

Puerto Rico's first oyster farm is in Culebra: "We have built it from within the community"

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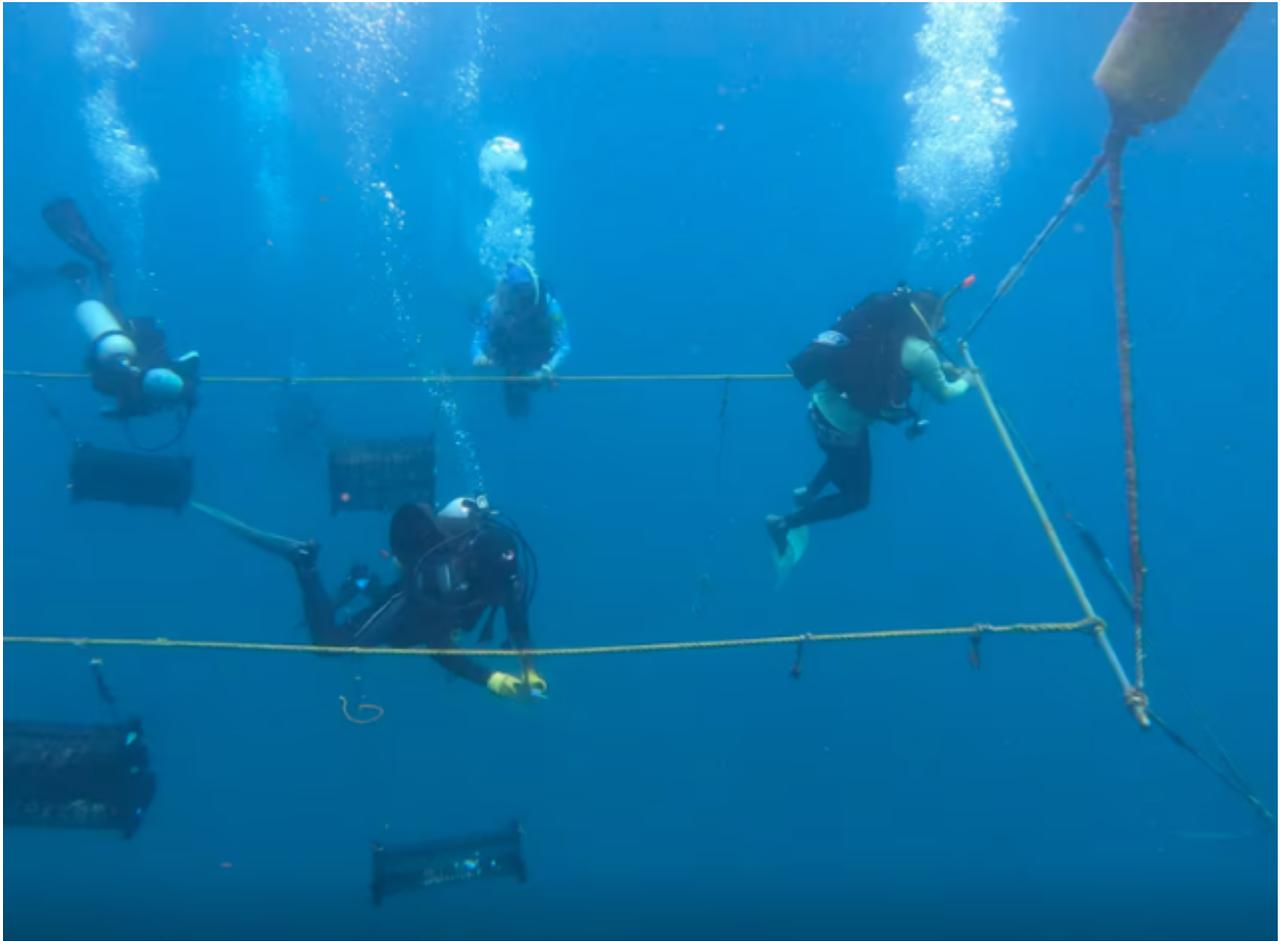
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Hidden beneath the calm waters of **Culebra**, at a maximum depth of 40 feet, an initiative aims to transform marine wealth into an engine for economic development and contribute to food security on the island municipality through a scientific and community-driven approach. It is Puerto Rico's **first oyster farm**, which will complete its pilot phase in December and, in the future, hopes to commercialize its product.

