



# State and Private Forestry Fact Sheet Marshall Islands 2024



## Investment in State's Cooperative Programs

Program	FY 2023 Estimate
Community Forestry and Open Space	\$0
Cooperative Lands - Forest Health Management	\$50,000
Forest Legacy	\$0
Forest Stewardship	\$100,000
Landscape Scale Restoration	\$0
State Fire Assistance	\$60,000
Urban and Community Forestry	\$100,000
Volunteer Fire Assistance	\$0
<b>Total</b>	<b>\$310,000</b>

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

The Republic of the Marshall Islands (RMI) consists of 29 atolls, five solitary islands, and approximately 1,225 individual islands and islets. The network of islands contains 70 square miles of dry land situated about halfway between Hawaii and Australia. All the Marshall Islands are low in elevation; the average height of land above sea level being 7 feet. In July 2021, the population was estimated to be 78,831 people. More than two-thirds of the population lives on the atolls of Majuro and Ebeye.

The Marshall Islands contain five unique vegetation types: atoll forest, mangrove forest, coastal vegetation, saltwater aquatic vegetation (seagrass growing in coastal tidal flats), and cultivated vegetation (agroforests). Most of the interior, atoll forest was converted to agroforestry over the millennia since settlement by the Marshallese people. Marshallese agroforestry is a mix of trees, woody shrubs, and herbaceous species, managed for food and other forest products, notably breadfruit, coconut, pandanus, and bananas. Since Western contact, many areas have been managed as coconut plantations (70% of the landcover) and additional species have been introduced and integrated into the agroforest (especially fruit trees).

The Ministry of Natural Resources and Commerce (MNRC) consists of many Divisions and programs, including the Division of Agriculture, which is responsible for developing and implementing forestry programs. The RMI Forester works for the Division of Agriculture and collaborates with diverse partners, such as the College of Marshall Islands and the Coastal Management Advisory Group. The Coastal Management Advisory Group performs the duties of the Coordinating Committee and Urban and Community Forestry Council. The MNRC works together with various partners and stakeholders to increase efficiency in the implementation of forestry programs.

## Program Goals

- **Protect Forest from Harm:** Prevent the introduction and further spread of injurious pests and diseases into and within the Marshall Islands. Assist communities in planning for and reducing forest health risks, such as diseases that impact crop trees.
- **Enhance Public Benefits from Trees and Forest to Increase Food Security:** Increase local food crop production through extending knowledge and skills in better agroforestry systems. Strengthen access to nutritious foods for vulnerable households and individuals through support of local food crop production.
- **Conserve Working Forest Landscapes:** Maintain and enhance the economic benefits of trees and forest by programs such as the sawmill program where senile coconut palms are utilized and replanted with healthy trees. Protect and enhance water quality through coastal reinforcement efforts.

## Key Issues

- **Biodiversity:** Conservation of biodiversity in the Marshalls concerns terrestrial native species (especially endemic species and migratory birds) and traditional cultivars. Invasive species, including food crops and ornamentals, has led to a continued loss of biodiversity. The management of pests, insects, and disease is a critical concern. For example, the coconut rhinoceros beetle (CRB) has caused widespread loss of the coconut, which is an economically and culturally important species.
- **Food Security and Sustainable Livelihood:** The loss of traditional agroforestry practices and a lack of awareness of nutritional values are growing threats in the Marshall Islands. Agroforests are a source of subsistence goods and commercial products. Many Marshallese suffer from malnutrition and diabetes that could partially be addressed with increased agroforest production. Marshallese family incomes are low; agroforest production can reduce the need for purchases and bring in cash income.
- **Coastal reinforcement:** Coastal forests are those on the beach crest above high tide mark. Their root systems reinforce the beach "berm" or crest. Coastal forests have been thinned and removed in many urban and rural areas, so their restoration and maintenance in their natural state is a "no-regrets strategy" and a first line of defense against the effects of sea level rise.
- **Urbanization and a lack of urban planning:** Urbanization is a result of migration and the adoption of Western patterns of living. The increased clearing of forests in urban centers is a growing concern, especially in the capital city seeing the greatest loss of trees. The development of the airport resulted in more coastal loss. A large proportion of the population is now concentrated on a few urban islands, resulting in reduced forest cover and a loss of cultural benefits from the forest.
- **Climate Change:** The impacts of climate change are resulting in an increase of drought and a rise in sea-level, which has led to saltwater intrusion, subsequently impacting the ability to grow certain root crops, trees, and medicinal herbs.
- **Resource Management:** Threats include increased pollution and solid waste management, overuse of water for crops, and loss of soil due to excessive land clearing, mowing, and burning.

## Forest Facts and Accomplishments

Selected Facts	Value	FY 2023 Accomplishments	Value
Population	41,665	Landowners Receiving Educational or Technical Assistance	210
Acres of Forest Land	34,835	Acres Covered by New or Revised Forest Stewardship Plans	0
Acres of Nonindustrial Private Forest Land	29,295	Acres in Important Forest Resource Areas Covered by New or Revised Stewardship Plans	0
Number of NIPF Landowners	1,000	Volunteer Fire Departments Assisted	0
Acres of Federal Land Under State Fire Protection	0	State Fire Communities Assisted	15
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	33	Communities Provided Urban Forestry Program Assistance	1
Forest Based Employment	0	Population Living in Communities Provided Urban Forestry Program Assistance	19,664
Economic Impact of Forestry (by rank)	0	Urban Forestry Volunteer Assistance	0
State Forestry Budget (All Sources)	0		

## Program Highlights

### ***BIL- Revegetation Project***

The USDA Forest Service BIL-Revegetation fund support the Ministry to contracting agriculture researcher for the purpose of focus particularly (but not limited to) on how the implementation of the tissue culture projects be conducted using randomized field trial methodologies and techniques.

