

FIRST CONFERENCE OF COOPERATION OF THE CARIBBEAN STATES ASSOCIATION (AEC)

PROJECT PROFILE: MITIGATION OF CLIMATE CHANGE EFFECTS ON CARIBBEAN CORAL REEFS: CULTURE AND SPREAD OF STONY CORALS AND BLACK SEA URCHINS FOR REEF RESTORATION.

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La Habana, marzo 2017

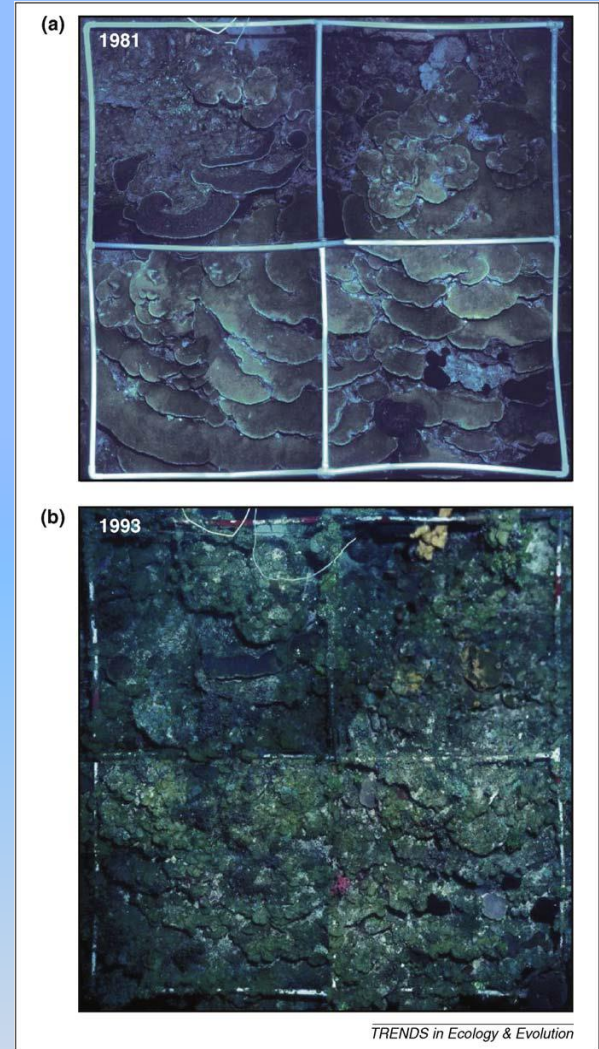
Caribbean Coral Reefs current condition

High coral mortality

Fleshy algae increase

Causes

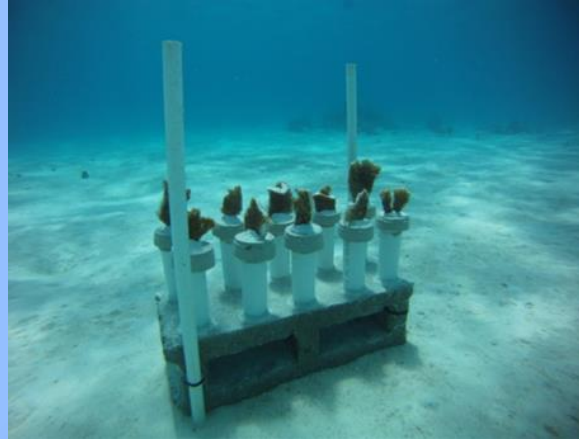
- Contamination
- Overfishing
- **Climatic change** (coral bleaching and sea acidification)
- **Loss of key species**



Mumby *et al.* (2014)

Current alternatives

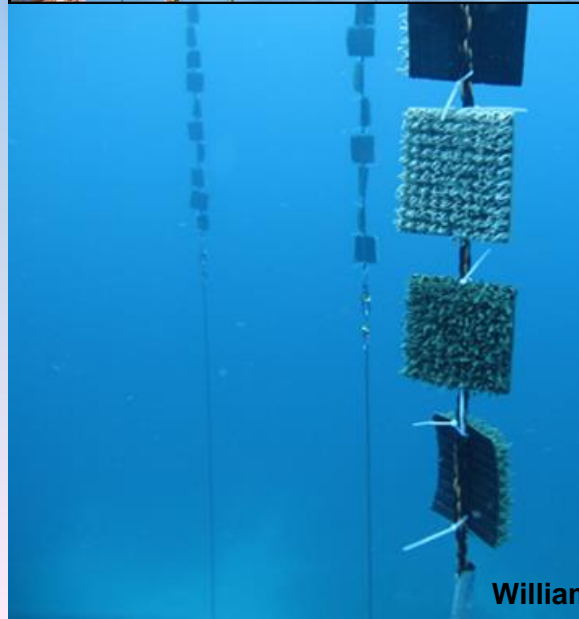
The use of asexual
reproduction
capacity of the
corals



