

DAVID Y. IGE
GOVERNOR OF
HAWAII



SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

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 Committees on
WATER AND LAND
and
AGRICULTURE AND ENVIRONMENT

Friday, March 15, 2019
3:00 PM
State Capitol, Conference Room 224

In consideration of
HOUSE BILL 1548, HOUSE DRAFT 1
RELATING TO RAPID OHIA DEATH

House Bill 1548, House Draft 1 proposes to appropriate funds for research, surveys, and outreach for Rapid 'Ōhi'a Death. **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.**

Rapid 'Ōhi'a Death (ROD) threatens Hawaii's most important tree species that makes up 80% of the remaining native Hawaiian forests. It is caused by two recently arrived fungal species detected in 2014 and named and described by scientists in 2018.

On Hawaii island, approximately 135,000 acres are currently affected by ROD with some stands seeing over 90% mortality. Much of that area has lower levels of mortality and the Department is working with other agencies to contain new outbreaks and protect remaining healthy forests. Both fungal pathogens causing ROD have now been detected on the island of Kauai as of 2018, requiring additional resources to respond there. The islands of Maui, Molokai, Lanai, and Oahu still have no ROD detections, and statewide surveys are conducted two times a year to find new outbreaks before the disease is widely established.

In addition to survey and response, funding is needed for forest pathology research, disease diagnostics, monitoring using remote sensing techniques, removal of hooved animals from fenced areas to prevent additional ROD infections, and public outreach to inform communities what they can do to prevent the spread of ROD. Funds appropriated to the Department's budget

for ROD in FY19 were used to leverage approximately \$1,000,000 in federal, private, and other funds.

The Department looks forward to working with the Legislature as well as federal and private funders to ensure that the statewide multi-agency ROD response receives the support it needs to succeed.

Thank you for the opportunity to comment on this measure.

DAVID Y. IGE
Governor

JOSH GREEN
Lt. Governor



PHYLLIS SHIMABUKURO-GEISER
Chairperson, Board of Agriculture

GLENN K. MURANAKA
Deputy to the Chairperson

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
Honolulu, Hawaii 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

**TESTIMONY OF PHYLLIS SHIMABUKURO-GEISER
CHAIRPERSON, BOARD OF AGRICULTURE**

**BEFORE THE SENATE COMMITTEES ON WATER & LAND AND AGRICULTURE &
ENVIRONMENT**

**MARCH 15, 2019
3:00 P.M.
CONFERENCE ROOM 224**

**HOUSE BILL NO. 1548 HD1
RELATING TO RAPID OHIA DEATH**

Chairpersons Kahele and Gabbard and Members of the Committees:

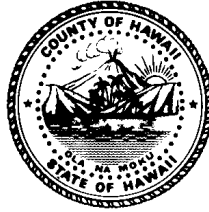
Thank you for the opportunity to testify on House Bill 1548 HD1, relating to rapid ohia death. The bill appropriates funds to the Department of Land and Natural Resources to study and combat rapid ohia death. The Department supports this bill.

Funding for combatting invasive species such as rapid ohia death is critical to ensure appropriate responses can be implemented and maintained. Providing additional funds to DLNR for continued support in combating ROD is critical and much needed. The Department supports the many efforts in researching and mitigating ROD throughout the State.

Thank you for the opportunity to testify on this measure.



Harry Kim
Mayor



Wil Okabe
Managing Director

Barbara J. Kossow
Deputy Managing Director

County of Hawai'i Office of the Mayor

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March 13, 2019

Senator Kaiali'i Kahele, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair
Committee on Water and Land

Senator Mike Gabbard, Chair
Senator Russell E. Ruderman, Vice Chair
Committee on Agriculture and Environment

Dear Chairs Kahele and Gabbard, Vice Chairs Keith-Agaran and Ruderman, and Committee Members:

RE: HB 1548, HD1 Relating to Rapid Ohia Death

The initial shock of the discovery of Rapid Ohia Death has passed, and therefore the media has largely moved on. But the devastation of ROD and the loss of Ohia in Hawai'i should not be ignored. Therefore, I am grateful to all of you for keeping this issue alive at the Legislature, and hopefully furthering the battle to defeat this terrible scourge.

