



State and Private Forestry Fact Sheet Puerto Rico 2025



Investment in State's Cooperative Programs

Program	FY 2024 Final
Community Forests and Open Space	\$0
Cooperative Lands - Forest Health Management	\$261,840
Forest Legacy	\$102,000
Forest Stewardship	\$109,872
Landscape Scale Restoration	\$498,705
State Fire Assistance	\$260,000
Urban and Community Forestry	\$460,000
Volunteer Fire Assistance	\$18,000
Total	\$1,710,417

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

Puerto Rico population is estimated in 3,285,874. Is part of the Antillean archipelago, between Caribbean Sea and Atlantic Ocean. Includes the main island, two populated islands, Vieques and Culebra, Mona and Monito, Caja de Muertos, and small islands and cays. Measures approximately 100 miles E to W and 35 miles N to S. Land surface is approximately 3,449 mi². Has wide variations in elevation, climate zones and soil types. Geographical regions and geological primary substrates are: Coastal Plains, Limestone Regions, and Mountainous Interior composed of three main volcanic ranges; and Plutonic batholiths and associated ranges. The 53% is mountainous, 25% plains, 20% hilly, 1% plateaus, and 1% composed of rivers and reservoirs. Is divided in two climatologically regions. Northern two-thirds of the island relatively humid climate, and southern one-third is semi-arid. Mean monthly air temperatures ranging from 27 to 24 °C in coastal areas; and 25 to 22 °C in interior mountainous areas. Spatial distribution of rainfall is greatest in the Sierra de Luquillo rainforest (169 in/yr) and lowest in the southwest (30 in/yr). Land cover is: 59% forest, 13% developed, 10% agricultural, 9% scrub, 4% palustrine wetland, 3% grassland, and 1% estuarine wetlands, water and submerged lands and barren lands. Main cover (59%) is mixed forest dominated by trees generally 16 feet tall, and greater than 20% of total vegetation cover, either deciduous nor evergreen species are greater than 75% of total tree cover. Scrub lands (9%) contains areas dominated by shrubs less than 16 feet tall with shrub canopy greater than 20% of total vegetation. This class includes tree shrubs, young trees in an early succession, or trees stunted from environmental conditions. Developed land or impervious surface is the second land cover class, 12.6%, higher in coastal communities, 13.8% is classified as developed and 16.2% of the coastal zone's inland limit. Third is agricultural land (10%)-crops, grass, hay.

Program Goals

- CONSERVING WORKING FOREST LANDSCAPE

Need to preserve the multiple values, uses and services provided by the Puerto Rico forest cover. These benefits may be protected or increased by implementing better conservation practices. To main objectives under this goal are:

1. identify and conserve high priority forest ecosystems and landscapes in Puerto Rico currently under private control;
2. actively and sustainably manage private forested land.

- PROTECT FORESTS FROM HARM

Recognition of real threats or harm causes affecting forested lands, and to identify ways to control or reduce substantially their harmful effects. Two main objectives under this goal are:

1. identify, manage and reduce threats to forested ecosystems health;
2. reduce risks of wildfire impacts.

- ENHANCE PUBLIC BENEFITS ASSOCIATED WITH TREES AND FORESTS

Maximizing profitable social, environmental and economical services trees and forests provide to the community.

1.protect water quality, quantity; 2.improve air quality, conserve energy; 3.assists communities planning to reducing forest health risks; 4.enhance economics benefits and values of trees; 5.protect, conserve wildlife and fish habitat; 6. connect people to tree and forests; 7. manage to mitigate and adapt.

