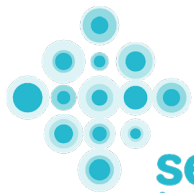


SECORE in the Caribbean

Aric Bickel

Director of Technology and
Implementation

May 30, 2024



secore
international

Our mission

Creating and sharing the
tools and technologies
to sustainably restore coral
reefs worldwide.



SCORE's approach

Research

- Scientific research
- Applicable methods
- Coral breeding & rearing

Technology

- Engineering
- Manufacturing
- Logistics

Implementation

- Partner network
- Training
- Capacity building

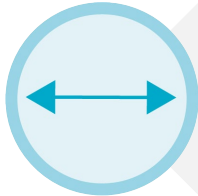
Scaling Enhancement



Larval Propagation



Immediately increases **genetic diversity**

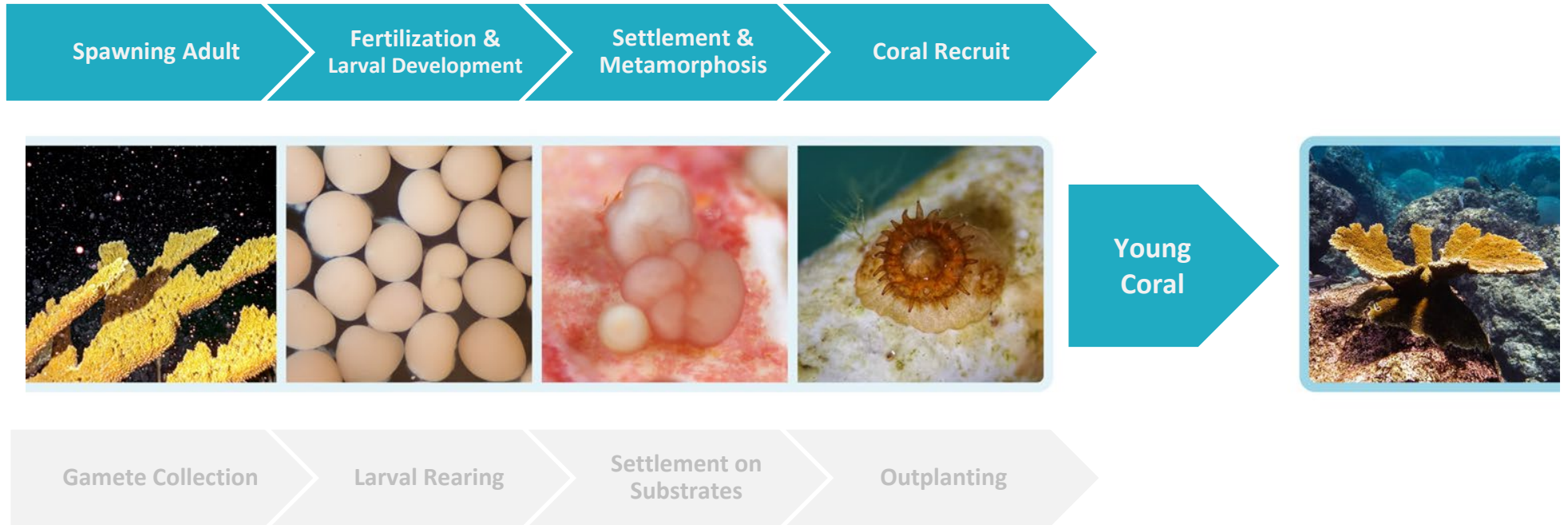


Large capacity for **scaling**



Can be less expensive than traditional methods

Coral life cycle



Coral Seeding approach

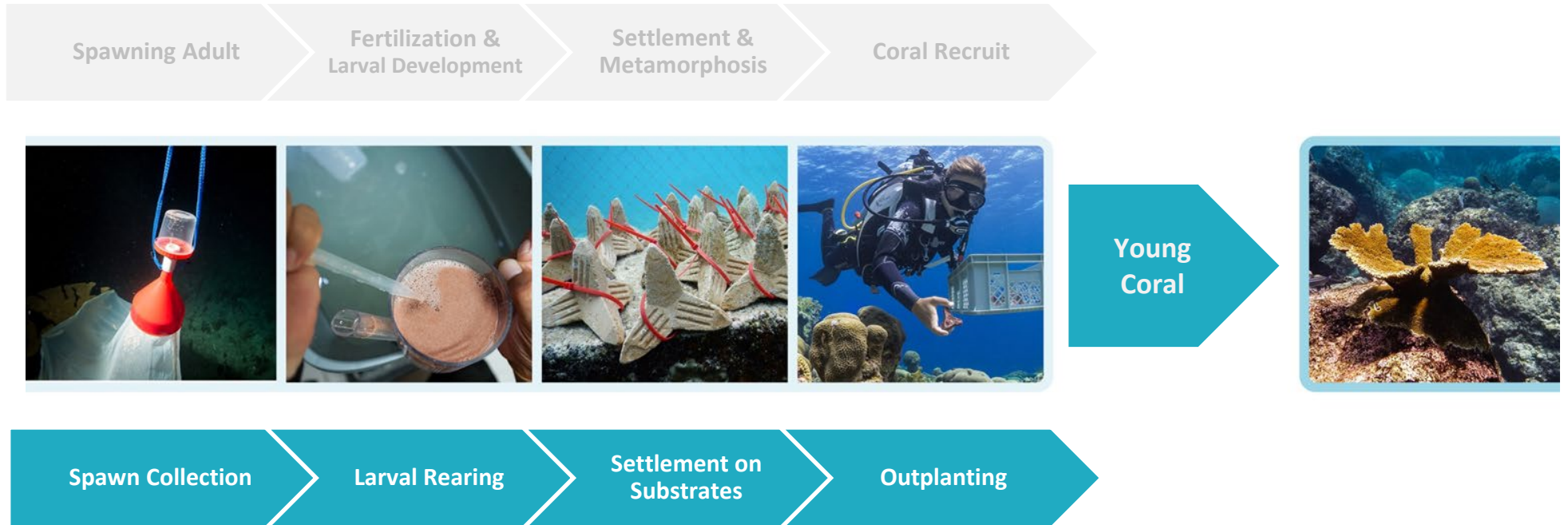




Photo by Paul Salvaggio



Photo by Reef Patrol



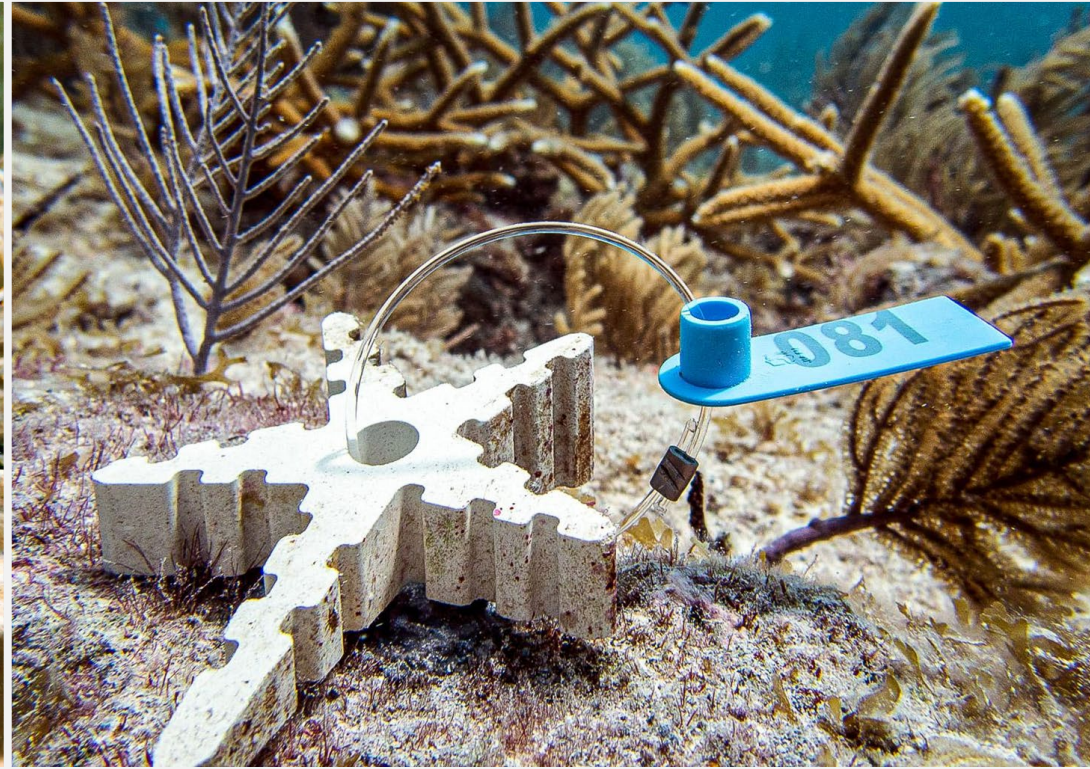
Coral Restoration Consortium