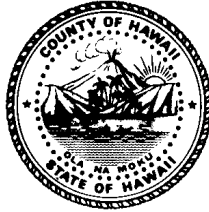
I will defer to the scientists as to how much funding can be productively used, and urge that, at the end of the Session, there be sufficient money allotted to find an ROD cause and cure, or at least treatment.

With whatever amendments are appropriate, please approve funding to combat ROD, either via HB 1548 or in your committees' priorities for the State budget.

Respectfully Submitted,

Harry Kim
MAYOR

County of Hawai'i
Council District 9 -
North and South Kohala



Phone: (808) 961-8564
(808) 887-2069

Email: tim.richards@hawaiiicounty.gov

Chair: Committee on Agriculture,
Water, Energy, and Environmental
Management

Vice Chair: Committee on Finance

HERBERT M. "TIM" RICHARDS, III
HAWAI'I COUNTY COUNCIL - DISTRICT 9
25 Aupuni Street, Ste. 1402, Hilo, Hawai'i 96720

March 14, 2019

Senate Committee on Water and Land

Honorable Senator Kaiali'i Kahele, Chair

Honorable Senator Gilbert S.C. Keith-Agaran, Vice Chair

Senate Committee on Agriculture and Environment

Honorable Senator Mike Gabbard, Chair

Honorable Senator Russell E. Ruderman, Vice Chair

Submission via online testimony

RE: **Support of HB 1548, HD1**

Hearing Date/Time: March 15, 2019 at 3:00 p.m.

Dear Senators:

As the Chair of the Committee on Agriculture, Water, Energy, and Environmental Management for the Hawai'i County Council, I thank you for the opportunity to submit **testimony in SUPPORT of HB 1548, HD1**. With the risk of losing our watersheds, it is critical that funds be appropriated to the Department of Land and Natural Resources for the continued combat of Rapid 'Ohia Death throughout the entire State of Hawai'i.

Please feel free to contact me should you need to discuss my position and knowledge of this matter further.

Sincerely,

HERBERT M. "TIM" RICHARDS, III
Hawai'i County Council, District 9



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committee on Water and Land
and

Senate Committee on Agriculture and Environment
Friday, March 15, 2019 at 3:00 p.m.

By

Nicholas Comerford

Dean, College of Tropical Agriculture and Human Resources

And

Michael Bruno

Interim Vice Chancellor for Academic Affairs

Vice Chancellor for Research

University of Hawai'i at Mānoa

HB 1548 HD1 – RELATING TO RAPID OHIA DEATH

Chairs Kahele and Gabbard, Vice Chairs Keith-Agaran and Ruderman, and members of the Senate Committee on Water and Land and Senate Committee on Agriculture and Environment:

Thank you for this opportunity to testify on HB 1548 HD1 relating to rapid ohia death (ROD). The University of Hawai'i at Mānoa (UHM), College of Tropical Agriculture and Human Resources (CTAHR) supports the intent of this bill. ROD is a disease that is changing the natural landscape of Hawai'i on state and private lands. ROD is the greatest threat to our native forests, watersheds, and the endangered species that live there. Widespread ohia mortality would also be a severe loss for native Hawaiian culture.

A team of scientists from the U.S. Department of Agriculture, Agriculture Research Service, Pacific Basin Agricultural Research Center in collaboration with UH have:

- discovered the two new species of fungus that are attacking the ohia;
- developed molecular diagnostic tools to enable certain identification of the fungus;
- identified how the pathogen moves, both by human and natural means, in particular by boring beetles;
- shown that wounding of ohia trees allows them to become infected; and,
- UH Hilo has developed the drone methodology for detecting trees with ROD symptoms from the air.

