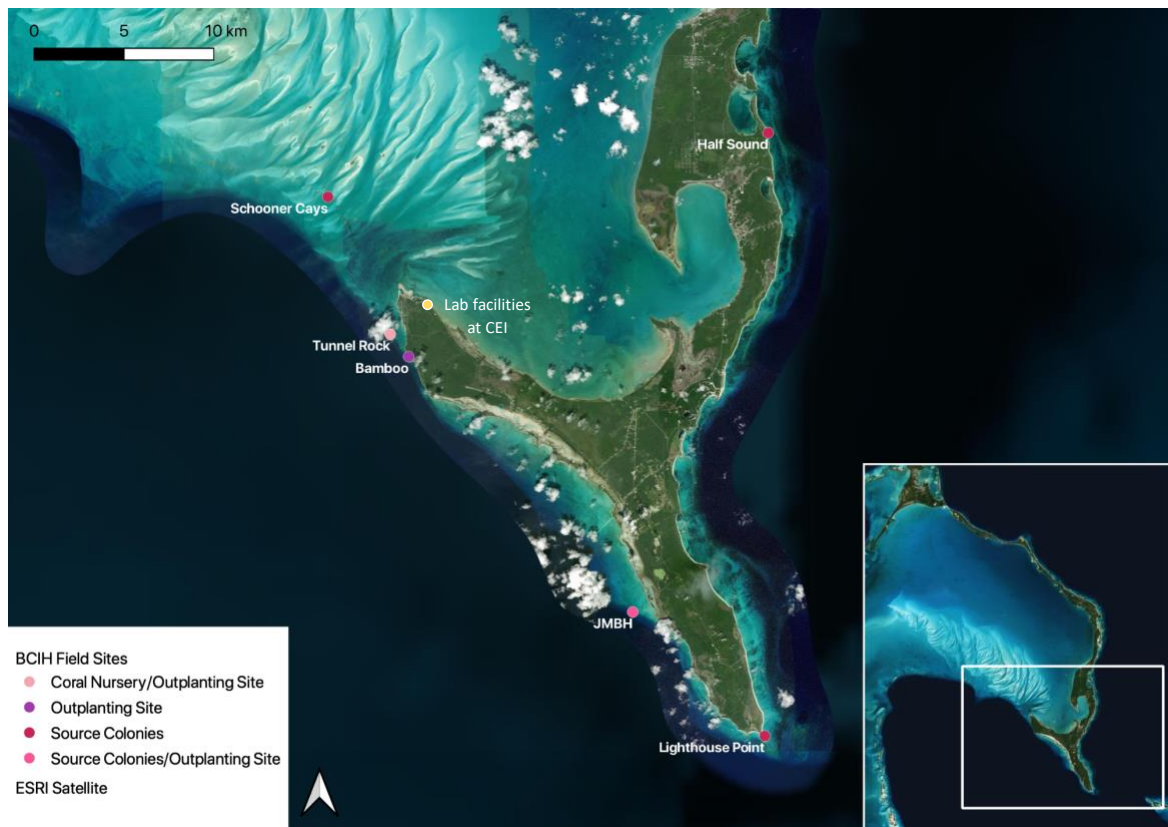


The Bahamas Coral Innovation Hub South Eleuthera, Bahamas

Coral reefs worldwide have endured many threats leading to their rapid decline, impacting local economies, food supply, and coastal resiliency. To assist the rehabilitation of reefs at local scales, active coral restoration has been implemented in The Bahamas and all over the Caribbean. However, partly due to lack of communication between projects, current efforts are often undertaken with little scientific input or long-term monitoring.

Introduction

Since 2018, The Nature Conservancy (TNC), Cape Eleuthera Institute (CEI), and Perry Institute for Marine Science (PIMS) have been working together using their unique scientific expertise and connections to develop and disseminate innovative coral restoration through “The Bahamas Coral Innovation Hub (BCIH)” project, based at the Cape Eleuthera Island School (map below). The overall goal of this initiative is to **undertake scientific research that improves current coral restoration techniques**, while serving as a research facility that hosts a network of integrative people.



The Bahamas Coral Innovation Hub location and field sites in South Eleuthera, The Bahamas

This project is centered around three main objectives to improve the way people apply coral restoration on Bahamian reefs.

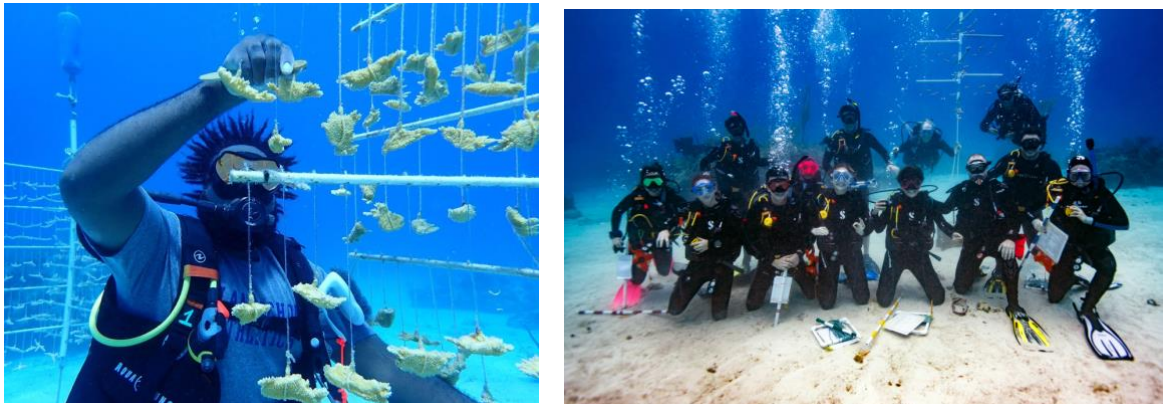
- 1) Implement effective restoration efforts using a multi-technique approach of nursery-reared corals, microfragmentation and sexually-produced coral recruits.



