

Press Release from *Reef Renewal Foundation Bonaire*
June 26th, 2023

Reef Renewal Bonaire Strengthens Coral Resilience Amidst Growing Threats

SUMMARY

- Reef Renewal Foundation Bonaire (RRFB) adjusts their restoration strategy to build coral resilience to Stony Coral Tissue Loss Disease (SCTLD) and other threats to Bonaire's reefs.
- RRFB aims to establish a land-based facility to bolster their larval propagation efforts, a vital step towards ensuring the genetic diversity and overall resiliency of coral reefs in Bonaire.

(Bonaire, Dutch Caribbean) Reef Renewal Foundation Bonaire (RRFB) is intensifying its commitment to building reef resilience in response to the rapid spread of diseases, such as Stony Coral Tissue Loss Disease (SCTLD), and increasingly adverse environmental conditions caused by climate change.

Since the confirmation of Stony Coral Tissue Loss Disease (SCTLD) on Bonaire's reefs in March 2023, STINAPA has implemented several measures to mitigate its spread, including limiting access to affected reef areas and the application of antibiotic treatments on affected corals.

As part of an integrated conservation and restoration strategy, Reef Renewal Bonaire is refocusing its efforts on bolstering the populations of nine coral species that have been significantly impacted by the disease. This strategic shift will be executed in two fundamental ways:

1. **Increasing Abundance of Resilient Coral Colonies:** Reef Renewal Bonaire has spent the last two months identifying and selecting coral colonies in severely impacted areas that have displayed a certain level of "resistance." These colonies will be brought to the nursery for propagation and subsequently outplanted to the reef.
2. **Enhancing Genetic Diversity:** The organization assists coral reproduction and genetic recombination using larval propagation to increase the diversity and strength of existing coral populations.

Francesca Virdis, the Chief Operating Officer of Reef Renewal Bonaire, summarized the organization's recent endeavors, stating, "Over the past few months, we've surveyed highly affected "red zone" areas to monitor and map coral colonies of various species. After identifying colonies which have exhibited "resistance" to the disease thus far, we are scheduled to begin propagating them by the end of this month. Furthermore, during the May spawning event of grooved brain coral (*Diploria labyrinthiformis*), another highly susceptible species, we reared hundreds of thousands coral larvae in our floating 'CRIB' and successfully outplanted more than 25,000 young settlers onto the reef. Each of these settlers possesses a unique genetic makeup, equipping them with enhanced resilience to ongoing diseases and other stressors."

Virdis emphasized the importance of establishing an on-land nursery facility to ensure long-term project continuity and reinforce existing larval propagation efforts. She acknowledged that while preservation and restoration work is going on underwater, the installation of a dedicated facility on land is crucial for project development.

"For the past four years, RRFB has cultivated hundreds of thousands of coral larvae by transforming a small office room into temporary, makeshift wetlab. However, limited space and lack of aquarium tanks have become significant constraints that hinder our progress," stated Virdis. "This facility will not only serve as an educational and training resource, but it will also foster fruitful research collaborations. Most importantly, it will enable us to implement a targeted and comprehensive coral restoration strategy that will bolster the resilience of coral populations, in the face of infectious diseases and other serious threats posed by climate change."

PHOTOS & CAPTIONS

Please contact caitie@reefnewalbonaire.org to request high-resolution versions of all images.



*Outplanted great star coral (*Montastraea cavernosa*) between two diseased colonies in a reef "red zone".
Credit: RRFB*



*Francesca Virdis assesses coral settlement on larval substrates in RRFB's floating larvae nursery.
Credit: Lorenzo Mittiga*



SCORE International's Kelly Latijnhouwers (left) and RRFB's Sanne Tuijten prepare to observe coral larvae under the microscope. Credit: Paul Selvaggio



*Outplanted lobed star coral (*Orbicella annularis*) on the reef. Credit: RRFB*