Key Issues

- DEVELOPMENT AND FOREST FRAGMENTATION
- HYDROMODIFICATIONS
- CONVENTIONAL-LARGE SCALE AGRICULTURAL PRACTICES
- WILDFIRES
- INVASIVE SPECIES
- PESTS AND DISEASES
- HURRICANES
- DROUGHT

Forest Facts and Accomplishments

Selected Facts	Value	FY 2024 Accomplishments	Value
Population	3,285,874	Landowners Receiving Educational or Technical Assistance	2,648
Acres of Forest Land	1,141,901	Acres Covered by New or Revised Forest Stewardship Plans	2,057
Acres of Nonindustrial Private Forest Land	1,247,890	Acres in Important Forest Resource Areas Covered by New or Revised Stewardship Plans	432
Number of NIPF Landowners	13,159	Volunteer Fire Departments Assisted	0
Acres of Federal Land Under State Fire Protection	26,660	State Fire Communities Assisted	0
Acres of Private Land Under State Fire Protection	1,900,000	Coop Forest Health Acres Protected	0
Number of Rural Fire Departments	80	Forest Legacy Project Acquisitions	0
Cities and Towns	74	Communities Provided Urban Forestry Program Assistance	52
Forest Based Employment	1,541	Population Living in Communities Provided Urban Forestry Program Assistance	924,729
Economic Impact of Forestry (by rank)	20	Urban Forestry Volunteer Assistance	15,776
State Forestry Budget (All Sources)	4,089,319		

Program Highlights

Cooperative Fire Protection

Puerto Rico is entering dry season, which will be influenced by vegetation accumulated in 2024, a wet fall season. The PR Fire Department (PRFD) has been working on preparedness for wildland firefighting in the event of a possible early drought scenario in 2025. In 2024, PRFD responded to 1,681 wildland fires affecting 3,695 acres. The fire season in geographic zones of Puerto Rico is from the beginning of January to the end of August, keeping firefighters busy with an average of 3,000 wildfires. The S and W regions have the highest fire activity due to the type of flora and the minimum amount of precipitation in the area. Support from SPTF-IITF of the US FS and the National Weather Service, among other agencies, allows PRFD implements the prevention, mitigation, and response programs to wildfires, establishing strategies under interagency efforts to work together in the planning process, response phase, resources coordination, and fire monitoring. The PRFD has an operations center in Juncos, from where wildland fires, mitigation works, and other specialized operations are managed. The PRFD incorporated 6 fire crews in 2024 season, covering South, West, North, and East of Puerto Rico. These PRFD fire crews implement fuel mitigation through controlled burning, fire breaks in state, and abandoned

lands. Crews managed and did firefighting work during wildfire incidents and structure protection in conjunction with the structure's fire engines during the 2024 fire season. These have been implemented using machinery and techniques with multiple tools and equipment subsidized by the Cooperative Fire Program of the US FS, which has made possible the control of fires and prevention of spread to other areas, allowing the protection of flora and fauna. 2025 fire season is expected to be a very active year for wildfires due to fuel accumulation in the field to burn. In 2025 will establish 7 fire crews for wildfires response and fuel mitigation.

Forest Health Protection

Monitoring was expanded to the Maricao and the Susua State Forests. No threats were detected at any site. Dra Edda Martinez, a collaborator from the University of Puerto Rico at Mayaguez, analyzed samples. The Forest Health Program symposium was offered in May. It was hosted at the biology building at the University of Puerto Rico at Mayaguez. We did have some challenges due to electricity service problems, but the participants' feedback was positive, encouraging us to keep working on the next annual symposium. We visited Guilarte State Forest to provide the forest Manager with information on Forest Health issues they may confront in the forest. We attempted to visit other forests, but the lack of effective communication services at each forest made it difficult to coordinate. In September, a workshop on plant nursery management, plagues, and diseases was offered to Department of Natural and Environmental Resources (DNER) employees who work in Natural Protected Areas (NPA). In addition, volunteers and personnel under contract who also worked or provided services to DNER NPA participated in this workshop. It was offered in one conference room at the central office of DNER in San Juan. We attempted to coordinate a workshop with forest firefighters, but it was not possible due to fire emergencies. Funding for 2024 was solicited and awarded to the DNER. We intend to start a lab with the funding provided, acquire a vehicle for the program, and a biologist who will serve to collect and identify the samples. We expect that the acquired personnel will facilitate the collection of samples and accelerate the process of identifying the samples collected. A second workshop was offered in December, with the same topic as the one provided in September. The invitation for this workshop was expanded to the public and conducted at Hacienda la Esperanza at Manatí. The feedback from the audience was very positive, and we intend to apply it to the following workshops and symposiums.

