



Puerto Rico Sea Grant Marine Outreach Program

by

René Esteves Amador, PhD.

Marine Outreach Program Director

What do we do?

- We apply knowledge and understanding gained through research to aid individuals and groups make responsible use of our coastal and marine resources.
 - Marine Outreach Program (MOP)
 - Research
 - Education
 - Communications



How We Work

- The exchange of knowledge and its application by communities, governments, NGO's, business, and industry - often accomplished through direct interaction, technical assistance, and demonstration projects – is at the heart of PRSG's operational model



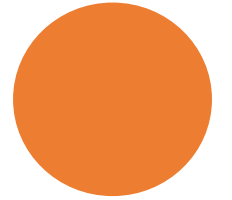
A photograph of a sunset over the ocean. The sky is a mix of blue, purple, and pink. The water is dark blue with some ripples. In the foreground, the mast and part of the deck of a sailboat are visible on the left. In the distance, there are silhouettes of islands or landmasses.

The Environment in Which We Work

- Economic woes of Puerto Rico and the UPR, are a challenge to PRSG and represent new and difficult times. In this proposal PRSG confronts this challenge with great courage, effort and determination. By stepping outside of our comfort zone, we have embraced goals established in our strategic plan and committed to overcome obstacles hampering coastal residents and resource users demands for quality education and extension services.

Mentorship Program

- PRSG will reinforce its marine extension efforts assembling a formal mentorship program composed by a cadre of gifted undergraduate and graduate students. These marine extension trainees will be mentored under the advice and support of environmental leaders, extension professionals, natural resources managers, researchers and distinguished professors with previous experience collaborating with PRSG efforts. Student trainees will be provided with work experience in marine extension services, formal and informal education, and communication skills.



Current Projects

- Training Underserved Communities in Designing and Implementing Nature Based Solutions for Climate Resilience in Puerto Rico. Locations with high community value and few feasibility barriers will be identified; presentation on Nature Based Solutions to mitigate coastal erosion and inundation will be coordinated; the propagation of mangroves and dunes vegetation for restoration will be developed.



Current Projects

- The Tres Palmas Marine Reserve management plan will be actualized; priorities and strategies for managing the reserve will be described and aligned with contemporary conservation and education needs; and an environmental assessment will be conducted.



Current Projects

- A local Environmental Justice Atlas will be developed to document the different environmental conflicts that led to formal legal actions and develop a tool that both, present case studies and promotes fruitful comparisons across time and space.



Current Projects

- Data from a 1997 study on the value of tourism to the coastal Municipality of Rincón will be updated by documenting how: revenues stay in the community; the value of tourism is harnessed to generate public goods and services; impacts on the local natural and social environment are being minimized.



Current Projects

- Fishing Aggregating Device System (FADs) direct benefits will be measured by documenting catch and effort data; fishing method; time spent practicing each fishing method; weight and total number of each species caught by the fishing method used; financial information will be collected; and who are the FADs users.



Current Projects

- Two local fishermen will be trained as dive instructors to establish available expertise within each fishing community and expand the Decompression Sickness Emergency Response Network.



Current Projects

- PRSG will continue to develop the educational and gastronomical campaign *Responsible Consumer Leads to Sustainable Fisheries* to promote the consumption of locally caught underappreciated fish species.



Current Projects

- With an ethnographic approach PRSG will enhance data needed by management agencies documenting the common names of species of commercial value in Puerto Rico's coastal communities; the gears used to harvest those species; and document main target species per community.



Current Projects

- Capacity building of first responders, resource managers and community leaders will be expanded and improved through the coordination of trainings certified by the National Disaster Preparedness Training Center in the areas of climate adaptation, nature-based solutions, mitigation, and community resilience.



Current Projects

- Community and public meetings of the Cabo Rojo Salt Flats mitigation and adaptation project will be coordinated with the collaboration of the US Fish and Wildlife Service and the Department of Natural and Environmental Resources.



Current Projects

- Skills, capabilities, strengths and weaknesses of Puerto Rico's Emergency Management personnel will be evaluated to identify gaps and areas of improvement and learn from past experiences and how to apply the results to enhance our preparedness and resilience.



Current Projects

- Factors that favor and disfavor collective and participatory approaches to a just and equitable governance of the commons in coastal communities will be investigated, including policy analysis, the power dynamics and the decision-making processes. Lessons learned will be documented and a toolkit and policy recommendations will be produced.



