

Puerto Rico

 CARIBBEAN DIVISION | THE WORLD WE DEPEND ON DEPENDS ON US

From mountains of green to miles of blue
this Caribbean treasure needs protecting

Often called the Isla del Encanto, or Island of Enchantment, Puerto Rico is home to a stunning array of natural habitats, including rainforest, mangroves, bioluminescent bays and one of the largest underground cave systems in the world.

Tree-covered mountains span the length of the main island, overlooking white sandy shores and over 5,000 square miles of luminous blue ocean. There are nearly 300 plant and animal species endemic to this U.S. territory, including the endangered and iconic Puerto Rican parrot, one of the rarest birds in the world. Puerto Rico's natural riches support other endangered animals, including serene beaches that provide nesting sites for sea turtles and vibrant waters that serve as breeding grounds for manatees.

Like most islands in the Caribbean, the fishing and tourism industries sustain Puerto Rico's households, communities and local economies. The health and productivity of the resources that support fishing and tourism—including the ocean, coasts and coral reefs—are vital to the wellbeing and prosperity of the 3.2 million residents living in the territory. The Nature Conservancy (TNC) has been working on the ground in Puerto Rico for nearly a decade, following a comprehensive assessment of the territory's marine, freshwater and terrestrial systems that confirmed the diversity and importance of these resources and the critical need to protect them.

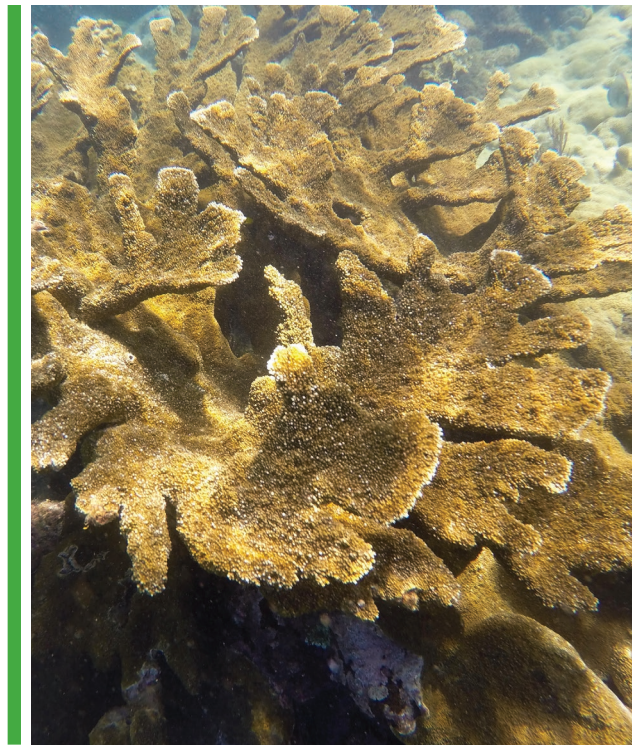
Since Hurricane Maria devastated Puerto Rico in 2017, resulting in thousands of lives lost and billions of dollars in economic loss, this work is more important than ever. Today, TNC works closely with local government and stakeholders to restore and preserve the vital ecosystems Puerto Ricans rely on every day and to help create a more resilient, secure future for nature and people.



Safeguarding Vital Marine Habitats

Puerto Rico has some of the Caribbean's most expansive coral reef systems, with almost 200 square miles of reef area and shallow reef ecosystems that include mangroves and seagrass beds fringing most of the coastline. **A recent study by TNC and partners determined that Puerto Rico's coral reefs generate over \$1.4 billion per year in tourism revenue from more than 1 million visitors.** This value coupled with the economic activity generated through fishing means the territory's coral reefs are essential for sustaining livelihoods and household incomes.

But coral reefs in Puerto Rico have fallen into alarming decline due to a myriad of threats, including overfishing, pollution and the impacts of climate change. **The U.S. National Oceanic and Atmospheric Administration (NOAA) rates 93 percent of Puerto Rico's reefs as threatened, with 84 percent at high risk.** These once-magnificent natural resources are now some of the most vulnerable reefs in the Caribbean, which jeopardizes the wellbeing of nature and communities. TNC has helped lead two major initiatives to protect Puerto Rico's coral reefs and other marine habitats—the Caribbean Challenge Initiative (CCI) and the Caribbean Regional Ocean Partnership (CROP).



Launched by TNC and partners, the CCI joins countries and territories across the region in a commitment to protect and manage at least 20 percent of their marine environments. Puerto Rico joined the CCI in 2012 and today 27 percent of its nearshore environment is protected. **TNC supports the local government in creating long-term management plans for sustainable, productive use of protected waters and helps improve adherence to marine regulations by seeking stakeholder and community involvement.** Since joining the CCI, the government has improved communications with fishers and established new laws to prevent practices that degrade marine habitat. TNC is also helping the government evaluate potential renewable finance tools and establish a Puerto Rico National Protected Areas Trust Fund to support protected area management into the future.

Implemented by TNC and partners, the CROP fosters collaborative management of marine environments across Caribbean governments. Through the CROP, **TNC helped forge a partnership between Puerto Rico and the U.S. Virgin Islands, whose marine environments are ecologically and economically linked, to promote mutually beneficial management and use of shared resources.** The partnership allows the territories to work together to reduce conflicts among resource users and maximize the ocean's benefits to people, while fostering healthy marine habitats.