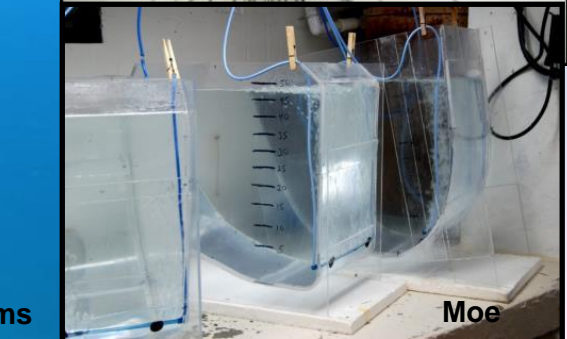
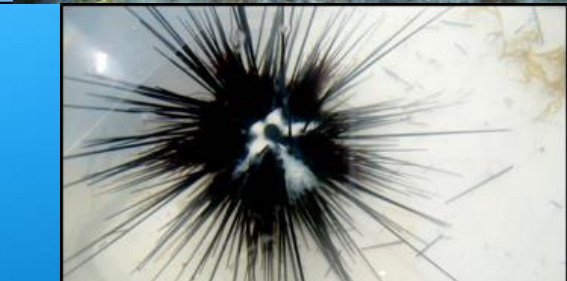
TNC



The use
reproduction
capacity of the black
sea urchins in
aquariums

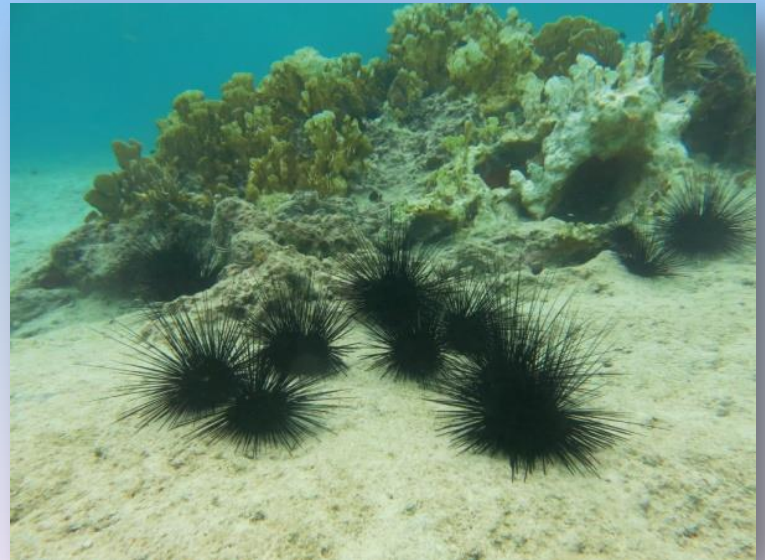


Williams



Moe

GENERAL OBJECTIVE: Create the bases in Caribbean countries aiming at the intensive culture of **stony corals** and **black sea urchins**, to restore reef sites as alternatives in mitigating climate change.



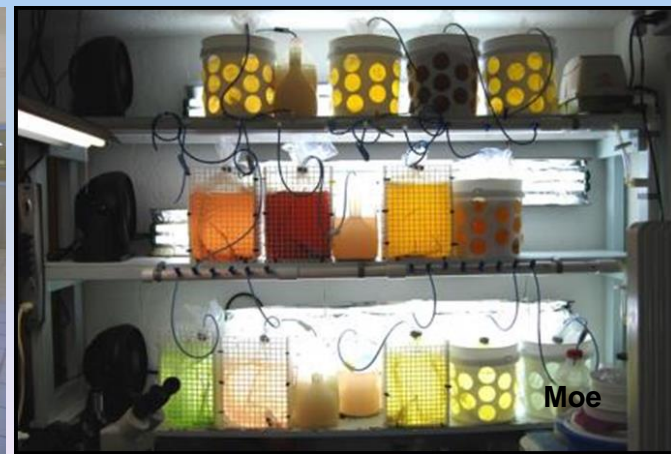
SPECIFIC OBJECTIVES:

- To evaluate the condition of coral reef areas to development coral restoration actions (donor sites, nurseries sites, and restoration sites).
- To cultivate and propagate coral fragments *in situ* ("nurseries" in the field), and planting corals in the reefs.
- To create a monitoring program in the coral reefs restored.



SPECIFIC OBJECTIVES:

- To create a genetic bank of coral resilient clones in greenhouses, aquariums or laboratories.
- To cultivate and propagate examples of long-spined *Diadema antillarum* sea urchins in aquariums, so that they may subsequently re-establish affected populations in the coral reefs (pilot study).



The project consists of several stages which are **summarized in a few words:**

- ☐ Consulting and training.
- ☐ Installation of technological structure.
- ☐ Implementation of the practical activity.
- ☐ Meeting to discuss and analyze experiences.
- ☐ Educational program.

ESTIMATED PROJECT BUDGET

Component 1 Activities for training and the training of Specialists from Caribbean countries

Activity	Description	Estimated Costs (USD)
1.1	Training in laboratories or aquariums.	60 000
1.2	Training in genetics.	30 000
1.3	Training in the field.	10 000
Total		100 000

Component 2: Acquisition of equipment. Preparing the cultivation laboratories or aquariums

2.1	Setting up the equipping of aquariums for cultivating coral and sea urchins	400 000
2.2	Setting up the equipping of ex situ greenhouses for propagating coral fragments.	300 000
2.3	Setting up in situ "nurseries".	50 000
Total		750 000

Component 3: Carrying out practical work in situ and ex situ. Genetic works. Monitoring the results.

3.1	Funding for field expeditions.	400 000
3.2	Inputs for restoration activities.	100 000
3.3	Funding and inputs for genetic analysis.	400 000
Total		900 000

Component 4: Work meetings workshops

4.1	Funding for meetings and workshops:	150 000
	Environmental education program	100 000
Total		50 000
Sub-Total of Direct Costs		2 000 000.00
Unforeseen costs and committing project management (10% of direct cost)		200 000.00
TOTAL COST OF THE PROJECT		2 200 000.00

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GRACIAS!!!