The news that the fungus has reached Kaua'i demonstrates that this is a statewide problem, not just a Hawai'i Island problem. A recent detection of a virulent pathogen of ROD, *Ceratocystis lukuohia* indicates that there might be more ROD infected trees or the spread of disease would be rapid on Kaua'i. This bill addresses the state-wide need through research, prevention and outreach.

CTAHR strongly supports the effort expressed by this bill and is willing to assist in the mentioned outreach through the Hawai'i Cooperative Extension Service and the CTAHR Office of Communications.

CTAHR extension agents, while distributed throughout the state, all have a level of state-wide responsibilities to extend information to the community through a variety of educational platforms, including but not limited to, workshops, social media, print media, and video.

Since people are one of the major vectors, UHM/CTAHR, Department of Land and Natural Resources (DLNR), and others have been conducting an extension program that has:

- given hundreds of community talks and events, reaching tens of thousands of local people;
- produced and distributed tens of thousands of brochures, produced radio public service announcements, websites, and social media that have reached hundreds of thousands of people;
- produced a half hour documentary film on ROD; and,
- shown that almost half of everyone in Hawai'i is aware of ROD, with 90% awareness on Hawai'i Island (this survey was done before the Kaua'i outbreak)

CTAHR supports DLNR in the battle against ROD and is willing to assist where we can.

Thank you for this opportunity to submit testimony in support of HB 1548 HD1. However, we defer to the testimony of DLNR as to the feasibility of this bill relative to their manpower and proposed funding to accomplish the task.



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e-mail info@hfbf.org; www.hfbf.org

March 15, 2019

HEARING BEFORE THE
SENATE COMMITTEE ON WATER AND LAND
SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

TESTIMONY ON HB 1548, HD1
RELATING TO RAPID OHIA DEATH

Room 224
3:00 PM

Aloha Chairs Kahele and Gabbard, Vice Chairs Keith-Agaran and Ruderman, and Members of the Committees:

I am Brian Miyamoto, Executive Director of the Hawaii Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,900 farm family members statewide, and serves as Hawaii's voice of agriculture to protect, advocate and advance the social, economic and educational interests of our diverse agricultural community.

Hawaii Farm Bureau supports HB 1548, HD1, which appropriates funds to the Department of Land and Natural Resources to combat rapid ohia death in the State.

Watersheds are the lifeblood of our communities. It is important not just to agriculture but to our social and environmental health. The spread of rapid ohia death has been alarming and its' management before spreading to other islands is very critical. Many of the other islands depend on surface water for their drinking and irrigation needs. Loss of trees will severely impact watersheds.

Thank you for the opportunity to testify in support of this bill.



Hawaii Cattlemen's Council, Inc.

COMMITTEE ON WATER AND LAND

Senator Kaiali'i Kahele, Chair | Senator Gilbert S.C. Keith-Agaran, Vice Chair

COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Senator Mike Gabbard, Chair | Senator Russell E. Ruderman, Vice Chair

DATE: Friday, March 15, 2019
TIME: 3:00 P.M.
PLACE: Conference Room 224

HB 1548 HD1 – RELATING TO RAPID OHIA DEATH.

Appropriates funds to the Department of Land and Natural Resources to study and combat rapid ohia death. (HB1548 HD1)

Chairs Kahele & Gabbard, Vice Chairs Keith-Agaran & Ruderman, and Members of the Committees:

My name is Dale Sandlin, and I am Managing Director of the Hawaii Cattlemen's Council. The Hawaii Cattlemen's Council, Inc. (HCC) is the Statewide umbrella organization comprised of the four county level Cattlemen's Associations. Our 150+ member ranchers represent over 60,000 head of beef cows; more than 75% of all the beef cows in the State. Ranchers are the stewards of approximately 25% of the State's total land mass.

The Hawaii Cattlemen's Council **offers comments** on HB 1548 HD1, as this measure insinuates the only damage that makes Ohia trees vulnerable is from hooved animals.

While we understand the intention to prevent a wound area in the tree bark which could allow for the fungus to establish itself, we also question the impact that humans could have on these trees through either intentional or accidental damage by either direct or mechanical means.

