UNIVERSITY OF HAWAIʻI SYSTEM
ʻŌNAEHANA KULANUI O HAWAIʻI

Legislative Testimony
Hōʻike Manaʻo I Mua O Ka ʻAhaʻōlelo

Testimony Presented Before the
House Committee on Finance
Monday, February 26, 2024 at 2:00 p.m.
By
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Interim Director
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And
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HB 1581 HD1 – RELATING TO WILDFIRE PREVENTION

Chair Yamashita, Vice Chair Kitagawa, and Members of the Committee:

The University of Hawaiʻi supports HB 1581 HD1, which appropriates funds to the Department of Land and Natural Resources to develop native plant nurseries and a seed bank initiative program.

The Wildfire Prevention Working Groupʻs draft report (11/1/2023) identifies wildfire as a serious threat to the people, infrastructure, and natural environment in the Hawaiian Islands. Most wildfires occur on land dominated by introduced plants, especially invasive grass species. One way to reduce the risk and impacts of future fires is to replace these invasive grasses with native woody plant species that are less prone to wildfire. Ideally, this should be done before fires occur, but it can also be done after fires to prevent fire-prone grasses from regenerating and fueling repeated wildfires.

A key step toward restoring burned—or cleared—grassland to native shrublands and forests can be achieved by sowing the land with seeds of native plants. Currently, the capacity to do that is limited by the availability of sufficient quantities of appropriate native seeds. A system for generating and storing seeds of common forest species is required to make this possible.

The Wildfire Prevention Working Group estimates that 20,000 acres of land burns every year in Hawaiʻi. Sowing that land with enough native seeds to regenerate native forest would require hundreds of millions of seeds. Some of those seeds might be sourced from wild plant populations, but a more effective source would be from dedicated seed orchards in which native plants are grown to produce seeds for post-fire restoration. These seeds could be stored in seed banking facilities until needed.

Storage of dried, frozen seeds in a seed bank is a well-tested and cost-efficient way of maintaining viable seeds of many species. Research at the Seed Science Laboratory at University of Hawaiʻi's Lyon Arboretum has determined that 79% of Hawaiian native flowering plant species produce seeds that can be stored viably in a seed bank for many years—often decades. Lyon Arboretum is home to the state's largest and most diverse seed bank, housing over 30 million seeds of more than 600 native plant species. Other seed banks throughout the

state also store seeds of rare native plants. Their activities are coordinated through the Hawai‘i Seed Bank Partnership, which is facilitated by Laukahi, the Hawai‘i Plant Conservation Network.

Hawai‘i’s existing seed banks excel at the critical task of conserving the state’s many endangered plant species. However, they lack the resources and capacity to bank the hundreds of millions of seeds of common species that would be required for large-scale restoration of the thousands of acres of land that burn every year. A dedicated seed processing and seed banking facility would be required to bank seeds at the scale needed to restore land at a significant scale.

We support HB1581 HD1’s recommendation for an initiative to increase the capacity of native plant nurseries and seed banks to provide native plants to restore native ecosystems and reduce fire risk.

It is worth noting that the Federal Government is already supporting fire recovery initiatives, providing opportunities for synergistic programs with the state. In FY24, the U.S. National Parks (USNP) and U.S. Fish and Wildlife Service (USFWS) received funding for the project "Protecting the Native Hawaiian Flora from Wildfire" under the Bipartisan Infrastructure Law's Burned Area Rehabilitation funding opportunity. This will support seed collection and storage, seed and plant production, and restoration and out-planting on Department of Interior lands throughout Hawai‘i. It includes collecting seeds from rare plants threatened by wildfire, and from more common native species that support healthy, resilient habitats. One of the goals of this project is to support the design and development of the native plant supply chain in Hawai‘i. USNP and USWWS will be working with partners, including Lyon Arboretum on this project.

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

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STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES
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LAND
STATE PARKS

Testimony of
DAWN N. S. CHANG
Chairperson

Before the House Committee on
FINANCE

Monday, February 26, 2024
2:00 PM
State Capitol, Conference Room 308 and Via Videoconference

In consideration of
HOUSE BILL 1581 HOUSE DRAFT 1
RELATING TO WILDFIRE PREVENTION

House Bill 1581 House Draft 1 proposes to appropriate funds to the Department of Land and Natural Resources to develop a native plant nurseries and seed bank initiative program. **The Department of Land and Natural Resources (Department) strongly supports this measure, provided that its passage does not replace or adversely impact priorities indicated in the Executive FY 2025 Supplemental Budget Request, and offers the following comments.**

Native seed availability is a critical bottleneck for post-fire rehabilitation on lands across the state. The Department's Division of Forestry and Wildlife has been working to increase statewide nursery and seed banking capacity to meet the urgent need for post-fire treatments. The funds appropriated by this bill would help the Department meet this need.