“It has been a symbiosis, a collaboration between science and the community, but above all, from Culebra... From the beginning, we were very clear that we want this to become a reality, we want it to provide economic development, and therefore we’ve done it from within the community, not from the outside,” said environmental scientist **Nicolás Gómez Andújar**, co-leader of the project spearheaded by the organization **Mujeres de Islas**, in collaboration with the **Culebra Fishermen’s Association**.

The initiative began taking shape in 2020, when **Megan Considine**, an expert in oyster cultivation—and co-leader of the project—moved to the island municipality. Gómez Andújar explained that the research phase of the farm—which began in 2022, after two years of permit processing—is funded by a roughly **\$300,000 allocation** from the **National Oceanic and Atmospheric Administration (NOAA)**.

This small-scale farm has two cultivation sites, located in Culebra's Ensenada Honda bay and the more open waters of Punta Soldado. There, they cultivate two native species: the **mangrove oyster** (*Crassostrea rhizophorae*) and the **Atlantic pearl oyster**, also known as the **criolla oyster** (*Pinctada imbricata*).

Because this is the only project of its kind in the archipelago, Gómez Andújar emphasized that it has been necessary to study the marine environment around Culebra to identify areas where oyster seeds—known as *spat*—can be collected.

“We’re collecting seeds that are found naturally and cultivating them. Normally, in the oyster aquaculture industry, we obtain seeds from a hatchery, but we don’t have that in Puerto Rico, so we use collectors in the ocean. We have five sites around Culebra, at different depths, and we’ve been learning which places and months allow us to collect these seeds, which are very vulnerable to temperature changes and predation. That’s basically our raw material; that’s where we get the oysters to cultivate,” he explained.

Another experiment of the pilot phase evaluates the environmental conditions of the two cultivation areas, which differ primarily in water quality, nutrient levels, and species composition. “We have sensors for temperature, salinity, pH, and chlorophyll, and we measure a handful of those oysters every month—size, survival—essentially seeing how we can optimize growth,” he added.

The research phase also includes a social and economic component. Regarding the latter, Gómez Andújar mentioned that they are conducting a market study to understand the industry and its potential clients. He invited the public—particularly fishers, business owners, and seafood consumers—to complete an **online survey**.

“In terms of what we’re doing on the social side, another key component is understanding the perspectives of fishers, youth, and women as they engage in oyster cultivation. We have hired commercial fishers, involved high school students through internships, and we basically want to incorporate their recommendations into day-to-day operations, because without a committed workforce willing to integrate this activity into their long-term commercial practices, there will be no industry,” Gómez Andújar said.

Oyster cultivation—**ostriculture**—is practiced in coastal regions around the world. Countries with major development include China, Japan, France, Spain, the United States, Canada, Chile, and Mexico. These farms provide multiple environmental benefits: they filter large volumes of water, create marine habitats, and contribute to **coral reef restoration**.

The two cultivation areas on the island municipality are submerged, requiring the team to use scuba tanks to check the baskets containing the oysters, which have holes “so water can flow and provide food,” the researcher noted. Oysters feed primarily on algae and other organic particles filtered from the water.

According to Gómez Andújar, the main challenge has been the permitting process, which he believes “is not well defined.” “If we want this to become an industry for all of Puerto Rico and for it to be accessible, that has to improve,” he said.

Hopeful that the project will move beyond the pilot stage, he highlighted that next year they will expand operations with the goal of obtaining commercial permits. This will include beginning the depuration process in tanks at the Fishermen’s Village—purifying oysters in clean, treated seawater to eliminate bacteria and contaminants. He also anticipates sharing the scientific findings from the research phase and, in dialogue with the community, determining the plan to transition into commercial activity, which is key to sustaining the initiative’s funding.

“It is an ideal job—to be able to contribute to my community, from my community. I’m working with my family, and we are leading something with great potential for all of Puerto Rico, so it is definitely a privilege, and I am extremely grateful to be able to contribute in this way. It’s something innovative, but also something Puerto Rico has deserved for a long time,” said the Culebra native.

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