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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Testimony of
SUZANNE D. CASE
Chairperson

Before the Senate Committee on
WAYS AND MEANS

Wednesday, April 3, 2019
10:25 AM

State Capitol, Conference Room 211

In consideration of
HOUSE BILL 1546, HOUSE DRAFT 1, SENATE DRAFT 1
RELATING TO ENVIRONMENTAL PROTECTION

House Bill 1546, House Draft 1, Senate Draft 1 proposes to provide funds to the University of Hawaii (UH) to scale up research, coordinate with appropriate state agencies, and develop a plan to be implemented for the eradication of mosquitoes in the State. **The Department of Land and Natural Resources (Department) supports this measure, provided that its passage does not replace or adversely impact priorities indicated in the Executive Budget request, and offers the following comments.**

Mosquitoes are non-native to Hawaii, and spread diseases which threaten public health and native wildlife. In particular, the Southern house mosquito (*Culex quinquefasciatus*) is widespread across the State and is a vector for avian malaria. Hawaii's native birds are particularly susceptible to this disease and have seen precipitous declines in population size since the introduction of mosquitoes and associated avian diseases. There are several additional mosquito species in Hawaii in the *Aedes* genus, which are vectors of human diseases, including dengue, Zika, and chikungunya.

The Department supports the overall concept of landscape-scale mosquito control in Hawaii and is currently working with partners on a non-genetic tool that uses a bacteria called *Wolbachia* to induce a "birth control" effect in populations of *Culex* mosquitoes. Such technology is already being applied elsewhere in the United States and internationally to suppress populations of mosquitoes that spread diseases. This tool is not likely to lead to eradication of mosquitoes from the State, but would provide a safe and effective tool for localized population suppression.

The Department also supports UH conducting research into genetic tools that may be used for landscape-scale mosquito control. There are a variety of genetic tools being researched and developed, and several approaches may be necessary to achieve localized suppression or, potentially, eradication of mosquitoes from the State.

The Department notes that because mosquitoes are not native to Hawaii, there are no anticipated negative impacts from the eradication of mosquitoes within the State.

Thank you for the opportunity to comment on this measure.



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committee on Ways and Means
Wednesday, April 3, 2019 at 10:25 a.m.

By

Kenneth Kaneshiro

Program Director, Center for Conservation Research & Training
Pacific Biosciences Research Center
School of Ocean, Earth Sciences & Technology

And

Michael Bruno, PhD

Vice Chancellor for Research
University of Hawai'i at Mānoa

HB 1546 HD1 SD1 – RELATING TO ENVIRONMENTAL PROTECTION

Chair Dela Cruz, Vice Chair Keith-Agaran and Members of the Committee:

Thank you for the opportunity to provide testimony in support of HB 1546 HD1 SD1 which requires the University of Hawai'i to develop a plan to be implemented for the statewide eradication of mosquitos.

To provide you some background, during the 2016 IUCN World Conservation Congress held in Honolulu, the University of Hawai'i convened a "To Restore a Mosquito-Free Hawai'i Workshop" attended by some of the top mosquito researchers worldwide to discuss the feasibility of eradicating three mosquito species from the state. It was determined that by taking a systems-thinking approach and addressing all aspects of the biology, ecology, behavior, genetics, etc. of the three mosquito species in question, *Aedes aegypti*, *Aedes albopictus*, and *Culex quinquefasciatus*, eradication of these mosquito species is certainly feasible. It would be possible to bring a few of the Workshop participants back to Hawai'i to assist in developing a strategic plan for implementing a mosquito eradication program in Hawai'i.

UH recommends the following amendments:

page 1, line 15-16 - delete "including introducing genetically engineered mosquitos"

page 2, line 19 - delete "genetic"

page 3, line 7. - insert a sum of "\$50,000"

With these amendments, UH support HB 1546 HD1 SD1 as long as it is in addition to the University's Biennium Budget request.

Thank you for the opportunity to testify on this measure.