



State and Private Forestry Fact Sheet

Hawaii 2018



Investment in State's Cooperative Programs

Program	FY 2017 Final
Community Forestry and Open Space	\$0
Cooperative Lands - Forest Health Management	\$823,475
Forest Legacy	\$4,000,000
Forest Stewardship	\$138,983
Landscape Scale Restoration	\$269,325
State Fire Assistance	\$1,693,842
Urban and Community Forestry	\$433,973
Volunteer Fire Assistance	\$0
Total	\$7,359,598

NOTE: This funding is for all entities within the state, not just the State Forester's office.

The mission of the Division of Forestry and Wildlife (DOFAW) of the Hawaii Department of Land and Natural Resources (DLNR) is to responsibly manage and protect watersheds, native ecosystems, and cultural resources and provide outdoor recreation and sustainable forest products opportunities, while facilitating partnerships, community involvement, and education. Cooperative forestry programs, administered and implemented through a partnership between the State of Hawaii, U.S. Forest Service, and many other private and government entities help to fulfill DOFAW's mission. DOFAW and its partners work to protect and restore forests to enhance watershed functions, provide habitat for threatened and endangered species, mitigate wildfire threats, and support many other benefits for current and future generations. Additionally, Hawaii's Forest Action Plan (FAP) provides nine priority issues, including: 1) Water Quality and Quantity; 2) Forest Health: Invasive Species, Insects, and Disease; 3) Wildfire; 4) Urban and Community Forestry; 5) Climate Change and Sea Level Rise; 6) Conservation of Native Biodiversity; 7) Hunting, Nature Based Recreation and Tourism; 8) Forest Products and Carbon Sequestration; and 9) U.S. Tropical Island State and Territorial Issues. Consistent with Hawaii's FAP, reversing the trend of natural resource loss by increasing watershed protection, invasive species prevention and control, and restoration of native species has been identified as a target to be achieved by 2030 in the Aloha+ Challenge, a statewide commitment crossing jurisdictions, agencies, sectors, and communities to sustain resources. DOFAW, which manages a quarter of the land in Hawaii, continues to work with partners to enhance the resilience of the State's wildland and urban forests so they are capable of providing the public benefits and ecosystem services upon which our islands depend. Ultimately, forests play a large role in the health of Hawaii's economy, residents, and visitors.

Program Goals

- Protect and maintain forested watersheds for water recharge and other ecosystem services.
- Promote sustainable forest management to generate a variety of forest products and jobs.
- Preserve, enhance, and restore habitat necessary to sustain native species and ecosystems.
- Maintain public trails and access roads used for fishing, hiking, camping, and hunting.
- Enhance awareness of threats posed by invasive species and continue to collaborate with partners throughout the State and the Pacific islands region to prevent the spread of invasive species.
- Improve the health and viability of urban forests through educational programs, technical and financial assistance, and public/private partnerships.
- Train teachers in environmental education, offer youth internships, provide volunteer opportunities, and support green jobs.
- Purchase land and develop conservation easements to preserve and restore forested areas that are threatened by development or fragmentation.
- Provide technical and financial assistance to landowners and long-term leaseholders of privately

managed forests.

- Reduce the negative impacts of wildfires on native ecosystems, forests, and watersheds as well as communities and the threatened rare habitats near them.

Key Issues

- Respond to the detection of new fungus killing on of Hawaii's most important forest tree species, ohia, which makes up 50% of all of the forests in Hawaii. The disease, locally referred to Rapid Ohia Death, has affected an estimated 135,000 acres and threatens forest statewide. DOFAW is coordinating with other state, federal, and county agencies to effectively respond to this new disease threat
- The sustainable yield of freshwater depends on the protection of forested watersheds throughout the State and continues to be a priority for forestry. The State of Hawaii has committed to protection of 30% of highest priority watersheds by 2030.
- Preventing and responding to new invasive species that threaten forests in Hawaii, while effectively managing widely established pest species through Integrated Pest Management.
- Fire-tolerant invasive grasses, periods of drought, and land use and population growth trends continue to be a concern for the Fire Management Program. Hawaii is on par with the western states for percentage of land area burned. Enhancing DOFAW's capacity to restore and maintain landscapes, support fire adapted communities, and respond to wildfires will depend largely on its ability to secure funds and strengthen collaborative partnerships across areas of expertise and jurisdictional boundaries.
- Climate change poses current and long-term threats to Hawaii's forests, as well as new opportunities to support large-scale reforestation for carbon sequestration. Threats include: (1) Regional Climate Assessments predict warmer and drier conditions will contribute to declining freshwater supplies and increase the risk of extinctions. (2) Nearly a third of the nation's listed species are found in Hawaii with habitat limited by temperature gradients; as areas warm species habitats may be lost.