Forest Legacy

In 2024, the Puerto Rico Department of Natural Resources (PRDNER) focused on closing the project Expanding the Guánica State Forest and advancing acquisition efforts under project Protecting the Central Mountain Range. For the Expanding the Guánica State Forest project, four properties bordering the forest were finally acquired, located between the municipalities of Yauco, Guayanilla and Guánica. These acquisitions total 656.5997 acres of land that are now incorporated into the forest and will be protected in perpetuity. This effort has been fundamental for the expansion and conservation of one of the most important and biodiverse ecosystems in the region, ensuring the protection of these lands for future generations. On the other hand, for the Central Mountain Range Protection project, they are in an advanced acquisition process. The acquisition of four properties located in the centre of the island, specifically between the municipalities of Ciales and Jayuya. This effort is key to the protection of the Central Cordillera, a vital region for the forest ecosystems of Puerto Rico due to the proliferation of antennas in that area. Finally, we managed to establish a Memorandum of Understanding (MOU) with the NGO Para la Naturaleza, the Fish and Wildlife Service, the US Forest Service and the Department of Natural and Environmental Resources (DNER) with the objective of developing a competition proposal for the acquisition of land within and in the surrounding areas of the El Yunque Forest. This collaborative effort seeks to ensure the conservation of these critical lands and is aimed at competing for funds in this year 2025. The strategic alliance with these organizations and agencies reinforces our commitment to work collaboratively to preserve one of the most emblematic and biodiverse ecosystems of Puerto Rico.

Forest Stewardship

At the end of 2024, the Forest Stewardship Program made progress in approving, with the technical assistance of NGO's (Cafiesencia, Centro para la Conservacion del Paisaje, Soil Conservation Districts, and Protectores de Cuencas, Inc.), 21 new management plans, totaling 1,761 acres of forest in priority areas, impacting 21 new participating landowners. Thanks to the valuable technical participation of the collaborators, this is a progress that would not have been possible without their assistance. The total number of active management plans as of December 11, 2024 is 201, equivalent to 28,829.76 acres of private land. These management plans include specific recommendations with the following forestry practices that address the program's focal points, for example: 1) commitment of landowners to actions

aimed at protecting and conserving forested areas in the highest areas of priority watersheds to help maintain and improve the quality of water bodies; 2) improvements in wildlife habitat through the reintroduction of tree species that provide food and shelter; 3) control fires in fire-prone areas of the island's semiarid ecoregion; 4) promote ecotourism and educational activities that allow landowners to obtain additional economic income. On the other hand, and according to the DRNA's 2024 annual report, 28,579 trees were distributed, with a possible impact of 595 acres in several private properties participating in the program that helped strengthen private forest protection and conservation strategies.

Guanica Watershed Steering Committee Field Visits and Meeting

The Guanica Watershed Steering Committee held the quarterly meeting this August 30, 2024 in Guanica. Protectores de Cuenca has been essential in the implementation of the Guanica Watershed Management Plan, developing a citizen advisory committee. The initiative is hosted by NOAA with the support of local NGO's, DNER, state and federal agencies, municipalities, and private sector. The purpose is to build long term sustainability and resilience by implementing management actions, monitoring, and adapting. Stakeholders' involvement and education are essential as well as the support to the communities and local government. State, Private, and Tribal Forestry Programs have been supporting this initiative for many years now providing funding for fire mitigation and prevention, and soil stabilization practices including reforestation, invasive grasses control, forest rehabilitation, Remote Automatic Weather Stations (RAWS) establishment and monitoring, shade coffee, land acquisition through the Forest Legacy Program, and work with private landowners to promote sustainable forest use, establishment, and conservation through the Joint Chiefs' Landscape Restoration Partnership projects (Southwest and Southern Puerto Rico). We accompanied the group to the US Forest Service projects and planting areas along PR-333 in Guanica including sites with projects funded by the Landscape Scale Restoration, Urban and Community Forestry, State Fire Assistance, Joint Chiefs' Landscape Restoration Partnership and Forest Legacy Programs.

