**DAVID Y. IGE**
Governor

**SHAN S. TSUTSUI**
Lt. Governor

**SCOTT E. ENRIGHT**
Chairperson, Board of Agriculture

**PHYLLIS SHIMABUKURO-GEISER**
Deputy to the Chairperson

State of Hawaii
**DEPARTMENT OF AGRICULTURE**
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# TESTIMONY OF SCOTT E. ENRIGHT
# CHAIRPERSON, BOARD OF AGRICULTURE

## BEFORE THE SENATE COMMITTEE ON WAYS AND MEANS

March 1, 2016
1:30 P.M.
CONFERENCE ROOM 211

## SENATE BILL NO. 2271 SD 1
## RELATING TO ENVIRONMENTAL PROTECTION

Chairperson Tokuda and Members of the Committee:

Thank you for the opportunity to testify on Senate Bill 2271 SD1. This bill appropriates general funds to the Department of Land and Natural Resources to: 1) research methods to prevent and treat rapid ohia death and; 2) control and contain damage caused by rapid ohia death. The department supports the intent of this measure and defers to the Department of Land and Natural Resources.

Rapid Ohia Death (ROD) is a serious disease of Hawaii's ohia forests and the loss of these trees would have a devastating impact on our forest lands and natural resources. ROD is known to have infested at least 15,000 acres on the Big Island and continues to spread throughout that island and has not been found on other islands. It has left a devastating impact to the forests killing 50-90% of the trees in infested areas. The Department of Agriculture (HDOA) established a quarantine on August 25, 2015 to prevent its spread from the Big Island to the uninfested islands. This is under our authority which enables us to create an interim rule to govern the transport of flora and fauna into and within the State to protect agriculture and the environment. Funding for research on control and treatment as proposed in this bill is critical need to move forward with stopping the spread and impact of this disease.

Thank you for the opportunity to present testimony

DAVID Y. IGE
GOVERNOR OF HAWAII

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

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
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**

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**Testimony of**
**SUZANNE D. CASE**
**Chairperson**

**Before the Senate Committee on**
**WAYS AND MEANS**

**Tuesday, March 1, 2016**
**1:30 PM**
**State Capitol, Conference Room 211**

**In consideration of**
**SENATE BILL 2271, SENATE DRAFT 1**
**RELATING TO ENVIRONMENTAL PROTECTION**

Senate Bill 2271, Senate Draft 1 proposes to require the Department of Land and Natural Resources (Department) to submit a report to the Legislature on the status of Rapid Ohia Death and appropriates $200,000 to the Department for research and control/containment. **The Department supports this measure provided that this appropriation does not adversely impact priorities in the Executive Supplemental Budget request or any existing funding to the Department's programs.**

The recent spread of Rapid Ohia Death (ROD) on Hawaii Island threatens the State's most important forest species and requires urgent action. Recent surveys conducted by the Department found 34,000 acres of ohia forest potentially killed by this disease, which is more than double the area mapped in 2014. The Department is working closely with the Department of Agriculture (DOA), United States Department of Agriculture (USDA) Forest Service and Agriculture Research Service, University of Hawaii College of Tropical Agriculture, and others to understand ROD and mitigate its spread where possible. Due to the lack of knowledge about this disease, many questions need to be answered before effectively managing the outbreak, as well as providing information or suggestions to the public.

This bill designates funding for: 1) research for prevention and treatment; and 2) control and containment. We do not currently have treatments available to contain outbreaks in the forest, but funds are needed for researchers and managers to test such treatments.

The level of resources needed to answer important questions about ROD will need to be sustained over several years. Currently, staff who are working on the project are managing multiple projects,

so there is a need to hire qualified individuals to work full-time on the issue. The Department estimates the need for state funds in Fiscal Year 2017 to be $600,000, which will leverage federal and private foundation funds. The appropriation in this bill will go toward positions and operations at the University of Hawaii, USDA, and the Department's Division of Forestry and Wildlife.

Despite a lack of full understanding about this disease, all of the activities mentioned are vital to an effective response; therefore funding needs will be ongoing. The Department will continue to work closely with DOA and other partners to share knowledge and coordinate actions so resources are used efficiently.

