the tissues of many insect species. If males and females carry different *Wolbachia* strains their eggs don't hatch.
- Rearing and releasing male mosquitoes that have an incompatible bacteria strain can suppress mosquito populations in the wild and reduce disease transmission.
- Male mosquitoes don't bite. So by releasing only male mosquitoes, people are not harmed.

## The Most Endangered Hawaiian Honeycreepers





Birds, Not Mosquitoes is a multi-agency partnership fighting to save Hawaii's forest birds from extinction by stopping the spread of avian disease by mosquitoes.

More information: www.dlnr.hawaii.gov/mosquito

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