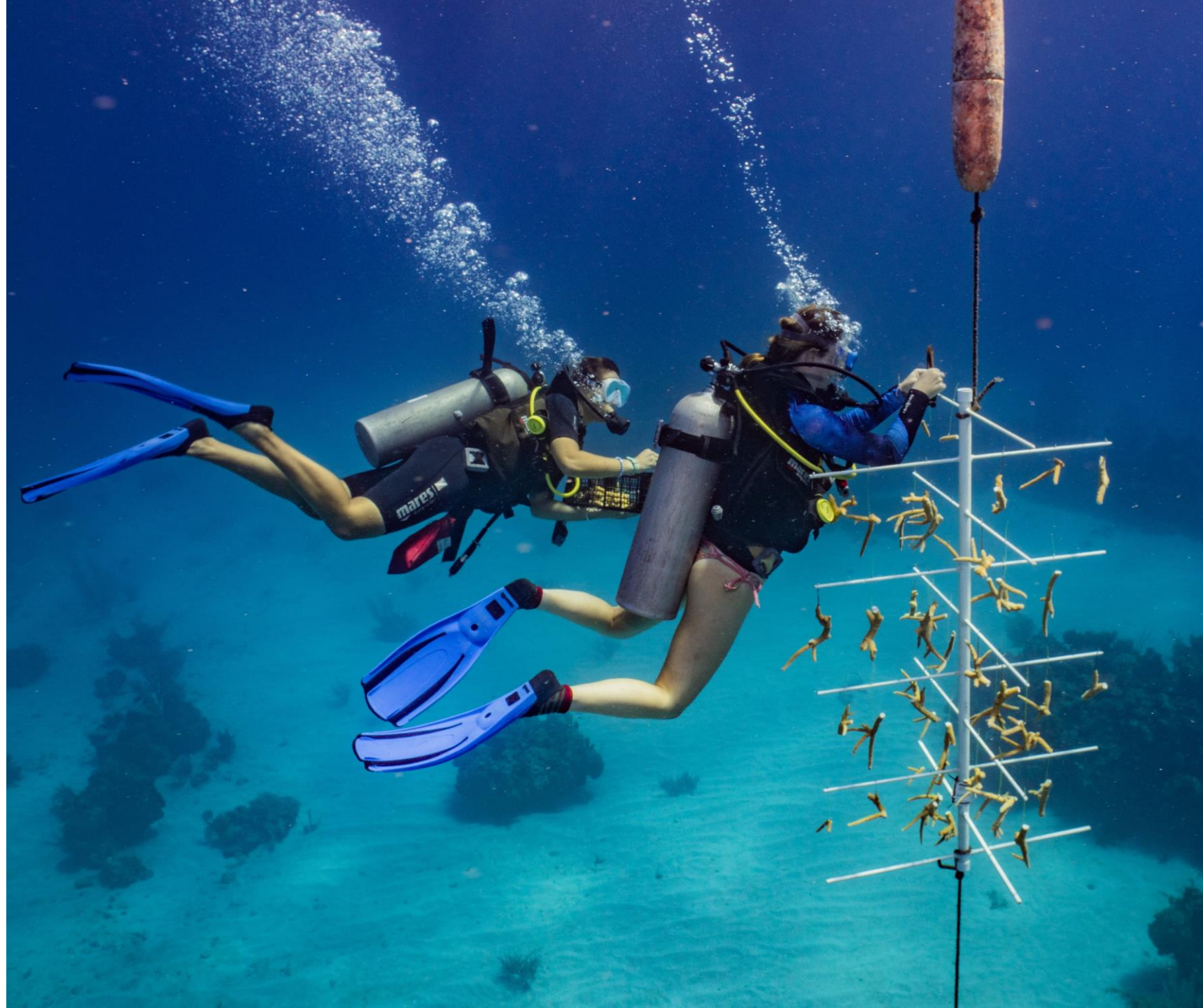


Coral Restoration in Honduras

TRIPP FUNDERBURK

BAY ISLANDS REEF
RESTORATION MANAGER

REEF RESTORATION
NETWORK OF THE
MAR REGION



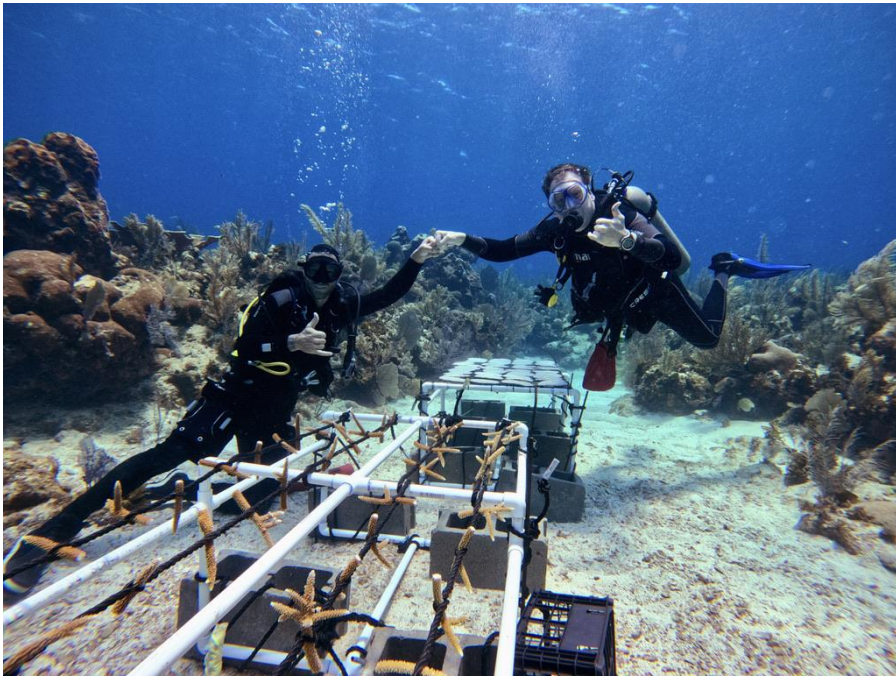


Coral Restoration NGOs in Honduras

- Bay Islands Reef Restoration
- Utila Coral Restoration
- Roatan Marine Park
- Cayos Cachinos Foundation
- BICA Roatan and Zolitur
- Roatan Institute of Marine Science



BAY ISLANDS REEF RESTORATION



Bay Islands Reef Restoration

- BIRR supported by Turquoise Bay and Mayan Princess Resorts
- 20 trees installed by Coral Restoration Foundation in 2016
- Currently:
 - 20 Staghorn trees in Turquoise Channel
 - 10 Elkhorn trees at White Hole
 - 10 mixed trees in West Bay
- 2 PVC tables
- 3 rebar A-Frame structures