Forest Facts and Accomplishments

Selected Facts	Value	FY 2017 Accomplishments	Value
Population	1,360,301	Landowners Receiving Educational or Technical Assistance	368
Acres of Forest Land	1,471,180	Acres Covered by New or Revised Forest Stewardship Plans	8,256
Acres of Nonindustrial Private Forest Land	1,155,000	Acres in Important Forest Resource Areas Covered by New or Revised Stewardship Plans	7,327
Number of NIPF Landowners	25,000	Volunteer Fire Departments Assisted	0
Acres of Federal Land Under State Fire Protection	0	State Fire Communities Assisted	286
Acres of Private Land Under State Fire Protection	2,300,000	Coop Forest Health Acres Protected	610
Number of Rural Fire Departments	4	Forest Legacy Project Acquisitions	0
Cities and Towns	5	Communities Provided Urban Forestry Program Assistance	76
Forest Based Employment	926	Population Living in Communities Provided Urban Forestry Program Assistance	1,180,100
Economic Impact of Forestry (by rank)	19	Urban Forestry Volunteer Assistance	7,316
State Forestry Budget (All Sources)	53,865,282		

Program Highlights

Conservation Education

Hawaii is continuing to expand its local Project Learning Network of environmental educators. Project Learning Tree (PLT) Program is a national program that provides Hawaii's educators with locally- and nationally-relevant resources that connect to state education standards. This programs provides teachers and educators with the tools to teach environmental education to their students, while connecting

students and learners to place-based issues. The Division of Forestry and Wildlife (DOFAW) uses PLT's standards based, field tested materials. The Hawaii PLT program completed workshops with 86 educators, and trained 91 afterschool program leaders.

Cooperative Fire Protection

In 2017, DOFAW continued to use state funds to update its aging fleet of firefighting and emergency response equipment by adding new brush trucks on Maui. Firebreaks statewide were maintained, and water catchments were installed to improve suppression capacity. In August, the agency hired a new fire protection forester. Drought conditions continued to persist, however it was a relatively quiet year for DOFAW's fire suppression program with 7 fires suppressed totaling 5,214 acres. DOFAW staff attended several public events promoting wildfire prevention and collaborated with their county and federal partners to kick off fire prevention week at the Honolulu zoo. Hawaii's 11 Firewise communities remained in good standing. Another "Wildfire & Drought LOOK OUT!" campaign was started in November as drought conditions reached extreme levels. Fortunately, La Nina conditions began in December bringing wetter weather and easing drought conditions for the end of the year.

The State of Hawaii successfully competed for three Western Wildland WUI Hazardous Fuels/Mitigation/Education grants. Projects focused on establishing strategic fuel breaks in Maui, fuels reduction in Kauai, and implementing multi-agency WUI education and hazard reduction efforts throughout the state.

Economic Action

Hawaii's forests provide a full suite of goods and services that are vital to human health and livelihood, including those related to environmental, economic, and social benefits. Our forests are critically important to Hawaii's economy, its people, and its culture. Hawaii's forests provide aesthetic value, recreational enjoyment, specialty non-timber forest products, water conservation, improved air quality, wood and fiber products, and many other amenities. Hawaii's forest support harvesting and processing operations that employ people in rural island communities, including jobs for foresters, woodworkers, sawyers, nursery growers, truck drivers, millers, tree planters, researchers, and manufacturers, just to name a few. More than 900 workers were employed in the Hawai'i forest and woodworking industry. Hawaii's woodworking industry is one of the best value-added industries in the State, particularly when viewed from the price of raw lumber to finished tables and chairs. Hawaii's wood products are sought after and cherished for their uniqueness, beauty, and cultural value. Specific Hawaii priority economic development projects include establishment and management of: (1) Timber resources for energy production, construction materials, and finished products. (2) Agroforestry systems that support diversified agricultural production. (3) Non-timber forest products, such as materials for leis, medicinal treatments from plant material, and game animals for subsistence use. (4) Eco-tourism opportunities that highlight Hawaii's unique and beautiful forests, waterfalls, coastal resources, and recreational trails. (5) Carbon dioxide sequestration project development that support native forest reforestation. Additionally, Hawaii's forests harvest, collect, and provide water for agricultural producers downstream, and recharge our groundwater for residential uses that support the economic base of those industries and users.

Forest Health Protection

The top forest health priority in Hawaii is Rapid Ohia Death. The State of Hawaii released \$2,000,000 for research, survey, control, and outreach. The disease is still limited to Hawaii Island and early detection surveys are carried out twice a year.

Forest Legacy

The purpose of the Hawaii Forest Legacy Program is to identify environmentally important forestlands and to protect them from conversion to non-forest uses. In doing so, the program facilitates the conservation and preservation of forest product resources, watersheds, wildlife, scenic enjoyment, recreation, cultural and native species resources, and other ecologically important values. The Hawaii Division of Forestry and Wildlife (DOFAW) supports acquisition through the program for conservation purposes and/or sustainable management of forests with the support of land trust/non-profit partners. Specific Forest Legacy projects in Hawaii include assisting the Office of Hawaiian Affairs with the Wao Kele O Puna Forest Reserve (Hawaii Island); holding a conservation easement at Kealakekua Heritage Ranch and Ka'awaloa Forest (Hawaii Island); providing monitoring support for U.S. Forest Service conservation easement projects in South Kona (Hawaii Island); reviewing potential new conservation acquisition or donation projects including Kukaiu Ranch acquisition (Hawaii Island); completing due diligence for Helemano Wilderness Area (Oahu - 3,000 acres fee title) and Ho'omau Ranch (Hawaii Island - 765 acres

conservation easement); and is developing two additional projects, including Haloa Aina (Hawaii Island - 2800 acre conservation easement) and Kamehamehenui Forest (Maui - 3,000 acre fee title). The Division anticipates closing on the Helemano Wilderness Area within this calendar and is engaging with the community and stakeholders on the access, use, and management of this significant addition to public forest lands on Hawaii's most populated island.

