

# MOSQUITOES?

# BIRDS?

# WOLBAWHAAT?

## background

avian malaria is a deadly disease to Hawaii's native birds and is transmitted by mosquitoes.

## THIS EA EXPLAINS HOW MULTIPLE AGENCIES ARE GOING TO HELP BIRDS:

suppression of

## NON-NATIVE WILD MOSQUITO

populations to reduce transmission of avian malaria to THREATENED and ENDANGERED forest birds on East Maui

## SOME BIRD FACTS



- ① kiwikiu and 'akohekohe's population decreased more than 70% over the last 20 yrs
- ② Expected extinction is in the next 2 to 10 yrs
- ③ Kiwikiu has ~150 birds alive and 'akohekohe has ~1,750

## how?

INSECT INCOMPATIBILITY TECHNIQUE

By releasing male mosquitoes with a different strain of Wolbachia than the females in the selected area. When they mate, the Wolbachia is incompatible resulting in no babies.



## isn't that a GMO?

nope. Wolbachia is NATURALLY occurring in insects! Other techniques such as gene drive and self-limiting male mosquitoes with edited genes are GM.

## aren't mosquitoes



## needed in the ecosystem

nope. they are not a significant source of diet for any native species. They don't pollinate plants.

## okay so... what if they bite me or my dog?

- ① Only FEMALES drink blood,
- ② Wolbachia does NOT transfer between animals and humans,
- ③ Wolbachia does NOT transfer between male and female.