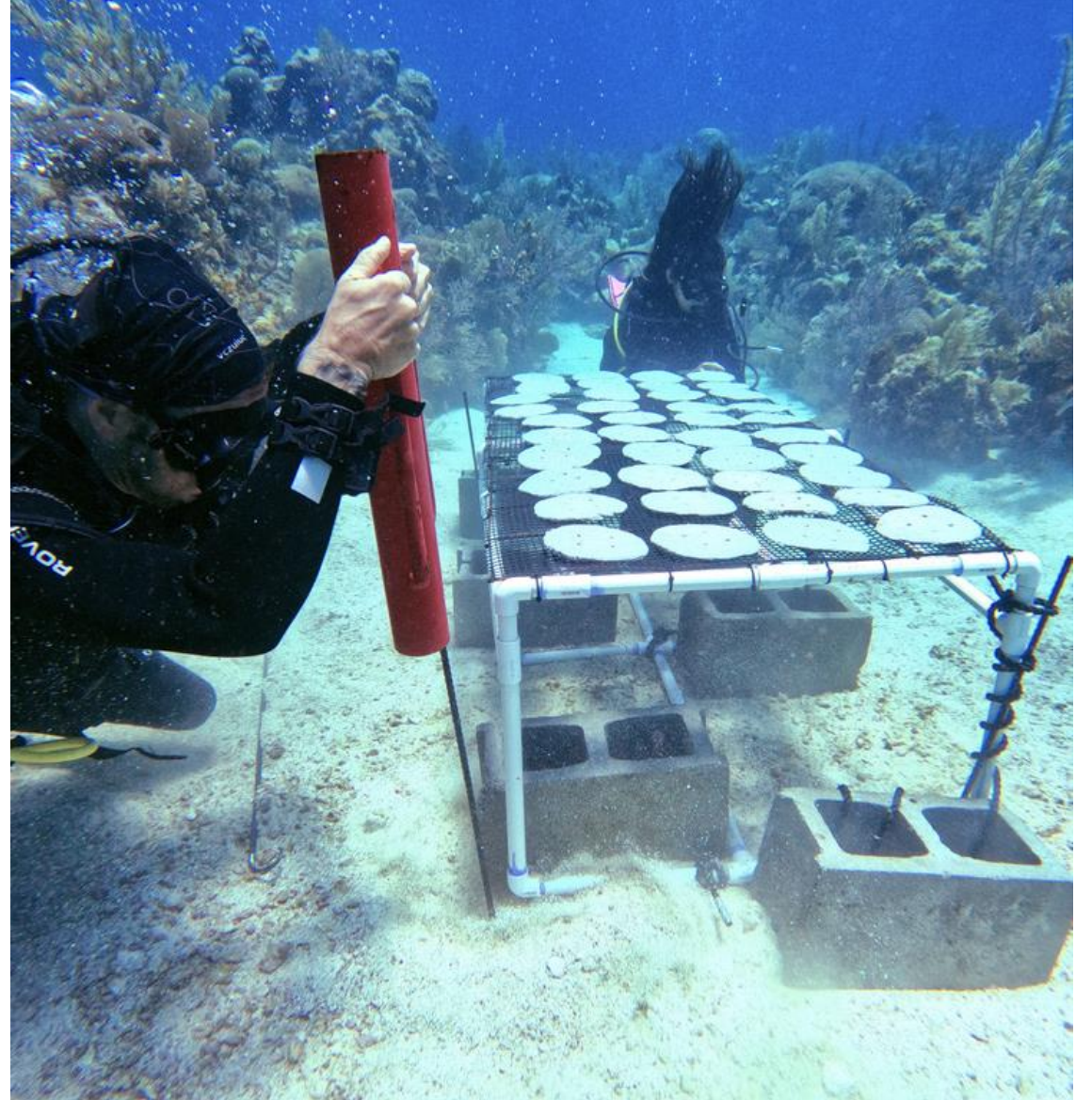