Forest Stewardship

The Forest Stewardship Program (FSP) enables private landowners or long-term leaseholders to restore, conserve, and responsibly manage important forest resources that provide vital public and private socioeconomic and environmental benefits. The majority of Hawaii's forests, 66% or 1,155,000 acres of Hawaii's 1,748,000 acres of forestland, is privately owned or managed. By establishing and maintaining the FSP, the State recognizes that public-private partnerships are essential to the present and future health of Hawaii's forests and to the public benefits that they provide. Since the program began in 1990, approximately 55 Forest Stewardship private landowners have enrolled in the program and are conducting forest management activities over 30,000 acres under agreements spanning 10 or more years. The program provides cost-share assistance for the development of Forest Stewardship management plans over the 10-year period, but some landowners commit to maintaining their projects for up to 20 additional years. In Hawaii, the Forest Stewardship Program leveraged over \$11 million in state and private funding to the support provided by U.S. Forest Service through the Cooperative Forestry Act.

Similar to a number of other states, the Hawaii Division of Forestry and Wildlife entered into a cooperative agreement in 2008 with the Natural Resource Conservation Service, Hawaii Association of Conservation Districts and the U.S. Forest Service to leverage partner resources and provide better service to Hawaii's forest and agricultural producers. Since signing this "Joint Forestry" agreement, FSP in Hawaii has increased program participation by more than 80% and is managing a growing list of approximately 105 people that have expressed interested in the program. The Division, through its landowner assistance network, reach over 300 landowners and community groups in the past year, providing them with technical guidance on responsible stewardship of their forest resources.

Landscape Scale Restoration

Tropical dry and mixed mesic forests in Hawaii face many threats such as invasive plants, wildfire, and ungulate grazing. In the North Kona district of Hawaii Island, Puu Waawaa State Forest Reserve contains some of the best remaining dry and mixed mesic forest left in Hawaii, but these forests are degraded and are in critical need of protection. Overall, this project will conserve and restore 1,000 acres of high priority tropical dry/mixed mesic forest in an important watershed for North Kona. The project has three goals: 1) Conserve montane and lowland tropical dry/mixed mesic forest through ungulate fencing and removal; 2) Protect forests from harm by identifying, managing, and reducing threats to forest ecosystem health, including wildfire; and, 3) Enhance public benefits from trees and forests by enhancing water recharge through forest recovery, restoring forests to conserve native biodiversity, and restoring areas where invasive species have harmed forests.

Accomplishments to date include: partial completion of two fence units; surveys for feral sheep including aerial surveys and motion-sensing camera traps to determine sheep distribution and abundance; removal of invasive silk oak trees across 165 acres and use of remote sensing data to map the species throughout the management area; maintenance of fire buffers; and the propagation of 52 different native Hawaiian plant species totaling nearly 5,000 seedlings.

Public-Private Partnerships to Product Our Water Source

The Division of Forestry and Wildlife, through the support and collaboration of the U.S. Forest Service, is working on building public-private partnerships to support our watershed and Hawaii's water source. As part of the State of Hawaii's Sustainability Commitments, 30% of Hawaii's priority watershed forests are to be protected by 2030. Part of achieving this goal is leverage partnership to help manage the forest that provides us water. The most recent example of this is the Coke-Cola and Ko'olau Mountain Watershed Partnership commitment (link below). We envision similar types of partnership could be developed for both carbon sequestration and watershed protection as they do often tie in together in Hawaii and benefit each other.

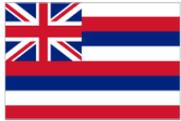
Freshwater Replenishment: <http://dlnr.hawaii.gov/forestry/frs/initiatives/freshwater-replenishment/>

Urban and Community Forestry

The Citizen Forester community tree inventory project, successfully launched in 2016, is expanding to a new community and to the University of Hawaii at Manoa. Our existing Kailua Citizen Foresters have continued to collect urban tree data in their neighborhood that is fed into the County of Honolulu's urban tree database. With the Kailua neighborhood being close to finished, these Kailua volunteers are now helping to train-up our new communities in Waikiki and Manoa. All the inventoried trees are available on an interactive online map hosted by Tree Plotter: <https://pg-cloud.com/Oahu/>.

An active group of volunteers consistently collected data weekly. These groups of volunteers has been remarkably committed and shown a keen interest in urban forestry. They have become important ambassadors in the community as they walk the streets with their bright yellow "Citizen Forester" t-shirts. This program has been an excellent partnership building opportunity through the Urban and Community Program with the City's Urban Forestry Department, and other community partners such as the non-profit organizations Smart Trees Pacific and The Outdoor Circle as well as the University of Hawaii.

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