We respectfully ask that additional causes of damage also be studied to better reflect the potential impacts on Ohia and we appreciate the opportunity to provide testimony in this matter.



Testimony of The Nature Conservancy of Hawai'i
Supporting HB 1548 HD1 Relating to Rapid 'Ōhi'a Death
Senate Committee on Water and Land
Senate Committee on Agriculture and Environment
Friday, March 15, 2019, 3:00PM, Room 224

The Nature Conservancy of Hawai'i is a non-profit conservation organization dedicated to the preservation of the lands and waters upon which all life depends. The Conservancy has helped protect more than 200,000 acres of natural lands in Hawai'i and Palmyra Atoll. We manage 40,000 acres in 13 preserves and work in over 30 coastal communities to help protect the near-shore reefs, waters and fisheries of the main Hawaiian Islands. We forge partnership with government, private parties and communities to protect forests and coral reefs for their ecological values and the many benefits they provide to people.

The Nature Conservancy strongly supports HB 1548 HD1 proposing to provide additional funding to the Department of Land and Natural Resources to address Rapid Ōhia Death.

We appreciate the crisis situation that exists with respect to Rapid Ōhia Death as well as other pests of the environment, agriculture, and human health and well-being. We support a strong and coordinated response to this disease that is threatening the dominant native tree species in the Hawaiian forest—a tree that is central to the forests' ecological, cultural and watershed values statewide.

We also hope that providing the necessary and critical support for addressing Rapid 'Ōhi'a Death will continue to be additive. We are concerned about unintended financial impacts of a piecemeal approach to invasive species funding. For example, in Fiscal Year 2007 the Legislature's provision of specific funding for coqui frog control was really a shifting of existing funds from other important invasive species programs, which then caused layoffs in the Island Invasive Species Committees and a hiatus in the Hawai'i Invasive Species Council's research grant program.

The [Hawai'i Interagency Biosecurity Plan](#)—prepared by the Department of Agriculture with the support of its many government and non-government partners—addresses the full range of invasive species prevention, early detection, rapid response, control, research, and outreach priorities across the state. Beyond this bill's additive funding, we encourage the Legislature, the Administration and partners to enhance our collective attention and funding applied to the full range of pest issues across the islands as outlined in the comprehensive Biosecurity Plan.

Thank you for the opportunity to testify in support of this bill.

BOARD OF TRUSTEES

Mark E. Agne Duke E. Ah Moo Paul D. Alston Dr. C. Tana Burkert Richard A. Cooke III Ka'iulani de Silva Brian J. Doyle
Robert J. Dzielak Dr. Alan M. Friedlander James J.C. Haynes III Sean A. Hehir Brett MacNaughton Kathy M. Matsui
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DEMOCRATIC PARTY OF HAWAII
HAWAIIAN AFFAIRS CAUCUS

TESTIMONY IN SUPPORT OF HB1548 HD1
RELATING TO RAPID OHIA DEATH
Committee on Water and Land
Committee on Agriculture and Environment

Hearing: March 15, 2019, 3:00 p.m., Conf Room 224

Aloha, Senator Kahele, Chair, and Senator Keith-Agarang, Vice-Chair, and members of the Committee on Water and Land, and Senator Gabbard, Chair, Senator Ruderman, Vice Chair, and members of the Committee on Agriculture and Environment

The Hawaiian Affairs Caucus of the Democratic Party of Hawaii strongly urges the passage of HB1548, HD1, Relating to Rapid Ohia Death, that appropriates funds to the Dept of Land and Natural Resources to Study and Combat Rapid Ohia Death.

‘Ohia trees and its flowers have been treasured by Native Hawaiians for centuries, embodying the kinolau of important Hawaiian gods. In Native Hawaiian society, ‘Ohi`a was used in house and heiau construction, as well as to make poi boards, weapons, tool handles, statues and idols, seats for canoes, firewood, etc. The lehua (flowers) and liko lehua (leaf buds) were and continue to be used for lei. ‘Ohi`a also played a prominent role in the Pele legends. Today, thousands use the precious flower of lehua in their hula adornments that is clearly evident in the annual Merrie Monarch Hula Festival.