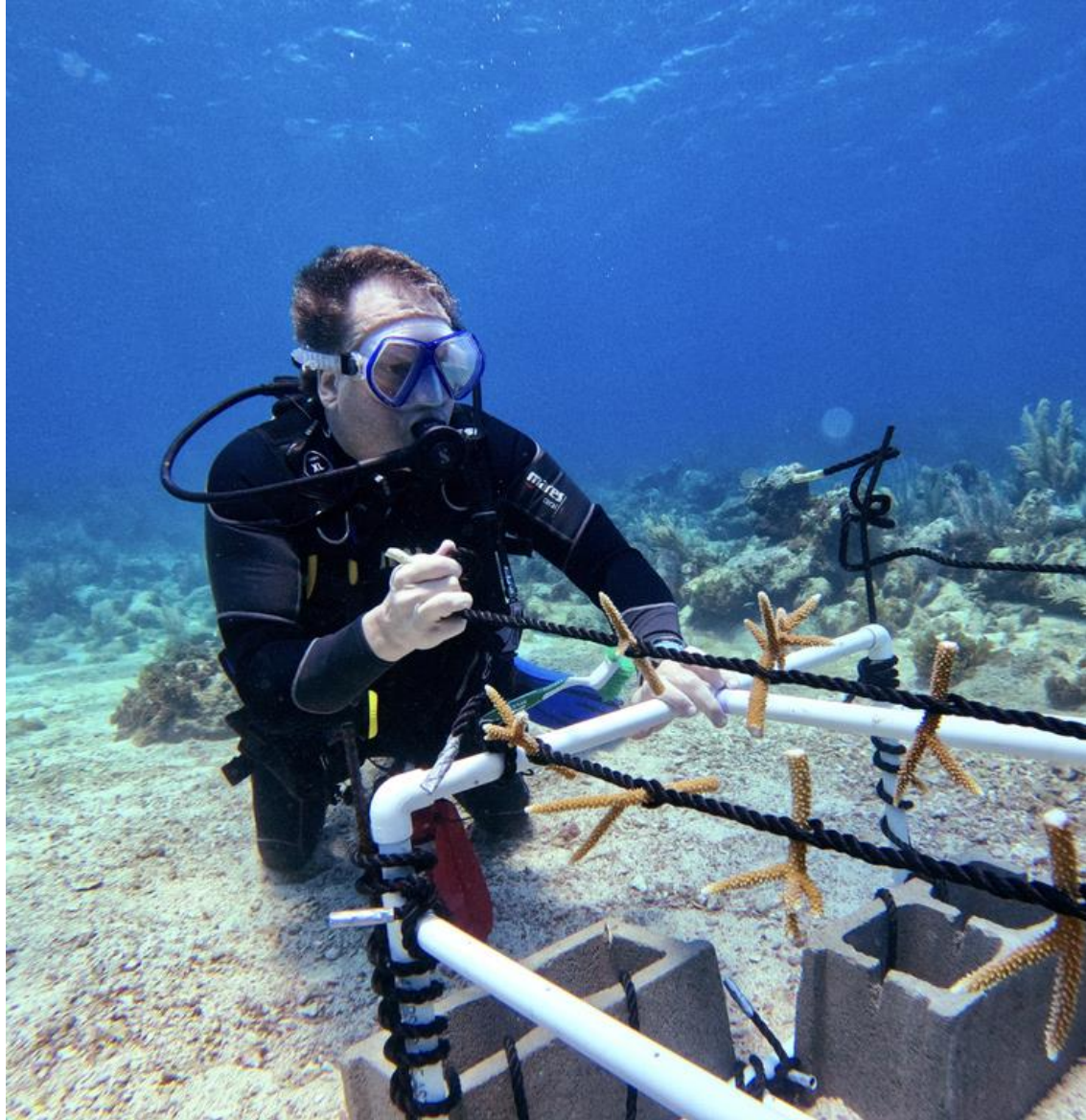
White Hole Nursery