Photo by Paul Selvaggio



Photo by Rita Sellaris

SCORE units for Coral Seeding





Coral Seeding approach



Photo by Paul Selvaggio

Photo by Reef Patrol



Training and capacity building



Identification



Commitment



Training



Implementation

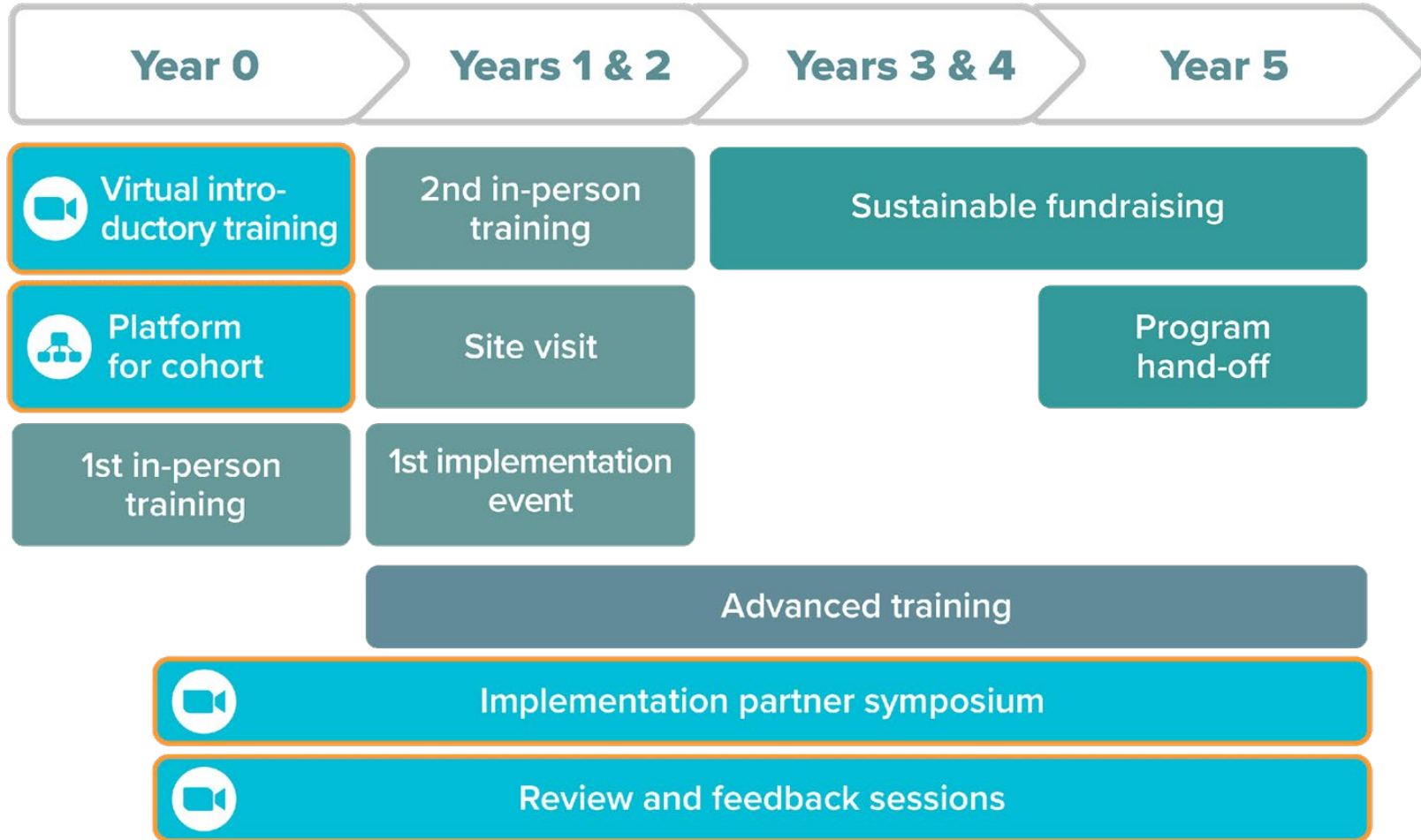


Handover

~5 years



Learning journey



Who are the Caribbean Partners?

What do they look like?

Small

- 3 – 15 staff

Female run

- 90%

Mostly NPO

- 70%
- 20% Uni
- 10% Gov

What challenges?