The widespread loss of ohia would be catastrophic for Hawaii's culture and native ecosystems. Ohia trees provide important habitats for other plants and animals and gather precipitation to recharge island aquifers.

We are alarmed at the fast rate of destruction of ohia. In 2016, the legislature, by HB2675, H.D.1, S.D.2, C.D.1 contained information that, “As of 2014, approximately fifteen thousand acres on the island of Hawaii have shown greater than fifty per cent mortality from rapid ohia death. Recent estimates have found that the disease has affected **thirty thousand acres** on the island of Hawaii.” The current measure, HB1548, HD1, reports that, “The legislature finds that rapid ohia death has killed hundreds of thousands of native ohia trees and affected more than **135,000 acres** of forest on Hawaii island.” This rapid destruction of ohia trees makes it imperative for studies to find a solution, else the demise of the ohia trees, and along with it, the reduction of municipal and agricultural water supplies.

Please pass HB1548, HD1. We are in crisis mode.

Respectfully,

LEIMOMI KHAN, Chair

HB-1548-HD-1

Submitted on: 3/12/2019 1:21:23 PM

Testimony for WTL on 3/15/2019 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|---------------------|---------------------|---------------------------|---------------------------|
| Erica Scott | Individual | Support | No |

Comments:

HB-1548-HD-1

Submitted on: 3/12/2019 1:37:36 PM

Testimony for WTL on 3/15/2019 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|--------------------------|---------------------|---------------------------|---------------------------|
| Katharine T. Cannon-Eger | Individual | Support | No |

Comments:

This issue is of extreme importance to the well-being of watershed lands not only on the island of Hawaii, but throughout the state.

HB-1548-HD-1

Submitted on: 3/12/2019 9:48:26 PM

Testimony for WTL on 3/15/2019 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|---------------------|---------------------|---------------------------|---------------------------|
| Lois Crozer | Individual | Support | No |

Comments:

HB-1548-HD-1

Submitted on: 3/13/2019 7:59:00 AM

Testimony for WTL on 3/15/2019 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|------------------------------|---------------------|---------------------------|---------------------------|
| Benton Kealii Pang, Ph.D. | Individual | Support | No |

Comments:

As a conservation biologist, I support HB1548 HD1. Rapid 'Āhi'a Death has been found on two islands important to our local economy, Hawai'i and Kaua'i Islands. The 'Āhi'a trees are not only important ecologically. Culturally, our hula, wood, and medicine are derived from them. Please provide the necessary resources to DLNR to research and eradicate this disease from our islands. Mahalo.

HB-1548-HD-1

Submitted on: 3/13/2019 5:20:47 PM

Testimony for WTL on 3/15/2019 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|---------------------|---------------------|-------------------------------|-------------------------------|
| Ted Bohlen | Individual | Support | No |

Comments:

HB-1548-HD-1

Submitted on: 3/14/2019 9:25:50 AM

Testimony for WTL on 3/15/2019 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|---------------------|---------------------|---------------------------|---------------------------|
| J Ashman | Individual | Support | No |

Comments:

HB-1548-HD-1

Submitted on: 3/13/2019 11:21:27 PM

Testimony for WTL on 3/15/2019 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|---------------------|---------------------|---------------------------|---------------------------|
| James B Friday | Individual | Support | No |

Comments:

LATE

HB-1548-HD-1

Submitted on: 3/14/2019 3:45:46 PM

Testimony for WTL on 3/15/2019 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|---------------------|---------------------|---------------------------|---------------------------|
| Andrea Quinn | Individual | Support | No |

Comments:

Dear Honorable Committee Members:

Please support HB1548. The ohia tree is an important player in Hawaii's fragile ecosystem. Protecting the ohia tree is a step in the right direction.

Thank you for the opportunity to present my testimony.

Andrea Quinn

Kihei