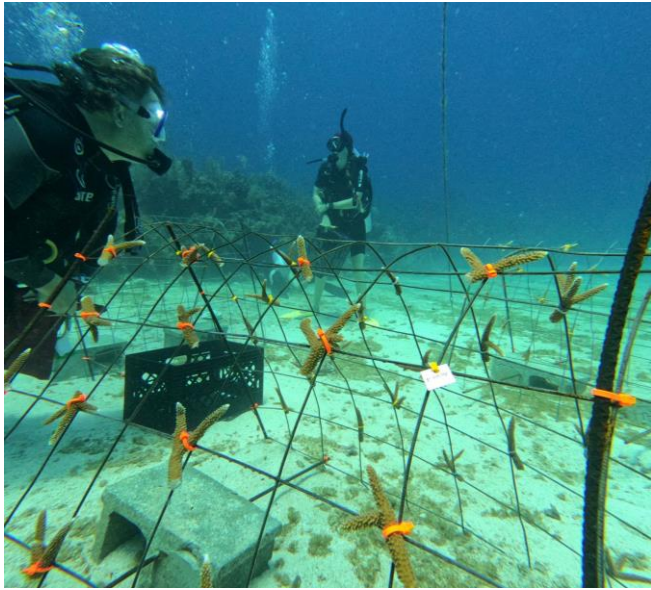
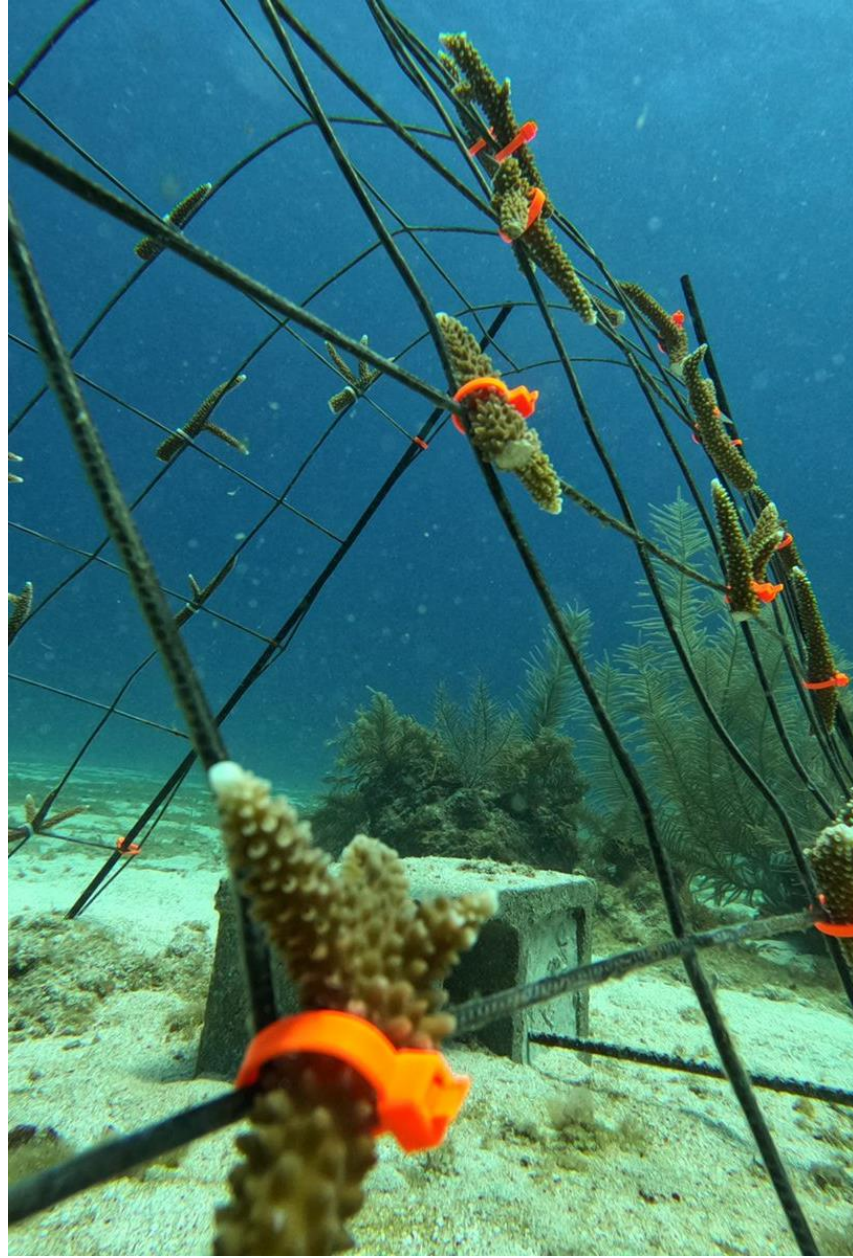
Turquoise Channel Nursery