Low infrastructure

Limited capacity

Limited Gamete supply

- Bleaching
- SCTLD





BUILDERS INITIATIVE



Perry
Institute
FOR MARINE SCIENCE



THE OCEAN
FOUNDATION

The Nature
Conservancy



SCORE Centers & Offices



Implementation Sites



Second Generation Sites

Miami

Bahamas

Mexico

Cuba

Belize

Honduras

Dominican Republic

U.S. Virgin Islands

Colombia

Curaçao

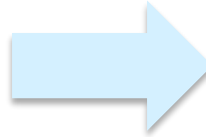
Bonaire

Trinidad &
Tobago

Learning journey

Phase 1

- Learn
- Equip
- Fundraise
- Handoff



Phase 2

- Train trainers
- Scale
- R&D Feedback
- Fundraise

Reducing costs and increasing efficiency

Developing and optimizing technologies

Technology development focus

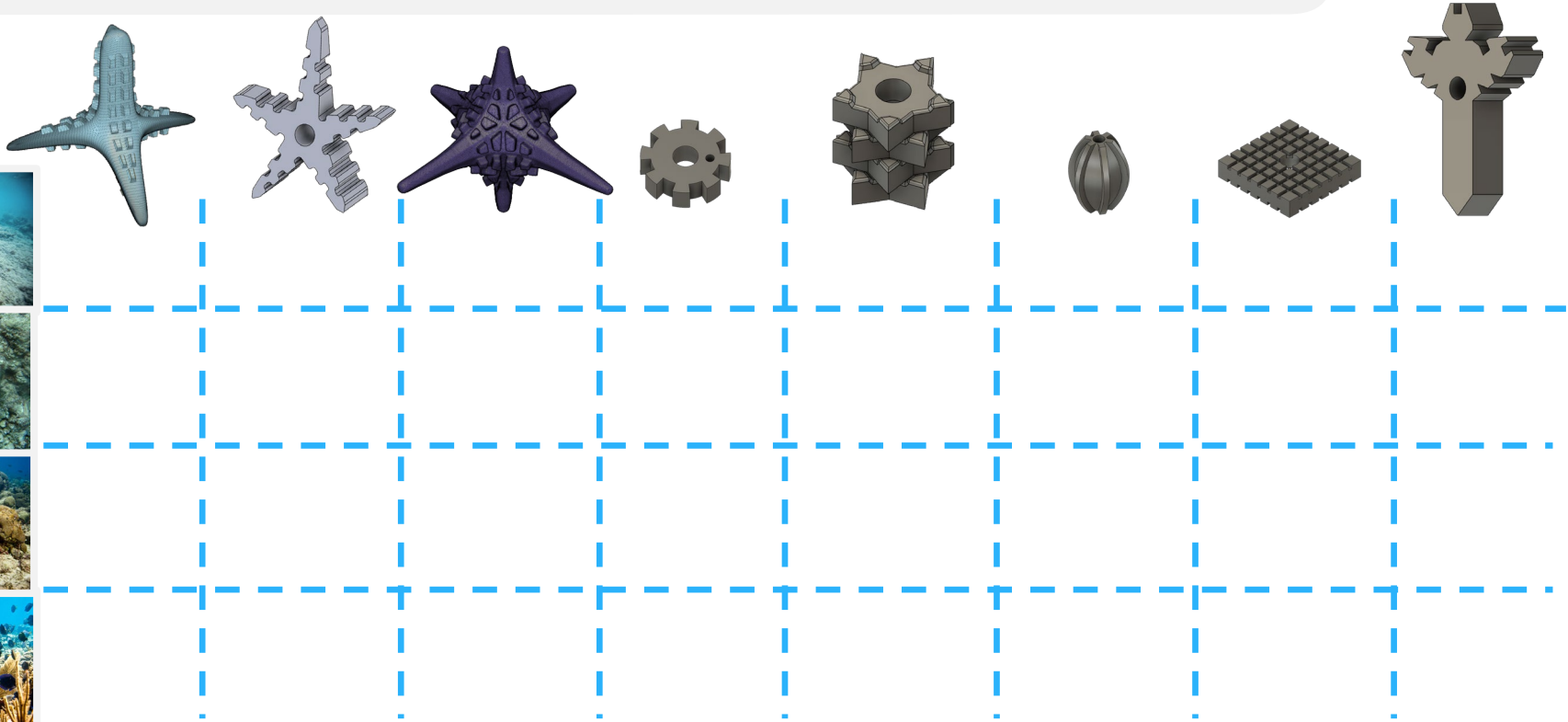
In situ

Reducing costs

**Transferable &
adaptable**



CRIB Coral Rearing In-situ Basin



Seeding device designs to match reef context and topography



Coral Tree Collector

Building a base of knowledge and evaluation of tools

Research



Research Priorities

**Increasing post-
settlement
survivorship**

**Improving
coral
settlement**

Increasing survivorship

- Early settler feeding
- Timing of outplanting
- Co-culture with other species
- Work with *Millepora*



Improving coral settlement



Improving coral settlement



Photo by Jamie Craggs

- Chemical settlement cues
- Sound as a settlement cue

THE OCEAN FOUNDATION



