



State and Private Forestry Fact Sheet Palau 2019



Investment in State's Cooperative Programs

Program	FY 2018 Final
Community Forestry and Open Space	\$0
Cooperative Lands - Forest Health Management	\$0
Forest Legacy	\$0
Forest Stewardship	\$66,000
Landscape Scale Restoration	\$0
State Fire Assistance	\$45,000
Urban and Community Forestry	\$0
Volunteer Fire Assistance	\$0
Total	\$111,000

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

The overall vision, mission, and goals of Palau's forestry program are:

Vision

A healthy and productive Nation in Harmony with the environment where all families have the skills, resources and opportunity to ensure wise stewardship of natural resources and systems and sustained food production.

Mission

The Bureau of Agriculture's mission is to promote, develop, protect, and conserve the Republic's land-based natural resources and to assist families to have the skills, resources and opportunity to ensure sustained food production, nutrition, food security and wise stewardship of ecosystems.

Program Goals

- Goal 1: Develop a national forest program based on cooperative management between the national and state governments and NGOs through broad stakeholder and intersectoral participation to ensure the wise management and sustainable use of Palau's forests and land based resources.
- Goal 2: Sustainable forest based source of livelihoods, including ecotourism, agro-forestry, and sustainable harvesting, are adopted by landowners and developers.
- Goal 3: Sustain forest health by preventing, controlling, and eradicating priority invasive species and develop and implement a fire hazard reduction program.

Key Issues

- Issue #1 Climate Change 1 - Stabilize slopes and reforest priority landscape areas 2 - Restore trees, shrubs and vegetation to stabilize coastlines within 10m of the high tide mark. 3 - Protect Littoral forests and mangroves 4 - Assess forest health from seawater intrusion.
- Issue #2 Population Growth and Urbanization 1 - Develop and implement land use plans 2 - Build capacity for land use planning and land use change for GHG Inventory. 3 - Increase native tree propagation and planting on private and public lands.
- Issue #3 Water Quantity and Quality 1 - Inventory current land use and correlate with water quality and quantity. 2 - Initiate buffer initiative for each state. 3 - Build capacity within communities to produce watershed management plans.
- Issue #4 Wildfire and Public Safety 1 - Develop and implement monitoring methods to determine baseline and ongoing levels of burning. 2 - Continue wildfire prevention awareness campaigns. 3 - Develop and implement community based fire response and suppression plans with training in fire response and suppression. 4 - Develop and implement a fire hazard reduction program.

- Issue #5 Conservation and Protected Areas 1 - Protect the integrity of our ecosystem. 2 - Control and if possible eradicate Palau's top priority invasive plants and build capacity on management of priority landscapes. 3 - Build capacity for conservation management.
- Issue #6 Sustainable Use of Forest Resources 1 - Develop and implement a National Policy Framework and Best Practices for Forests as guidance for states and raise awareness about the value of forests. 2 - Develop sustainable forests sources of livelihoods through specific programs and capacity building.
- Issue #7 Urban Forest Sustainability 1 - Enhance and organize planting of trees to foster self-reliant communities. 2 - Develop forest-based sources of livelihood 3 - Gather and share information and assist communities to raise awareness of the value of trees and forests. 4 - Promote the connection between trees and our culture.

Forest Facts and Accomplishments

Selected Facts	Value	FY 2018 Accomplishments	Value
Population	20,956	Landowners Receiving Educational or Technical Assistance	73
Acres of Forest Land	102,130	Acres Covered by New or Revised Forest Stewardship Plans	0
Acres of Nonindustrial Private Forest Land	0	Acres in Important Forest Resource Areas Covered by New or Revised Stewardship Plans	0
Number of NIPF Landowners	0	Volunteer Fire Departments Assisted	0
Acres of Federal Land Under State Fire Protection	0	State Fire Communities Assisted	12
Acres of Private Land Under State Fire Protection	0	Coop Forest Health Acres Protected	0
Number of Rural Fire Departments	0	Forest Legacy Project Acquisitions	0
Cities and Towns	16	Communities Provided Urban Forestry Program Assistance	0
Forest Based Employment	0	Population Living in Communities Provided Urban Forestry Program Assistance	0
Economic Impact of Forestry (by rank)	0	Urban Forestry Volunteer Assistance	0
State Forestry Budget (All Sources)	213,619		

Program Highlights

Breadfruit agroforestry in Palau

Palau Forestry, Palau Community College – Cooperative Research Extension, and the USDA Forest Service – Institute of Pacific Islands Forestry are working together to promote breadfruit agroforestry and food security in Palau. A total of 650 tissue cultured breadfruit trees (*Artocarpus altilis*) of a variety shown to be productive and highly successful in the region (Ma'afala) were imported to Palau in 2018 and will be distributed to the remote islands of Sonsorol, Hatohobei, Kayangel, Angaur, and Peleliu as well as the states of Ngarchelong, Ngaraard, Ngiwal, Melekeok, and Ngchesar on Babeldaob Island in 2019. A public workshop on breadfruit agroforestry and propagation methods has been planned for 2019 to encourage community plantings across Palau.