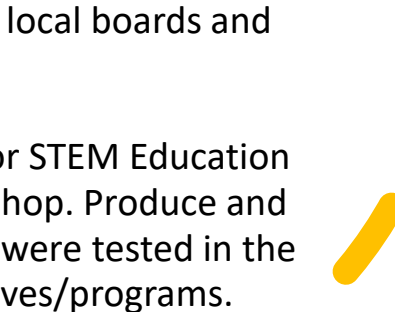
Current Projects

- The public perception of lifeguard services and their willingness to pay for drowning prevention services will be assessed to provide resource managers and policy makers with more thorough and accurate information about the need to finance lifeguard services to reduce drowning incidents at Puerto Rico's beaches.



Current Projects

Virgin Island Marine Advisory Services

- Through the Ocean Explorers Summer Programs Virgin Islands youth will learn swimming and snorkeling fundamentals, Caribbean flora and fauna nomenclature and identification, PADI open water diving course and develop interest in STEM.
 - VIMAS will host educator workshops to train Teachers on the use of Next Generation Science Standards science kits and virtual reality which can be applied within the classroom setting by employ cutting-edge tools to engage students in STEM.
 - Coordinate the annual Coastal Cleanup event with 400 participants in *Coastweeks* on each island. Beverage glass bottles collected during cleanup events will be pulverized to create sandbags and marine debris data will be disseminated at community events.
 - Organize, lead and provide expertise and support on marine issues to US Virgin Islands schools, STEM educators, local newspapers, researchers, local boards and committees, museums, local radio and university students.
 - Attend and participate in the annual Virgin Islands Institute for STEM Education Research and Practice (VI-ISERP) summer teacher training workshop. Produce and distribute science kits, annually to 20 USVI STEM educators that were tested in the Youth Ocean Explorers Summer Program and other STEM initiatives/programs.
- 

Recently Concluded Research Projects


- Improving Sargassum Observations and Developing Decision-Making Tools for Sargassum Management in Coastal Areas
- Development of a rapid, portable and automated fecal bacteria biosensor for fresh and sea waters
- Responses, feedbacks, and adaptive management of tropical coastal wetlands to rising sea level and intensified hurricanes
- "Rapid On-site Detection of Fecal Indicating Bacteria for Coastal Water Quality Monitoring"
- Rapid environmental assessment using the microg-AMBI and Foram-AMBI as high impact/low cost bioindicator tools in tropical estuarine/lagoon environments
- Response of tarpon to catch-and-release angling in Puerto Rico
- "Are human impacts, alien seagrasses and environmental changes compromising the viability of Caribbean-native seagrass meadows?"
- Tracking the United States' Forgotten Sharks: Satellite tagging tiger sharks in the U.S. Virgin Islands for improved conservation

Currently Funded Research Projects

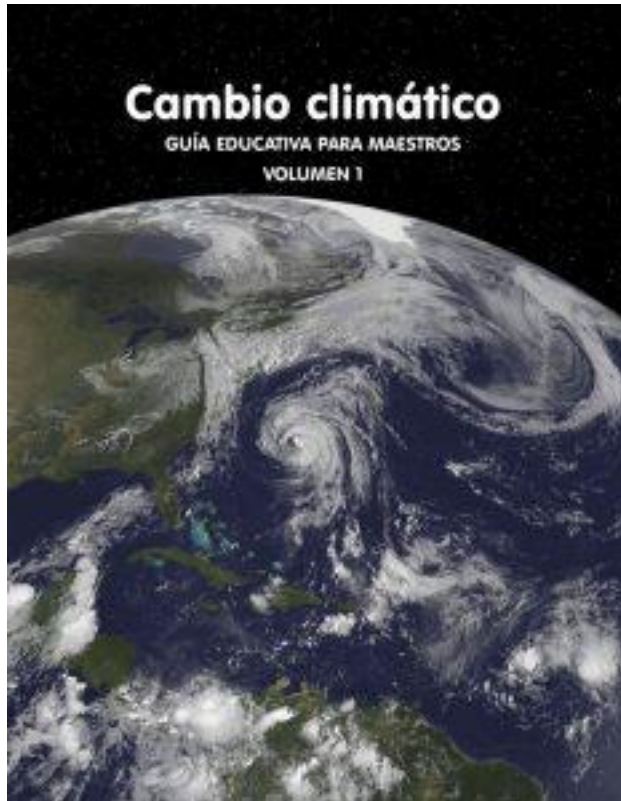
- Viqueira, Roberto, Protectores de Cuencas Inc., Watershed-to-Reef Connectivity: Fulfilling the Scientific Needs of the Río Guanajibo Watershed Plan
- Scheelk, Ben, The Ocean Foundation, Sargassum Carbon Insetting to Mitigate Climate Change and Increase Food Security in Puerto Rico
- Valdés-Pizzini, Manuel, Ph.D. The Quandary of the Villas Pesqueras (fishing landing Centers) in Puerto Rico: Shoreline Change, Abandonment, Displacement and the Mirage of Resilience
- Williams, Stacey, Ph.D., Optimizing the Cultivation of *Ulva* seaweed in the Caribbean: Developing the Framework for Larger-Scale cultivation and Inclusion Into the Puerto Rico Blue Economy
- Legare, Bryan, M.S., Twenty Years Later: Revisiting the Distribution and Abundance of Elasmobranchs in the Virgin Islands with an Emphasis on Shark Nursery Areas.