Some major achievements of the projects this year are the building of the tissue culture laboratory,

greenhouse and nursery facilities. The Nursery facilities will be funded under the USFS BIL- Revegetation program. Procurement of the laboratory equipment, chemicals and reagents was already materials and waiting to be installed. The building of the tissue culture laboratory facility is being in process and made possible through collaboration and mutual understanding agreement with the College of the Marshall Islands (CMI) Land Grant Program located at the CMI-Arrak campus facility. The facilities are expected to be done as planned. The tissue culture laboratory facility will not only propagate breadfruit trees. It will also be utilized to produce other important tree crops of the Marshall Islands. This facility will enhance crop mass production that will stabilize food security in the region.

### **Cooperative Fire Protection**

Last Year 2023, a new grant was awarded to the Ministry of Natural Resources and Commerce (MoNRC) from the USFS Cooperative Fire Protection. The aim of this program is to educate communities about composting the waste material instead of burning to prevent further damages to the communities and also to incorporate the traditional agroforest conservation practice to maintain protection. This project pursues strategies identified in the Marshall Islands "Forest Action Plan" under 'urbanization'. The strategy is hazardous fuel reduction education to the schools and communities (pg. 36).

### **Forest Health Protection**

Coconut is the lifeline of the Marshallese people. The tree charms visitors to our shores, as well as commands the respect of the Marshallese that depend on it for their livelihood. Known throughout the Pacific as the "tree of life," every part of it is used, from its tallest frond down to its rooted trunk – from the sweet, delectable juice and fresh meat of its fruits to its husks to that fuel fires, the fronds that make baskets, and the trunk that go into building homes and furniture. In smaller neighboring atolls where crop cultivation is not possible, coconut is one of the main staple foods, ensuring food security for island inhabitants. However, the health of our coconut trees has come to focus and needs immediate attention.

The RMI Government declared a State of Emergency for Coconut Rhinoceros Beetle (CRB) on (Oct 2, 2023). The Ministry requested support from the USFS Forest Health Program to assist the Ministry in implementing the RMI CRB response plan. The main goal is to allow for an immediate response to control and eradicate the CRB and to minimize the negative impact on the economy and food security.

Thus far, from the RMI CRB situational report, total of 423 CRB has been collected for data collection purposes. About 143 traps installed in some of the Outer Islands, including the main Island. 100% school outreach completed in both Majuro and Ebeye from 4th grade and up. Neighboring Islands Assessment, outreach and identification training is still an ongoing activity.

### **Forest Stewardship**

RMI has been involved in coconut/copra production and the atolls in the Marshalls are widely planted with coconut trees. Coconut/copra is one of the important crops in the RMI providing sustainable livelihoods and economic viability to many farmers. Coconut is used for fuel (coconut oil), food, soap, handicrafts, and lumber in the RMI. This year the Forest Stewardship Program is collaborating with the Marshall Islands Conservation Society, the USDA Forest Service and the University of Hawaii on a project focused on coconuts resources. The project will provide data on coconut plantation resources that will be useful on the community-level and industry-wide, for coconut rehabilitation, replanting, and for the sawmill program. This will include developing techniques to use satellite imagery to detect coconut health and pest conditions at the landscape-level. With the data from the imagery analysis, management will include removing the senile coconut trees and replanting healthy trees. The lumber of these coconuts can then be utilized by the sawmills across 11 atolls to produce lumber for timber and craft, which help support the economy of RMI.

### **RMI Vegetation Monitoring Project**

The Ministry of Natural Resources and Commerce, U.S. Geological Survey, U.S. Agency for International Development, and U.S. Natural Resources Conservation Service are collaborating to use satellites to monitor water and food security for 23 inhabited atolls and islands in the RMI. This one-year project developed monthly reports and maps describing precipitation and vegetation health. If additional funds could be obtained, the team could continue to deliver status reports to agricultural and natural disaster managers, and to expand community involvement and capacity building. For more details and information about this project see report link: <https://pubs.usgs.gov/dr/1181/dr1181.pdf>

### **Urban and Community Forestry**

The Urban and Community program continues to strengthen the community forests in the Marshall Islands through plantings, education, and outreach. One highlight this year is a trip from August 11th to August 25th, 2023, when three staff from the Division of Agriculture and Forestry visited Likiep Atoll to do community forestry activities with the communities of Melan and Jebal. The team trained the community members in both Melan and Jebal on modern methods of propagation, demonstrating techniques such as air-layering, stem cutting, and root cuttings. The team also presented on the importance of replanting indigenous salt tolerant vegetations. All activities are still ongoing in the communities after the trainings, demonstrating the benefits of these community-focused education opportunities.

Some of the activities were on-hold for the meantime due to the CRB arrival in Majuro, Marshall Islands. Also, with limited staff, the division of Agriculture and Forestry are working with a team of the Quarantine Division to prevent the spread of the CRB in Majuro. It is still an ongoing issue and these activities persist.

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