

Hazard Mitigation Grant Program Project No. 4339-0258

San Juan Metro Coral Reef Barrier Restoration



The coral reefs off the coast of San Juan act as a natural barrier against storm surges, protecting the coast from flooding, erosion, and dangerous rip currents. Coral reefs play a crucial role in dissipating wave energy, reducing it by up to 97%. The reef crests alone dissipate most of this energy by 86%. They are also the hub of various commercial activities such as fishing and tourism (both local and foreign), greatly contributing to the island's economy. They are essential for the existence of our beaches and serve as a habitat/home for a large number of marine organisms.



Corals are the ones who keep this system alive, growing, adapting to changes, and maintaining its structure. Without the corals, that structure, built by themselves, eventually degrades, erodes, and is destroyed. If it ceases to exist, beaches will too, our coasts and properties will be completely exposed to atmospheric disturbances, and the impact on the economy will be significant.

Coral reefs have faced great challenges in recent decades that can affect their function and the service they provide. If measures are not taken to strengthen them, we may face an island without them, with the previously described consequences.



The San Juan Metro Coral Reef Barrier Restoration project aims to strengthen the reef system that protects much of the metropolitan coast, from Punta Las Marías to Escambrón. For this, resilient corals of various species will be propagated in nurseries. These corals will then be planted on the reef using cement. Approximately 89,000 small mounds or cement modules are expected to be placed, each with 3 or 4 corals.



The project has a second component in front of the area known as Ventana al Mar. There a multi-segmented breakwater, 150 meters from the coast, is proposed. These three breakwaters will offer additional protection to the numerous structures, such as hotels, restaurants, and shops, which support the vital tourism economy, while it is expected that the risks to users from the dangerous rip currents will be reduced.



The Project was proposed to be funded by FEMA under the Hazard Mitigation program in Phases. Phase I is to conduct the studies needed for the permitting process required by various federal and state agencies in compliance with existing laws and regulations, as well as to validate and modify, if necessary, the proposed designs. Phase II is the implementation of the project. To date, FEMA has approved Phase I, which is in its final stage. As part of Phase I, benthic studies, sediment studies, wave modeling, and a coral propagation plan have been carried out. Once Phase I is completed and the results are submitted to FEMA, the agency will evaluate the approval of Phase II based on a cost-benefit analysis.

If you have any questions about this project or are interested in providing any comments, you can do so by sending an email to the following address, njimenez@drna.pr.gov.