Cooperative Fire Protection

The USDA Forest Service – Institute of Pacific Islands Forestry has provided technical assistance to Palau since 2012 in providing annual wildfire maps. These maps have been useful to understand wildfire dynamics by location and time across Palau. From 2012-2017, the total area burned per year varied by more than five times, but there were on average 136 fires per year. Wildfires burned on average more than 3 million square meters per year between 2012 and 2014, or about 1% of the total island area not including mangroves. About 84% of the fires were less than 4 hectares in size and comprised about 38% of the total area burned per year, while 16% of the fires were 4-40 hectares in size and comprised about 62% of the total area burned per year. More fires occurred in January, February and March than in other months. Staff from Palau Forestry and the Protected Area Network also traveled to Guam in the summer of 2018 to participate in shaded fuel break training with Guam Forestry and staff supported by the USDA

Forest Service – Institute of Pacific Islands Forestry. Participants learned the wildfire management challenges of Guam and various shaded fuel break strategies and planting designs that have been utilized across Guam. Following the training, shaded fuel breaks were implemented in Melekeok and Ngardmau Protected Areas.

First Annual Terrestrial Science Seminar

The 1st Annual Terrestrial Science Seminar was hosted by the Ministry of Natural Resources, the Environment, and Tourism (MNRET) in March 2018. Presentations were given by staff from MNRET, Belau Museum, USDA Forest Service – Institute of Pacific Islands Forestry, Smithsonian Institution, Ebil Society, Coral Reef Research Foundation, and Palau Conservation Society. This seminar was an opportunity to present and discuss current and relevant terrestrial science of Palau for local stakeholders.

Forest dynamics monitoring at Ngardok Nature Reserve

As a partnership of Palau Forestry, Melekeok Conservation Network (MCN), and the USDA Forest Service – Institute of Pacific Islands Forestry, a 4 hectare permanent forest monitoring plot was established at Ngardok Nature Reserve of the MCN and was formally accepted in the Spring of 2018 into the Smithsonian Institution's Forest Global Earth Observatory (ForestGEO). ForestGEO is a global network of scientists and forest sites dedicated to advancing the long-term study of the world's forests. The network is comprised of 67 forest sites in 27 countries, providing detailed information on the growth, survivorship and mortality of more than 6 million individual trees across the globe of over 12,000 species. The forest monitoring plot at Ngardok contains nearly 14,000 individual trees of 70 species and the information collected within the plot allow us to look at characteristics of individual trees and the abundance and size distribution of the trees for each species. These data will allow us to investigate how these characteristics change over time and how individual species respond to climate stressors such as drought or severe weather events. The information also will serve as a necessary platform to understand how the ecological properties of a Palauan forest compare with tropical and temperate forests around the world. The forest monitoring plot in Ngardok will be re-measured every 4-5 years through the collaboration of Palau Forestry, MCN, and the USDA Forest Service.

Forest Stewardship

Ebil Project: The project objectives of restoring the degraded land area in Ngaremlengui are well underway. Since April 2018 the number of plants collected totals 2,735 of which 1,460 has been planted. Over 300 community volunteers from Ngaremlengui and from various local schools and organizations, including international universities and groups have participated in the planting of these trees. This project has engaged communities beyond the project site of Ngaremlengui based on requests from schools and household owners from other communities. A total of 1,728 trees have been planted or donated for tree planting events as requested. From May 2018 until the end of 2018 several trainings have been held on topics such as forest and watershed protection, soil and water management, ethnobotany, and tree planting. A little over 100 people have participated in these trainings and more training has been scheduled for the future.

Landscape Scale Restoration

National Forest Monitoring Strategy: In 2018, the Ministry of Natural Resources, the Environment, and Tourism (MNRET) developed a national forest monitoring strategy and approach to address the terrestrial metrics of the Micronesia Challenge with input from the Coral Reef Research Foundation, USDA Forest Service – Institute of Pacific Islands Forestry, and USDA Forest Service – Forest Inventory and Analysis. The national forest monitoring program was implemented on the ground in 2018, with partial funding support from the Landscape Scale Restoration grant awarded to the Micronesia Conservation Trust.

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