Joint Chiefs' Landscape Scale Restoration Partnership (JCLSRP)

Accomplishments Implementation of the JCLSRP projects in Puerto Rico during 2024

1. 28 New Forest Stewardship Management Plans covering 2,198.7 acres, 20.64% acres in plans located in forest priority lands
2. 520 trees distributed;
3. 16,000 trees ready for distribution;
5. 33 monitoring activities with volunteers
5. Six (6) technical workshop for private landowners (126 in-person and 127 online).

Workshops:

- * Map of Life and Monitoring of Species on the Farm
- * Nurseries: Collection and propagation of seeds on the farm
- * Paths and trails: their importance and benefits in the management of agricultural farms and forest lands
- * Conservation Practices of the Eastern Puerto Rico Watershed Landscape Restoration Alliance Initiative - Part One
- * Conservation Practices of the Eastern Puerto Rico Watershed Landscape Restoration Alliance Initiative - Part Two
- * Forest Management and Forest Management Planning

Landscape Scale Restoration

Puerto Rico's subtropical dry forests are subjected to intense land use and development, particularly on private lands. These pressures have resulted in the loss of wildlife habitat and sources of food, and ecological connection of important corridors for native and endemic wildlife. Severe weather events such as hurricanes and forest fires have also increased the vulnerability of these ecosystems. Protectores de Cuencas has been working with private landowners to provide technical assistance on the proper management of their forested lands and prepare Forest Stewardship Management plans for their properties. Plans will provide site-specific recommendations of management practices aligned with landowner goals that will improve forest resiliency and connectivity, create biological corridors, and protect and enhance the habitat of native and endemic flora and fauna on a landscape scale. PDC will submit plans through the USDA Stewardship Mapping and Reporting Tool to support long-term management. Additionally, PDC will coordinate native tree plantings in these private lands to increase habitat resiliency and quality and expects to plant 20,000 native trees in the project areas. Thus far PDC has engaged 16 private landowners which could potentially impact 225 acres of private lands. PDC has

completed the first two visits to private lands in the project area of interest. Currently, the organization is working to coordinate further visits to private lands and is producing native trees that will be planted through this project.

Landscape Scale Restoration 2

The Guánica Dry Forest in southern Puerto Rico harbors diverse flora and fauna unique to the area. This landscape is also important for the socioeconomic development of communities near the forest. However, due to its unique environmental characteristics, invasive grasses that are highly fire prone, and severe weather conditions, the area is severely affected by wildland fires that devastate the forest structure in the area and threaten local communities. Protectores de Cuencas is working to reduce wildfire risk and increase community involvement through this project by reducing invasive grasses in 50 acres, planting 20,000 native trees and shrubs, coordinating educational activities with community members, and preparing a Community Wildfire Protection Plan (CWPP). So far, PDC has completed the eradication of 50 acres of invasive grass and has successfully reforested the areas with 24,258 native trees and shrubs. Additionally, PDC has engaged the community and has coordinated tree plantings with more than 600 students, volunteers, and community members. Currently the organization is providing maintenance to the planted material and working with state, federal, and local partners to complete a CWPP that will increase public safety in the area and provide communities with important information on wildfire prevention and management.