Roatan Honduras

Seaquest Deep Nursery









BAY ISLANDS REEF RESTORATION



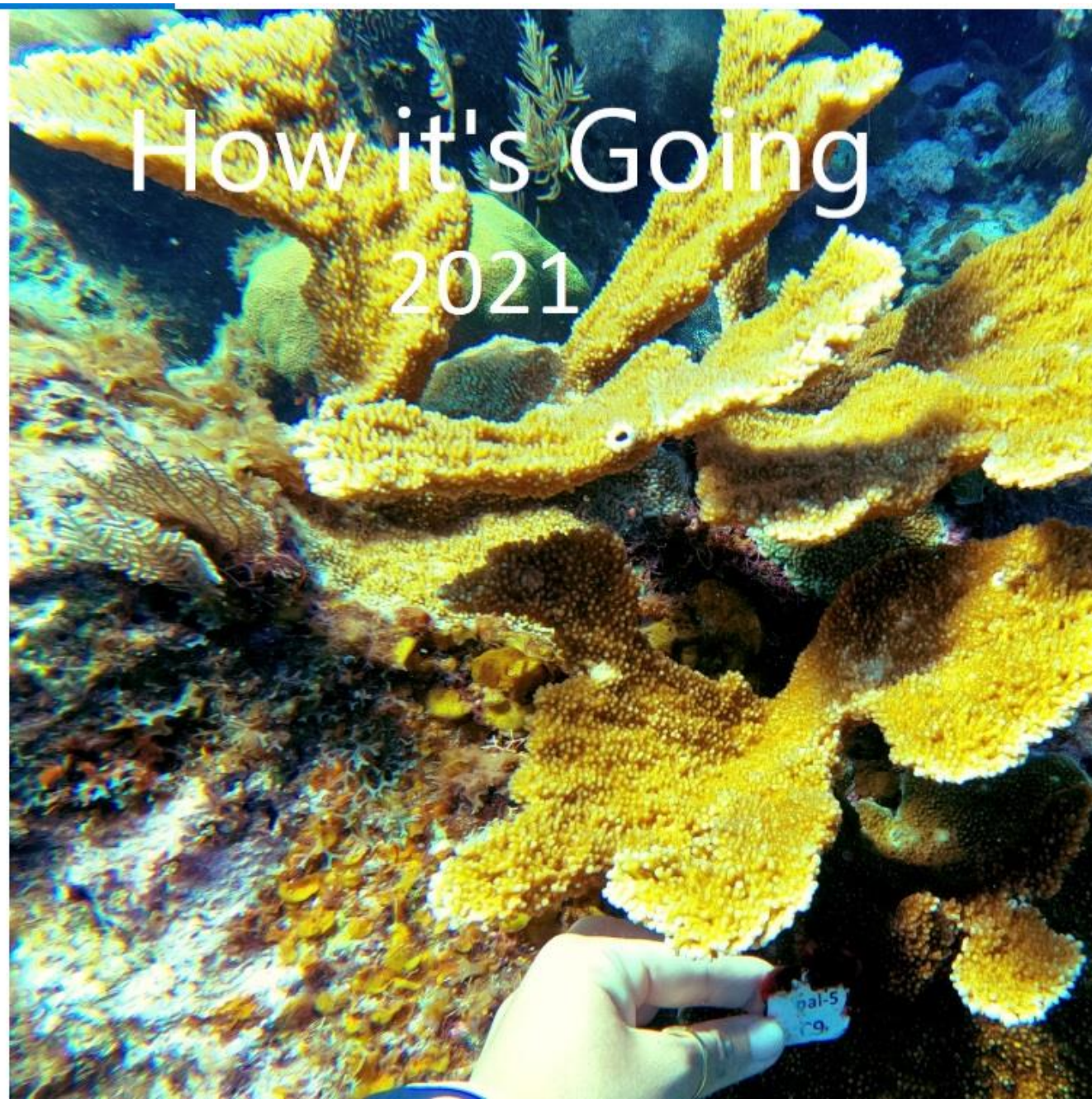
BIRR: By the Numbers

- +500 tourist divers participated
- +80 PADI Divemaster students participated
- +100 divers certified in PADI BIRR Distinctive Specialty
- 5 Coral Interns
- Outplanted 1,600 corals

How it Started 2018



How it's Going 2021



Utila Coral Restoration:

Restaurando los Arrecifes en Utila



Daniela Mejia, MSc.

Fundadora / Directora Ejecutiva
Utila Coral Foundation

John Bodden

Coordinador de Investigaciones
Utila Coral Foundation



Resultados a la Fecha

1. Monitoreo:

- a. Viveros: ~500 horas de monitoreo
- b. Arrecife: modelos 3D cobertura coralina

2. Trasplante de Fragmentos:

- a. ~500 fragmentos
- b. ~286 metros de tejido vivo

3. Alcance Comunitario

- a. ~300 estudiantes

4. Supervivencia:

- a. 92% de corales plantados sobreviven a la fecha

5. Enlaces estratégicos:

- a. 5 centros de buceo

6. Sostenibilidad Financiera:

- a. “Adopt a Coral Tree”
- b. Especialidades PADI



Proyectos Futuros



Centro de desove coralino, para la restauración de arrecifes.