One of the primary tools TNC uses to move this work forward is marine spatial planning, which analyzes current and anticipated resource use, as well as the ecological characteristics of the environment, to find solutions for effective marine management. These solutions include areas designated for income-generating activities like responsible fishing and tourism, in addition to no-use zones assessed as particularly vulnerable. Incorporating this tool into the work of the CROP enhances transparency and helps ensure that the interests of multiple stakeholders are considered.

FIRST PAGE, TOP TO BOTTOM A serene beach on Culebra Island, Puerto Rico © iStockphoto; The critically endangered Puerto Rican parrot © Alfredo Irizarry; El Yunque National Forest in Puerto Rico © iStockphoto THIS PAGE, CLOCKWISE Healthy elkhorn corals in protected waters of Puerto Rico © Chelsea Harms-Tuohy; Manatees are endemic to Puerto Rico but there are now fewer than 600 left in the territory. © Amy Vu; The leatherback sea turtle is one of the endangered species that nests in Puerto Rico. © iStockphoto



Working With Communities to Protect Fisheries

To promote awareness among restaurants, consumers and fishers about the importance of protecting the ocean by selling, eating and catching sustainably harvested seafood, TNC and partners launched a community-based initiative in 2019 called Responsables con el Arrecife. Building on the Reef Responsible initiative in the U.S. Virgin Islands, **Responsables con el Arrecife provides easily accessible guidelines on what species are good choices for protecting marine health and what species should be avoided because they are overharvested.** Restaurants volunteer to join the initiative and commit to sustainable seafood practices, which helps consumers, including tourists, make informed choices and provides fishers with a market for their reef-friendly catch. Several restaurants will serve as pilots in the initial phase of Responsables con el Arrecife, as communities become more involved and the initiative gains momentum.

TNC has also partnered with the Puerto Rico Department of Natural and Environmental Resources, NOAA's Coral Reef Conservation Program, and the Caribbean Fishery Management Council to train hundreds of commercial fishers on sustainable practices and up-to-date regulations. Through these partnerships, **the first official Commercial Fishers Education Program was established—a series of courses on basic fisheries management, marine conservation concepts and the importance of catch regulations and proper reporting to ensure long-term fishery sustainability.** Local communities are becoming more and more engaged in the collaborative process of fisheries improvement and have been very receptive to the education program, with over 600 commercial fishers participating to date and counting.



Throughout TNC's work in Puerto Rico, there is a strong emphasis on involvement of local stakeholders and collaboration between governments and communities. When the government declared a network of protected areas in Cabo Rojo, a popular tourist destination, **TNC encouraged strong community support of the declaration by initiating a collaborative marine planning process.** Input was gathered from those who rely on fishing and tourism for their livelihoods to gain insight into how management of the protected areas could be most beneficial and effective. Through this process, TNC was able to identify key barriers to effective management in the Cabo Rojo Coral Priority Region, such as the need for mooring buoys and additional fishing regulations, and to put steps into motion that would fill these gaps.

Similarly, on Puerto Rico's island of Culebra, TNC and partners interviewed stakeholders from the fishing and tourism industries to help resource managers understand the range and intensity of coastal and marine activities. Areas were mapped to document their ecological importance along with fishing, tourism and transportation use. A geodatabase was then created, based on the maps, to identify human stressors on coral reefs and other habitats and address them in ways that help safeguard vital ecosystems as well as the livelihoods that depend on them.



Using New Technologies to Better Manage Resources

Along with marine spatial plans and geodatabases, TNC is using other innovative tools and technologies to help nature and people in Puerto Rico.

Fishery data in the territory has traditionally been recorded on paper and shared manually, a time-consuming process that is prone to error. **TNC helped develop a mobile app that allows commercial fishers to quickly and accurately report their harvest data, which drastically improves on the manual system and has now been officially adopted by the Puerto Rican government.** The free app, called eReporting, supplies immediate catch quantities to fishery managers, provides valuable analyses that inform management decisions and helps effectively monitor annual catch limits according to species and location. TNC and partners conducted workshops in multiple locations across the territory to train fishers and fishery managers on the benefits of the app and how to use it.

Through the CROP, a Caribbean marine planner data portal was created that puts state-of-the-art mapping and visualization tools into the hands of the government, protected area managers and community leaders. The data portal includes robust environmental, socioeconomic and regulatory data and supports multi-use zoning and planning of marine protected areas. Users can analyze marine resources and evaluate the impact of different types of use—including fishing, tourism, recreation, boat traffic and conservation—to make decisions that offer the optimal benefit balance to people, the economy and nature. Because the challenges that Puerto Rico faces are seen across the Caribbean, this data portal is a tool that can be scaled up and used throughout the region for more informed decision making and conservation.

Building a Sustainable Future

Through our strong partnerships and commitment to working with communities on the ground, TNC has made great strides in preserving the countless natural treasures that truly make Puerto Rico the rich and magnificent place that it is. Looking forward, TNC will continue to promote collaborative, innovative solutions to some of the territory's most urgent conservation challenges—helping communities to become more resilient in the face of climate-related threats and strengthening livelihoods that depend on vulnerable resources. **Together, we can secure a brighter, safer future for both the remarkable ecosystems and vibrant communities of Puerto Rico.**



OUR MISSION: TO CONSERVE THE LANDS AND WATERS ON WHICH ALL LIFE DEPENDS



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