Landscape Scale Wildfire Prevention Planning for Southern Puerto Rico

Through this project, non-profit organization Protectores de Cuencas Inc. (PDC) is working to improve the understanding of wildfire risk for southern Puerto Rico by completing a wildfire risk data analysis with up-to-date information. PDC aims to increase interorganizational collaboration for wildfire preparation and prevention planning with the participation of at least eight organizations and agencies in the wildfire consortium. Communities in the west section and the eastern section of the Guánica State Forest are being more informed and prepared for the wildfires through the development of two Community Wildfire Protection Plans. PDC expects to meet the following objectives through this project:

- a) Update wildfire risk data for southern Puerto Rico
- b) Develop a wildfire consortium with key stakeholders for southern Puerto Rico
- c) Develop two CWPPs for communities in the Guánica State Forest

PDC has initiated a literature review to identify data gaps, assess high-risk areas, and address geographic locations that would most benefit from the development of a CWPP. PDC has begun planning plan a kick-off meeting, which will be held with the southern brigade of the Puerto Rico Fire Department, Department of Natural and Environmental Resources (DNER), US Department of Agriculture - US Forest Service (USFS), Natural Resources Conservation Service (NRCS), US Fish and Wildlife Service (USFWS), and Para La Naturaleza.

National Association of State Foresters-Urban and Community Forestry Committee Meeting in P.R.

From June 10th to June 13th, the National Association of State Foresters (NASF) from the Urban and Community Forestry programs held their meeting in San Juan. The State, Private, and Tribal Forestry (SPTF) unit's Program Manager, Puerto Rico State Forester, Darien Lopez was the host for this meeting. State, Private, and Tribal Forestry Staff were able to participate in this meeting alongside US Forest Service Urban and Community Forestry Program Acting Director Nausheen Iqbal.

During this meeting, participants presented projects from partners, from topics including food forestry initiatives, urban forest health, community engagement, and forest resilience. National Association of State Foresters and US Forest Service members were able to discuss the successes and challenges that are present or may arise.

The Urban and Community Forestry team also had the opportunity to share with Nausheen Iqbal, Cooperative Forestry Acting Director, ongoing projects in the island by visiting Huerto Capetillo's community and food forest, and accompanying NASF members in the field visits to Bosque Milenio in San Patricio and Caguas' Botanical Garden.

Holding conversations regarding urban and community forestry in the Caribbean and having representation from the International Institute of Tropical Forestry and our island territory foresters and

coordinators from Puerto Rico, and the US Virgin Islands, is key in showcasing the value of our partners' work alongside the unit. Listening to the discussions aids us in understanding areas for improvement when it comes to forest resilience, technical assistance, and customer service; it also makes us solidify in our partnerships and our ongoing goals to be integrative when it comes to urban and community forestry.

Urban and Community Forestry

The Puerto Rico Urban and Community Forestry (UCF) Program at the Puerto Rico Department of Natural and Environmental Resources (DNER) is collaborating with various local non-governmental organizations in the delivery of urban forestry education and community tree planting and tree maintenance activities, also including the planting of fruit trees to increase food security in the island. Through the Puerto Rico UCF Cost-share Subgrant Program, the DNER offers opportunities to communities and organizations to invest in their urban and community forests and green spaces. In 2024, subawards under this program were granted to the municipalities of Ponce, Coamo, Hormigueros and Barceloneta; the entity CARAS con Causa and the Consejo de Vecinos de las Urbanizaciones Rio Piedras Hights and El Paraiso. The DNER also provided technical assistance to municipal governments related to urban forestry and how to apply to the Tree City USA Program.

During this year, we have been carrying the message of the importance of reforestation and education about the importance of trees and their maintenance. In 2024, the municipality of Caguas celebrated 15 years as a Tree City USA, an Arbor Day Foundation Program. Several celebrations were held to celebrate this achievement, and we hope that more municipalities and entities will join the Program through these activities. We also conducted talks in schools around the island about the importance of reforestation and tree maintenance, planted trees in schools, and participated in exhibitions and fairs to bring information and distribution of trees to the public. Tree maintenance in urban and residential areas is of utmost importance for electrical services, especially during hurricane season. In addition, we continue with our activity of exchanging Christmas trees for trees to plant in homes or communities.

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