

Community-based Conservation Projects in Puerto Rico: Enhancing Resilience and Sustainability

Introduction and Overview

Puerto Rico's vulnerability to natural disasters, including hurricanes and anthropogenic threats such as pollution and deforestation, underscores the urgent need for proactive conservation efforts. In response to these environmental challenges and socio-economic disparities, community-based conservation projects have emerged, engaging residents to improve conservation, enhance community health, and build disaster resilience.

Traditional top-down conservation approaches often overlook the knowledge and capacity of local communities, leading to ineffective solutions. Therefore, there is a critical need to integrate local expertise and empower communities in conservation efforts to address Puerto Rico's complex environmental challenges effectively.



Figure 1: OSU students in Cabo Rojo participating in a cleanup activity (Photo by J. Jordan)

Case Study

During our time in Puerto Rico, we actively engaged in community-based conservation efforts by participating in a cleanup activity in Cabo Rojo and collaborating with residents to remove litter and debris from coastal areas.

We recognize the interconnectedness of marine and terrestrial ecosystems; the plastic debris collected during our cleanup activities on the coast has a direct impact on marine life, including the coral reefs often explored during snorkeling trips at places like La Parguera. Thus, efforts to mitigate plastic pollution not only benefit coastal areas but also contribute to the preservation of marine biodiversity and resilience of ecosystems.

Additionally, in partnership with InterAmericana in Barranquitas, Oregon State University students initiated and constructed a community garden to promote local food production, environmental education, and community engagement. While the students played a pivotal role in planning and building the garden, responsibility for its ongoing maintenance and cultivation rests with the students, staff, and residents of Barranquitas. Through this inclusive approach, community members develop a deep sense of responsibility and guardianship over their natural surroundings, setting a precedent for sustainable agricultural practices and empowering the community as a whole. Together, these initiatives highlight the potential for grassroots efforts to enhance food security and environmental resilience in Puerto Rico.

Discussion and Impact

The cleanup activity in Cabo Rojo and the establishment of the community garden in Barranquitas exemplify the grassroots approach of community-based conservation projects in Puerto Rico. By actively involving residents and fostering stakeholder collaboration, such initiatives address immediate environmental concerns and promote long-term resilience and sustainability. Through hands-on participation in cleanup and garden-building efforts, we witnessed firsthand the positive impact of community engagement in protecting natural resources and fostering a sense of ownership and responsibility among residents.

Reflection and Next Steps

Our involvement in the cleanup activity in Cabo Rojo and establishing the community garden in Barranquitas reaffirmed the importance of community empowerment and collaboration in achieving environmental conservation goals. Moving forward, I recognize the need for continued support and investment in community-based conservation initiatives across Puerto Rico. By building on the momentum generated by projects like the cleanup in Cabo Rojo and the community garden in Barranquitas, we can strive for a future in which Puerto Rico's ecosystems and communities are more resilient and sustainable.



Figure 2: Community garden designed and built by OSU students (Photo by J. Jordan)



Figure 3: OSU students and volunteers constructing a fence around the community garden (Photo by J. Jordan)

Acknowledgements:

I would like to thank the CAS Global Experience Fund, USDA NIFA, PreCollege Programs, and Sea Grant, as well as Wanda Crannell, and Dr. Shawn Rowe for their mentorship, encouragement, and unwavering support.

A special thanks to InterAmericana in Barranquitas, particularly Dr. Arun and the Chancellor, for their warm hospitality and invaluable assistance. Also, too all the individuals in Puerto Rico who generously shared their knowledge, expertise, and resources with us.