1. **Objetivo:**

- a. Aumentar la escala de los esfuerzos de restauración y fomentar la diversidad genética
 - i. Asentamiento de larvas coralinas en sustratos
 - ii. Restauración con larvas coralinas

Patric Lengacher



PROGRAMA DE RESTAURACION DE CORALES

Gabriela M. Ochoa



ROATAN
MARINE PARK

NUESTRO PROGRAMA

- Establecido el 2019 como una colaboración entre centros de buceo y con apoyo BIRR
- Con financiamiento de Marfund
- Se desarrollo un modelo sostenible a través de una certificación



NUESTROS LOGROS



40 arboles



283
participantes



3 centros
de buceo






MAK
MARINE PARK
CORAL RESTORATION
PROJECT
RMP Authorized
Personnel Only
MAK
FUND

3 ESPECIES

Patric Lengacher



BOATAN

An underwater photograph of a coral reef. A white and black measuring tool is placed diagonally across the frame for scale. The reef is covered in various types of coral, including branching and table corals. A small white tag with the number '2' is visible on the reef. The water is clear and blue.

**DESDE EL 2020 HEMOS
TRANSPLANTADO 500 FRAGMENTOS
CON UN 94% DE SOBREVIVENCIA**

C



ROATAN
MARINE PARK



**DESDE EL 2020 COMENZAMOS A
MONITOREAR EL DESOVE DE
CORALES**

c

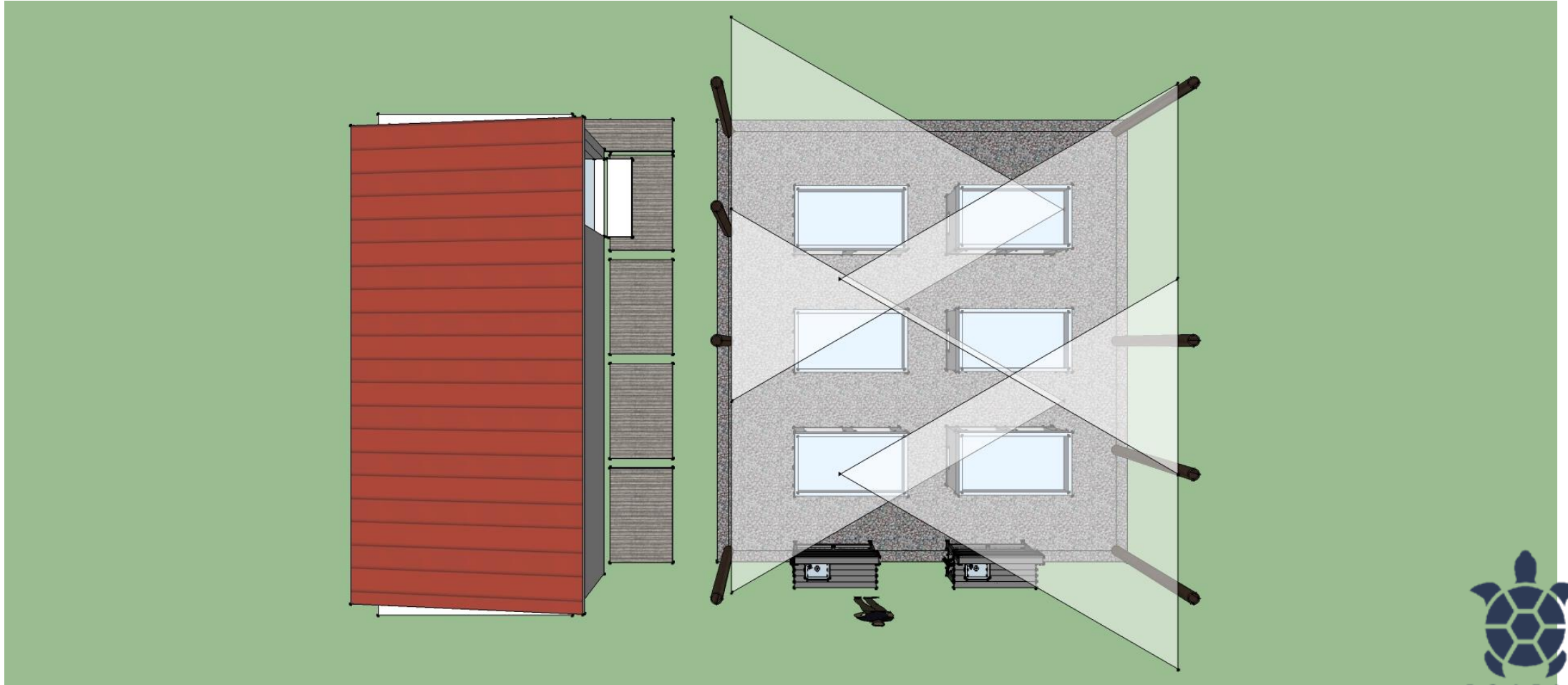


DESOVE DE CORALES

- Comenzamos a monitorear OANN y OFAV en el 2020
- Esta semana hemos monitoreado APAL, ACER, OANN y MCAV
- Curso virtual de Corallium y Capacitacion Presencial en RD



CORAL RESTORATION CENTER OF ROATAN (CR²)



CORAL RESTORATION CENTER OF ROATAN (CR²)



SIGUIENTES PASOS

- Agregar 8 genotipos mas a nuestro vivero de West End
- Monitorear nuestros fragmentos con fotogrametría
- Agregar estructuras de mesa para APAL
- Construcción del Centro de Restauración
- Validar el Calendario de desove
- Comenzar proyecto de reproducción sexual de corales



Cayos Cachinos Foundation



- 7 *Acropora cervicornis* nursery structures were deployed in 2018
 - 5 metal frames
 - 2 suspended rope structures with buoys
- Staff were trained in the Dominican Republic by Fundación Grupo Punta Cana through the PADI Coral First Aid protocol written by Bowden-Kerby.
- Fundación Cayos Cochinos has conducted cleaning and monitoring activities on the structures on a monthly basis

Fig. 3 monitoreo de los fragmentos de coral



Cayos Cochinos Foundation