The Department also notes that while re-vegetation with native plants can be an important way to mitigate future risk, resources beyond seed availability can limit successful native revegetation efforts. Some areas require fencing to exclude hoofed animals which can quickly devour native vegetation. Drier areas might require irrigation for native plants to successfully establish, and sustained management such as invasive plant control is often required on an ongoing basis.

Mahalo for the opportunity to provide testimony in support of this measure.

HB-1581-HD-1
Submitted on: 2/25/2024 3:28:25 PM
Testimony for FIN on 2/26/2024 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Shane Sinenci	Maui County Councilmember	Support	Written Testimony Only

Comments:

Speak in support.

TESTIMONY FROM THE DEMOCRATIC PARTY OF HAWAI'I

HOUSE COMMITTEE ON FINANCE

FEBRUARY 26, 2024

HB 1581, HD1, RELATING TO WILDFIRE PREVENTION

POSITION: SUPPORT

The Democratic Party of Hawai'i **supports** HB 1581, HD1, relating to wildfire prevention. Pursuant to the "Public Safety and Disaster and Emergency Preparedness" section of the Democratic Party of Hawai'i platform, the party supports "policy that protects the people of Hawai'i and their property against natural and man-made disasters," and "believes that climate change is real, affirms human activity as its primary cause and main driver, and supports emergency preparedness and planning efforts to mitigate its impacts."

Last year, we witnessed the impact of the climate emergency on our shores. On August 8, 2023, wildfires swept across Maui and killed at least 100 people, making it one of the nation's deadliest natural disasters. The spread of the fires has been attributed to climate change conditions, such as unusually dry landscapes and the confluence of a strong high-pressure system to the north and Hurricane Dora to the south.

The wildfires destroyed over 2,200 structures, including numerous residential buildings, historic landmarks, and school facilities. In September 2023, a report from the United States Department of Commerce estimated the total economic damage of the wildfires to be roughly $5.5 billion.

According to a report issued by the University of Hawaii Economic Research Organization on September 22, 2023, the unemployment rate on Maui was expected to soar above 11 percent by the end of 2023 and remain above 4 percent through 2026. A total of 10,448 new claims for unemployment in Maui County were filed in the four weeks following the wildfires, about 9,900 more than the preceding four weeks. Displaced families and workers who lost their jobs are still attempting to recover from the disaster, with a full recovery expected to take many years to achieve.

Accordingly, we must do all we can to prevent tragedies like this from occurring again on our shores, including by investing in native plant and watershed restoration programs that reestablish natural fire patterns and improve natural ecosystem resilience to future emergencies. As was widely reported after the Maui wildfires, including in the New York Times, invasive species have been turning parts of our island home into a tinderbox.

After the demise of sugar cane plantations in the 1990s, large tracts of land were abandoned, allowing drought-resistant invasive grasslands to become unmanaged sources of fuel for wildfires. Clay Trauernicht, a fire ecologist at the University of Hawai'i at Manoa, has noted that the annual area burned by wildfires in our state has risen by as much as 300 percent in recent decades, a figure that will increase as the climate crisis worsens.

Over the last few years, researchers have been testing strategies in Hawai‘i to limit the spread of wildfires in areas dominated by fire-promoting grasses. Green fire breaks–strategically planted strips of vegetation–have been effectively used in the continental U.S. as a complement to traditional firefighting methods. Water-rich and inflammable native plants can help deprive wildfires of fuel, while also serving as habitat for other native species and a seed source for further restoration projects.

Mahalo nui loa,

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Testimony of The Nature Conservancy
Support for HB 1581 HD1, Relating to Wildfire Prevention
Committee on Finance
February 26, 2024, 2:00 p.m.
Conference Room 308 & Videoconference

Aloha Chair Yamashita, Vice Chair Kitagawa, and Members of the Committee:

The Nature Conservancy (TNC) **supports** HB 1581 HD1, relating to wildfire prevention, which appropriates funds to the Department of Land and Natural Resources to develop native plant nurseries and seed bank initiatives.