Thank you for your consideration of this testimony.

Conservation Council for Hawai'i

*Hawai'i's voice for wildlife*

*Kō Hawai'i leo no nā holoholona lōhiu*

Testimony Submitted to the Senate Committee on Ways and Means
Hearing: Tuesday, March 1, 2016 1:30 pm
Conference Room 211

In Support of SB 2271 SD 1 Relating to Environmental Protection

Chair Tokuda, Vice Chair Dela Cruz, and Members of the Committee.

Aloha. Conservation Council for Hawai'i supports SB 2271 SD 1, which appropriates funds to the department of land and natural resources for research and mitigation efforts relating to the rapid ohia death disease in the State; requires the department to submit a report to the legislature; and makes an appropriation.

However, we urge you to increase the appropriation of $200,000 to an amount that is needed for research and protection of our watersheds. Surely, our native forests are worth way more than $200,000.

'Ohi'a lehua is a dominant forest tree in our watersheds and habitat for rare and endangered species. Rapid 'ohi 'a death/wilt is a major threat to our native forests and watersheds, but it is not the only threat. Even if we are able to control or slow ROD, our native forests and watersheds will continue to decline as a result of additional threats, including introduced feral and game mammals (pigs, goats, sheep, and deer), invasive plants (such as strawberry guava, miconia, and others), plant pests, and diseases. Water and watersheds are important.

Please do a better job of protecting our public lands and trust resources for future generations. Provide more funding for watershed protection and invasive species control. Ask your colleagues to stop nickel and diming important land conservation and invasive species programs under the Department of Land and Natural Resources.

Please support SB 2271 SD 1 and appropriate more funding.

Mahalo nui loa for the opportunity to testify.

Marjorie Ziegler

Marjorie Ziegler

cgaps
STOP THE SILENT INVASION

COORDINATING GROUP ON
ALIEN PEST SPECIES

The Senate
Committee on Ways and Means
March 1, 2016
1:30 p.m., Conference Room 211
State Capitol

**Testimony in Support of SB 2271 SD1**

Aloha Chair Tokuda, Vice Chair Dela Cruz, and Members of the Committee,

The Coordinating Group on Alien Pest Species (CGAPS) **is in support of SB 2271 SD1,** *Relating Environmental Protection.*

As this Committee is aware, Rapid ʻŌhiʻa Death is a new fungal disease that was recently detected on the island of Hawaiʻi, and it is killing ʻōhiʻa at an alarming rate. ʻŌhiʻa is Hawaii's most important and widespread forest tree and is central to watersheds, serves as habitat for many native species, and has tremendous cultural importance. Research shows that once this microscopic fungal disease enters an ʻōhiʻa tree, it can take a few weeks or even months for the tree to symptoms, but once the fungus moves into the tree's vascular system, it quickly cuts off water, quickly leading the tree to dry out and die.

It is not yet known all of the ways that the fungal pathogen can be spread, although it can spread through infected soil (in the lab, 40% percent of seedlings succumbed within 6 months of infecting the soil with the disease). The fungal pathogen has also been found in wood from an ʻōhiʻa tree that had died from the disease a year prior. The pathogen was still alive and capable of spreading with the movement of the wood. Closely related diseases spread aerially attached to beetle frass (sawdust from wood-boring beetles). There is also some evidence that ʻōhiʻa roots growing into each other, waterways such as streams, and even feral animals may carry and spread the pathogen from tree to tree.

The strain of this pathogen affecting ʻōhiʻa may be new to science, and researchers are conducting multiple investigations into its possible origins or relations to other similar diseases. From intensive studies of ʻōhiʻa trees in the 1980's we can say that this pathogen was not present in ʻōhiʻa at that time. Therefore, researchers are racing to learn as much as possible about its biology, all of the ways that the pathogen can spread, and to identify and test quarantine methods to detect and kill the pathogen in small amounts of soil (such as potted plants shipped from Big Island nurseries) and ʻōhiʻa wood to protect neighbor islands from these known pathways for spread. However, at this rate of spread and with the tens of thousands of acres considered infected, there are virtually no options for landscape-scale protection of ʻōhiʻa trees in natural areas on the Big Island. Faced with this sobering information, researchers are also looking at management actions that can and should be taken to mitigate impacts.

