



LATE

The Senate
Committee on Water, Land, and Agriculture
March 14, 2016
2:45 p.m., Conference Room 224
State Capitol

Testimony in Support of HB 2675 HD1

Aloha Chair Gabbard, Vice Chair Nishihara, and Members of the Committee,

The Coordinating Group on Alien Pest Species (CGAPS) **is in strong support of HB 2675, Relating to Rapid 'Ōhi'a Death.**

As this Committee is aware, Rapid 'Ōhi'a Death is a new fungal disease that was recently detected on the island of Hawai'i, and it is killing 'ōhi'a at an alarming rate. 'Ōhi'a 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 'ōhi'a 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), and 'ōhi'a wood. The fungal pathogen was found in the trunk of an 'ōhi'a tree that had died of the disease over a year ago, and it was alive and able to spread with the movement of the wood. Sawdust (frass) from beetles boring through dead trees is also infectious, and it is on sawdust that this pathogen can spread via the wind to new areas. There is also some evidence that 'ōhi'a roots growing into each other, waterways such as streams, and even feral animals may carry and spread the pathogen from tree to tree.

From intensive studies of 'ōhi'a trees in the 1980's we can say that this pathogen was not present in 'ōhi'a at that time. The strain of this pathogen affecting 'ōhi'a may be new to science, and researchers are conducting multiple investigations into its possible origins or relations to other similar diseases. Closely related strains of this disease (*Ceratocystis* spp.) are all known to be spread long distances through the movement of soil and plants, and new introductions of different genetic strains may allow the disease to "jump" to new hosts.

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 'ōhi'a 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 'ōhi'a 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

gabbard2 - Donna

From: mailinglist@capitol.hawaii.gov
Sent: Monday, March 14, 2016 12:04 PM
To: WLA Testimony
Cc: dylanarm@hawaii.edu
Subject: *Submitted testimony for HB2675 on Mar 14, 2016 14:45PM*

LATE

HB2675

Submitted on: 3/14/2016

Testimony for WLA on Mar 14, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Dylan Armstrong	Individual	Support	No

Comments:

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