- 27 meters of total linear extension were placed on both nursery structure types.
- Before outplanting in January 2021, a total linear extension of 77 meters was recorded
- Fragments attached to the rope structures exhibited more growth.
- General survivorship of 63%.
 - 85% survivorship was recorded for the suspended rope nurseries and 15% was observed in the fragments on the metal structures.
 - Mortality was caused by algae overgrowth, bleaching due to thermal stress, and predation
- 508 fragments were transplanted, a Total Live Tissue Length of 135 m.

Fig. 3 monitoreo de los fragmentos de coral



Cayos Cochinos Foundation

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Cayos Cochinos Foundation

Conclusions

- Greater financial support is required to:
 - Promote research
 - Improve propagation techniques
 - Monitor the restoration sites
- Need to define a broader strategy to involve:
 - Universities
 - Tourism operators
 - Community and state organizations.



Honduras Coral Restoration Challenges

- Honduras does not have a university with dedicated marine biology program/major
- Bay Islands National Marine Park has 14 Co-managers
 - Communication and Cooperation challenges
- Federal government has limited funding
- Current focus on Acropora – SCTLD means boulder corals must be restored
- Elkhorn coral has not done well in coral nursery “trees”
- 2020 HRI Report indicated both Herbivorous and Commercial fish declined by about half since 2018 Report.
- Early stages - coral restoration efforts began in 2016



Honduras Coral Restoration Opportunities/Success

- NGOs participating in exchanges:
 - BIRR, UCR and Cayos Cachinos Foundation learned from Punta Cana Ecological Foundation in Dominican Republic (2019)
 - RMP and UCR learned new sexual reproduction restoration techniques from FUNDEMAR and SECORE International (2021).
 - RMP participated in MPAConnect Learning Exchange: SCTLTD for Caribbean Marine Natural Resource Managers in Florida (2019).
- RMP, BIRR, RIMS and UCR all leverage private dive shops and tourist divers
- Roatan Institute of Marine Science has shared four successful genotypes with BIRR
 - Shared Acer 32 that did not get White Band Disease.
- BIRR traveled to Utila to learn about bamboo trees and exchange knowledge

Thanks for your
attention

