



# UNIVERSITY OF HAWAII SYSTEM

## ‘ŌNAEHANA KULANUI O HAWAII

### Legislative Testimony

#### Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the  
Senate Committee on Water and Land  
Wednesday, March 13, 2024 at 1:00 p.m.

By  
Don Drake  
Interim Director  
Harold L. Lyon Arboretum  
And  
Michael Bruno, PhD  
Provost  
University of Hawai'i at Manoa

#### HB 1581 HD1 – RELATING TO WILDFIRE PREVENTION

Chair Inouye, Vice Chair Elefante, and Members of the Committee:

The University of Hawai'i 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 Group's 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 Hawai'i. 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 Hawai'i'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 USFWS will be working with partners, including Lyon Arboretum on this project.