BUILDERS INITIATIVE



oceankind



CALIFORNIA ACADEMY OF SCIENCES



OMAHA'S HENRY DOORLY ZOO & AQUARIUM



Hagenbeck

UNIVERSITY OF MIAMI ROSENSTIEL SCHOOL OF MARINE & ATMOSPHERIC SCIENCE



PennState



german cooperation

giz

The Nature Conservancy



UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO



Australian Government



ICRI



AUSTRALIAN INSTITUTE OF MARINE SCIENCE



AQUARIUM OF THE PACIFIC



VIRGINIA AQUARIUM

Diventures

The Monteil Foundation

vere



Newcastle University



Smithsonian Marine Station Fort Pierce



Southern Cross University



Coral Restoration Consortium



UNIVERSITEIT VAN AMSTERDAM



University of BRISTOL



Fundación Dominicana de Estudios Marinos, Inc.



THE FLORIDA AQUARIUM



Reef Resilience Network



ECOMARES



ROATAN MARINE PARK



AUTODESK FOUNDATION



LILLY ENDOWMENT FOUNDATION



FRAGMENTS OF HOPE



Perry Institute FOR MARINE SCIENCE



Reef Renewal Bonaire



CORALIUM



NOVA SOUTHEASTERN UNIVERSITY



University of Belize



FROST SCIENCE



Reef Patrol



NLE SCHÜTZ DESIGN



CLICK



PITTSBURGH ZOO & PPG AQUARIUM



Jack's Plastic Making



ISLA MUJERES CANCUNAZIC PARQUE NACIONAL



CONANP



Midwest Biodiversity Institute



Midwest Biodiversity Institute



Curacao sea aquarium

experiencias xcaret

Thank you!



secore.org

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