- 2) Long-term monitoring of restoration efforts to improve best practices.

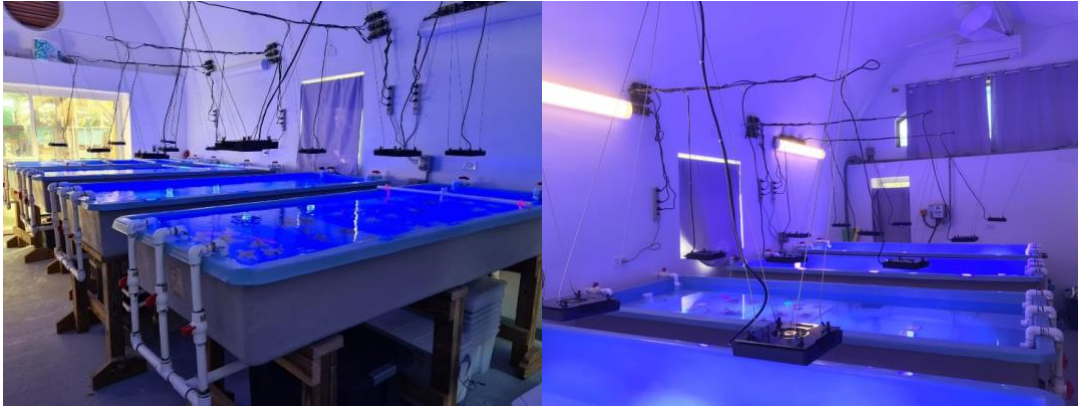


- 3) Hands-on coral restoration in local education programs and opportunities for Bahamians and young scientists.



Bahamas Coral Innovation Hub Facilities

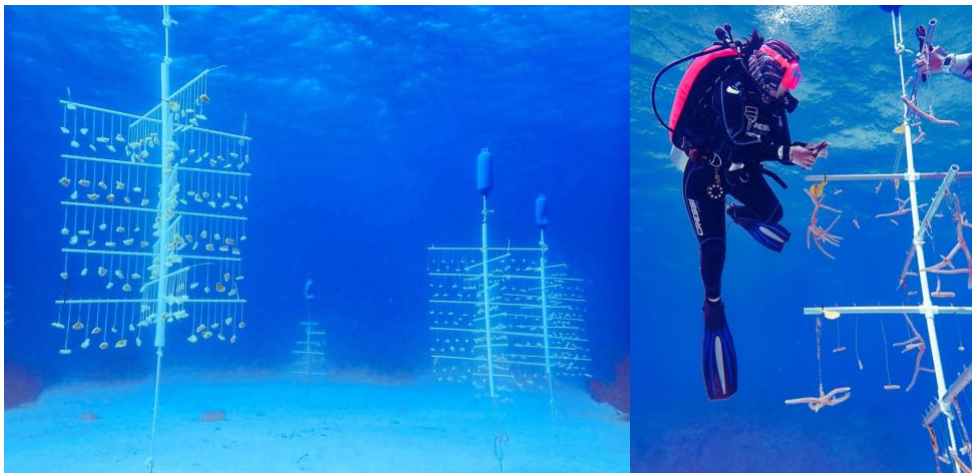
Indoor controlled aquaria: State of the art wet lab facility to control coral growing conditions such as temperature and light exposure, with UV treatment and recirculating pumps.



Land-based outdoor aquaria: Four deep raceways for growing and monitoring coral propagules under experimental conditions with temperature-controlled through-flow seawater (right).



In-situ coral nurseries: The BCIH has the largest in-situ coral nursery in The Bahamas with 1,800 coral fragments currently growing to be outplanted on reefs. Plans are in place to continue expansion to scale up coral restoration.





Researchers and Collaborators

Project oversight: Craig Dahlgren (PIMS), Nick Higgs (CEI), Fredrick Arnett (TNC)

The work of BCIH is led by two full-time Research Scientists employed by CEI and PIMS, Natalia Hurtado and Casey Harris. Funding from The Nature Conservancy has also provided training opportunities for paid Bahamian interns, one of whom progressed to Research Assistant over the last year. Their work is focused on rehabilitating threatened coral populations by investigating ways to efficiently propagate asexually and sexually-produced corals to outplant them on local reefs in South Eleuthera. Now that the project is established the next phase will be to host a number of national and international collaborators to undertake research at the Bahamas Coral innovation Hub facility:

BCIH Collaborators	
Current	Proposed
The Nature Conservancy	The Nature Conservancy
The Perry Institute for Marine Science	The Perry Institute for Marine Science
The Cape Eleuthera Island School	The Cape Eleuthera Island School
SCORE International	SCORE International
Reef Rescue Network	Reef Rescue Network
	University of Miami: Coral Reef Futures Lab
	Coral Vita
	Wageningen University

Education and Outreach through the Coral Hub

Our team combines scientific research, education and outreach to promote a connection between people and the environment in The Bahamas, focused on coral restoration. Students and visitors participate in a hands-on learning experience by assisting with active restoration research in a lab and field-based setting. Through this project, divers have the opportunity to complete a Reef Rescue Diver PADI specialty and join PIMS’s Reef Rescue Network across The Bahamas and Caribbean.

Our lead Research Scientists provide technical expertise and support for Island School Semester research classes focused on coral restoration. Students who work with us are involved with coral restoration activities that promote multidisciplinary research in a friendly environment with high ethical standards. Furthermore, students from local schools in Eleuthera learn about coral reef ecosystems and their value to The Bahamas through CEI’s ‘School Without Walls’ program.