

RapidOhiaDeath.org



**2021 Rapid 'Ōhi'a Death Newsletter
Volume 5, Issue 1**

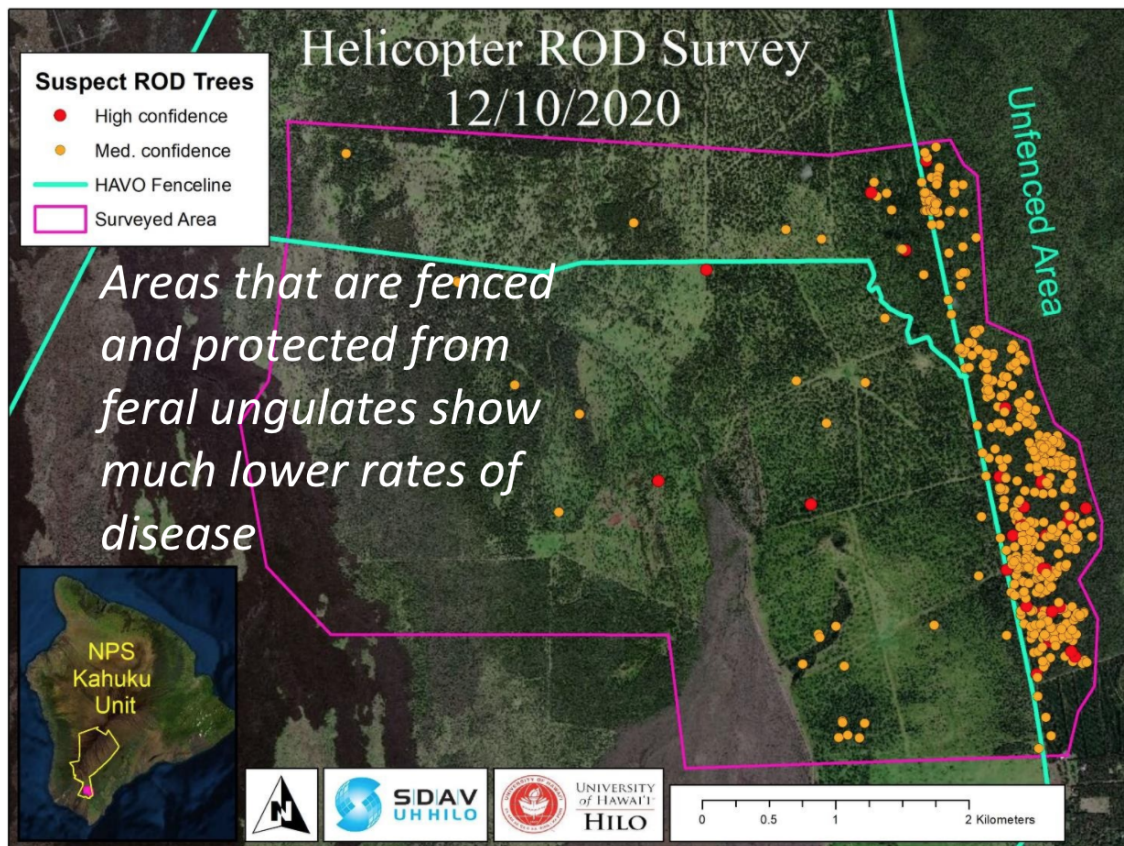
***~ I mohala nō ka lehua i ke ke'eke'ehi 'ia e ka
ua ~***

**"The lehua blossom unfolds when the rain falls gently upon it"
People respond better to kind, gentle words**

*From 'Ōlelo No'eau: Hawaiian Proverbs and Poetical Sayings, Honolulu, Hawai'i: Bishop
Museum Press, 1983*

This is our quarterly newsletter that was designed to update the
community on current Rapid 'Ōhi'a Death (ROD) issues.

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Research Updates

Aerial Mapping surveys

The Spatial Data Analysis and Visualization Lab (SDAV) from UH Hilo has been conducting aerial surveys across Hawai'i Island to gather information that has helped to identify suspect ROD trees. Mapping surveys enable researchers to locate suspect trees for the presence of *Ceratocystis*. The above map is from the Kahuku Unit of the Hawaii Volcanoes National Park and shows the abundance and distribution of suspect trees in fenced vs. unfenced areas. The red circles are trees that have a high level of confidence for the presence of ROD while the orange circles are trees that have a medium level of confidence for ROD.

The green lines indicate fences along the border of the Park, and the forest to the east (right) of the park is state Ka'u Forest Reserve. Feral pigs and mouflon sheep have largely been removed from the Park, whereas pigs are abundant in the state forest. Trees typically show symptoms only for several months, so this map does not reflect mortality in previous years. Open wounds serve as entry points for ROD. One of the major ways trees get wounded are from feral grazing hooved animals (ungulates) that peel the bark off trees or damage roots. We have now seen several examples where ROD is prevalent in areas with high populations of feral animals but little ROD in fenced areas where feral animals have been kept out. These survey maps provide insight into management efforts that can help reduce the spread of ROD.