Hawai'i is becoming increasingly prone to wildfire due to climate change and inadequate natural resource management. Due to climate change, we are experiencing increased droughts, reduced precipitation, hotter temperatures, more intense storms, spread of invasive species, and other impacts of climate change that increase wildfire probability. As we saw on Maui, the impacts on communities and the environment from wildfire can be devastating. Because of these impacts, the State and all stakeholders must take action to reduce fire risk and increase our islands' resilience.

This bill would help develop native plant nurseries and seed bank initiatives which over time would increase the inventory for watershed restoration and projects that restore other native ecosystems which have increased resilience and recovery in the presence of natural fire patterns.

Protection of biodiversity, climate change adaptation, water management, soil management, and other forms of mālama 'āina are all critical to preventing wildfire risk. Native plant nurseries and seed banking efforts go a long way to helping to achieve our shared goals. All of this requires coordination, comprehensive planning, and consistent funding. This bill would be an important step forward.

For over 40 years, TNC has actively managed nature preserves throughout Hawai'i. We currently manage 40,000 acres in preserves on Hawai'i Island, Maui, Moloka'i, Lāna'i, and Kaua'i. We also work with over 50 coastal communities through networks and partnerships to help protect and restore the nearshore reefs and fisheries of the main Hawaiian Islands. Over our decades of experience of forest management and marine conservation, TNC has implemented many conservation actions that reduce fire risk and it is these experiences which underpin our support for this measure. Mahalo for the opportunity to provide these comments. We appreciate your support of Hawai'i's natural resources, we look forward to continuing to support efforts to make Hawai'i more fire resilient, particularly through investments in our natural resources

Mahalo for the opportunity to testify in **support** of HB 1581 HD1.

Testimony by Dr. Clay Trauernicht IN SUPPORT of HB 1581, Relating to Wildfire Prevention
For the hearing on February 26th, 2024; Conference Room 308

To Representatives Kyle Yamashita and Lisa Kitagawa, Chair and Vice Chair, respectively, of the Committee on Finance and to the Committee Members,

I am submitting testimony in support of HB 1581. I have been working at the University of Hawai‘i at Mānoa in the field of wildfire science and management since 2013 and specifically on ecosystem conservation and watershed protection since 2021. However, I am submitting this testimony as an individual and not as an official University of Hawai‘i spokesperson.

Seed availability is fundamental for reforestation and ecosystem restoration efforts that are key strategies for reducing fire risk. In addition, seeds are critical for responding after fires have destroyed vegetation. Over 12 years working on fire in Hawai‘i, I have never seen adequate or appropriate (native and/or non-invasive) seed or plant materials for post-fire response.

To help address these gaps, I have been part of an informal working group of botanists, conservationists and seed bank managers and we recently surveyed >160 plant producers and restoration programs to assess the bottlenecks for plant production in Hawai‘i (https://laukahi.org/seed-survey/). In short, nearly all seed is wild collected which stresses plant populations, nearly all reforestation and restoration programs are stuck in short-term (1-2 year) planning cycles due to limited resources, and the availability of quality, locally sourced seed is inadequate to meet increasing demands.

It is my opinion that the funds appropriated by this bill would be critical in allowing Hawai‘i to develop a “Seed Strategy” as has been done at the national level and by several states. A comprehensive strategy would ensure adequate plant production for reforestation and restoration (such as through seed orchards) and, most importantly with state funding, would develop guidelines to ensure both that seed stocks are locally appropriate and that programs and communities undertaking restoration and reforestation have equitable access to seed.

Sincerely,

Clay Trauernicht, PhD
Extension Specialist in Ecosystems and Fire
University of Hawai‘i at Mānoa

HB-1581-HD-1
Submitted on: 2/25/2024 10:43:02 AM
Testimony for FIN on 2/26/2024 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Tamara Paltin	Individual	Support	Written Testimony Only

Comments:

Aloha e Chair Yamashita and Vice Chair Kitagawa,

Mahalo for the opportunity to testify on HB1581 HD1

I am in strong support of this measure, native plant nurseries and seed bank initiatives will help our resilience in our watersheds and in the aftermath of wildfire disasters and before flooding events. This is a preventative measure that will help our environment to become more resilient infuture climate related disasters.

Mahalo for your service and commitment to our communities,

Tamara Paltin