We should note that plant diseases such as these are extremely difficult to successfully address. For example, two well-documented accounts of widespread iconic U.S. tree species

being wiped out by plant diseases include the disappearance of American chestnuts from an introduced fungal disease in the early 1900's (nearly 4 billion trees were killed and only a handful of trees remain in the wild, even today), and the 2003 discovery of an introduced beetle which is spreading a new fungal disease that is killing red bay/laurel in the south eastern U.S. The disease is on track to drive two species of red bay trees in the south eastern U.S. to extinction, and also impact the avocado industry. These tragedies and their impacts are ongoing, and we in Hawai‘i need to shift our emergency-response framework and mind-set to the idea that this disease is not going away, and that we must find ways to mitigate the impacts over the long term.

The most urgent need is funding to support research positions. The current estimated need to support the priority positions and work is $1M/year. For calendar year 2016, we have $750,000 secured: 40% private, 40% state, 20% federal. However, the majority of these funds will be depleted by the end of 2016, and funds have NOT been secured for this work in calendar year 2017. Therefore, state funding is crucial to supporting this work and as leverage for federal and private fund requests. Mahalo for your consideration.

Aloha,
Christy Martin
CGAPS

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March 1, 2016

HEARING BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS

TESTIMONY ON SB 2271, SD1
RELATING TO ENVIRONMENTAL PROTECTION

Room 211
1:30 PM

Aloha Chair Tokuda, Vice Chair Dela Cruz, and Members of the Committee:

I am Randy Cabral, President 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 interest of our diverse agricultural community.

**HFB strongly supports SB 2271, SD1,** which appropriates funds to the Department of Land and Natural Resources for research and mitigation efforts relating to the rapid ohia death disease 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 Ohia Wilt 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.

HFB respectfully requests your support of SB 2271, SD1.

Thank you for this opportunity to provide our opinion on this important matter.

O'AHU INVASIVE SPECIES COMMITTEE

Testimony of the Oʻahu Invasive Species Committee
Supporting S.B. 2271 S.D. 1 Relating to Environmental Protection
Senate Committee on Ways and Means
Tuesday, March 1 1:30 PM. Rm. 211

The Oʻahu Invasive Species Committee supports S.B. 2271 which would provide funding to research questions surrounding the *Ceratocystis* pathogen that causes Rapid ʻŌhiʻa Death. We are grateful to the Legislature for recognizing the seriousness of this situation and acting quickly to address it. OISC is currently assisting with outreach and early detection on Oʻahu for this disease. There are so many questions around this disease and this bill would support research to answer them. We would ask however, that this funding be additive and not in place of regular invasive species funding so that if we are able to contain this disease, we will not have to play catch up with invasive species projects that we had to drop.

We understand that the Senate may question why the pathogen got as far as it did without detection and why it has not been eradicated, despite a strong interagency response. There are an estimated 5.1 million species of fungi in the world. This makes identification and control of fungal pathogens a long process. Dying ʻōhiʻa trees were first reported on Hawaiʻi Island in 2010. In 2014, it the fungus was isolated and identified as a species of *Ceratosystis*. This is a relatively quick identification in the world of plant pathology. Conversely, it took 10 years to isolate and identify the pathogen that causes rapid oak death in California.

ʻŌhiʻa is the backbone of our watershed—a watershed that provides fresh water worth between $4.6 and $8.5 billion dollars[1]. This disease threatens our water supply. Private and federal funders have already pitched in to provide funding support for research, testing and outreach. We hope the State will be able to provide funding as well. Thank you for the opportunity to submit testimony.

[1] Basharat Pitafi and James Rousmasset. "Watershed Conservation and Efficient Groundwater Pricing."Prepared for theAgricultural and Applied Economics Association Annual meeting, Denver, CO, 2004. See also: Brooks Kaiser et al., TheEconomic Value of Watershed Conservation, http://www.uhero.hawaii.edu/assets/EconValueWatershed.pdf

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