ROD Resilience Study

Blaine Luiz began work on ROD as an undergraduate summer intern. He was so enthralled with the investigating plant diseases that he went on to a master's degree at UH Hilo. He recently published his work with former UH Hilo botany professor Elizabeth Stacy and USDA plant pathologist Lisa Keith. The scientists looked for resistance to ROD by inoculating 128 seedlings of four different varieties of ohia from Hawaii Island with the ROD pathogen *Ceratocystis lukuohia*. They found that while most of the inoculated trees died in the first seven weeks, some survived. More seedlings from var. *incana* and var. *newellii* survived than did seedlings of var. *glaberrima*, and all the var. *polymorpha* died. Five years later, some of the *incana* seedlings are still alive. Their study showed that there is indeed genetic resistance to ROD in at least some ohia populations.

Blaine is now heading up the ['Ōhi'a Disease Resistance Project](#) with the Akaka Foundation for Tropical Forests. Instead of just over a hundred seedlings, they are collecting hundreds of cuttings and growing thousands of seedlings so that they can really get an idea of how widespread resistance to ROD is among the many kinds of 'ōhi'a in Hawai'i and eventually develop resistant lines for restoration.



'Ōhi'a flowers after the stamens and pistils have fallen off and the *nā hua 'opio* (green seed capsules) are just developing. It will be months before the seed capsules ripen and crack open to release their seeds.

Event Update

Native Hawaiian Plant Month
'Ōhi'a Lehua Day
April

April is Native Hawaiian Plant Month in Hawai'i. During the month, native plants are showcased throughout the month to highlight the special importance native plants provide to our natural environment. This month also hosts the 3rd annual 'Ōhi'a Lehua Day (April 25th). Events for this day and the whole month are being designed to comply with the most current COVID-19 gathering requirements to provide an engaging virtual experience.

More event information will be shared during the month of March on our [Facebook](#) and [Instagram](#) pages.

Lei Making Workshops

May & June

The 2021 Lei Making Workshops will be hosted in May and June and will share the beautiful art of lei making. Every year our workshops feature beautiful styles shared by skilled lei makers. As in years past, the intent of the workshops are to perpetuate the art of lei making with utilizing alternatives to 'ōhi'a. The workshops will cover topics such as sustainable harvesting practices, how to prepare materials, ROD updates, and the wili (wind) style of lei making. The 2021 Lei Making Workshops are being designed to comply with the most current COVID-19 gathering requirements to provide an engaging and fun virtual experience.

More event information will be shared during the month of March on our [Facebook](#) and [Instagram](#) pages.

5 THINGS YOU CAN DO



1 DON'T MOVE 'ŌHI'A

Do not move 'ōhi'a wood, firewood, or posts, especially from an area known to have ROD. If you don't know where the wood is from, don't move it.

2 DON'T TRANSPORT 'ŌHI'A INTER-ISLAND

Comply with the new quarantine rule to help prevent ROD from spreading. Don't move 'ōhi'a plants, whole or parts, 'ōhi'a wood, or soil from Hawai'i island without a permit.

3 AVOID INJURING 'ŌHI'A

Wounds serve as entry points for the fungus and increase the odds that the tree will become infected and die from ROD. Avoid pruning and contact with heavy equipment wherever possible.

4 CLEAN YOUR GEAR/TOOLS

If you must work around or cut 'ōhi'a, clean tools and gear before and after use, especially when used on infected 'ōhi'a. Brush all soil off of tools and gear, then spray with 70% rubbing alcohol. Shoes and clothes should also be cleaned before and after entering forests. Wash clothes with hot water and soap.

5 WASH YOUR VEHICLE

Wash the tires and undercarriage of your vehicle with detergent and remove all soil or mud, especially after traveling from an area with ROD and/or if you have traveled off-road.

Management Tips

**What do I do if I need help cutting down my dead and/or dying ohia tree?
Whom do I call?**

We recommend that you call an arborist that has been certified by the International Society of Arboriculture (ISA). Talk with the arborist(s) about his/her current decontamination procedures, as well as, practices we recommend to prevent the spread of ROD.

The Big Island Invasive Species Committee (BIISC) has a list of [Certified Arborists](#) for Hawai'i Island.



Meet Our People

Hōkū Pihana

Hawai'i Island Outreach Education Specialist
Rapid 'Ōhi'a Death Project (ROD)

Hōkū Pihana is a mother, marine scientist, and environmental steward.

'O Wahiawa, O'ahu Kona One Hānua

(Wahiawa, O'ahu is her birth place)

'O Waialua, O'ahu Kona Wai

(The Waialua river of O'ahu is her water)

'O Mauna a Wākea Kona Mauna

(Mauna Kea is her mountain)

‘O Manukaiikalanimāla‘epolu Kona Ua

(her son Manu is her rain)

‘O Kamakaniokakai Kona Makani

(Her son Kamakani is her wind)

‘O Kamana‘ookaleookalani Kona ‘Āina

(her son Kamana‘o is her land)

‘O Kona Mau Mākua Kona Wa‘a

(her parents are her canoe)

As the new Rapid ‘Ōhi‘a Death Hawai‘i Island Outreach Education Specialist, Hōkū aims to contribute to the ROD outreach education efforts that have been established by the amazing ROD outreach team to continue our efforts to reduce to spread of Rapid ‘Ōhi‘a Death.

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