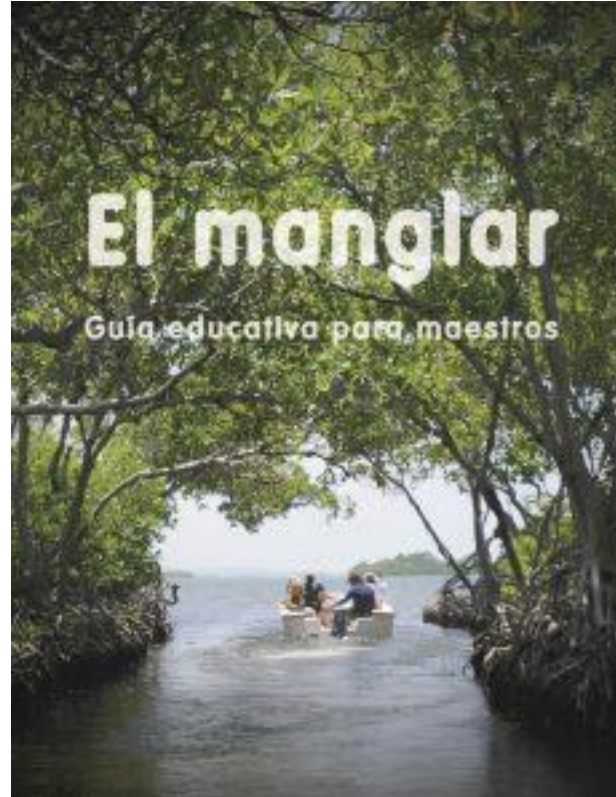
New &
upcoming
initiatives

- Fishing Charter Business Education Program
 - Queen Conch Changes to Regulations
 - Strengthen Commercial Fishermen Organization
 - Co-Management Expanded Advisory
- 

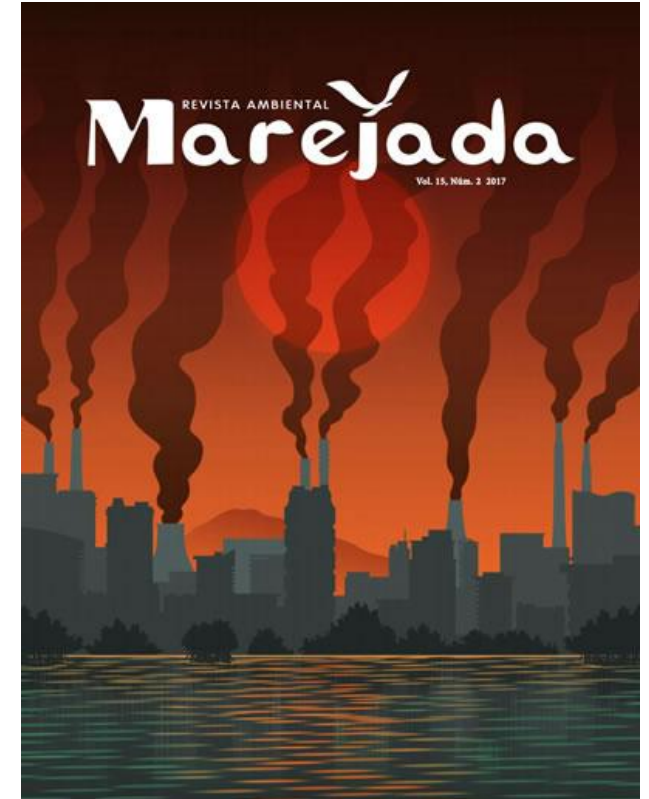
Publications



Guía Educativa Cambio Climático



Guía Educativa El Manglar



Revista Ambiental Marejada

<https://seagrantpr.org/>